

ANNEX 2 FIELD ACTIVITIES REPORT

IIRR Myanmar;

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Field Visit Note

13-16.1.2019

Shan State

13.1.2019	Taung Khamauk village
14.1.2019	Kyaung Taung Village, and Aungban Research station
15.1.2019	Pintaya, Aungban to explore orange farming and Big M nursery

13.1.2019

1. Meeting with Community of Taung Kha Mauk village

During meeting, the community explained that upland rice was the major crop for this area in past decades. At that the production was quite good enough to fulfill the community's requirements and all the products are for home consumption. According to community the weather condition was regular formation and planting materials for other types of crops are limited situation. For this reason farmers had grown mainly upland rice, corn and groundnut. According to the community they have only one upland rice variety which is deriving from their grandparents.

Corn variety which cultivated in past are just for home consumption but in the present days, hybrid variety for CP feeds industry have been introduced to their region. Accordingly most of the farmers changed their cropping pattern and corn took place instead of upland rice. All the farmers prefer to grow corn because it needs less managements and process than other crops such as upland rice and groundnut. Currently only less than half of the community population cultivates upland rice just for home consumption and remaining famers prefer to grow other crops and they prefer to buy rice for consumption from other sources. Seed availability is also easy for the community; there are many seeds companies selling the F1 variety of corn in the market and some sub-dealer offers credit for their products and after harvesting the famers have to give back in cash or the corn. Seeds cost for F1 variety is about 14000 – 16000 kyats depends on products. Dr. Julian suggested that some variety which yellow color seeds and can be used as seeds for next growing seasons, should be tested for this region only small scale not to affect the family income.

Pigeon pea was one of the major crops for the village in 4-5 years ago. Since the market price is becoming instable and more pests' infection, only few farmers are still growing pigeon peas through intercropping. Currently community is cultivating corn, upland rice, groundnut, pigeon pea, saff-flowers, and other vegetables and fruits such as tomato, cabbage, cauliflowers, and banana. If crops of are listed depends on growing size area, the first one is corn, the second is Groundnut and follows with upland rice.

Only one variety of groundnut has been cultivating in this village, the seeds husk color is red depends on soil color, and seed color is pink. There is no practice of introduction good quality seeds from outside and just growing on same variety for many years. The seeds size is small in compared to

other variety that seen in dry zones region, but the duration is just 90 – 100 days. Groundnut trial plots should be tested for this village for easier access of seeds availability.

Millet and sorghum are cultivating by mixed cropping but very few amount just for animal feeds and seeds. According to field researcher, there is seasonal food culture of boiling millet soup during full moon day of December and January. They used black fox-tailed millet for this. During sowing time of upland rice and corn, they just broadcast seeds mixed with upland rice seeds.

In the village compound there are only three avocado trees which are already 3-4 years old, but there is no fruits setting because of number of plants and far away from each other for cross pollination. There is also one mango orchard in the village established with support from UNDP, and the community said they got harvest some fruits in last season. According to the community, they are interested to try avocado trees in their home garden level and they have no idea of other perennials fruits tree aside from banana. They have no experience on orange tree plantation and they never tried this before, but the elevation level for this village is about 3700 feet.

In the village pig and cattle are common livestock and almost every household owned pig. Depends on the growth rate and cash requirement, they sell after 10-12 months and some people wait till about 1 and half year. Chopped banana stem, rice bran, broken and oil cake for some HHs are used as feeds source for pig.

In compared with former CSV, agricultural lands in Taung Khamauk village are more flat and close with the village compound. Field condition is very well to conduct farmer field day and famer field school because most of the lands are close with village and it locates along the side of entrance road of the village.

Homestead level – According to Dr. Julian's suggestion, root and tuber crops such as taro, and sweet potato should be encouraged to grow more in home stead level because there are plenty of banana trees in household's garden. Tree plantation in homestead garden is not suitable for this village because there will be grown some seasonal cash crops such as tomato, cabbage and cauliflower during rainy and winter season.

Three cultivars of sweet potato cuttings and Napier grass stocks have been distributed to the community.



2 varieties of corn will be grown as crop trial test in small area by 5- 10 farmers. One variety is for home consumption and another variety Ekrey is aimed to compare with commercial CP corn variety. According

to Aungban DAR, Ekery is not hybrid variety and it is open pollinated variety, so the farmers can use as seeds in next growing season.

4 varieties of upland rice from Aungban research station and additional variety from local and KMF's will be grown as PVS trial by 20 –30 farmers to test the local adaptability.

Fruits tree plantation and boundary planting with cassia siamea trees for soil conservation will be conducted in farm level. Proper fencing is crucial for farm level because of free grazing practices of cattle during summer.

Department of forestry nursery

On the way of back to Nyaung Shwe, there is big nursery of department of forestry. Fruit trees such as Jackfruit, avocado and mango trees are available. There are also many forest trees types to distribute to village community around this area.

