ENDLINE EVALUATION STUDY

# DREAM 2 PROJECT

## (Disaster Resilience through Enhanced Adaptive Measures)

**FINAL REPORT**


***Prepared by***:

James Ballo, Alam Bakti, and Team

**Jakarta, 2023**

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# ABBREVIATIONS

| | |
|---|---|
| **AfP** | Act for Peace |
| **API** | Adaptasi Perubahan Iklim/Climate Change Adaptatation |
| **ANCP** | Australia NGO Cooperation Program |
| **BMKG** | Badan Meteorologi Klimatologi dan Geofisika |
| **BPBD** | Badan Penanggulangan Bencana Daerah/ District Disaster Management Agency |
| **BPP** | Balai Penyuluhan Pertanian/Agricultural Extension Center |
| **CCA** | Climate Change Adaptation |
| **CCCAAP** | Community Climate Change Adaptation Action Plan |
| **CSO** | Civil Society Organisation |
| **CVCA** | Climate Vulnerability and Capacity Assessment |
| **CWS** | Church World Service |
| **DREAM** | Disaster Resilience through Enhanced Adaptive Measures |
| **DRR** | Disaster Risk Reduction |
| **EWS** | Early Warning System |
| **FGD** | Focus Group Discussion |
| **GEDSI** | Gender Equality, Disability Inclusion, and Social Inclusion/ Indonesian Association of Persons with Disabilities |
| **HVCA** | Hazard Vulnerability Capacity Assessment |
| **KAP** | Knowledge, Attitude, Practices |
| **KSB** | Kampung Siaga Bencana/ Disaster Prepared Village |
| **KSSP** | Kelompok Simpan Pinjam Perempuan/Women's Saving Groups |
| **LFA** | Logical Framework Approach |
| **MAPI** | Mitigasi Adaptasi Perubahan Iklim/Climate change adaptation mitigation |
| **MEAL** | Monitoring, Evaluation, Accountability, Learning |
| **MOU** | Memorandum of Understanding |
| **NAP-CCA** | National Action Plan on Climate Change Adaptation |
| **NDRRS** | National Disaster Risk Reduction Strategy |
| **NGO** | Non-Governmental Organisation |
| **Perbup** | Peraturan Bupati/District head regulation |
| **Perda** | Peraturan Daerah/Local regulation |
| **PPDI** | Perkumpulan Penyandang Disabilitas Indonesia |
| **PPL** | Petugas Pertanian Lapangan/Agricultural extension worker |
| **PRB** | Pengurangan Risiko Bencana or DRR |
| **RKPDes** | Rencana Kerja Pemerintah Desa/Village Government Annual Planning |
| **RPJMDes** | Rencana Pembangunan Jangka Menengah Desa/ Village Medium Term Development Plan |

# EXECUTIVE SUMMARY

The DREAM-2 Final Evaluation aimed to assess the community resilience system, with a particular focus on the four target villages and the Sigi Regency Government in their response to the impacts of climate change. The evaluation analyzed the program's appropriateness, relevance, effectiveness, efficiency, sustainability, and gender equality and social inclusion (GEDSI) aspects to provide a comprehensive understanding of its achievements and areas for improvement.

The DREAM-2 program was designed to enhance community understanding of climate change, various climate change impacts, and local community adaptations to climate change based on perceived phenomena, whether direct or indirect. Through this program, the aim is to adapt to and mitigate the potential hazards arising from climate change. The evaluation findings indicate that the program has demonstrated effectiveness, efficiency, and sustainability in achieving their intended outcomes and building community resilience to climate change and disaster risks reduction. The program's interventions are well-suited to the local context and community needs, and they align with global and national frameworks such as the SENDAI Framework.

Stakeholder and local champion engagement was identified as a critical factor in the program's success. The active involvement and participation of local communities, government agencies, NGOs, and other stakeholders have played a vital role in the effective implementation of the program. However, there is room for improvement in enhancing transition to local ownership, and knowledge transfer including documentation of program best practice and lesson learn to ensure sustainability and long-term impact.

Monitoring and evaluation for Government, CSO and CBO were highlighted as areas for improvement. A more robust monitoring and evaluation system is needed to track progress, measure impact, and inform evidence-based decision-making. Regular data collection, analysis, and reporting should be prioritized to assess the effectiveness and efficiency of program activities. Feedback mechanisms and knowledge sharing platforms should be established to facilitate learning, foster adaptive management, and promote accountability.

The DREAM-2 Final Evaluation provides valuable insights for program managers, policymakers, and stakeholders involved in disaster risk reduction and climate changes adaptation initiatives. By incorporating the recommendations, the program can further improve its Sustainability and long-term impact on vulnerable communities.

# CHAPTER 1. INTRODUCTION

## 1.1 Project Description

Climate change impacts natural resources and the lives of communities, especially those whose livelihoods depend on them. The adverse effects of climate change compel humans to adapt based on their understanding of it. Adaptation involves adjusting natural and social systems in response to climate change and variability. Climate change leads to shifts in seasonal dates, resulting in decreased agricultural production and triggering disasters such as floods and landslides. At the national level, climate change adaptation, and disaster risk reduction (DRR) are key priorities in national regulations and strategies. The national government recognizes the importance of addressing the impacts of climate change and reducing the risks associated with natural disasters. Several national regulations and strategies have been implemented to guide efforts in climate change adaptation and DRR.

One notable regulation is the National Action Plan on Climate Change Adaptation (NAP-CCA), which outlines a comprehensive framework for adapting to climate change impacts. The NAP-CCA focuses on building resilience in agriculture, water resources, coastal areas, and urban infrastructure. It promotes the integration of climate change considerations into policies, plans, and programs at various levels of governance. The National Disaster Risk Reduction Strategy (NDRRS)[1] also provides a roadmap for reducing disaster risks and enhancing resilience. It emphasizes the importance of proactive measures, such as early warning systems, community-based preparedness, and capacity-building initiatives. The strategy aims to strengthen coordination among different stakeholders, including government agencies, civil society organizations, and communities.

In the context of Central Sulawesi, climate change condition was further exacerbated by a series of 7.4M earthquakes that triggered a tsunami on September 28, 2018, in Donggala, Central Sulawesi, Indonesia. The combination of earthquakes, tsunamis, liquefaction, and landslides caused significant damage and loss of life throughout the affected regions in Palu, Donggala, and Sigi districts. Regarding climate change impacts, Sigi district is particularly prone to hydrometeorological disasters such as flash floods, droughts, and landslides. The successive disasters have rendered the communities in the Sigi district more economically and socially vulnerable, necessitating efforts to enhance capacity and reduce disaster risks.

Since 2019, CWS and INANTA Foundation have undertaken climate change adaptation (CCA) and disaster risk reduction (DRR) initiatives through the DREAM 2 program[2], which is funded by Act for Peace (AfP) - ANCP (Australia's NGO Cooperation Program). The DREAM-2 program aims to enhance community understanding of climate change, various climate change impacts, and local community adaptations to climate change based on perceived phenomena, whether direct or indirect. Through this program, the aim is to adapt to and mitigate the potential hazards arising from climate change. During the implementation period of DREAM-2, it is important to recognize that the program was carried out amidst the global COVID-19 pandemic, including in Sigi District. The pandemic presented various challenges such as movement restrictions, activity cancellations and postponements, reallocation of government budgets, and changes in government and community priorities.

[1] Rencana Nasional Penanggulangan Bencana 2020-2024

[2] National regulations and strategies provide a guiding framework for climate change adaptation and DRR efforts in the Indonesia. That emphasize the need for a multi-sectoral approach, involving various stakeholders, to effectively address the challenges posed by climate change and natural disasters. By aligning with these regulations and strategies, initiatives such as the DREAM-2 program contribute to the overall national objectives of enhancing resilience and reducing vulnerability to climate change and disasters.

The program is designed to achieve its objectives through three areas of change:

1 Enhancing the capacity and motivation of community members to conduct climate change vulnerability assessments and develop community-based adaptation plans.
2 Successfully modifying the development planning systems of civil society organizations and relevant government agencies to support climate change adaptation (CCA) and disaster risk reduction (DRR) planning and strategies.
3 Sharing successful community-based adaptation strategies, plans, and specific actions with other communities.

This final evaluation was conducted in May 2023, in four villages: Rogo, Bulubete, Pakuli Utara, and Simoro in Sigi District, Central Sulawesi. Qualitative and quantitative approach methods were used to collect and analyse the impact of the program, and to evaluate the effectiveness, accountability, and sustainability of the program results.

### 1.2 Overview of the End-line Evaluation Study

This study is intended to find out about the community resilience system, particularly in the four target villages and Sigi Regency Government in facing the Impact of Climate Change. Specifically, the objectives of the final evaluation study are to:

1. To measure the Knowledge, Attitude, and Practice (KAP) level of target communities on community-based adaptation related to climate vulnerability. The evaluation will cover adaptation issues / coping mechanisms, land use and agricultural production, farmers' vulnerability to climate change and its impacts, promoted technologies and interventions, and adaptation policies.
2. To measure the KAP level of the target community and the government in Climate Change Mitigation and Adaptation (MAPI). This includes community participation, interests, knowledge, skills, and attitudes in Climate Change Adaptation and mitigation actions - particularly the target groups in the target communities.
3. To measure the degree of implementation on effectiveness, efficiency, impact, accountability, sustainability, inclusivity, and quality delivered on outputs and outcomes, against what was originally foreseen in the project.
4. To provide recommendations for the future program by analysing the problems and issues which remain unresolved in program areas (Disaster Risk Reduction and Climate Change Adaptation).
5. To identify and document substantive lessons learned and good practices on the thematic areas as defined in outputs and other cross-cutting issues.

The primary users of the study's findings and recommendations will be the donor agencies, CWS, INANTA, and other relevant stakeholders.

## CHAPTER 2. RESEARCH FRAMEWORK AND METHODOLOGY

### 2.1 Introduction to Methodology

The study employed a mixed-method approach, combining desk review and field consultations. The desk review involved examining available documents such as baseline studies, progress reports, and program annual/final reports. This initial step aimed to gather data for the end-line evaluation study. Through the desk review, the study team gained insights into the community context, priorities, and changes during the design and implementation phases, while identifying gaps.

Field consultations were conducted using questionnaires to collect information on the perspectives, knowledge, and practices. However, it should be noted that questionnaires have limitations in

capturing in-depth data regarding the effectiveness, sustainability, and impact of the program. To ensure a more comprehensive analysis, key informant interviews and FGDs were also conducted. These methods proved valuable in exploring participants' knowledge, experiences, and the underlying reasons for their views and opinions (Kitzinger 1995; Kvale 2007).

The study also examined the outcome indicators outlined in the Logical Framework Approach (LFA) of the DREAM 2 program, as well as the evaluation criteria of relevance, efficiency, impact, sustainability, and cross-sector issues (such as participation, gender, and inclusion), which were presented in the main findings.

**2.2 Study Participants**

The total respondent of the DREAM 2 program evaluation was 325 respondents, consisting of 36,92% female and 63,08% male. The respondents were selected from 4 targeted villages in Sigi District. Using the confidence level of 95% and margin of error of 5%, the total number of respondents who participated in the study is meth the minimum sampling required.

Table. 1 Calculation of Confidence Level and Margin of Error from the Survey Result

| | Total Project Participants | Target Respondents | Actual Respondents | Statistical Parameters* |
|---|---|---|---|---|
| Total | 2,085 people<br>(872 female and 1,213 male) | 325 people | 325 people | CL = 95%<br>MoE = 5% |

Figure 1. Total Participants by Sex and Age Categorize

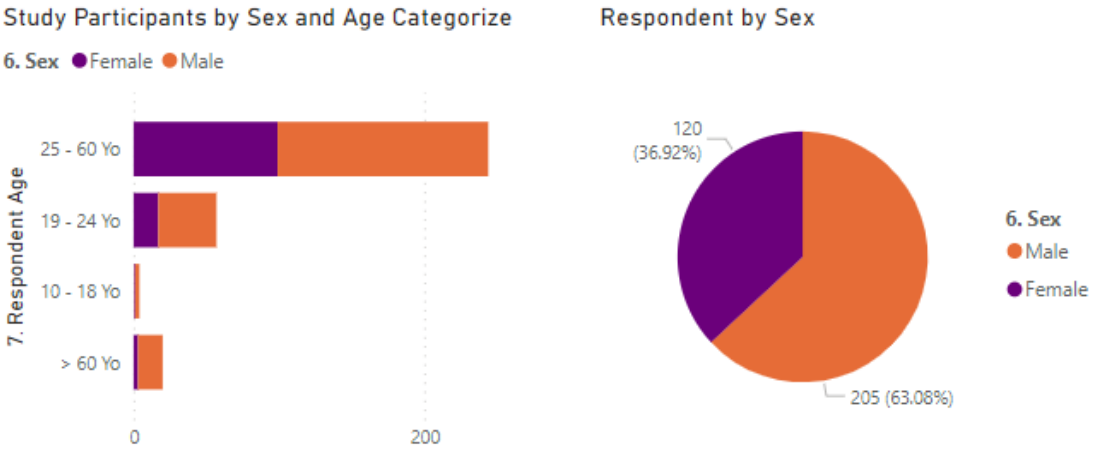
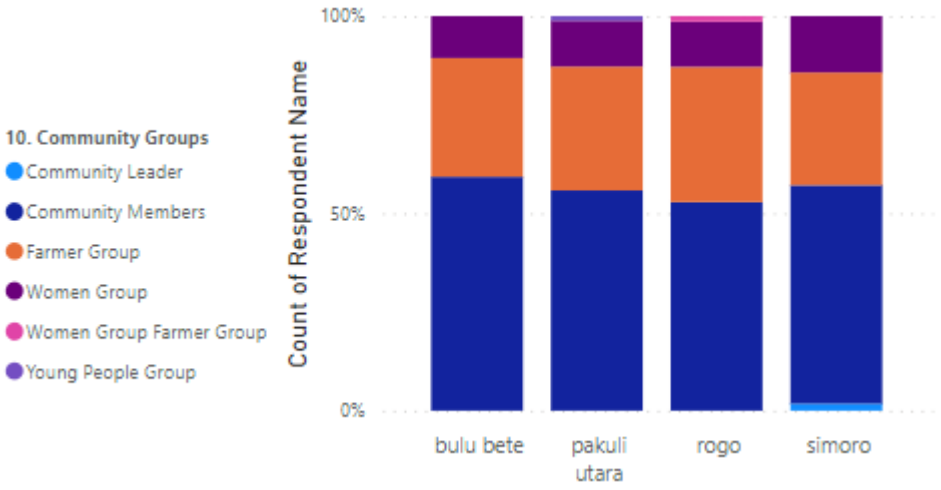


Figure 2. The Proportion of Total Participants by Community Group




In addition to the respondent questionnaire, the study also included data collection with 59 individuals who served as informants in the interview and FGD process. The list of participants and their respective institutions is provided in Table 2.

Table 2. List of Interview and FGD Participants

| FGD | In-depth interview participant |
|---|---|
| • 36 FGD participants from 4 villages attended the FGD. The FGD participants were representatives from farmer groups, women's saving groups (KSSP), and community leaders<br>• The participants of FGD consist of:<br>  ○ Pakuli Utara: 6 females and 6 males<br>  ○ Rogo: 2 females and 5 males<br>  ○ Simoro: 7 females and 4 males<br>  ○ Bulubete: 1 female and 5 males | CWS Partner Implementation and staff (3 females and 3 males):<br>- INANTA Project Manager<br>- INANTA ME Officer<br>- INANTA Field Officer<br>- INANTA Finance Officer<br>- CWS Project Coordinator<br>- CWS Program Manager<br>Community (4 males):<br>- FPRB Rogo Village<br>- KSB Pakuli Utara Village<br>- KSB Simoro Village<br>- PPDI (Diffable Community in Sigi)<br><br>Government at Village and District Level (1 female and 8 males):<br>- BAPEDA Kab. Sigi<br>- BPP Kab. Sigi<br>- DPMD Kab. Sigi<br>- Head of Bulubete Village<br>- Head of Pakuli Utara Village<br>- Head of Rogo Village<br>- Head of Simoro Village<br>- Social Office Kab. Sigi<br>- BPBD Kab. Sigi |

The participants of the Focus Group Discussion (FGD) from the villages of Pakuli Utara, Simoro, Bulubete, and Roro amounted to 36 individuals, consisting of 15 females and 21 males. Meanwhile, there were 19 interview respondents, comprising 4 females and 15 males.

**2.3 Geographical Scope**

Four villages were targeted for the final evaluation study: Bulubete, Rogo, Pakuli Utara, and Simoro Villages. The participants were selected using random sampling and divided proportionally in each village, further adjusted based on field conditions.

**2.4 Quality Control and Data Analysis**

The end-line evaluation study employed a comprehensive approach to gathering data and insights. Interviews were conducted using agreed-upon guiding questions, and the process was audio-recorded, ensuring accurate documentation. The consultant also took detailed notes, capturing key points and relevant quotes related to the essential aspects of the study. Grounded theory was applied during the data analysis phase, allowing researchers/consultants to explore emerging trends without being constrained by preconceived theories. The analysis involved comparing and analysing these notes alongside the findings from the survey and desk review.

