

PDRA Snapshot
Karina / Caritas Keuskupan Maumere
Renggaresi Village

Village profile - Renggarasi

Renggarasi is part of Tanawawo sub-district, at the west side of Sikka district. Community that lives in Renggaresi is from Lio Mego ethnic. Renggaresi is 35,25m2 with population 1.574 people (Men: 738, Woman: 836), width 45 people/km2 (BPS Sikka-2010). Type of livelihoods in Renggaresi more than 90 % of population is farmer and the rest are civil servant, teacher, health staff and sub-district staff. Type of commodities and crops that are commonly found in the village are: paddy (irrigation and rain field), corn, cassava and types of peanut, banana, cacao, cashew nuts, and candlenuts. Cattle husbandry has also become one of community livelihoods (pigs, goats, cows and chicken). People usually sell their crops and commodities to the traditional market in the center of Renggaresi village on a weekly basis. Renggaresi community also sell their crops in the weekly Lekebai market, a neighboring village 8 km from Renggarasi, which has more buyers not only people from village around but also from other areas because it located at trans Flores road along which many communities and people travel. Although it is located far from the village, as there are more buyers and prices are also higher, Renggaresi community sells their crops and commodities here. Villagers use local transportation (truck and motorcycle ojek) to come from Renggaresi to this and also the Nangablo weekly market. In these markets there are also brokers or middlemen who buy from local sellers and bring them to Maumere, these markets are important for villagers in Renggaresi.

Renggaresi boundaries:

- North: Bu Watu Weti village and Bu Utara village
- South: Tuwa village , Paga sub-district
- East: Loke village
- West: Detubinga village

Number of hamlet in Renggaresi are three (3)

1. Faipanda : 448 (Man : 214, Woman : 234)
2. Lambalena : 622 (Man :307, Woman : 315)
3. Wolofeo : 540 (Man : 268, Woman :272)

PDRA Activities

The purpose of PDRA is to assess hazard risk, vulnerability and capacity in participative way. To facilitate community to identify and assess issues that community facing and to find out why its happened. To facilitate community to identify potential that they have in order to answer/ find solution on their problem based on their potential. The result that came from PDRA will be used as basis for community action plan and community preparedness in DRR.

Tools that were used in PDRA activities were as follows:

- A. Hazard assessment
 1. Village history
 2. Disaster history
 3. Trend and changes
 4. Seasonal calendar
 5. Hazard Rangk

6. Problem tree
 7. Hazard Characteristic Matrix
- B. Vulnerability assessment
 1. Vulnerable group Ranking
 2. Vulnerability ranking
 - C. Capacity assessment
 1. Individual and community capacity Matrix
 2. Venn Diagram
 - D. Ecosystem assessment
 1. Ecosystem questionnaire
 2. Change of ecosystem matrix

PDRA activities in Renggaresi village started from 14 January - 19 May 2012, attended by 287 participants. PDRA activities in Renggaresi village were held in the three (3) sub-village: Folofeo, Failand and Lambalena.



PDRA in Renggaresi

Hazard Assessment: Based on **hazard assessment**, it was found out that the main hazards community face is strong winds. **Strong wind** destroyed houses and community crops and commodities. Strong winds the hit village can last for up to a week (last year strong wind hit Renggaresi village during January – March). Winds damaged community crops such as corn, paddy, banana and commodity such as candlenuts and cashew nut (winds swept away fruits – some fall in to the river and some other scattered far from the trees because the trees are located on

the hillside and people who own the trees cannot harvest or collect the fruit any longer). Community feel that strong wind damaged crops and people houses because Renggaresi is located in a hilly area and it exposed to the winds where there are now less trees on the hillside due to slash and burn practice by the community to open land for gardening or planting crops. In the past around 15-20 years ago were there many trees, community houses and crops were more protected. The community's adaptation to growing population and the needs for increased food and land for farming contribute to the exposure in Renggaresi.

The practice of cutting trees, slash and burn to open up new land for farming without environmental awareness of impact, results in soil erosion due to cutting trees for new farming lad, which is worst on steep land because soil condition is heavily destabilized (mix of thin sandy soil under which is clay type soil). Terracing using trees or vegetation is not possible because topsoil is sandy and it is only possible to use wood or bamboo barriers to retain the land.

Village population: during the past 30 years the village population has increased; 30 years ago it was only 100 households (HH) and now is 350 HH due to high birth rate (1 HH can have 3 kids under age of 5 years), this puts pressure on land for food and agriculture. The community is transient, education levels vary from junior high school upto senior high, and many villagers leave the village for work opportunities unavailable in the village.

Income and Savings: Farmer income is difficult to measure as for daily live consumption they depend from crops they planted (corn, cassava, banana) and for commodities, it also depends on how many they can get from their trees. Farmer sometimes didn't have cash in hand but they will have cash when they sell their crops (seasonal or commodities) and usually the money they get will be used to buy non agriculture products. 30 years ago there was no credit union or saving and loans group at the village level that villagers could keep their money in and use when needed (arisan). During the past 10 years a Credit union become available in the village, also a savings and loans group was set up and villagers started to save their money in the bank this is particularly for civil servants, teachers and other government staff who have fixed incomes. This has increased in past 10 years. Renggaresi farmer usually sell their crops to market inside the village (Renggaresi market) that open every Tuesday that located in the village centre. Another market located about 8 kilo from Renggaresi village , open every Saturday and Nangablo market open every Wednesday. These two villages visited by people not only from Renggaresi but also from other area since its located in the trans Flores road. In addition to that , Maumere broker also visited these two market to buy agriculture and crops to be sold in Maumere market with more higher price.

Community: communal work spirit (gotong royong) is strong, traditional and religious rituals are still maintained in the village. Villagers also obeyed custom (adat) laws. But for the past 5 years, social behaviors in the village have changed, traditional dress and communication has evolved, particularly for the young people

Village infrastructure: 30 years ago the road to the village was only a pathway without asphalt, 1 primary school and village polyclinic (Puskesmas), there was no junior high school or electricity in the village, traditional transportation using horse and water pipes were unavailable. During the past 30 years water pipes have been installed, an asphalt road laid and the number of school buildings has increased (2 primary schools, and kindergarten). Community health centre also increased in number (polindes, posyandu). Infrastructure development is under the Government PNPM program and capacity building for health workers through assistance from INGOs. Transportation modes have now changed to ojek (motorcycle taxi) and trucks. A market also now exists in the village.

Community Capacity: through the Venn diagram activity with the community it is seen that the



Venn Diagram Renggaresi

role of various stakeholders such as village staff (institution – from head leader till village staff and also individual support), the church, catholic youth group, traditional institution, posyandu/puskesmas, Plan International and PNPM were seen as close and provided a lot of contribution to community either individually or as an institution. They also play an active role in the event of disaster and support in community welfare. Other village stakeholders such as BPD (Badan Permusyawaratan Desa – village consultative board), BPK (Badan Penyuluh Kecamatan-Sub district cadre), education department, sub-district government staff,

farmer and community arisan are seen as groups that give less contribution and only take care their members concerns and business.

Ecosystem condition in Renggaresi village

Agricultural Situation of the village: 30 years ago paddy cultivation used a very simple and traditional farming system, using a shovel, ploughing using bamboo strokes (traditional ploughing system using bamboo), local varieties of seeds, communities did not use fertilizers and they do not have memory of insects or crop diseases that harmed crops. Harvest was done only once a year and used manual labor to cut the paddy to harvest rice, but production was enough to feed the whole family from the land owned by the household, villagers also bartered rice for livestock (horses, pigs) within the village and households give rice as a contribution for village celebration / festivals (about 8-9 kg per year). Approximately 20 years ago farmers started to use pesticides to kill rice pest and insects, and used fertilizer and both local and non-local varieties of seeds. They have to use a different variety of rice advised by the government. This was a government program focused on boosting rice production per area. The seed had to be bought; villagers could not keep seeds for planting later (they would rot). This rice variety requires the use of insecticides and fertilizers; otherwise villagers would be unable meet production targets. The seeds, pesticides and fertilizer are more expensive, but the quality of the rice is good and now there is a market for it. If the villagers still try to use the local variety of seeds, there's no market any longer for the rice, as customers want to buy only the new variety. For paddy irrigation, using a generator to pump water from the river, a second harvest is possible, with a variety of rice that grows in 3 months.