To collect questionnaire responses, mobile devices with Kobo Collect Apps were utilized, and trained enumerators were present to assist respondents who faced difficulties understanding the questions. Before the official rollout, the questionnaires underwent pre-testing with four adults in Sigi, where they completed the questionnaire within a 50-minute timeframe without encountering any challenges.

Quality control measures were implemented to ensure the integrity of the dataset. The dataset underwent visual screening for errors and checks for missing values, resulting in no errors or missing values being identified. Given the relatively small dataset, Power Bi software was employed for its analysis. To maintain objectivity and minimize bias, data triangulation was conducted by collecting information from various sources, including government agencies, NGOs, and community representatives. All records will be shared with CWS. However, the report will present a summary of the interview and questionnaire results, complemented by quotes from the respondents.

In addition to the data collection and analysis, an evaluation workshop was conducted to present and verify the preliminary findings and gather insights from key stakeholders. The workshop focused on exploring the impacts and contributions of the DREAM-2 programs, identifying areas for improvement, and assessing the availability of policies, human resources, and budgets to ensure the sustainability of climate change adaptation and disaster risk reduction efforts. Participants included representatives from farmer groups, women's groups, village government groups, local government groups, as well as CWS and INANTA Project’s team.

**2.5 Ethics in the End-line Evaluation Study**

Appropriate ethical practices were applied based on the "Do No Harm" principle, including the following measures:

- Proper protection measures were implemented when engaging directly with communities. Information and consent forms were developed for all participants, ensuring their

understanding and voluntary participation. Participants had the freedom to withdraw at any time without providing a reason and without facing any consequences.

- Consultation with CWS Indonesia's team was conducted to ensure the study methods were sound, effective, and culturally appropriate for the communities.
- The data collection tools, including questionnaires and interview guidance, were developed based on DREAM's baseline study. Further refinement of these tools was conducted in collaboration with CWS's team to ensure their appropriateness.

The evaluation team understood and agreed to treat any obtained data and information as confidential and not divulge it unless authorized in writing by CWS. The ethics process and research complied with:

- The requirements of CWS policy and standards.
- CWS's Research Policy and Standards, which include provisions for informed consent, voluntary participation, confidentiality, and anonymity. The policy also addresses minimizing discomfort and harm, providing intervention and support, giving feedback on study findings to participants/communities, and ensuring appropriate safety measures for researchers/consultants.

Ethical approval was provided by CWS and aligned with the expectations and requirements outlined in CWS's Research standards.

### 2.6 Field Work Timeframe

Data collection for the study started on 16 May 2023 and finished on 25 May 2023

### 2.7 Study Length and Limitation

The final evaluation process undoubtedly possessed challenges that have the potential to limit the extent to which the evaluation can conclusively draw findings. Several limitations of the DREAM-2 program's final evaluation study have been identified, including:

- Firstly, societal changes are a complex endeavor in which numerous factors influence the outcomes. Consequently, it is uncommon to derive conclusions based solely on a single influencing factor. The limited available resources impact the selection of impact evaluation methods, as the absence of a control group hinders the comparison of changes within the community.
- Secondly, the interviews conducted in this study focused on key informants directly involved in the DREAM-2 program. The evaluation team did not interview organizations or individuals who were not part of the DREAM-2 program's network, which has implications for analysing representation at a broader population level.

A robust triangulation approach and data obtained from additional sources serve to reinforce the conclusions. This includes data on knowledge changes resulting from capacity-building activities supported by the pre-and post-test evaluation approach.

# CHAPTER 3. FINDINGS AND DISCUSSIONS

## 3.1 Outcome 1. Enhanced Community Capacity, Motivation, and Ability

Table 3. Outcome 1 and Output Committed for Year 3

| |
|---|
| **Outcome 1:**<br>Community members' knowledge, understanding, motivation, and ability to assess climate vulnerability, and act on their behalf, are enhanced |
| Target Output in Year 3 |
| **Output 1.1:**<br>Community-based integrated climate change adaptation approach is implemented<br>**Output 1.2:**<br>Farmers have implemented climate-smart agriculture<br>**Output 1.3:**<br>Members of women's savings groups implement risk-reduction plans. |

Table 4. Indicator of Success of Outcome 1

| Indicator of Success | Target | Achievement |
|---|---|---|
| 1.1.1 # of villages have implemented Climate Vulnerability and Capacity Analysis (CVCA). | 4 villages | CVCA results from 4 villages show that communities are being affected by climate change, for example through frequent flash floods. This frequent flooding has also been negatively impacting their livelihoods. At the same time communities were able to identify capacities to overcome the impact of flooding and were able to implement such efforts.<br># participants of CVCA process:<br>Interview: 42 males and 22 females<br>FGD: 22 males and 21 females |
| 1.1.2 # of villages have Community Climate Change Adaptation Action Plans (CCCAAP) developed. | 4 villages | 4 villages have produced a Community Climate Change Adaptation Action Plan document, which has been organized and serves as a guideline for various stakeholders in the four villages to implement adaptation activities |
| 1.1.3 # of villages implement Climate Change Adaptation Action Plans (CCCAAP) | 4 villages | 4 villages implement the action plan outlined in the document by adjusting the activities stated in the Village Annual Planning (RKPDes) of each village. |
| 1.2.1 # of farmers joined the farmer's group | 688 Farmers | A total of 688 farmers, who are members of 31 Farmer Groups in 4 villages, are regularly accompanied. |

| | | |
|---|---|---|
| 1.2.2 # of farmers have improved knowledge and skills of climate-smart agriculture | 688 | 688 members of farmer groups, who are part of 31 groups across 4 villages, have participated in training activities on sandy land conservation, organic fertilizer and pesticide production, and have implemented them within their respective groups. |
| 1.2.3 # of farmers have implemented climate-smart agriculture | 688 | 688 members of farmer groups have implemented climate friendly agriculture practices by incorporating crop diversification, mulching, pruning, the use of organic solid and liquid fertilizers and pesticides, timing of planting based on the seasonal calendar, utilization of superior seeds, manual weed control, organic sandy land management, and the use of protective trees. |
| 1.3.1 # of women joined KSSP | 300 Women | 245 women, members of 16 KSPP, are regularly accompanied. |
| 1.3.2 # of members of women's savings groups identify alternative climate resilient income generating activities | 143 Women | 244 members of the KSPP have conducted an identification of the group's productive businesses and the individual members' businesses and identifying the risks posed by disasters and climate change to ensure the sustainability of their businesses. |
| 1.3.3. # Of members of women's savings groups implement risk reduction plans | 300 Women | 95 members of 16 women's savings and loan groups (KSPP) have discussed risk reduction action plans. The results of the disaster risk identification are used as a basis for developing the risk reduction action plan. One example of the action plan is that the women's group will attempt to access Village Budget Funds to finance the needs of the women's group, such as providing horticultural plant seeds for the utilization of backyard and group gardens.<br><br>A total of 245 KSPP members have implemented the risk reduction plan for group business activities, individual members' businesses, the utilization of backyard land, and the management of group gardens. |

The study findings indicate that the DREAM-2 Program in the targeted areas of the Sigi district plays a significant role in building climate resilience through improved knowledge, understanding, motivation, and ability to assess climate vulnerability and take action. The DRR Forum, farmer groups, and KSSP are identified as key actors driving change at the village level. These groups exhibit a nuanced understanding and perspective on DRR, shaped by their first-hand exposure to the impacts of disasters and climate change. These groups have witnessed the devastating consequences of climate change and disasters, leading to a greater sense of urgency, commitment, and dedication to DRR efforts. Their perspectives are shaped by the tangible impacts they have experienced, and they recognize the importance of integrating DRR and climate change adaptation to reduce vulnerabilities and enhance community resilience.

### Community-based Adaptation

The study findings regarding community-based adaptation incorporated key components such as community engagement, multi-sectoral collaboration, participatory assessment, and others, which were identified in the analysis process. These components were developed by the perspectives and insights of the researchers, in identifying and highlighting significant changes of the DREAM-2 Program.

1. **Community Engagement**: The DREAM-2 Program actively involves community members in the planning, decision-making, and implementation processes. Their perspectives, knowledge, and experiences are considered, ensuring that the adaptation measures are contextually appropriate and responsive to their needs. Based on the analysis of the data, there is a notable correlation between the level of community concern, community knowledge, community preparedness, and community action regarding climate change. The study reveals that as the level of community knowledge regarding climate change (definition of climate changes, climate changes impact, adaptation strategies, and mitigation practices) increases (from 40,56% to 87,08%), there is a corresponding decrease in community concern especially very worried aspect (from 25,54% to 5,23%). There is no significant difference between the data of the male and female groups related to the level of concern and knowledge regarding climate change. This situation shows in the figure below:

Figure 3: Level of community concern in 2021 and 2023

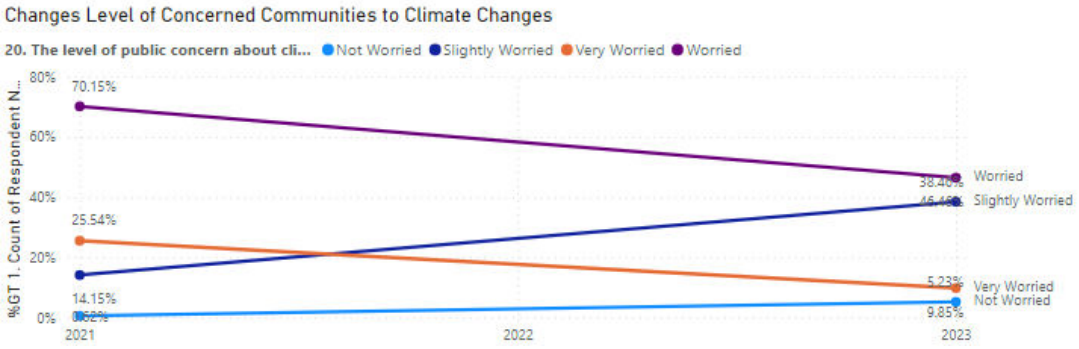
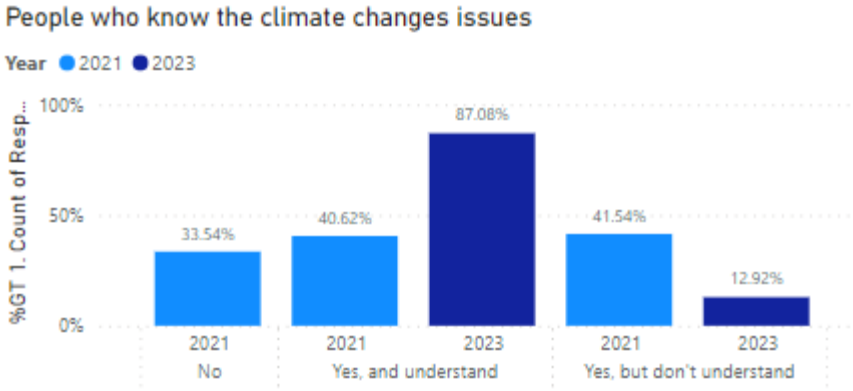


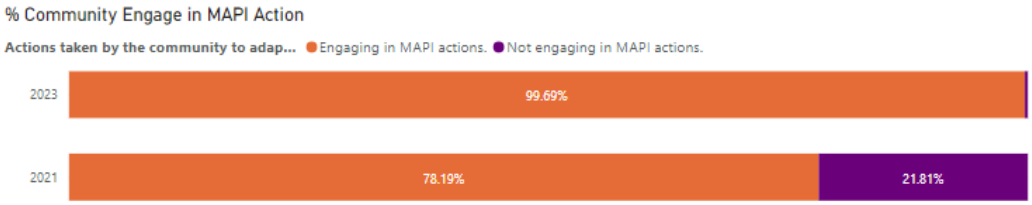
Figure 4: Community knowledge regarding climate change




Information related to DRR and CCA get by the community mostly through friends (21,36%), socialization and education activities (15,32%), and family (14,65%). This situation was completely different from 2021, in which Mass Media (42,54%) and Online media (10,63%) as the main source to get information related ed DRR and CCA.[3]

Furthermore, the data indicates that higher community knowledge and preparedness level are positively associated with increased community action. As community members become more knowledgeable about climate change and better prepared for its impacts, they are more likely to take proactive measures to adapt to and mitigate these changes (an increased trend in community engagement in MAPI action from 78,19% to 99,69%). This can manifest in various actions, such as implementing climate-smart practices, participating in community resilience initiatives, and advocating for policy changes at local levels.

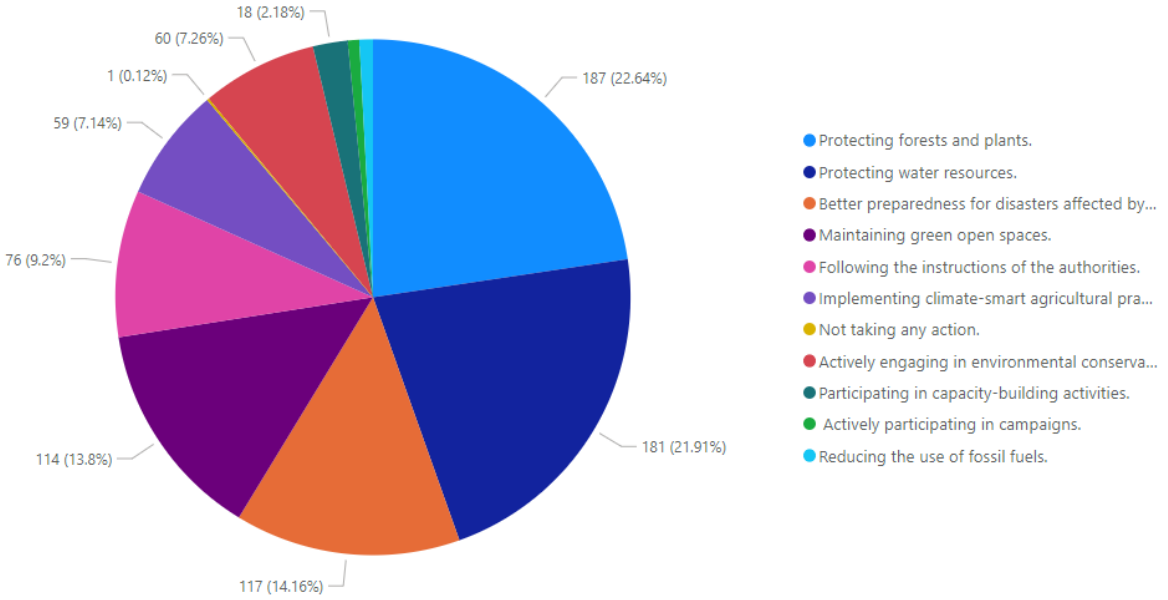
Figure 5: Community Engage in MAPI Action




Data shows that most of the community has acted on protecting forests and plants (25,78%), protecting water resources (20,59%), and better preparedness for disaster (13,55%). The different priority focus between males and females related to the action taken, the male group focuses on action protecting forests and plants (24,44%) and the female group focuses on action protecting water resources (24,14%). The significant changes identified from the comparison data baseline and endline are on the community who not acted from 13,2% to 0,12%.

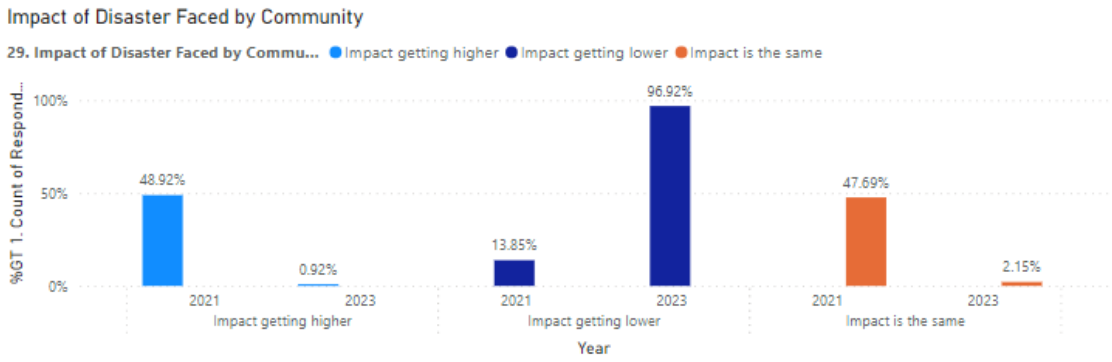
[3] Baseline study DREAM – 2 Project, 2021

Figure 6: Actions taken by the community to adapt to climate change.




Most of the community shows that the impact of disaster faced by the community is getting lower (from 12,53% to 96,92%). This situation shows in all targeted villages (Simoro, Bulubete, Rogo, and Pakuli Utara).

Figures 7. Impact of Disaster Faced by Community




Overall, the findings suggest that empowering communities through knowledge, preparedness, and action can decrease in community concern regarding climate change. By enhancing community knowledge and preparedness, communities are better equipped to understand and address the challenges of climate change, leading to more proactive and effective actions to build resilience and adapt to changing conditions.

**The involvement of youth as a collective action in taking care Gumbasa River**

The village of Pakuli Utara, traversed by the Gumbasa River, has its vulnerability to flood disasters. The collective memory of the community, including the youth of Pakuli Utara, about the recent floods in the area has driven the youth to participate in efforts to reduce the vulnerability of their region to floods.

One of the initiatives taken is the cleaning of the Gumbasa River. This sympathetic action was initiated by the Disaster Preparedness Village (KSB) along with the Nature Lover Youth and involved the North Pakuli Youth Alliance and the Youth of the Islamic Mosque (RISMA) in the Pakuli Utara village. KSB itself was formed through the Dream 2 program implemented by INANTA and CWS in the area.

According to Riyan[4], one of the youth activists in the river cleaning action, the capacity gained from INANTA and CWS in the form of mentoring and activities to increase awareness and knowledge related to climate change adaptation (API) and disaster risk reduction (PRB) has broadened the perspectives of the youth in Pakuli Utara and has been one of the drivers behind the river cleaning action.

Another awareness that has prompted the emergence of this river cleaning initiative is the concern of the youth regarding the condition of the river, which is heavily polluted. The river serves as a bathing place, toilet, and waste disposal site for many people, but unfortunately, it is also the source of drinking water for most of the community. It is evident that the abundance of waste obstructs the flow of the river toward the rice fields and pollutes it.

Since 2022, the youth of Pakuli Utara have conducted river cleaning activities three times. The focus of the latest cleaning was in the river area within residential areas. Each cleaning process was done collectively by around forty youths and community members. Logistics for the action, such as drinks and food, were provided by the community and the participants of the river-cleaning action. The collected waste from the river was disposed of in designated waste containers.

"To support the sustainability of activities related to API and PRB in our village, we have proposed that these activities be included in the Village Medium-Term Development Plan (RPJMDes) for the 2023-2028 period," concluded Riyan.

2. Multi-sectoral Collaboration: The DREAM 2 program already engage with various actor in the village communities (DRR Forum/ KSB Team, farmer group, and women saving's group). This collaboration facilitates sharing resources, expertise, and responsibilities, leading to more effective and sustainable adaptation actions. The DRR Forum/ KSB team is a platform for knowledge exchange, coordination, and collaboration among stakeholders involved in disaster risk reduction and climate resilience efforts. The MOU between INANTA and the DRR Forum, as well as the involvement of various stakeholders in the evaluation and discussion of findings, demonstrates the strength of the partnerships. Through the forum, community members gain access to valuable information, expertise, and resources related to climate change adaptation and disaster risk reduction. The forum facilitates workshops, training sessions, and awareness campaigns, which contribute to enhancing community members' knowledge and understanding of climate risks and resilience strategies. Additionally, the forum plays a crucial role in promoting collaboration and partnerships between different actors, fostering a holistic and integrated approach to climate resilience.

[4] Mohammad Riyansah, Riyan (26), is a resident of Pakuli Utara village with a Kailli ethnic background. He is a member of the Disaster Preparedness Village (Kampung Siaga Bencana - KSB). Riyan, who graduated from high school, is also a member of the Election Committee (Panitia Pemungutan Suara).

Farmer groups are recognized as essential actors in implementing climate-smart agriculture practices. Community farmers gain knowledge and skills in sustainable farming techniques, resource management, and climate-resilient agricultural practices through these groups. The farmer groups provide a platform for sharing experiences, exchanging best practices, and collectively addressing challenges related to climate change impacts on agriculture. By working together, farmer groups enhance their understanding of climate risks specific to their agricultural activities and develop adaptation strategies that improve their resilience to changing climate conditions.

**Intercropping and Organic Farming for the Sustainability of Simoro Village Agriculture**

Simoro Village, located in the Gumbasa sub-district, Sigi Regency, is one of the villages situated in hilly areas. Demographically, the majority of the Simoro community works as plantation farmers and also cultivates leguminous crops using rain-fed farming systems.

Heri[5], the head of the Village Disaster Preparedness Village (KSB) in Simoro Village, stated that after the disaster on September 28, 2018, which affected parts of Central Sulawesi, Simoro Village, which used to be a significant cocoa producer in the Gumbasa sub-district, experienced a decline in cocoa harvest yields. Some farmers even experienced crop failures and replaced the cocoa with corn cultivation. However, cultivating leguminous crops remains challenging for farmers due to the unpredictable climate.

"In the past, around 10 years before the disaster, every '-ber' month (September, October, November, December) would always bring rain. But now, it cannot be predicted anymore. Sometimes it's hot, and suddenly it rains," explained Heri.

In response to these climate changes, INANTA and CWS, through the Dream 2 program, directed farmers to adapt to the occurring climate changes. One of the approaches is implementing crop rotation. With crop rotation, farmers who cultivate corn also simultaneously plant peanuts. Some farmers also practice intercropping chili peppers with peanuts.

With this intercropping practice, the risks of crop failure and harvest losses can be mitigated as two varieties are grown together in the same field. Intercropping is not a piece of new knowledge for farmers, but understanding that it is an alternative solution to cope with crop failures caused by unpredictable seasons is an additional knowledge that greatly helps the community, especially farmers, to be adaptive to climate changes.

In addition to crop rotation, farmer groups are also encouraged to refrain from using chemical pesticides and fertilizers to reduce their environmental impact, especially soil degradation. Heri shared his experience of organic chili pepper farming, where leguminous crops thrive better when free from chemical substances, as the soil remains loose.

[5] Herry (50), is a resident of Simoro village with a Kulawi ethnic background. He is the head of the Disaster Preparedness Village Team (Tim Kampung Siaga Bencana/KSB) and also as a member of agroforestry group in Simoro village. Herry, who graduated from high school, is a government officer and serving as a church council member in his village.

Conversely, with the use of chemical substances, the soil becomes compact, making it harder to absorb water during rainfall.
Through organic farming practices, plants become more disease-resistant and have a longer lifespan.
"When we grow chili peppers with chemical fertilizers and spray pesticides, we can harvest them three to four times within a year of planting. But with organic methods (without chemical pesticides and fertilizers), we can harvest them up to ten times, and the chili pepper plants can last up to two years," explained Heri, comparing the results of organic and non-organic chili pepper cultivation.
The challenge lies in the fact that the use of chemical substances by farmers has been going on for a long time, requiring more efforts to raise awareness and change agricultural habits. The presence of the KSB Team, which was formed in 2019 and strengthened by INANTA and CWS through the Dream 2 program, is expected to drive change in the village. Heri also hopes for the establishment of an organic fertilizer production center in their village, and for the Simoro Village Government to commit to integrating Climate Change Adaptation (API) and Disaster Risk Reduction (PRB) into the village's development sustainability.

Identified KSSP has the potential to contribute significantly to community resilience building, particularly in addressing gender-specific vulnerabilities and promoting inclusive decision-making processes. These groups provide a platform for women to come together, share knowledge, and engage in income-generating activities and savings schemes. Through active participation, women gain knowledge and skills related to disaster risk reduction, climate change adaptation, and livelihood diversification. They also contribute to decision-making processes, influencing the design and implementation of community resilience initiatives.

*“Building connections between the DRR Forum, farmer groups, and KSSP is crucial for effective collaboration and synergy in community resilience-building efforts at the villages level.”*

Disaster Risk Reduction Forum at District Level

The DRR Forum has great potential to facilitate knowledge-sharing sessions and workshops involving farmer groups and KSSP, where experiences, challenges, and best practices are exchanged. This cross-learning approach strengthens the understanding of climate risks and resilience strategies among all actors involved. The DRR Forum/ KSB Team can also support farmer groups and KSSP by providing access to technical expertise, financial resources, and policy advocacy platforms.
By leveraging the expertise and strengths of the DRR Forum, farmer groups, and KSSP, communities can benefit from a comprehensive and inclusive approach to climate resilience. This collaborative effort ensures that knowledge, skills, and resources are shared effectively, leading to more informed decision-making, collective action, and ultimately, improved resilience to climate change impacts.

3. Participatory Assessments: As part of the approach, participatory assessments have been conducted in the four target villages. These assessments involved the active participation of community members in collecting, analysing, and interpreting data to assess the vulnerabilities and risks associated with climate change. The aim is to empower the community to effectively understand and address their specific challenges. However, it has been observed that the level of understanding among community members regarding participatory assessments still needs to be higher (7,79%), and 90.91% of the community is aware of the vulnerability assessment process, but they are unable to carry it out independently.

   As a result, the assistance of experts is still required to facilitate and guide the assessment process (HVCA and CVCA). Efforts are being made to enhance community understanding and build their capacity to conduct participatory assessments in the future independently. This includes providing training, raising awareness, and promoting knowledge-sharing within the community. Strengthening community engagement in participatory assessments aims to foster a sense of ownership and empower the community to take informed actions in response to climate change challenges.

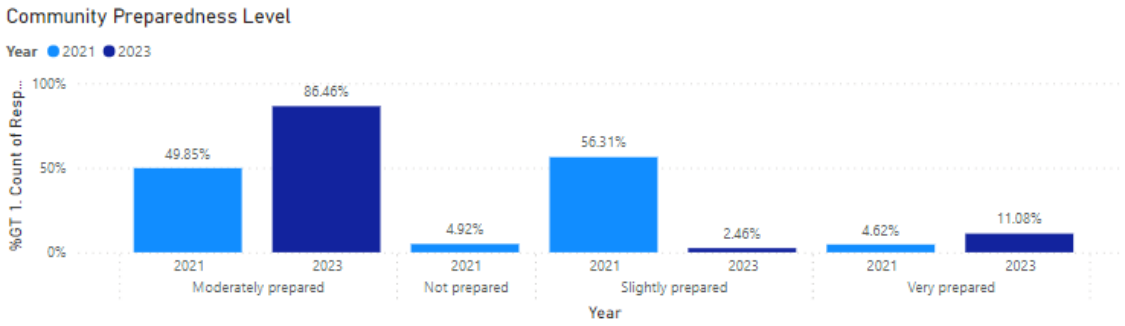
By implementing a community-based integrated climate change adaptation approach, communities are better equipped to anticipate, cope with, and recover from the impacts of climate change. It fosters resilience, empowers local communities, and promotes sustainable development in the face of changing climatic conditions.

## Disaster Preparedness at the Village Level

Regarding knowledge, almost all respondents stated that they have participated in training related to risk reduction and mitigation. They also participated in simulations at the village level. Most of the respondents know about all types of hazards in surrounding villages. Based on the interview they seem to know ways to deal with the disaster, but specifically only for landslides and the conducted simulation is relevant to the needs of the community and villages that are prone to flash floods.

There is a positive correlation between the level of community preparedness and the level of community concern. Communities that are more prepared for disasters and climate change tend to exhibit lower levels of concern. This can be attributed to the confidence and sense of security that comes with adequate plans, resources, and infrastructure to mitigate the risks associated with climate change.

Figure 8: Level of community preparedness for disasters and climate change



*"There is a need for standardization of terminologies for disaster risk reduction groups at the village level. This is to ensure continuous capacity building and training by the Government program implementers at the district level."*

HERI - Chairperson of the Disaster Prepared Village Team Simoro Villages

The DREAM-2 as a collaboration between the district government and local communities in four - villages (Desa Rogo, Bulubete, Simoro, and North Pakuli) has analyzed village vulnerability to climate change and hazard, capacity analysis, actor mapping, and preparation of climate change mitigation and adaptation strategies. From these processes, it was identified the existing disaster hazards i.e., floods, flash floods, extreme weather, earthquakes, forest and land fires, droughts, and landslides. In addition, the non-disaster hazards identified are dengue fever, ARI, and diarrhea.

The biggest challenge faced by the community is the capacity, both related to access and utilization of weather forecast information for agriculture and the appropriate technology that can be used. This includes the use of vulnerability information in formulating the government program strategic plans that have an impact on the priority focus of budget allocations. INANTA-CWS through DREAM-2 programs seeks to increase this capacity through series of coordination mechanisms and mapping of strategic roles in developing climate change mitigation and adaptation strategies at various levels of government (district and village).

There are 35 groups supported through DREAM-2 Program to develop climate change mitigation and adaptation plans. Those 35 groups consisted of farmer groups, women's savings, and loan groups, DRR groups, and village government groups.

*"The community's capacity has significantly improved regarding climate change and disaster risk reduction due to the involvement of various parties who care about the people of Sigi District, such as CWS and INANTA. In addition, this is in line with the development of the Emergency Disaster Preparedness Standard Operating Procedure (SOP) in Sigi District to reduce material and immaterial impacts."*

Sri Dawati - Head of Preparedness and Prevention Division, Sigi District Disaster Management Agency (BPBD).

## Early Warning System (EWS)

Figure 9 Early Warning System Before Implementation of DREAM -2 Project

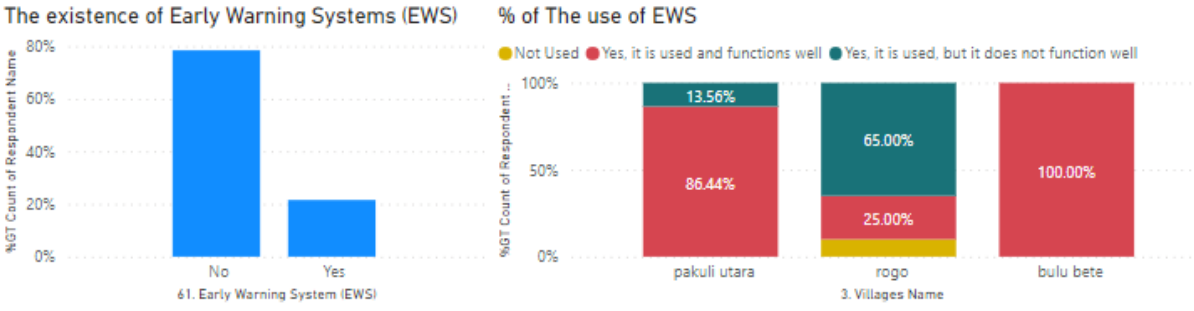
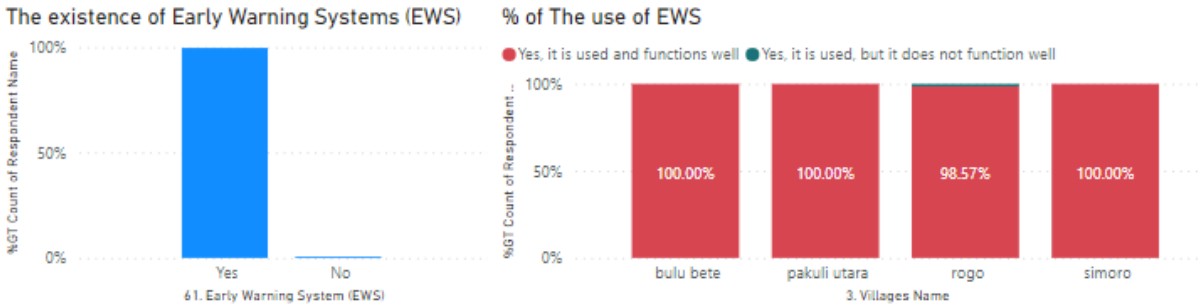



Figure 10 Early Warning System After Implementation of DREAM -2 Project




From the data above, it was found that before the implementation of the DREAM-2 programs, 78.46% of the community stated that their area did not have an early warning system. After the implementation of the DREAM-2 programs, 99.69% of the community stated that their village now has an early warning system. A significant improvement was observed in Simoro village, where there was no prior early warning system, and in Rogo village, where an early warning system was already in place but was not functioning properly. Detailed EWS in every village can be seen in the table below:

Table 5 Early Warning System in Targeted Villages

| EWS at Bulubete | EWS at Pakuli Utara | EWS at Rogo | EWS at Simoro |
|---|---|---|---|
| • Water level detection devices in rivers<br>• Information from BMKG (Meteorology, Climatology, and Geophysics Agency) and Pusdalops BPBD Sigi (Local Disaster Management Agency)<br>• Dissemination using local wisdom: Kentongan (traditional bamboo instrument), Sirens, Public Address Systems, Announcements, Telephone, Walkie-talkies (HT) | • Water level detection devices in rivers and early warning systems for water level using technology<br>• Information from BMKG (Meteorology, Climatology, and Geophysics Agency) and Pusdalops BPBD Sigi (Local Disaster Management Agency)<br>• Dissemination using local wisdom: Kentongan (traditional bamboo instrument), Sirens, Public Address Systems, Announcements, Telephone, Walkie-talkies (HT) | • Water Level Monitoring Devices (AWLR - Automated Water Level Recorder)<br>• Information from BMKG (Meteorology, Climatology, and Geophysics Agency) and Pusdalops BPBD Sigi (Local Disaster Management Agency)<br>• Dissemination using local wisdom: Kentongan (traditional bamboo instrument), Sirens, Public Address Systems (TOA), Announcements, Telephone, Walkie-talkies (HT) | • Water level detection devices in rivers<br>• Information from BMKG (Meteorology, Climatology, and Geophysics Agency) and Pusdalops BPBD Sigi (Local Disaster Management Agency)<br>• Dissemination using local wisdom: Kentongan (traditional bamboo instrument), Sirens, Public Address Systems, Announcements, Telephone, Walkie-talkies (HT) |

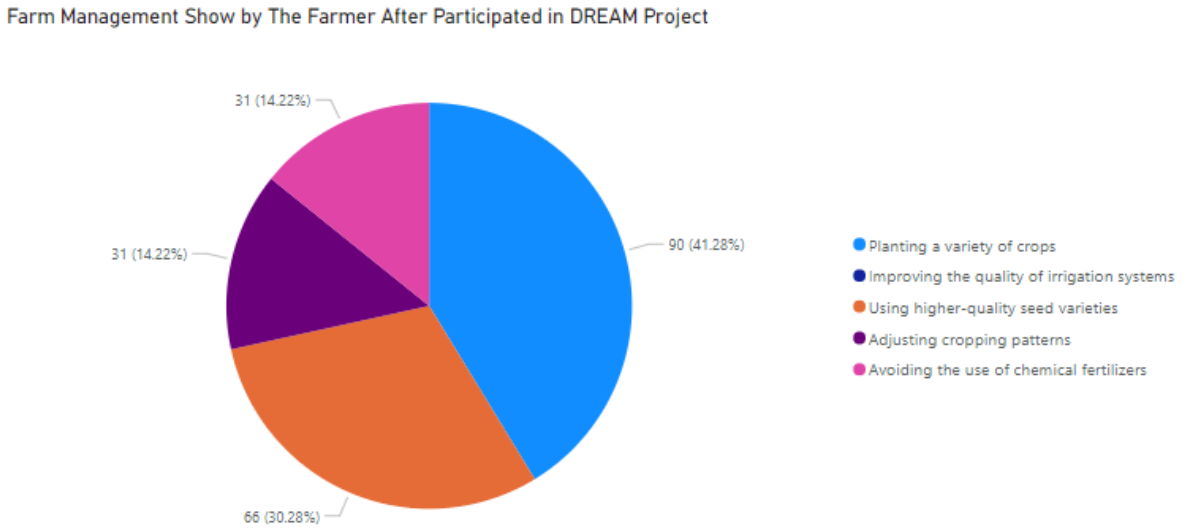
These improvements in the early warning systems have contributed to enhancing the community's preparedness and response to potential disasters, particularly in villages like Simoro and Rogo, where either no system or a non-functional system was present before the implementation of the DREAM-2 programs. The participation of elementary and junior high school students in the project area in installing evacuation signs is a good effort to increase knowledge, awareness, and also ownership of the preparedness system

## Ecological and Climate-Friendly Agriculture

There are 88,16% of male respondents are farmers. Based on what they know and understand as part of communities, this group shows 85,15% of respondents of the farmer group have better knowledge and understanding of climate change than the overall community or male-specific group. In the farmer group, the focus of its capacity building is how to make plant nutrition, organic fertilizer, pesticides, nursery techniques, side grafting techniques, and crop pruning. The respondents of this group showed

that all of them (100%) have already implemented climate-friendly agriculture. the activities based on the action plan conducted by farmers are shown in Figure 11 below.