The cost of rice production is much higher as a result of the inputs: generally out of 3 sacks of rice produced, 1 is needed to cover the cost for the hand tractor, Some farmers own hand-tractors, other farmers who do not have tractor will rent from those that have. Pesticides, fertilizer and seeds – need to be bought for each time the community want to start paddy planting because the new variety seeds rot easily and cannot be kept for long time like local seeds. But this rice cultivation can be done twice a year, and land allocated to paddy plots has increased in the village to allow for increased production. Some farmers own rice milling machines, others who doesn't have, will rent it from the one to pound rice, production still enough to feed the whole family and can give contribution for village festive up to 10 kg. In the past 10 years although the land allocated to rice production has increased, actual production has reduced during the past 5 years; partly due to erosion, partly as a result of the widening of the river due to sand mining (see below), and partly as a result of dividing available land among children. This leads to less land per person, more pressure on the available land, planting is still done twice a year, villagers use more pesticides to kill insects, they find now there is increased pest and insects population, though community didn't know why insect population increased. Pesticides kill many insect and animal that live in the paddy field. The food chain does not operate as it did in the past; rat populations has increased. Community didn't aware about the impact of using pesticides and the increase of pest , they only knew that the use of pesticides increase other pest and insects. Fertilizers were also used to boost production, local seeds are no longer used anymore, ploughing is done by tractor and use milling machine instead of manual labor about 10 years ago but rice production started to decrease, and production is not as high as 30-20 years ago, with pest and insects attacking the paddy field, less land to grow paddy. Changing weather patterns is changing crops pattern. Now, house holds no longer contribute to village festive/celebration. The community recognizes that their land is becoming degraded and less fertile. Crops production has decreased for the past 5 years and is now hardly enough for daily consumption. Commodity crops such as cashew and candlenut are also not good. This mainly due to intense rains during rainy season that cashew flowers and the nuts got swept away and fallen and candle nut production also reduced due to no proper treatment and also the age of the tree and pest.

Community gardens: 30 years ago 200-150 ha was allocated to community gardens, but this has reduced gradually in the past 20 years due to population growth with less land per family. Seasonal crops, such as maize and cassava for household consumption were produced, villagers did not

experience significant insect or pests attacking crops, no pesticides or fertilizers were used, community gardens were prepared and cultivated using traditional system; no machinery, with shovel, communal work system and using a barn to keep household level food stock. Traditional ceremonies still existed. 20 years ago, although community still use the traditional farming system, crops were more varied and included commodities to sell including candlenut and coconut, still using local seeds, villagers still applied communal work and used barns to keep food stock. Traditional ceremony still existed. 10 years ago pest and insects started attacking the crops, pesticide and fertilizer were used to kill insects and boost production. Types of commodity crops varied further: cashew, cacao, coffee and using local and non-local seeds. Communal work (working together to prepare land for farming) still exists, because farmer group or self-help farmer group like to work together to prepare the land or started planting. Now there are no more traditional ceremonies.

Climate Conditions: Farmers are now not so sure about weather patterns : Farmer group in the village in Sikka district , usually use their traditional knowledge to do farming, determine rainy season to start preparing land for farming and predict winds based on experience. But last year rains from November – and in April still continue though not very intense. The dry and rainy seasons become unpredictable, they not sure when to start preparing the land and plant it and when will be the harvest time. Farmers in Sikka usually use their traditional knowledge of the farming system, signs such as rainy season and wind force as indicators when to plant, this is based on their experience. But the unpredictable weather condition made their knowledge less useful. Strong wind and crop disease because of no proper treatment for the vegetation and commodities . impacts crop production

River conditions: 30 years ago the river was up to 10m wide and water flowed throughout the year. The water in the dry season could reach an adults' knee; while in the rainy season could be 2m high. Shrimp, eel, fish existed in the river and were caught by hand. Villagers use river water for daily household consumption and livestock, cooking, drinking, watering the crops, washing clothes, and bathing; water was collected using bamboo from the river to the house. There was no sand and stone mining. Approximately 20 years ago, the river width increased by 1-2 m due to sand and stone mining, in some locations landslip occurred because the trees by the river were cut down. The level of the river water during the rainy season could be up to adult height (1,5 – 2 m) but during the dry season it was only up to foot / ankle height and community wells dried up. During the past 5-10 years to now, the river water level has begun to reduce, river width still increase 1-2 m, but the community see that the water level in the river is decreasing. During the rainy season, water level not as high as 20 years ago and during dry season still at ankle height. Sandstone mining started around 2005 due to easy access and transportation to the village, many people exploit sand and stone and some other take water from the river using a water tank. Initially using manpower only, removing sand and stones by contractors and individuals that were collected by contractors. Now extraction has become more intensive, using trucks owned by contractors to transport materials. Population of shrimp, eel and fish decreased; people use drugs and electricity to try to catch them, this also kills small fish, eel and shrimp, which were in the past caught by hand. Currently, the water level is reduced significantly and communities are unable to fish the river as they did in the past