Figure 11. Farm Management Show by The Farmer After Participated in DREAM Project




*"Strengthening the mechanisms and communication channels between farmer groups, agricultural extension workers (PPL), and agricultural extension center (BPP) to ensure continuous discussions and resolution of challenges faced by farmer groups."*

Farmer Group (*A couple who are members of the farmer group attended the Workshop*)

Most of the challenges identified in developing climate-friendly agriculture are dealing with unpredictable weather (64%), expensive seeds and equipment (12%), and degradation and damage of land (8%). Farmers have experienced significant challenges based on the comparison of data between 2021 and 2023, particularly in terms of unpredictable weather patterns, difficulties in selling agricultural products, and the extent of damaged lands.

Finding from FGD and interviews with farmers groups from four villages are facing difficulties in using organic fertilizers due to several reasons:

- Availability and accessibility: Organic fertilizers are not widely available in the farmers' local areas. This hampers the adoption of organic fertilizer use as it can be challenging to obtain them easily.
- Changes in farming methods: Using organic fertilizers requires a shift from traditional farming methods that rely on chemical fertilizers. This necessitates adjustments in terms of application techniques, soil management, and pest and disease control. Farmers may need to learn and implement new practices related to organic fertilizer use.
- Time and labour requirements: Organic fertilizers often take longer to produce visible effects compared to chemical fertilizers. The process of decomposition and breakdown of organic materials in fertilizers takes time before nutrients become available to plants. Furthermore, the preparation and application of organic fertilizers also require extra effort and labour.

Picture 1: Sand-based Agroforestry Garden with Intercropping System at Langamaluo 2 Farmer Group

*"Previously, this land was used for paddy fields. However, since 2018, after the occurrence of an earthquake and flash floods, the land has been damaged. Due to the earthquake, there was a significant subsidence of the land by nearly five meters. One of the consequences is that the land has become undulating, and there is a shortage of water availability. The irrigation dam in Rogo village has been damaged."*

Haji Amir – Langamaluo 2 Farmer Group at Rogo Village

**There is Life on the Sand After the Flood**

In late August and early September 2021, flash floods hit Rogo Village, South Dolo District, Sigi Regency. These flash floods, which followed the earthquake in Central Sulawesi in 2018, caused massive damage and losses to the people of Rogo. In addition to damaging settlements, agricultural areas were also extensively affected.

The originally flat contour of the agricultural land, which was an ideal place for rice cultivation, became a challenge for most farmers in Rogo. The post-disaster agricultural land was covered in sandy soil, and the surface contour in some areas became uneven. The earthquake and flash floods also damaged dams and rendered the existing irrigation systems non-functional for irrigating their fields.

For Haji Amir[6] (63) and Zakir[7] (42), who are members of the Langamaluo 2 farmer group in Rogo Village, this change in land conditions posed a clear challenge as they were previously rice farmers. "There is land that has sunk by five meters since the 2018 earthquake!" explained Zakir, describing the severe impact of the disaster on their agricultural land.

Since water no longer irrigates their fields due to the damaged dam, the farmers have switched to planting corn. However, economically, the corn yield is not very profitable, especially for farmers trapped in loan practices and dealing with middlemen.

Through INANTA's assistance, the farmer group was convinced that sandy land has the potential for growing peanuts. Peanuts have been cultivated since March 2022, replacing the previous corn crop. It turns out that planting peanuts in sandy soil yields good growth.

[6] Haji Amir (63) is a resident of Rogo village with a Bugis ethnic background. He is a member of Langamaluo 2 farmers group in Rogo village. Haji Amir graduated from junior high school.

[7] Zakir(42) is a resident of Rogo village with a Kaili ethnic background. He is a member of Langamaluo 2 farmers group in Rogo village. Zakir has never attend school.

Haji Amir and Zakir are grateful that amidst the difficult post-disaster situation, INANTA and CWS provided capacity-building in terms of cultivation techniques, training in making organic fertilizers used for growing peanuts in sandy soil, as well as agricultural tools and seeds.
"Back when I was on the west coast, I had experience in growing peanuts. So, I also trust what INANTA has conveyed. The important thing is to clear the grass, and it will grow well. I once tried using pesticides to clear the land, but it resulted in the peanuts dying. That's where I learned not to use pesticides anymore," said Haji Amir, pointing to the expanse of one-hectare peanuts that looked lush.
Haji Amir hopes that by June when the lower leaves of the peanut plants have dried, they will be able to harvest peanuts with good yields. If the results are good, they will continue planting peanuts in the same area. Zakir also hopes that irrigation in their village will flow smoothly again, allowing more agricultural areas to be cultivated.

The mechanisms and communication channels between farmer groups, agricultural extension workers, and agricultural research and development agencies still face challenges. Specifically, farmer groups require mechanisms for continuous improvement in climate-friendly agriculture practices. The identified challenges include limited access to information, inadequate infrastructure, limited coordination and collaboration, and the need for capacity building. In more detail, the identified challenges are as follows:

- Limited access to information: Smallholder farmers often have limited access to relevant and up-to-date agricultural information due to various factors such as limited internet connectivity, language barriers, and lack of awareness about available resources.
- Demonstration Plot Management: The strategies related to demonstration plots have faced challenges in terms of limited involvement and ownership from a larger pool of participants. This means that the participation and engagement of various stakeholders, such as farmer groups, agricultural extension workers, and research agencies, have not been effectively incorporated into the planning and implementation of the demonstration plots. As a result, the impact of these plots has been perceived as weak because their benefits have been confined to a limited group of individuals whose land is used for the demonstration.
- Inadequate infrastructure: In some areas, there are identified inadequate infrastructure, such as poor irrigation system and limited access to technology, which can impede the flow of information and collaboration among stakeholders.
- Limited coordination and collaboration: There identified a lack of coordination and collaboration between farmer groups, extension workers, and research agencies. Agricultural extension workers who have infrastructure at the sub-district level and should reach villages are more able to contribute passively through the PPL officer in the sub-district due to various limitations in operational support. This can lead to duplication of efforts, inefficiencies, and a fragmented approach to agricultural development.
- Capacity building needs: There need for capacity building and engagement among extension workers and farmer groups to enhance their skills in communication, information dissemination, and the adoption of climate-friendly agriculture practices. Lack of training and resources can hinder their ability to effectively engage and support farmers

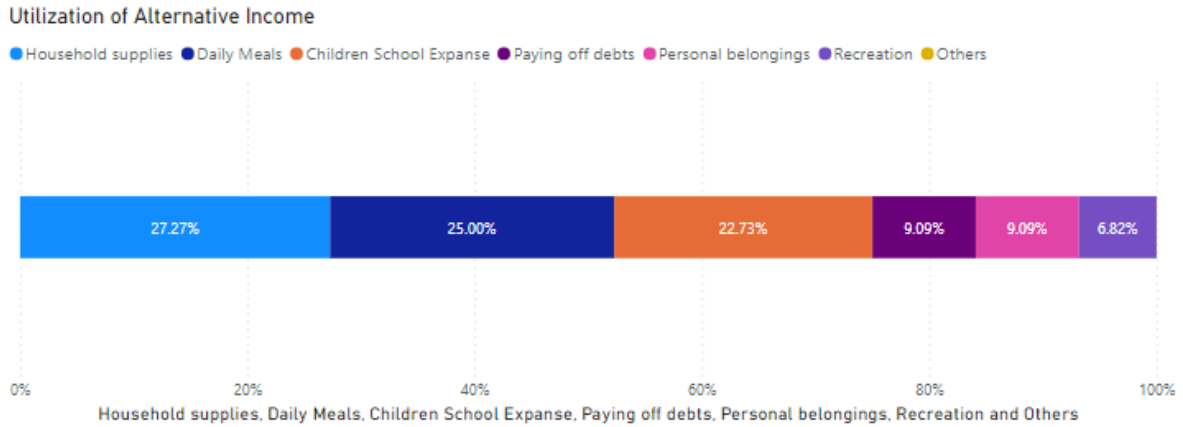
KSSP (Women's Saving Group)

*"CWS and INANTA have assisted women groups in Pakuli Utara Village through the establishment of KSPP (Women's Savings and Loan Group), utilizing backyard gardens as group gardens, and creating group businesses. Despite our village frequently experiencing floods that damage the group gardens, we continue to strive and seek solutions together to move forward."*

Mega Ayu Lestari - Treasurer of KSPP, Cahaya Gumbasa.

31,7% of all female respondents of this study are members of KSSP. This group shows 97,37% of respondents have better knowledge and understanding of climate change from the overall community or female-specific group. More than half of the respondents in the women's group (53%) have considered that alternative income is very important, and 47% think that it is quite important. 80,95%. of total respondents mentioned that they have alternative income by farming by utilizing the yard of the house (13,64%) and raising selling food and non-food product (7,58%) and casual daily labour (7,58%). The utilization of the alternative income is shown in Figure 12 below.

Figure 12. Utilization of Alternative Income




From the figure above, most of the alternative income is used by the community for Household supplies (27,27%), daily meals (25%), and children's school expenses (22,73%). Significant changes related to the utilization of alternative income are on daily meals (0% to 25%), and paying debt (3,91% to 13,05%).

The implementation of risk reduction plans by the women's savings groups demonstrates their proactive approach to addressing and managing risks. Some key aspects of this output include:

- Risk Assessment: The women's savings and loans groups have likely conducted a thorough assessment of the risks they are exposed to. This assessment helps identify potential hazards, vulnerabilities, and capacities within the community.
- Planning and Preparation: Based on the risk assessment, the women's savings and loans groups have developed plans that outline specific actions and strategies to reduce the identified risks. These plans may include activities such as increasing savings, diversifying income sources, developing early warning systems, improving disaster preparedness, or enhancing livelihood resilience.
- Implementation: The women's savings and loans groups have put their risk reduction plans into action. They have taken practical steps to implement the strategies outlined in

their plans, which could involve mobilizing resources, seeking external support, or collaborating with relevant stakeholders or organizations.

- Monitoring and Evaluation: The women's savings and loans groups likely monitor the progress and effectiveness of their risk reduction plans. Regular evaluations help assess the outcomes, identify areas for improvement, and make necessary adjustments to enhance the plans' impact and sustainability.

By implementing risk reduction plans, the members of women's savings and loans groups aim to strengthen their resilience, protect their livelihoods, and safeguard their well-being in the face of potential risks. These plans empower women to take an active role in managing risks, building their capacity to respond to challenges, and enhancing their overall resilience as individuals and as a community.

### 3.2 Outcome 2. CSOs are Engaged with Government Duty Bearers

Table 6. Outcome 2 and Output Committed for Year 3

| |
|---|
| **Outcome 2:**<br>Civil society organizations successfully engage with government duty bearers to modify development planning systems in support of adaptation planning and strategies |
| Target Output |
| **Output 2.1:**<br>District's strategic document was reviewed and incorporated into District Medium Term Development Planning<br>**Output 2.2:**<br>People in vulnerable communities participated in village disaster simulation |

Table 7. Indicator of Success Outcome 2

| Indicator of Success | Target | Achievements |
|---|---|---|
| 2.1.1 # of people participated in the establishment of the DRR forum | 47 | The Sigi District DRR Forum has been formed with a total of 47 members (40 males and 7 females). |
| 2.1.2 # of people participated in reviewing the district's DRR documents reviewed | 23 | 23 participants (15 males and 8 females) representing Regional Offices, Village Government, Subdistrict Government, PRB Forum, and KSB Team took part in the Workshop for Reviewing the District's Strategic Documents on CCA and DRR (for integration into the RPJMD). |

| | | |
|---|---|---|
| 2.1.3 # of reviewed documents being incorporated into District Medium Term Development Planning | - | - |
| 2.2.1 # of people participated in forming disaster risk reduction forums | 69 | 69 community members (56 males and 13 females) attended the KSB Team meeting in 3 villages (Pakuli Utara, Simoro, Bulubete) and the PRB Forum in Rogo Village.<br><br>1 PRB Forum and 3 KSB Teams have been formed, consisting of a total of 87 members (64 males and 23 females). |
| 2.2.2 # of people participated in developing a village contingency plan and early warning system | 116 | 116 individuals (79 males and 37 females) participated in the development of the Contingency Plan and Early Warning System Standard Operating Procedures (SOP), including 12 participants with disabilities (PWDs) and 6 elderly participants. |
| 2.2.3 # of people participated in village disaster simulation | 139 | 139 community members participated in the simulation activities (61 males and 78 females), including 4 PWDs, 7 elderly participants, and 60 children. |

Integrated Planning and Implementation: The approach emphasizes the integration of climate change adaptation considerations into existing development plans and activities. It ensures that adaptation measures are aligned with local priorities, policies, and strategies, promoting synergy and maximizing the use of available resources. To achieve this result, INANTA worked with Tadulako University, to update climate vulnerability and capacity assessment (CVCA) which we assume was conducted at the same time as updating HCVA (Hazard, Vulnerability and Capacity Assessment). By the time of the fieldwork, we found that all final documents of the community-based CCA and DRR can be found in all 4 villages.

The findings indicate that civil society organizations (CSOs) have successfully engaged with government duty bearers to integrate Disaster Risk Reduction and Climate Change Adaptation (DRR-CCA) into the development planning systems, specifically the Village Medium-Term Development Plan (RPJMDes) and Annual Village Work Plan (RKPDes).

Firstly, the integration of DRR-CCA into RPJMDes and RKPDes has been achieved by all villages in the INANTA program area. This demonstrates a high level of collaboration and cooperation between CSOs and government actors in modifying the development planning systems to incorporate adaptation planning and strategies.

Furthermore, the responsibility for the implementation of the DRR-CCA program extends beyond the KSB/FPRB program of the village, involving active participation from various community groups. This indicates a comprehensive and inclusive approach, where CSOs have successfully engaged different stakeholders within the community to contribute to adaptation efforts. The differences in systems between the KSB Team (Ministry of Social Affairs) and PRB (BNPB) in different villages can be bridged through synchronization efforts carried out by stakeholder forums at the district level, such as the District PRB Forum and government related offices at the district level. These district-level stakeholder forums play an important role in ensuring that despite different approaches, each village remains effective in strengthening community resilience and preparedness. Advocacy efforts also need to be continuously made to encourage the Ministry of Social Affairs, BNPB, and relevant coordinating ministries to ensure synchronization and harmonization of programs and budgets for the aforementioned objectives.

The establishment of a local regulation (Perda) No. 49 of 2022 and the development of a draft regional regulation (Perbup) to address the fulfilment of the rights of disability groups in emergencies further highlight the successful engagement of CSOs with government duty bearers. These legal frameworks serve as important references and guidelines for implementing DRR-CCA activities and ensuring the fulfilment of rights, such as the rights of disability groups in emergencies.

Lastly, the initiation of developing a Strategic Document for Climate Change Adaptation Planning at the district level showcases the proactive role of CSOs in influencing and shaping adaptation planning and strategies. This indicates a successful collaboration between CSOs and government duty bearers in modifying the development planning systems to prioritize climate change adaptation.

Overall, the findings suggest that civil society organizations have been successful in engaging with government duty bearers to modify development planning systems in support of adaptation planning and strategies. Their collaborative efforts have led to the integration of DRR-CCA into the planning processes, the establishment of relevant regulations, and the initiation of strategic planning documents.

### 3.3 Outcome 3. Scaling up Community-Based Strategies for Adaptation

Table 8. Outcome 3 and Output Committed for Year 3

| |
|---|
| **Outcome 3:**<br>In successful community-based adaptation, both strategies/plans and specific actions are shared with other communities. |
| Target Output |
| **Output 3.1:**<br>MEAL (monitoring, evaluation, accountability, and learning) system exist to share results, lessons, and case study with the government, other NGOs, donors, or public |

Table 9. Indicator of Success Outcome 3

| Indicator of Success | Target | Achievements |
|---|---|---|
| 3.1.1 # of lessons/case study from the DREAM project through monitoring, evaluation, accountability, and learning (MEAL) shared with the government, other NGOs, donors, or public | | 1 Sharing information about training on organic fertilizer and botanical pesticide production through TribunNews Palu media.<br>2 Sharing information about the utilization of sandy land through TribunNews Palu media.<br>3 Two stories of change regarding creating climate change adaptive communities in Indonesia: Ibu Faizah and Ibu Azria from KSPP Masomba, shared through DFAT media.<br>4 Sharing information about GEDSI (Gender Equality and Social Inclusion) in climate change adaptation and risk reduction programs through DFAT's ANCP Roundtable.<br>5 Annual reports on program achievements submitted to the Ministry of Social Affairs, Republic of Indonesia (KEMENSOS RI). |

In this context, "community-based adaptation" refers to the process of implementing and adopting measures that address the impacts of climate change at the local level, involving active participation and engagement of community members. The successful implementation of these adaptation strategies and actions demonstrates that the community has effectively identified and responded to the challenges posed by climate change. The sharing of these successful strategies, plans, and actions is still limited identified especially in the context of knowledge transfer, replicability, and scaling up impact.

Picture 2 The process of clarification and discussion of initial evaluation findings with farmer groups, women's groups, the DRR forum, and government officials (at the village and district levels).

The findings from the workshop activities involving representatives from the government, community (farmer groups, women's savings groups), and civil society organizations (Disaster Risk Reduction Forum, PPDI) can be summarized as follows:

- CSO Engagement: The involvement of CSOs, particularly PPDI, has been instrumental in promoting the inclusion of people with disabilities in the DREAM-2 programs. Through training, assessments, and capacity building, they have facilitated the integration of disability considerations into disaster risk reduction efforts.
- Farmer Groups and Women's Groups: The DREAM-2 program has had a positive impact on farmer groups and women's groups. Farmers have acquired knowledge and skills in organic farming, pest management, intercropping, and weather patterns. Women's groups have developed financial management skills and established their businesses, contributing to economic empowerment.
- Government Collaboration: District and village governments have actively participated in the program; collaborating on the development of village profiling (develop vulnerability mapping), and integration of the Agroforestry and Sustainable Food Security Program as climate change adaptation (CCA) and Disaster Risk Reduction (DRR) integration strategy into RPJMDES dan RKPDES.
- University Support: Tadulaku University has played a facilitating role by conducting studies on Climate Vulnerability and Capacity Assessment (CVCA). This research provides valuable insights for informed decision-making and adaptation strategies.

The workshop activities have highlighted the importance of multi-stakeholder collaboration in promoting climate change adaptation, disaster risk reduction, and inclusive practices. From the accountability perspective, it is important to build resilience networks that foster the sharing of successful community-based adaptation initiatives among communities facing similar climate risks. These networks enable collaboration, mutual support, and the exchange of ideas, resources, and best practices within specific groups. The DREAM2 Program has taken steps to develop the DRR Forum, and women's savings group, and strengthen the farmer group as platforms for knowledge exchange, coordination, and collaboration among stakeholders involved in disaster risk reduction and climate resilience efforts. However, there is a need for improved coordination and integration among these three groups to ensure that information exchange, replicability, and the scaling up of impact extend beyond small-group linkages. Enhanced collaboration and coordination mechanisms will enable broader dissemination of successful practices, increased replicability of interventions, and wider-scale impact. This will enhance accountability and ensure that valuable knowledge and experiences are shared more widely to benefit all communities facing climate risks.

Overall, the outcome of sharing successful community-based adaptation strategies, plans, and actions with other communities reflects a collaborative and knowledge-sharing approach to addressing the challenges of climate change. It promotes collective learning, strengthens networks, and supports the adoption of effective adaptation measures, ultimately contributing to building more resilient communities in the face of climate change.

Furthermore, to ensure that men’s and women’s voices are accommodated, DREAM 2 project has created a feedback and complaint mechanism. The feedback mechanism was developed through participatory planning and implemented through; two-way channels; direct communication to CWS and/or INANTA’s staff, and report to the call center/hotline number). The feedback received has been responded to and followed through a regular community meeting. All direct feedback received has been responded to and followed up at the same time. If the feedback needs a response/decision by the project management, it will be responded to through community meetings. The finding shows that most of the feedback was an expression of gratitude and request on certain training topics as well as information requests related to the agriculture instructors who’ve rarely come to the village.

### 3.4 Evaluation Criteria

#### 3.4.1 Appropriateness and Relevance

Appropriateness and Relevance are concerned with assessing whether the project aligns with the needs and priorities (as well as donor policy and expectations). Several aspects that are important to consider are the analysis of context and a good understanding of required needs, cultural context, as well as assessment of institutional capacity.

The DREAM-2 programs in the Sigi district of Central Sulawesi focuses on climate change adaptation and disaster risk reduction. The program's interventions are well-suited to the local context and community needs. It aims to enhance community understanding of climate change and its impacts, while actively involving community members in planning and decision-making processes. The program promotes collaboration and partnerships with various community groups, such as the DRR Forum, farmer groups, and KSSP, to foster a holistic approach to climate resilience.

Transitioning the community's perspective from direct assistance during emergencies and recovery to a development context involves shifting the focus from short-term relief efforts to long-term sustainable development. This transition requires a mindset change and understanding among the community members and the local government. During emergencies and immediate post-disaster periods, the primary concern is to provide immediate assistance and support to the affected community. This often involves activities such as rescue operations, providing food, shelter, and medical aid, and addressing the most urgent needs. However, as the community moves toward recovery and rebuilding, shifting the focus toward long-term development strategies becomes essential.

To successfully transition the community's perspective, it is crucial to convince both the community and the local government about the need for this change in context. This can be achieved through effective communication and engagement strategies. The following points can help facilitate this transition: Awareness and education, a participatory approach, and seeking their inputs, ideas, and aspirations for the future. This strategy is used by INANTA and CWS in creating a sense of ownership and empowerment among the community members. By effectively conveying the benefits and rationale behind transitioning to a development context, and by involving the community and local government in the decision-making process, it becomes possible to convince both parties about the need for this change. This transition paves the way for long-term sustainable development, ensuring the community's resilience and ability to withstand future challenges.

The program also emphasizes building community capacity, motivation, and ability to assess climate vulnerability and take action. Participatory assessments are conducted to empower the community to address their specific challenges effectively. Efforts are made to strengthen community engagement and enable them to independently conduct participatory assessments in the future. These interventions align with the specific needs and context of the Sigi district communities.

The achieved outcomes of the DREAM-2 program contribute to global and national frameworks, particularly the priorities of the SENDAI Framework. The program's focus on climate change adaptation and disaster risk reduction aligns with the goals of the SENDAI Framework. By enhancing community knowledge, preparedness, and action, the program aims to reduce vulnerabilities and enhance community resilience. It promotes multi-sectoral collaboration, knowledge-sharing, and the exchange of best practices, all of which are emphasized in the SENDAI Framework. The program also

supports the integration of climate change adaptation and disaster risk reduction planning at various levels of governance, aligning with the priorities of the framework.

The program is relevant to the village and district government, as it emphasizes collaboration and coordination among different stakeholders. It actively engages with government agencies, civil society organizations, and communities. The DRR Forum serves as a platform for knowledge exchange and coordination among stakeholders involved in disaster risk reduction and climate resilience efforts. The program involves farmer groups and KSSP, ensuring inclusive decision-making processes and addressing gender-specific vulnerabilities. These community groups play significant roles in implementing climate resilience initiatives and driving change at the village level. The program also supports the modification of development planning systems of civil society organizations and relevant government agencies to align with climate change adaptation and disaster risk reduction planning and strategies.

### 3.4.2 Effectiveness on The Outcome Level

Effectiveness measures the extent to which an activity achieves its purpose, or whether this can be expected to happen based on the outputs[8]. Assessing effectiveness involves an analysis of the ex as key partners who have actively engaged with the program and contributed to its success. Their involvement has resulted in increased effectiveness in terms of community engagement, modification of development planning systems, and sharing of adaptation strategies.

In terms of community members' knowledge, understanding, motivation, and ability to assess climate vulnerability and take action, the program has been effective in enhancing these aspects. Community members have been actively involved in the planning and decision-making processes, which has contributed to their increased knowledge and understanding of climate risks. They have also been motivated to take action through the implementation of climate-smart agricultural practices and the establishment of early warning systems. The program's participatory approach has ensured that community perspectives and experiences are considered, leading to contextually appropriate adaptation measures.

Regarding civil society organizations' engagement with government duty bearers to modify development planning systems, the program has been successful. The involvement of the DRR Forum and other organizations has facilitated collaboration and partnership between civil society and the government. Through their engagement, they have been able to advocate for and influence the integration of adaptation planning and strategies into development plans. This modification of development planning systems supports the overall goal of building climate resilience at both the community and national levels.

In terms of sharing successful community-based adaptation strategies and actions with other communities, the program has been effective in the specific group. Through collaboration and partnerships with various stakeholders, the program has facilitated the sharing of experiences, best practices, and lessons learned. This knowledge exchange contributes to the replication and scaling up of successful adaptation strategies in other communities.

Considering the implementation period of DREAM-2, it is also recognized that this program was carried out during the global COVID-19 pandemic, including in Sigi District. The COVID-19 pandemic has imposed limitations on various aspects, including movement restrictions imposed by authorities to reduce and limit the spread of the virus, cancellation and postponement of activities as a result of

[8] Active Learning Network for Accountability and Performance (ALNAP), 2006

various activity restrictions, and reallocation of government budgets (from the central to the regional level) for COVID-19 response. Additionally, there are challenges in coordinating the implementation of the program due to changes in government and community priorities. The various challenges during this period have prompted program management to make necessary adjustments to the implementation strategy to ensure that the intended outcomes can still be achieved.

Overall, the analysis indicates that the DREAM-2 program has been effective in achieving its intended outcomes. It has enhanced community members' knowledge, understanding, motivation, and ability to assess climate vulnerability and take action despite the challenges posed by the COVID-19 pandemic. It has successfully engaged civil society organizations with government duty bearers to modify development planning systems in support of adaptation planning and strategies. Additionally, it has facilitated the sharing of successful community-based adaptation strategies and actions with other communities. These outcomes demonstrate the program's effectiveness in building community resilience, promoting collaboration, and contributing to sustainable development in the face of climate change and to which stated intervention objectives are met.

### 3.4.2 Efficiency

The findings indicate that the DREAM-2 program effectively utilizes available resources to achieve its goals. The program actively engages community members, such as the DRR Forum, farmer groups, and KSSP, in the planning, decision-making, and implementation processes. Their perspectives, knowledge, and experiences are considered, ensuring that adaptation measures are contextually appropriate and responsive to their needs. This community engagement approach enhances the capacity and motivation of community members to conduct climate change vulnerability assessments, develop community-based adaptation plans, and implement specific actions. By leveraging multi-sectoral collaboration and participatory assessments, the program maximizes the use of resources and expertise, leading to more effective and sustainable adaptation actions. Although the DREAM-2 program demonstrates overall effectiveness, some areas require improvement and attention in terms of efficiency to fully achieve its goals:

a. Community Understanding and Capacity: The analysis indicates that there is a need to enhance community understanding and capacity to independently conduct participatory assessments. Currently, the level of understanding among community members regarding participatory assessments is relatively low, and assistance from experts is still required. Efforts should be made to provide training, raise awareness, and promote knowledge-sharing within the community to strengthen their engagement in participatory assessments.
b. Farmer Groups and Organic Fertilizer Use: Farmer groups face challenges in accessing and using organic fertilizers due to limited availability and changes in farming methods. Strengthening mechanisms and communication channels between farmer groups, agricultural extension workers, and agricultural research and development agencies can help address these challenges and ensure continuous discussions and resolution of issues faced by farmer groups.
c. Climate-Friendly Agriculture Challenges: Farmers encounter challenges related to unpredictable weather patterns, difficulties in selling agricultural products, and land degradation. Addressing these challenges requires ongoing support, technical assistance, and access to information and resources. Strengthening the support system and communication channels between farmer groups, agricultural extension workers, and agricultural research and development agencies can contribute to overcoming these challenges effectively.

In conclusion, the DREAM-2 program demonstrates effective utilization of available resources and has achieved positive outcomes in enhancing community capacity, promoting multi-sectoral collaboration, and implementing climate change adaptation measures. However, to further improve the program's effectiveness, attention should be given to enhancing community understanding and capacity, supporting farmer groups in using organic fertilizers, and addressing challenges related to climate-friendly agriculture. By addressing these areas, the program can maximize its impact and contribute to building resilience and reducing vulnerabilities to climate change in the target communities.

### 3.4.3 Impact

Impact addresses the ultimate significance and potentially transformative effects of the intervention. It seeks to identify the social, environmental, and economic effects of the intervention that are longer-term or broader in scope than those already captured under the effectiveness criterion. Beyond the immediate results, this criterion seeks to capture the indirect, secondary, and potential consequences of the intervention. It does so by examining the holistic and enduring changes in systems or norms, and potential effects on people's well-being, human rights, gender equality, and the environment[9].

The DREAM-2 program has had a transformative impact on the community in the Sigi district, addressing the social, environmental, and economic effects of climate change adaptation and disaster risk reduction. The program has brought about significant changes in knowledge, attitudes, and behavior, leading to holistic and enduring changes in systems and norms.

a) Knowledge: Through the DREAM-2 programs, the community in the Sigi district has undergone significant changes in their knowledge about climate change and disaster risk. They now have a better understanding of the threats facing their environment and their daily lives. The community has received training and increased awareness about adaptation strategies, including climate-friendly farming methods, climate vulnerability assessments, and community-based adaptation planning. They have also learned to recognize early warning signs and how to respond to them appropriately.

b) Attitudes: The program has also transformed the attitudes of the community towards climate change and disaster risk. The community is now more aware of the importance of taking proactive actions to reduce risks and enhance resilience to climate change. They are more open to adopting climate-friendly agricultural practices, such as using organic fertilizers and implementing sustainable land management techniques. Additionally, they have developed a collaborative attitude and a spirit of mutual support in facing threats and risks together.

c) Behavior: The program has stimulated behavioral changes in the community regarding climate change adaptation and disaster risk reduction. The community now practices more sustainable and climate-friendly farming methods, including the use of organic fertilizers, efficient water management, and diversification of agricultural activities. They have also integrated knowledge about disaster risks into their daily activities, including preparing themselves for disasters by designing family emergency plans and participating in evacuation drills. Furthermore, the community is actively involved in community-based decision-making and planning to reduce disaster risks and enhance community resilience.

The Situation of Capacity and Policies at the Community and Government Forum Level for Implementing Climate Change Adaptation and Disaster Risk Reduction Efforts:

[9] Applying Evaluation Criteria – OECD 2023

a) Capacity: Through the DREAM-2 program, the capacity of the community in the Sigi district in terms of climate change adaptation and disaster risk reduction has been significantly enhanced. The community has been equipped with the knowledge and skills needed to address climate threats and disaster risks. They are now able to conduct climate vulnerability assessments, plan and implement community-based adaptation strategies, and develop effective early warning systems and emergency response mechanisms. The capacity of the community is further enhanced through continuous training and education, enabling them to become agents of change in facing climate change and disaster risks.

Additionally, the capacity of the government at the district level and community forums has also improved. The government has enhanced its ability to plan and implement climate change adaptation policies and disaster risk reduction measures. They have engaged the community in decision-making and planning processes, ensuring inclusive participation and a better understanding of community needs and priorities.

b) Policies: The DREAM-2 program have part contribute to influencing policies at the government forum and especially at the village community level regarding climate change adaptation and disaster risk reduction. The Sigi district government has implemented policies that support climate-friendly agricultural practices, sustainable water management, and community resilience enhancement. They have also integrated disaster risk aspects into development planning and decision-making. Further action is still needed to ensure greater integration of climate change adaptation and disaster risk reduction policies into other relevant sectors, such as agriculture, water management, urban planning, and infrastructure development. Multi-stakeholder monitoring and evaluation mechanisms were not identified during the evaluation process, this aspect is a strong aspect to ensure effectiveness on collaboration and the impact of climate change adaptation and disaster risk reduction policies.

Community forums have actively participated in formulating policies and community-based climate change adaptation programs. They have urged the government to adopt inclusive approaches, involving various stakeholders and local communities in decision-making processes. The resulting policies reflect the needs and aspirations of the community and support concrete measures to reduce disaster risks and enhance community resilience.