Forest Conditions: In the past a different agricultural system was used, shifting cultivation, slash and burn and cutting the forest for farming and produce crops for the past 10 years forest 50% of the forest are gone. This has changed to permanent agriculture, to protect the forest under government policies. The agriculture unit staff motivate the community that own land to plant commodity trees as this is considering as investment for community in additional to seasonal crops

like corn , cassava and banana, that they plant for own consumption daily and if there is extra from the harvest they will sell it. In the forest there are 2 types of trees, planted ones and original ones. People planted the cashew and candlenut, cocoa, coffee, teak tree, bamboo. These are generally used as cash income to pay for school fees. Marketing is a problem, especially because there's no road from the forest to the market. There were buffaloes, birds, forest pigs, and monkeys in the forest in the past but for the last 10 to 5 years this conditions has changed. Now few pigs are left, monkeys and birds population is reduced due to improved access with new sub-district expansion and deforestation for a new road and new building , asphalt road from 2 km (10 years ago) now increase to 3,5 km two primary school, junior high school, 4 new health clinics (Posyandu) , water turbine electricity this development also has contributed to lots of trees cutting for expansion.

Community Organization

After completing their PDRA session, villagers started to establish a community organization. Since a community organization already existed in Renggaresi village (GAPOKTAN – Gabungan Kelompok Tani – Farmer group), the community agreed to establish a new organization to implement DRR-CCA-EMR activities but will use GAPOKTAN as umbrella organization and will add five (5) sections under it: 1) Agriculture and environment 2) Partnership and cooperation 3) Education and training 4) Emergency response and 5) Advocacy. Members were elected from Renggaresi village and represented each sub-village. Organization management and structure to select organization leader / head and section members was conducted on 21 June 2012 in the community hall involving 30 participants from 3 sub-village.

Action Planning

The following are the consolidation and recommendations from PDRA activities in Renggaresi village:

1. Preventive action:
 - Village regulation on Disaster risk reduction and ecosystem management
 - Ecosystem and environment management (good farming system, integrated agriculture, water and land conservation) – terracing , tree planting that strong enough to protect from the wind around the house or in an area near community housing to protect community house and community garden, to open community garden in safe place , change of type crop to onions, peanuts , etc (root types of crops), animal husbandry (chicken, fish ponds and goat)
2. Mitigation action for disaster risk reduction and ecosystem management :
 - Reforestation – more trees to protect from strong wind.
 - Socialization on the impact of illegal mining
 - Socialization on the impact of gardening /farming in the hilly side.
 - Socialization on the impact of shifting cultivation
 - Wells for water reservoir (need further assessment whether it will be for house hold or at wider target)
3. ER and Preparedness to strong winds :
 - Establish ER team at village level.
 - Early warning system with regards to strong wind
 - Preventive action (strong wind – tightened up house from inside using strong string robe from corner to corner inside) so the house will stick to the ground if strong wind hits.
 - Evacuation route and place
 - Socialization of evacuation route and place
4. Capacity building on integrated agriculture for community , as follows:
 - Good terracing , land and water conservation
 - Good seed and seedling

- Organic fertilizer
 - Good animal husbandry
 - Spring water conservation
 - ER training for ER team
 - ER simulation
5. CCA action:
- Farming land preparation in safe place that is not in the hilly side, no more shifting cultivation, consultation with resource person from agriculture , forestry staff.
 - Change crop pattern and identify crops that more resilient to extreme weather and climate, that will be decided after consultation with resource person related to this issue

In June 2012 Karina and Caritas Maumere as a part of regular accompaniment activities reviewed the PDRA tools which integrate CCA and EMR and also how they were used. It is recognized that to ensure full participation of communities, which are spread across the large geographical area of villages both the socialization and the PDRA were repeated in each hamlet (rather than just each village) and activities were organized around the community farming activities. This resulted in postponing meetings during the planting and harvest times. Community facilitators also recognized the importance of villagers themselves in planning the process of PDRA, and this increased participation. Support from the village leaders, the diocese, and priest was very important. They were actively involved in the process, and priests encouraged their congregation to participate. They also provided support such as meals and stationary for meetings.

Although the many tools used allowed for a deeper collection of information, it also meant that the process to engage communities in the assessment was very long; facilitators needed to be very creative to maintain the motivation and enthusiasm of the community during the entire process. Together they have started modifying their PDRA tools to consolidate and reduce number of tools used based on the experience of implementing this PDRA process, they are merging tools to increase efficiency in use with communities, and are modifying tools to make more appropriate to the local practices and traditions in the community. Modified tools will be utilized with an additional 3 parishes in 2013.