Overall, through the DREAM-2 programs, significant changes have occurred in the knowledge, attitudes, and behavior of the community regarding climate change adaptation and disaster risk reduction in the Sigi district. The capacity of the community and government to implement adaptation and risk-reduction efforts has also improved.

### 3.4.4 Sustainability

In the OECD criteria, the criteria of sustainability often refer to connectedness. This means the need to ensure activities of the projects are carried out in a context that takes longer-term and interconnected problems into account. “Sustained” means maintaining the initiative(s) on a “lasting basis” [OBJ]. Sustainability can be influenced by several factors, including dependence on external actors and funding. Several aspects that need to be assessed are understanding the relationships and partnerships that have been established as well as to what extent the local capacity has been supported and developed.

The program has demonstrated positive impacts in enhancing community capacity, motivation, and ability to address climate change and disaster risks. It has actively engaged community members in planning, decision-making, and implementation processes, ensuring their perspectives are considered. The establishment of farmer groups, KSSP, and the DRR Forum has facilitated multi-

sectoral collaboration and knowledge sharing. The program has also introduced participatory assessments to empower the community in understanding and addressing their specific challenges.

The implementation of the program has led to the establishment of early warning systems in the target villages, improving disaster preparedness. The involvement of local agencies, such as BMKG and BPBD, has enhanced the dissemination of information and the coordination of response efforts. Furthermore, the promotion of ecological and climate-friendly agriculture practices among farmers has resulted in a higher level of knowledge and implementation of sustainable farming techniques.

Overall, the DREAM-2 Program has significant effort to ensure the sustainability impact of the program through the exit strategy who integrated with the overall program design. Based on the analysis[10] information in each outcome program, DREAM-2 program has in category Potential to sustain[11] with the detailed provided in the table below:

Table 10 Sustainability Program Finding

| Sustainability Aspect | Finding Description | Sustainability Level |
|---|---|---|
| Institutional Capacity Building | The program has made efforts to strengthen the capacity of member from institution (Government and Non-Government) through training, mentoring, and resource provision. Success can be seen in the increased knowledge and skills of stakeholders involved. | Potential to Sustain |
| Transition to Local Ownership: | The program has promoted local actor and stakeholder participation and leadership in decision-making processes.<br>Transition of local champion especially farmer group, KSPP, and DRR Forum/ KSB to get continuous support still faced big challenges.<br>**Farmer Group:** Significant roles of agricultural extension workers to continuous to give technical assistance and have infrastructure at the sub-district level, in fact are not able to contribute actively reached the farmer group in the villages level, agriculture extension worker during the implementation program contributes passively through the PPL office in the sub-district due to various limitations in operational support.<br>**KSPP/ Women's Saving Group:** in the context of the next program sustainability plan, will be nurtured by the SME Office at District level. However, there is a constraint regarding the administrative process of the women's groups that have been mentored, which does not yet meet the requirements of the SME Office at District Level.<br>**DRR Forum/ KSB Team:** The government-level program implementers for disaster preparedness | Low to Sustain |

[10] Sustainability aspect developed by consultant perspective with considering Scaling Up model – MSI 2012
[11] Sustainability level used in this study: Low Potential to Sustain, Potential to Sustain, High Potential to Sustain.

| | | |
|---|---|---|
| | issues are the Regional Disaster Management Agency (BPBD) through the PRB forum and the Social Affairs Agency through the KSB (Kampung Siaga Bencana) team. The literature shows that the names predominantly used by the village preparedness team are KSB, while the current focus of the Social Affairs Agency is more on the Family Welfare Program (Keluarga Pra Sejahtera), which poses a significant challenge in ensuring sustained government support. | |
| Knowledge Transfer and Documentation | The program DREAM-2 has emphasized knowledge transfer and documentation through workshops, Training, Report Dissemination. The DREAM2 Program has taken steps to develop the DRR Forum, women's savings group, and strengthen the farmer group as platforms for knowledge exchange, coordination, and collaboration among stakeholders involved in disaster risk reduction and climate resilience efforts.<br><br>Regarding vulnerability assessment, Efforts should focus on further enhancing community understanding and capacity to independently develop self-vulnerability assessment model conduct participatory assessments and vulnerability analyses. This can be achieved through training, raising awareness, and promoting knowledge-sharing within the community. By fostering community engagement and ownership, the sustainability of the program's impacts can be ensured.<br><br>It is crucial to continue building connections between the DRR Forum, farmer groups, and KSSP. This collaboration facilitates the sharing of resources, expertise, and responsibilities, leading to more effective and sustainable adaptation actions. The DRR Forum should serve as a platform for knowledge exchange, coordination, and collaboration among stakeholders involved in disaster risk reduction and climate resilience efforts. | Low Potential to sustain |
| Partnerships and Sustainability Networks | Forge strategic partnerships with relevant stakeholders, such as government agencies, research institutions, NGOs, and community networks, to create sustainability networks. DREAM -2 Program has Collaborated on joint initiatives, share resources, and leverage their expertise to sustain and scale up project interventions. | Potential to Sustain |
| Policy Integration | DREAM-2 Program has successfully engaged civil society organizations with government duty bearers to modify development planning systems in support of adaptation planning and strategies. | Potential to Sustain |

| | | |
|---|---|---|
| Fit with the Implementing Organization | The DREAM-2 Program has shown a good fit with the implementing organization, aligning with their goals, capacities, and resources. The close collaboration between the implementing organization, CSO and villages government has ensured the effective implementation of the intervention package. | Potential to Sustain |
| Sustainable Source of Funding | The process of financial support from the village government is very high. The village government has integrated DRR (Disaster Risk Reduction) and CCA (Climate Change Adaptation) efforts into the Medium-Term Development Plan (RPJMDES) and Village Development Plan (RKPDES), particularly within the framework of the village-level food resilience program.<br>Ongoing support from funding agencies, such as Act for Peace (AfP) - ANCP or existing donors in the Sigi area, is essential to sustain the program's<br>Furthermore, Financial resources should be allocated for capacity-building initiatives, providing technical expertise, and maintaining early warning systems. Additionally, access to organic fertilizers and other resources required for climate-friendly agriculture should be improved to support farmers in adopting sustainable practices. | Potential to Sustain |
| Monitoring and Evaluation | Program DREAM-2 has conducted Regular monitoring and evaluation of the program's outcomes, effectiveness, and accountability.<br><br>DREAM 2 project has created feedback and complaint mechanism. The feedback mechanism developed through participatory planning and implemented through; two-way channels; direct communication to CWS and/or INANTA's staff, and report to the call centre). | Potential to Sustain |

### 3.4.5 Cross-cutting Issues: Gender, Disability, and Social Inclusion

From a GEDSI (Gender Equality, Disability Inclusion, and Social Inclusion) perspective, the analysis highlights the need for further examination of the inclusion of people with disabilities in the DREAM-2 programs. While the program has positively impacted various groups within the community, including farmer groups and KSSP, it is essential to assess the active inclusion and benefits experienced by people with disabilities. The information provided does not explicitly mention the program's incorporation of inclusive values specifically for disability groups.

PPDI's involvement in the program shows efforts to assess the interests of people with disabilities and involve them in activities, particularly in the field of agriculture. However, not all individuals with disabilities are directly engaged in the program, with some being represented by their families. PPDI collaborates with INANTA to provide disaster education to people with disabilities, emphasizing the importance of addressing their specific needs in forums on disaster management.

PPDI encourages the participation of people with disabilities or their families in program activities to ensure decisions consider accessibility needs. While representatives of people with disabilities are involved in determining accessible meeting points, it is acknowledged that not all disability groups have access to early warning systems. The lack of access to early warning systems for all disability groups in the context of the DREAM-2 programs is attributed to several factors: Accessibility Considerations: Early warning systems were not designed or implemented with the specific needs and requirements of different disability groups in mind. This can result in barriers to access, such as inaccessible communication methods, a lack of alternative formats (e.g., braille, sign language), or inadequate dissemination channels that do not cater to individuals with disabilities.

Physical Barriers: Physical barriers, such as inaccessible infrastructure or evacuation facilities, can hinder the ability of individuals with disabilities to receive and respond to early warnings effectively. This includes factors like inaccessible evacuation routes. The analysis indicates that the government's response to disaster management and inclusion of people with disabilities is insufficient. Many individuals with disabilities have been victims in previous incidents due to their lack of preparedness and education. In contrast, NGOs have played a significant role in providing support and information during disasters, aligning with the expectations of PPDI.

Through observations in the evaluation process, it was found that the majority of decision-making processes are carried out by adult males, as indicated by almost all strategic decision-making positions being held by adult males (such as village heads, PRB forum leaders, and KSB team leaders). This condition indicates the presence of gender inequality in society. Therefore, the success of DREAM-2 in increasing women's participation within the scope of KSPP, including the impact of strengthening KSPP through women's contributions to income improvement within the family, can be seen as an effort to promote gender sensitivity[12] in the DREAM-2 areas. DREAM-2, through KSPP, has successfully encouraged the practical fulfilment of women's needs, although it has not yet addressed the root causes of inequality. Overall, while the involvement of PPDI in the DREAM-2 programs has had a positive impact on people with disabilities in the Sigi district, there are still challenges and gaps that need to be addressed to ensure their safety and inclusion in disaster management processes. Further information on specific measures taken to address the needs of people with disabilities would provide a clearer understanding of the program's inclusivity and its alignment with GEDSI principles.

[12] UNICEF Guidance on Gender Integration and Evaluation, September 2019: Gender continuum consists of gender discriminatory/unequal, gender blind, gender aware/sensitive, gender responsive, gender transformative. By design, DREAM-2 program was not designated to be gender responsive nor gender transformative.

# CHAPTER 4. CONCLUSIONS AND RECOMMENDATION

## 4.1 Conclusions

The DREAM-2 programs in the Sigi district of Central Sulawesi have demonstrated effectiveness, efficiency, and sustainability in achieving their intended outcomes and building community resilience to climate change and disaster risks. The program's interventions are well-suited to the local context and community needs, and they align with global and national frameworks such as the SENDAI Framework. The program effectively utilizes available resources and actively engages community members, civil society organizations, and government agencies in collaborative and participatory processes.

However, some areas require improvement to maximize the program's impact. Enhancing community understanding and capacity on hazard and vulnerability assessment, supporting farmer groups in sustainable producing and using organic fertilizers, and addressing challenges related to climate-friendly agriculture are crucial for further improving the program's effectiveness. By addressing these areas, the program can better contribute to building resilience and reducing vulnerabilities to climate change in the target communities.

To ensure the program's inclusivity and alignment with GEDSI principles, it is important to address the specific needs of people with disabilities. Assess the active inclusion and benefits experienced by people with disabilities in the program and take measures to ensure their safety and inclusion in disaster management processes. Further information on specific measures taken to address the needs of people with disabilities would provide a clearer understanding of the program's inclusivity and its alignment with GEDSI principles. Collaboration with organizations such as PPDI and INANTA can contribute to addressing the challenges and gaps in the inclusion of people with disabilities in the program.

## 4.2 Recommendation

The recommendations are categorized based on groups that have the capacity and interest to implement programs related to disaster risk reduction and climate change adaptation. These groups include the Government, Non-Governmental Organizations working on DRR & CCA issues, Disaster Risk Reduction Forums/KSB Teams, and other relevant stakeholders.

Recommendation for Government:

1. Institutionalize Community-Based Adaptation: Advocate for the institutionalization of community-based adaptation approaches in development planning systems. Continue engaging with government duty bearers to integrate DRR-CCA into the Village Medium-Term Development Plan and Annual Village Work Plan. Support the development of strategic documents for environmental change adaptation planning and ensure the fulfillment of rights, including the rights of disability groups in emergencies.
2. Institutional Integration: Integrate climate change adaptation and disaster risk reduction considerations into the development planning systems of civil society organizations and relevant government agencies. Institutionalize climate change adaptation and disaster risk reduction planning and strategies, embedding them in policies, plans, and programs at various levels of governance.
3. Continuous Support and Resources: Ensure ongoing support from funding agencies for capacity-building initiatives, technical expertise, and maintaining early warning systems. Improve access to organic fertilizers and other resources required for climate-friendly agriculture to support farmers in adopting sustainable practices.

4. Improve Disaster Preparedness: Ensure the provision of necessary support equipment such as evacuation signs and safety signs at the village level. Continue conducting training and simulations that are relevant to the specific needs of the community, considering hazards such as flash floods and landslides. Strengthen communication channels between farmer groups, agricultural extension workers, and agricultural research and development agencies to address challenges faced by farmer groups effectively.
5. Sustain Early Warning System (EWS): Maintain and improve the early warning system established through the DREAM-2 program. Ensure the availability of water level detection devices, access to information from relevant agencies, and effective dissemination methods such as traditional bamboo instruments, sirens, public address systems, announcements, telephones, and walkie-talkies. Regularly evaluate and enhance the functionality of the EWS to ensure its effectiveness in warning and preparing the community for potential disasters.
6. Promote Climate-Friendly Agriculture: Address the challenges faced by farmer groups in using organic fertilizers by improving their availability and accessibility. Provide support and training on changes in farming methods, time, and labor requirements associated with organic fertilizer use. Strengthen mechanisms and communication channels between farmer groups, agricultural extension workers, and agricultural research and development agencies to address challenges and continuously discuss climate-friendly agriculture practices. Monitoring and Evaluation: Conduct regular monitoring and evaluation of the program's outcomes, effectiveness, and accountability. Identify areas of improvement through the agreed quantitative and qualitative indicators, and develop specific tools to monitor the indicator's progress and achievement.

Recommendation for Non-Government Organization working on DRR & CCA Issues:

1. Community Empowerment and Ownership: Further enhance community understanding and capacity to independently, develop community-based/self-vulnerability assessment model, conduct participatory assessments and vulnerability analyses through training, awareness-raising, and knowledge-sharing initiatives. Foster community engagement and ownership to ensure the sustainability of the program's impacts.
2. Monitoring and Evaluation: Conduct regular monitoring and evaluation of the program's outcomes, effectiveness, and accountability. Identify areas of improvement through the agreed quantitative and qualitative indicators, and develop specific tools to monitor the indicator's progress and achievement.
3. Support KSSP: Continue empowering KSSP through knowledge-sharing and alternative income-generating activities. Support risk assessments, planning, preparation, implementation, monitoring, and evaluation of their action plan. Ensure the inclusion of women in decision-making processes and promote their active role in managing risks and enhancing community resilience.
4. Support the development of strategic documents for environmental change adaptation planning.
5. Demonstration Plot: In the management of demonstration plots for farmer groups, it is crucial to adopt a more inclusive and participatory approach. Strong participation and engagement from farmer groups, agricultural extension workers, and research agencies become a precondition to ensure that demonstration plots can reach a wider range of participants, including neighboring farmers, relevant community members, and local authorities. The demonstration plot serves as a knowledge hub for farmers and can be a powerful tool for knowledge sharing, skill development, and promoting sustainable agriculture within farmer communities.

6. Support the advocacy for the local government to find the best way in integrating policies related to Disaster Resilient Villages (DESTANA) and Disaster Preparedness Villages (KSB). The two policies originate from different central institutions and have different perspectives, although they generally aim at the same thing, e.g., disaster preparedness, mitigation and resilience. This makes the two policies aligned, although with a different focus. The intersection of the goals of the three policies is at the regional and village/kelurahan levels, commitment, cooperation, and community participation in disaster preparedness, including health emergencies. These integration efforts can be advocated through local Government Regulations between the Social Service (Dinsos) and the Regional Disaster Management Agency (BPBD), so that implementation in the field can complement each other.

Recommendation for CSO. Especially Disaster Risk Reduction Forums/KSB Teams:

1. Enhance Multi-sectoral Collaboration: Further strengthen the collaboration and coordination among the DRR Forum, farmer groups, and KSSP. The DRR Forum can facilitate knowledge-sharing sessions and workshops involving all actors, enabling the exchange of experiences, challenges, and best practices. Provide support in terms of technical expertise, financial resources, and policy advocacy platforms to farmer groups and KSSP to enhance their resilience-building efforts.
2. Support the development of strategic documents for environmental change adaptation planning.
3. Support risk assessments, planning, preparation, implementation, monitoring, and evaluation of risk reduction plans.
4. Continuous support to improve disaster preparedness through trainings and simulations relevant to the community's specific needs.
5. Regularly evaluate and enhance the functionality of the Early Warning System.

Other Relevant Stakeholder:

1. Ensure continuous support from funding agencies for capacity-building initiatives and technical expertise.
2. Improve access to resources required for climate-friendly agriculture.
3. Promote sustainable agriculture practices through the management of demonstration plots.
4. Promote women's inclusion and active role in managing risks and enhancing community resilience.

Recommendation for Farmer Group

1. Capacity-Building: Provide continuous training and capacity-building programs to farmer groups on climate-smart agriculture practices, organic fertilizer use, and sustainable farming techniques. This will enhance their knowledge and skills in adapting to climate change and improving agricultural productivity.
2. Access to Resources: Facilitate access to organic fertilizers, quality seeds, and other necessary resources for climate-friendly agriculture. Collaborate with relevant stakeholders to ensure the availability and affordability of these resources for farmer groups.
3. Market Linkages: Support farmer groups in establishing market linkages for their agricultural products. Assist in connecting them with potential buyers, markets, and value-added processing opportunities. This will help improve their income and economic sustainability.

4. Farmer-to-Farmer Knowledge Sharing: Encourage farmer groups to engage in peer-to-peer knowledge sharing and learning. Facilitate platforms for farmers to exchange experiences, best practices, and challenges faced in implementing climate-friendly agriculture techniques.
5. Innovation and Research: Collaborate with agricultural research and development agencies to introduce innovative farming technologies and practices to farmer groups. Promote research on climate-resilient crops and agricultural methods suitable for the local context.

Recommendation for Women's Saving Group

1. Financial Literacy and Entrepreneurship Training: Provide financial literacy and entrepreneurship training to women savings groups. Enhance their understanding of financial management, savings, and income-generating activities. Empower them to start small businesses or income-generating initiatives.
2. Access to Credit and Resources: Facilitate access to credit facilities, microloans, or grants for women savings groups to support their entrepreneurial endeavors. Partner with financial institutions or microfinance organizations to create tailored financial products and services for women in the groups.
3. Networking and Market Opportunities: Connect women savings groups with networking platforms, business associations, and market opportunities. Enable them to participate in trade fairs, exhibitions, or local markets where they can showcase their products and expand their customer base.
4. Gender Equality and Empowerment: Promote gender equality within the savings groups by ensuring women have equal participation in decision-making processes and leadership roles. Provide training and workshops on gender issues, women's rights, and empowerment to strengthen their voices and influence.
5. Sustainability and Continuity: Support the establishment of sustainable mechanisms for the continuity of women savings groups. Encourage regular savings, effective record-keeping, and transparent financial management. Foster linkages with other support organizations to sustain their activities and provide ongoing support.

# CHAPTER 5. APPENDIX

## 5.1 List of Interviewees

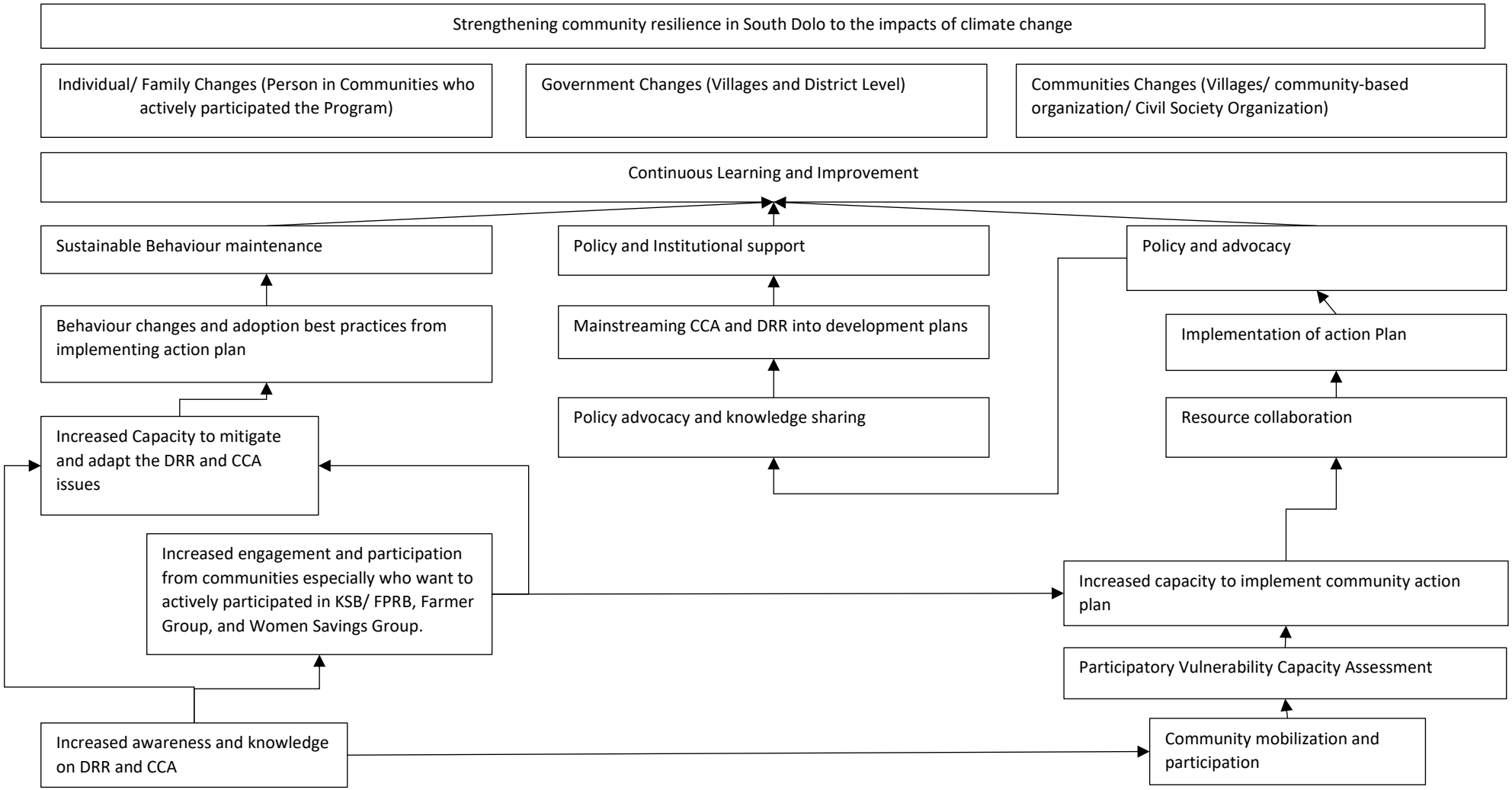
| No | Name | Position | Sex |
|---|---|---|---|
| 1 | Indar | Program Officer | Female |
| 2 | Harun | Program Manager CWS | Male |
| 3 | Maggie | PO MEAL | Female |
| 4 | Welllem | Project Manager INANTA | Male |
| 5 | Mawan | Staff Lapangan INANTA Kec. Gumbasa | Male |
| 6 | Tami | Field officer INANTA | Female |
| 7 | Nata | Finance INANTA | Female |
| 8 | Herry Pampow | Ketua Kampung Siaga Bencana Desa Simoro | Male |
| 9 | H. Amir | Kelompok Tani Desa Rogo | Male |
| 10 | Zakir | Kelompok Tani Desa Rogo | Male |
| 11 | Herman | Ketua FPRB Desa Rogo | Male |
| 12 | Gading | Ketua KSB Desa Pakuli Utara | Male |
| 13 | Muhamad Jauhari | Kepala Bidang Perekonomian, SDA, Infrastruktur dan kewilayahan Kab. Sigi | Male |
| 14 | Slamet Dariyanto | Kepala BPP Pertanian | Male |
| 15 | Rinaldi Rorimpandei | Analis Pemberdayaan Masyarakat Desa | Male |
| 16 | Umar K Sanulibu | Kepala Desa Bulubete | Male |
| 17 | Arlan Ardjolangi | Kepala Desa Pakuli Utara | Male |
| 18 | Fuad Hudin | Kepala Desa Rogo | Male |
| 19 | Tahir Nasir | Kepala Desa Simoro | Male |
| 20 | Ariyanto S.STP | Kepala Dinas Sosial | Male |
| 21 | Sultan | Wakil Ketua Persatuan Penyandang Disabilitas Indonesia (PPDI) | Male |
| 22 | Sri Dawati St. M.Si | Kabid Kesiapsiagaan dan Pencegaran BPBD Kab. Sigi | Female |

### 5.2 Approved Logical Framework

| | Program Structure | 1st Year Output Targets | 2nd Year Output Target | 3rd Year Output Target |
|---|---|---|---|---|
| Objective: Strengthening community resilience in South Dolo to the impacts of climate change | | | | |
| 1 | **Outcome 1:**<br>Strengthening Knowledge, Understanding, Motivation, and Ability to assess environmental vulnerability | 1. The community members are involved in conducting climate vulnerability assessments and adaptation strategies<br>2. The establishment of farmer groups in the community<br>3. The establishment of women's savings and loan groups | 1. The development of an integrated community-based approach to the climate change adaptation<br>2. The Farmer groups gained new knowledge and skills to practice the climate-smart agriculture<br>3. The women's savings and loan groups have identified other sources of income that resilient to climate change | 1. The Implementation of a community-based approach that is integrated with efforts to adapt the climate change<br>2. The farmer groups implemented a climate-smart agriculture<br>3. The women's savings and loan groups implemented risk-reduction plans |
| 2 | **Outcome 2**<br>Civil society organizations have successfully engaged with the government to modify the development planning system to support adaptation planning and strategies | 1. The establishment of a DRR Forum at the district level<br>2. The establishment of the DRR Forum at the village level in the program area | 1. The Review of the strategic document for DRR at the district level conducted<br>2. The vulnerable community groups participated in developing a strategic plan for preparedness and early warning systems at the village level | 1. District-level strategic plan documents are analyzed and incorporated into the medium-term development plan.<br>2. The vulnerable groups participated in disaster preparedness simulations |
| 3 | **Outcome 3:**<br>The success of Community Based Adaptation both planning/strategy and specific actions are disseminated to other communities | 1. MEAL (monitoring, evaluation, accountability, and learning) system is available to support sharing activities on | 1. MEAL (monitoring, evaluation, accountability, and learning) system is available to support the sharing activities regarding results, | 1. MEAL (monitoring, evaluation, accountability, and learning) system is available to support the sharing activities regarding results, |

| | | | | |
|---|---|---|---|---|
| | | results, lessons learned, and case studies, with the government, other NGOs, donors, and other communities. | lessons learned, and case studies, with the government, other NGOs, donors, and other communities | lessons learned, and case studies, with the government, other NGOs, donors, and other communities |

### 5.3 Mapping Step of Changes DREAM – 2 Program [13]




[13] This section is based on evaluation mapping process from the consultant team perspective

**5.4 Tools**

## Survey Tools

| Introduction and Agreement | | |
|---|---|---|
| # | Question | Response |
| 1 | Name of enumerator conducting the survei | |
| 2 | Date of survey implementation | __/__/__ |
| 3 | Villages Location | |
| Hi, let me introduce myself and explain the purpose of conducting this survey, and conclude with a question about your willingness to participate in the survey.<br><br>Hello, my name is _____, and I am here as part of a consulting team working with CWS and INANTA. We are currently conducting a study on the impact of the program implemented by CWS in the villages of Rogo, Bulu Bete, Pakuli Utara, and Simoro, in Sigi District, regarding the community's disaster resilience through measurable adaptation efforts or the DREAM-2 program. If you agree to participate in this survey, I will record your answers using the mobile device I have and take photos during the interview process. The questions will revolve around disaster preparedness and climate change adaptation activities carried out by you and your family. This survey will take approximately 40 to 60 minutes to complete. Your participation and your opinions and answers are crucial in assessing the success of this program. So far, do you have any questions you would like to ask me? | | |
| 4 | Is the respondent willing to participate in the survey? | □ Yes<br>□ No |
| Profile Respondent | | |
| 5 | Respondent Name | |
| 6 | Ses | □ Male<br>□ Female |
| 7 | Age | _____ |
| 8 | Marital Status | □ Married<br>□ Single<br>□ Widow/ Widower<br>□ Other_____ |
| 9 | Vulnerability Status | □ People with disabilities<br>□ Women as household heads<br>□ Children/Individuals <18 years old as household heads |
| 10 | Group Categorize in the community | □ DRR Team<br>□ Farmer Group<br>□ Women Group<br>□ Community Leaders |

| | | |
|---|---|---|
| | | □ Youth group<br>□ General Community<br>□ Government Staff |
| 10.1 | If government staff, what is the name of the institution? | _____ |
| 11 | Education level | □ Did not complete elementary school<br>□ Completed elementary school<br>□ Completed junior high school<br>□ Completed high school<br>□ Bachelor's degree (S1)<br>□ Master's degree (S2)<br>□ Other _____ |
| 12 | Employment Status | □ Part-time employment<br>□ Full-time employment<br>□ Unemployed<br>□ Retired<br>□ Student<br>□ Homemaker<br>□ Other _____ |
| Climate Change Adaptation and Disaster Risk Reduction | | |
| 13 | Have you ever heard about the issue of climate change? | Yes, and I understand.<br>Yes, but I don't understand.<br>Never heard of it. |
| 14 | To what extent do you understand the issues and problems related to climate change? | Not very familiar<br>Fairly familiar<br>Very familiar |
| 15 | Do you perceive climate change in your surroundings? | Yes<br>No |
| 16 | What are the changes you have observed? (temperature, extreme weather, etc.) | Temperature changes<br>Extreme weather<br>Air quality<br>Other _____ |
| 17 | Are you aware that climate change can increase the occurrence of climate-related disasters such as floods, droughts, tornadoes, wildfires, etc.? | Yes, and understand.<br>Yes, but do not understand. |

| | | |
|---|---|---|
| | | No. |
| 18 | Where did you obtain information about climate change? | 1. School<br>2. Mass media (TV, radio, newspapers, etc.)<br>3. Family<br>4. Friends or neighbors<br>5. NGO staff<br>6. Other |
| 19 | How important is the issue/problem of climate change to you? | 1. Very important<br>2. Important<br>3. Less important<br>4. Not important |
| 20 | How concerned are you about the issue of climate change? | 1. Not worried<br>2. Slightly worried<br>3. Worried<br>4. Very worried<br>5. Don't know |
| 21 | What have you done to adapt to climate change? | 1. Protecting forests and plants<br>2. Protecting water resources<br>3. Better preparedness for climate-related disasters<br>4. Reducing the use of fossil fuels (solar, kerosene, gasoline, etc.)<br>5. Participating in capacity development activities<br>6. Following guidance from authorities regarding climate change adaptation efforts<br>7. Preserving green open spaces<br>8. Implementing climate-smart agricultural systems<br>9. Actively engaging in environmental conservation efforts<br>10. Actively participating in campaigns and awareness-raising<br>11. Other: [Specify] |

| | | |
|---|---|---|
| | | 12. Not doing anything<br><br>Note: Please select the appropriate number for your response. |
| 22 | What types of disasters occur in your area that have a significant impact on your life and family? | 1. Floods<br>2. Landslides<br>3. Tornadoes<br>4. Drought<br>5. Fires<br>6. Riots, clashes, and violence<br>7. Other: [Specify] |
| 23 | When was the last time you experienced such an event? | 1. Less than 6 months ago<br>2. 6-12 months ago<br>3. 1-2 years ago<br>4. 3-5 years ago<br>5. 6-10 years ago<br>6. More than 10 years ago |
| 24 | If you have experienced such an event, what impacts have you felt or experienced? | 1. Loss and damage to property<br>2. Financial losses (reduced income or job loss)<br>3. Physical injuries or wounds due to the event<br>4. Health problems<br>5. Stress<br>6. Others |
| 25 | Have you been displaced (either temporarily or permanently) as a result of the disaster? | Yes<br>No |
| 26 | With the occurrence of disasters around you, is leaving the village an alternative choice for you and your family? | Yes<br>No. |
| 27 | If yes, what are the alternatives for leaving the village? | Temporary displacement<br>Relocation to a new permanent residence |
| 28 | How concerned are you about the impacts of disasters? | Not Worried<br>Slightly Worried<br>Worried |

| | | |
|---|---|---|
| | | Very Worried<br>Don't Know |
| 29 | In your opinion, how do the impacts of disasters this year compare to previous years? | 1. The impact is decreasing.<br>2. The impact is the same.<br>3. The impact is increasing. |
| 30 | In your opinion, what do you think the situation and impacts of disasters will be like in the next 10 years? | 1. Getting worse.<br>3. Will be the same.<br>4. Decreasing impact.<br>5. Significantly decreasing impact. |
| 31 | Have you ever heard about climate change adaptation? | 1. Yes, and I understand.<br>2. Yes, but I don't understand.<br>3. No. |
| 32 | How do you perceive the level of readiness for you and your family in facing disaster threats and climate change? | 1. Not prepared at all.<br>2. Not well-prepared.<br>3. Moderately prepared.<br>4. Very prepared. |
| 33 | What are the things that you have done to prepare yourself and your family in reducing disaster risks and adapting to climate change? | 1. Conducting capacity and vulnerability assessments.<br>2. Developing emergency response plans.<br>3. Setting up emergency funds.<br>4. Other (please specify)_____. |
| 34 | Who is responsible for disaster management, risk reduction efforts, and addressing the impacts of climate change in your area? | 1. District Government<br>2. Village Government<br>3. Head of Neighborhood Association (RT/RW)<br>4. Disaster Risk Reduction Forum<br>5. Community<br>6. All Parties<br>7. Other_____ |
| 35 | According to you, who needs to acquire knowledge, understanding, and skills in order to engage in mitigation and preparedness efforts? | Government staff<br>Community leaders<br>Men's groups<br>Women's groups<br>People with specific disabilities<br>Other____ |
| 36 | In the past 2 years, how often have you participated in disaster simulations with the surrounding community? | 1. None |

| | | |
|---|---|---|
| | | 2. Once<br>3. Twice<br>4. More than twice<br>5. Don't know |
| 37 | Have you ever heard of Climate Vulnerability and Capacity Assessment (CVCA) and Hazard and Vulnerability Capacity Assessment (HVCA)? | 1. Yes, and I understand.<br>2. Yes, but I don't understand.<br>3. No. |
| 38 | If yes and you understand, to what extent do you understand these assessments?<br>(This question will appear if the respondent answered yes and understands) | 1. Not Familiar<br>2. Moderately Familiar<br>3. Very Familiar |
| 39 | If yes, have you ever conducted these assessments?<br>(This question will appear if the respondent answered yes, understands) | Yes<br>No |
| 40 | Are you aware of and familiar with community-based climate adaptation? | Yes<br>No |
| 41 | Is there anything being done by the community in your area to reduce the impacts of climate change? | Yes<br>No |
| 42 | If yes, what is your community doing?<br>(If the participant has difficulty answering, write "difficulty answering" in the response column) | _____ |
| 43 | Do you do these things in managing your farming activities?<br>(specific question for farmers group) | 1. Planting a variety of crops.<br>2. Ensuring the quality of irrigation systems.<br>3. Using better quality seeds that are weather-resistant.<br>4. Adjusting planting patterns according to government guidelines.<br>5. Avoiding the use of chemical fertilizers and opting for organic fertilizers. |
| 44 | What are the common challenges you face in farming?<br>(specific question for farmers group) | 1. Unpredictable weather conditions.<br>2. Expensive cost of seeds and equipment.<br>3. Lack of information about the weather.<br>4. Insufficient water resources. |

| | | |
|---|---|---|
| | | 5. Limited access to funding sources.<br>6. Lack of government subsidies.<br>7. Poor soil quality.<br>8. Limited access to agricultural extension services.<br>9. Difficulty in selling agricultural products due to lack of market.<br>10. Insufficient land availability.<br>11. Other reasons may include: [please specify] |
| 45 | Do you engage in activities to anticipate the impacts of climate change in your farming practices?<br>(specific question for farmers group) | Yes<br>No |
| 46 | If not, why haven't you been able to do so?<br>(specific question for farmers group) | 1. Climate change is not a primary concern.<br>2. Climate change will not occur.<br>3. My behavior will not have an impact on climate change.<br>4. I don't know what I should do.<br>5. It is too expensive.<br>6. I don't have time to do it.<br>7. Other reasons may include: [please specify] |
| 47 | Do you have any alternative of income?<br>(specific question for farmers group) | Yes<br>No |
| 48 | If yes, what do you do to generate that alternative income?<br>(specific question for farmers group) | 1. Selling food products.<br>2. Selling non-food products.<br>3. Working as a freelance laborer.<br>4. Farming.<br>5. Opening a motor vehicle workshop.<br>6. Other: [Please specify] |
| 49 | What is the income used for?<br>(specific question for farmers group) | 1. Daily meals.<br>2. Children's education.<br>3. Household/kitchen supplies.<br>4. Paying off debts.<br>5. Recreation. |

| | | |
|---|---|---|
| | | 6. Personal belongings.<br>7. Other: [Please specify] |
| 50 | How important is the source of income for the women's group?<br>(specific question for women's group) | 1. Not important.<br>2. Less important.<br>3. Moderately important.<br>4. Very important. |
| 51 | Have you participated in the financial management planning training conducted by CWS/INANTA?<br>(specific question for women's group) | 1. Yes, and I understand.<br>2. Yes, but I don't understand.<br>3. No. |
| 52 | Have you ever participated in first aid training activities?<br>(specific question for women's group) | 1. Yes, and I understand.<br>2. Yes, but I don't understand.<br>3. No. |
| 53 | If yes and understanding, how well do you understand first aid?<br>(the question will appear if the respondent previously answered yes and understanding) | 1. Not familiar.<br>2. Moderately familiar.<br>3. Very familiar. |
| 54 | How often do you practice first aid in your daily life? | 1. Never.<br>2. Occasionally.<br>3. Frequently. |
| 55 | Have you ever attended a rapid assessment training? | 1. Yes, and I understand.<br>2. Yes, but I don't understand.<br>3. No. |
| 56 | If yes and you understand, how well do you understand rapid assessment?<br>(This question will appear if the respondent answered yes and understands) | 1. Not familiar.<br>2. Moderately familiar.<br>3. Very familiar. |
| 57 | Have you ever conducted a rapid assessment process during a disaster? | Yes<br>No |
| 58 | Have you ever participated in emergency response training for disasters? | 1. Yes, and I understand.<br>2. Yes, but I don't understand.<br>3. No. |
| 59 | If yes and you understand, how well do you understand disaster response efforts?<br>(This question will appear if the respondent previously answered yes and understands) | 1. Not familiar.<br>2. Moderately familiar.<br>3. Very familiar. |
| 60 | Have you been involved in emergency response activities in the past year? | Yes |

| | | |
|---|---|---|
| | | No |
| 61 | Is there an early warning system established in your community in case of a disaster? | Yes<br>No |
| 62 | Has the early warning system been used and functioning well in the past year? | 1. Yes, it is used and functions well.<br>2. Yes, it is used but does not function well.<br>3. No, it is not used. |
| 63 | Have you and the community group developed an action plan for a series of climate change mitigation and disaster risk reduction efforts? | 1. Yes, and I understand.<br>2. Yes, but I don't understand.<br>3. No. |
| 64 | Does your village have evacuation routes established? | Yes<br>No<br>Don't Know |

## Tools Interview

### *Interview with Communities*

1) Characteristics of the community: population size (males, females, male and female children, persons with special needs, and elderly), sources of livelihood, religion, community groups, stakeholder analysis, average number of people per household, origin of residents (native, migrant, or seasonal).

2) What are the public and social facilities in the area? (e.g., schools, markets, hospitals, health centres, and other healthcare facilities, gas stations, banks, etc.)

3) In your opinion, what does climate change mean?

4) Have you noticed any changes in the climate compared to 10 years ago? If yes, what are the impacts on you? Have you taken any specific actions to anticipate the impacts of climate change?

5) Are there any policies related to climate change in this area? Are there any climate change training programs? If yes, have you participated in any of these programs? Please explain the existing programs. Have these programs had a positive impact on the community?

6) What are the common productive crops grown by the community? What are the common challenges encountered when growing these crops? (Specific question for the farming group)

7) Has there been any crop failure in this village? In your opinion, why did the crop failure occur? If yes, what measures were taken to cope with it? Are there any preventive measures taken to avoid crop failure? (Specific question for the farming group)

8) If the villagers' income is disrupted (e.g., crop failure, affected by disasters, etc.), what efforts do they make to survive? Do they borrow money from institutions or individuals? Are there any savings and credit cooperatives in this village? Do people in the village have savings in banks?

9) In your opinion, how can farmers become more resilient in the face of climate change threats (e.g., crop failure)? (specific question for the farming group)

10) In your opinion, can women and children play a role in anticipating climate change? Please explain.

11) (If there are programs/policies related to climate change) In your opinion, are the implemented climate change programs and policies in this area sufficient? Are there any constraints? Do you have any suggestions or inputs to make the programs/policies more effective?

12) In the past 10 years, what types of disasters have occurred in this area? When do these hazards usually occur? Which locations are usually prone to disasters? Why are these locations vulnerable?

13) How do different groups in the community help each other before, during, and after a disaster? Do the occurrences of disasters bring positive or negative impacts that affect the relationships among the residents?

Questions related to preparedness and emergency response:

14) What are the roles and functions at each level (Village and District) during a disaster?

15) What are the common impacts during a disaster? How about post-disaster? Are the impacts always the same? Which critical infrastructure or facilities are prone to disruptions?

16) Which groups are more at risk and in need of assistance? Why? (Community groups such as women, children, underprivileged families, farmers, fishermen, persons with disabilities, and others)

17) What prevention and disaster risk reduction measures have been implemented to anticipate disasters?

18) Does the community have early warning mechanisms? How effective are the existing mechanisms? Do you have any suggestions to improve them?

19) Based on past events, how effective were the disaster responses? Do you have any suggestions to make them better?

20) What types of resources does the community (Village/District), schools, and health centers have for disaster preparedness? How are search and rescue, healthcare, distribution of relief items, handling of refugees, clean water, and sanitation managed?

21) Which communication media are most effective for conveying disaster risk reduction messages to the community? How about messages related to climate change? How about for children? Women? Persons with disabilities?

22) Does your village or district have any policies related to disaster management? What are the types of policies? Please specify. In your opinion, are these policies effectively implemented? Why?

23) Does your village/district have dedicated funds for emergency response? How about funds related to climate change? If yes, please specify the amount.

24) Does your village/district have a disaster risk map? If yes, who was involved in its development?

25) Does your village/district have a Disaster Management Plan? If yes, who was involved in its development?

26) Does your village/district have a Contingency Plan? If yes, who was involved in its development?

27) Are you familiar with the Disaster-Resilient Village program? What does a disaster-resilient village mean?

28) Have you participated in the Disaster-Resilient Village program? In what capacity?

29) If not, why haven't you participated?

30) Has your village/district conducted any disaster simulations in the past two years? If yes, who was involved?

31) Does the current Village Development Plan (RPJM Desa) contribute to reducing disaster risks and adapting to climate change? (Please explain)

32) Does your village have a disaster management forum or a similar institution? If yes: (1) do you participate in the forum? (Explain the reason) (2) which institutions are involved in the forum?

33) Have you or any residents of the village participated in disaster management training? Who conducted the training? What topics were covered?

34) If there were disaster management training, who should ideally participate in such training? Why?

35) Have you or any residents of the village participated in training related to climate change? Who conducted the training? What topics were covered?

36) If there were climate change training, who should ideally participate in such training? Why?

37) Does your village/district receive information: (1) when a disaster is about to occur (e.g., flood or drought); or (2) when other villages experience disasters? If yes, since when? And from which institution?

38) Have you ever received information about disaster management? If yes, from whom or which institution? If yes, do you find the information useful?

39) If your village experiences a disaster, where do you report this information?

40) In your opinion, how can effective socialization be conducted so that the entire community is aware of disaster management measures?

41) What is your suggestion for better, more effective, and practical policies at the village level regarding climate change? Why do you think these are necessary?

42) What is your suggestion for better, more effective, and practical policies at the village level regarding disaster risk reduction? Why do you think these are necessary?

Note:

- The interview session will be recorded. Before recording, the participants will be informed that the recording is for documentation purposes only and will not be used for reporting or presenting the findings of the study. If there is any usage of the recording, separate permission processes will be applied.

- The duration of the interview will be approximately 1 hour.

*Interview with Government*

1) Explore information about the institutions involved in government disaster management efforts. What are the existing institutions? And how has the collaboration between institutions been so far?

2) Community characteristics: population size (males, females, boys, girls, persons with disabilities, and elderly), sources of livelihood, religion, community groups, stakeholder analysis, average number of people per household, origin of residents (native, migrants, or seasonal).

3) What are the public and social facilities in the area? (e.g., schools, markets, hospitals, healthcare facilities, gas stations, banks, etc.)

4) In your opinion, what is meant by climate change?

5) Have you noticed any climate change compared to 10 years ago? If yes, what are the impacts on you? Have you taken any specific actions to anticipate the impacts of climate change?

6) Are there any policies related to climate change in this area? Are there any climate change training programs? If yes, have you participated in any of these programs? Please explain the existing programs. Do these programs have a positive impact on the community?

7) What are the commonly grown productive crops by the community? What are the common challenges faced when cultivating these crops?

8) Have there been any crop failures in the village? In your opinion, why did the crop failures occur? If yes, what measures were taken to address them? Are there any preventive measures in place to avoid crop failures?

9) If the villagers' income is disrupted (e.g., crop failure, disaster), how do they cope? Do they borrow money from specific institutions or individuals? Are there any savings and credit cooperatives in the village? Do people in the village have savings in banks?

10) In your opinion, how can farmers be more resilient in facing the threats of climate change (e.g., crop failures)?

11) In your opinion, can women and children play a role in anticipating climate change? Please explain.

12) (If there are programs/policies related to climate change) In your opinion, are the implemented climate change programs and policies in this area sufficient? Are there any constraints? Do you have any suggestions or inputs to make the programs/policies more effective?

13) In the past 10 years, what types of disasters have occurred in the area? When do these hazards usually occur? Which locations are usually prone to disasters? Why are these locations prone to disasters?

14) How do different community groups assist each other before, during, and after disasters? Do the occurrences of disasters have positive or negative impacts on inter-community relationships?

Questions related to preparedness and emergency response:

15) What are the roles and functions at each level (District, Sub-district, and Village) during a disaster? In your opinion, what are the roles and functions of the district-level Disaster Management Agency (BPBD)?

16) What are the common impacts during and after a disaster? What about post-disaster effects? Are the impacts always the same? Which critical infrastructures or facilities are prone to disruptions?

17) Which groups are more at risk and in need of assistance? Why?

18) What preventive measures and disaster risk reduction actions have been taken to anticipate disasters?

19) Are there early warning mechanisms within the community? How effective are the existing mechanisms? Do you have any suggestions to improve them?

20) Based on past events, how effective have disaster responses been? Do you have any suggestions to improve them?

21) What types of resources do the community (at the District/Sub-district/Village level), schools, and health centers have for disaster preparedness?

22) What resources does your institution have for disaster preparedness? What about climate change adaptation?

23) What is the most effective communication media to deliver disaster risk reduction messages to the community? How about for children? Women? Persons with disabilities?

24) Does your district have any disaster management policies? What are the types of policies? Please specify. What about policies related to climate change?

25) In your opinion, have these policies been effective? Why?

26) Does your district have a specific allocation of funds for disaster risk reduction? What about climate change? If yes, please mention the amount. What about at the village level?

27) Does your Village/District have a disaster hazard map? If yes, who was involved in its development?

28) Does your Village/District have a Disaster Management Plan? If yes, who was involved in its development?

29) Does your Village/District have a contingency plan? If yes, who was involved in its development?

30) Does your institution have any programs related to climate change adaptation? If yes, please explain.

31) In your opinion, is the program effectively implemented? Please explain, including any suggestions you may have.

Questions about the Disaster-Resilient Village program:

32) Are you familiar with the Disaster-Resilient Village program? What does the program entail? Do you have any staff in your institution who serves as a facilitator for the Disaster-Resilient Village program?

33) If yes, what activities have been conducted through the Disaster-Resilient Village program?

34) Have you participated in the Disaster-Resilient Village program? If yes, in what capacity?

35) If this program has not been implemented, what are the reasons for its absence?

36) Has your Village/District conducted any disaster simulations in the past two years? If yes, who was involved?

37) Does the current District Development Plan contribute to reducing disaster risks, addressing threats, and adapting to climate change? (Please explain)

38) Does your District have a disaster management forum or similar institutions, as well as other forums related to climate change adaptation? If yes: (1) Do you participate in these forums? (Please explain the reasons) (2) Which institutions participate in these forums?

Questions about capacity building and Information Systems:

39) Have you or any staff in your institution received training related to: 1) disaster management, and 2) climate change adaptation? If yes, who conducted the training and what were the topics covered?

40) If there are training programs for disaster management and climate change adaptation, who should participate in these training programs? Why?

41) Does your village/district receive information: (1) about impending disasters (such as floods or droughts), or (2) when other districts experience disasters? If yes, since when? And from which institution?

42) Have you received information about disaster management? If yes, from whom or which institution? In your opinion, was the information useful? Does your institution receive disaster-related information from the provincial-level institution? If yes, has it been beneficial? (Please explain)

43) If the region in your district experiences a disaster, where do you report this information?

44) In your opinion, how can we effectively conduct public awareness campaigns to ensure that the entire community is knowledgeable about disaster management? What about information related to climate change?

45) What suggestions do you have for better, more effective, and practical policies at the village level regarding climate change? Why do you feel they are necessary?

46) What suggestions do you have for better, more effective, and practical policies at the village level regarding disaster risk reduction? Why do you feel they are necessary?

Note:

- The interview session will be recorded. Before recording, participants will be informed that the recording is for documentation purposes only and will not be used for reporting or presenting the study's findings. Separate permissions will be obtained if the recording is used elsewhere.

- The interview is expected to last approximately 60 minutes.

- Confidentiality will be maintained, and the information provided will be used solely for research purposes.

- Participants are encouraged to provide honest and accurate responses, as their feedback will contribute to improving disaster management and climate change adaptation efforts.

Thank you for your participation in this interview. Your insights and knowledge are invaluable in understanding the current situation and identifying areas for improvement.

### Tools FGD

Question Guide:

1. According to you, please mention five things (ranked from highest to lowest) that make you worried, anxious, and afraid if they were to occur in your surrounding environment.

2. Have you heard about climate change? If yes, do you feel that your area is affected by climate change? If yes, please explain.

3. Are there any activities in this village to anticipate disaster hazards? What about climate change, are there any activities to anticipate climate change?

4. According to you, what is a disaster?

5. In your opinion, why does a disaster occur?

6. What has happened around you? (Explore their experiences in more depth to hear their perspective)

a. What are the consequences of the disaster?

b. If it happens, what is usually done?

c. Have you ever evacuated due to a disaster? If yes, for how long and where?

d. Are there any ways to prevent it?

e. How did you feel when it happened? And how do you feel now?

f. Please mark with an asterisk (*) the things you can do for prevention and the actions taken during a disaster.

7. What about other types of disasters (ones you haven't experienced)?

8. Where did you learn about these things? Have you received any training or socialization? Has it been discussed at home?

9. Would you be interested in learning more about disaster preparedness and climate change adaptation? If yes, what would you like to learn about? In what way (explore preferred media for each group - women, children, men, people with special needs)?

10. In your opinion, what can you do to prevent or reduce the impact of disasters and climate change?

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