According to the officer of this nursery, they sell 1000 kyats for avocado seedling and 4000 - 5000 kyats for grafts and other trees types can be accessible FOC.

According to KMF's staff, they will negotiate with officer to prepare glyricidea seedlings in this nursery before distribution to community and to purchase avocado seedlings from him.

Aungban research station

According to Aungban research station, the upland rice variety which growing in our CSV is upland-2 variety (locally Motesoema Kywae kyay) which has red color coat of the grain. The researcher also suggested one variety of corn which can be locally adapted well for home consumption.

Taung Khamuak village is good potential for corn because of its large area of agricultural land and it has been cultivating currently. However, the farmers have to purchase seeds of Hybrid variety every year. This is one of the constraints for some farmers who can't effort to purchase. Accordingly one variety which is open pollinated and can be used as seeds for next growing season, such as Eery, for CP feeds will be tested as crop trial in the village. For home garden, one sweet corn variety (which is also open-pollinated) will be introduced for home consumption. The price of the corn is

Ekery

1 Kilo = 2400-3000

Yezin – 1

1 Kilo = 2400-3000

Sweet corn

1 Kilo = 3600 – 4000.

The idea of corn cultivation in Chin state is ideal activity because people from Chin grow corn mainly for home consumption and they just sell few quantities. However for Shan State, farmers cultivate corns mainly for income, and for CP feed industry, not for home consumption. Therefore, thing need to be considered is Yezin 1, because this variety is mainly for home consumption and the seeds color is also white. There is no market demand for this variety. Moreover since corn is major cash income crop for the village, the community will have concerns on sharing of their agricultural land with our introduced variety.

However Ekery is not only good for home consumption and it is also suitable for CP feeds; and traders also accept this variety. It is open-pollinated variety and farmers can use as seeds for next growing

season. Actually this variety was developed for CPs corn, according to researcher, which can be used as seeds for next season and farmers don't need to purchase seeds again.

Since corn is the major commercial crop, special attention will be required during conducting corn varietal trial. Only Ekery variety is suitable to test with large number of farmers and remaining Yezin-1 and sweet corn should be introduced as very small scale just in home garden for consumption.

Currently, KMF and IIRR have booked 1 basket (24-25 Kilos) for each Ekery and Yezin-1, and 3 Kilo of sweet corn variety for home garden. Ekery for commercial crop and other Yezin 1 and sweet corn (Yezin-2) will be for food security and nutrition. According to researcher, Ekery variety couldn't be compared with hybrid variety in term of yield even more fertilizers input because of low response to fertilizer.

Since all varieties of corn are open-pollinated, each variety should be grown separately about 300 meters from each other. Therefore Yezin -1 and sweet corn (Yezin-2) should be cultivated in garden and Ekery in field level to prohibit cross pollination.

According to land situation in Taung Khamauk village, wheat cultivation will be reintroduced for this village in next year. According to researcher suggestion, soybean also should be introduced because of stable market price (1250/viss). Actually soybean is winter season crop, but in Shan State, most of the farmer cultivate during rainy season. It can be grown after corn, but the corn need to be harvested already after 4 months and can't wait the seeds to dry. KMF is willing to introduce soya bean to diversify market opportunity crops. Since farm activities which will be done in this year are not test and mainly aimed to spread out based on results of opening wedge activities, just only one good quality and good production should be introduced as crop trial. Both wheat and soya bean can be cultivated as 2nd crop during winter season, but sowing of corn should be early and harvested after 4 months and can't be kept until seeds dry.

For upland rice, Tarpegu variety is the best and beneficiaries' prefer variety based on result of opening wedge activity from Sakta village, but only little quantity of this variety is available. For other varieties, they can support as much as we need. Field researcher also suggested testing again Yanlu variety, because of its taste and production rate.

The price of all upland rice is 15000 kyats per basket. Recommended seeds rate is one and half basket per acre. According to KMF, they have 2 varieties of upland rice from their previous project, they also would like to introduce these varieties with PVS activity. 20-30 farmers will be participating on PVS trial of Upland rice variety with small quantity of seeds. Accordingly, following variety and quantity of seeds have been booked at Aungban research station for both KMF and KMSS.

Upland 2 = 2 basket

Tarpegu = 8 pyi

Yanlu = 2 basket

Yn-3230 = 2 basket.

Moreover research station agrees to conduct multiplication plot to purify the local traditional variety of upland rice from Chin and Shan. For this year, one kilo of traditional variety of upland rice from Sakta village has to be sent to Aungban research station.

Plungers should be used during fertilizers application to be smart for climate by reducing evaporation loss from fertilizers. Dr. Julian told to send three plungers for corn cultivation.

Potato research station

Many varieties of potato have been testing and multiplying in this station. According to responsible officer (U Nyi Nyi Aung), potato varieties selection was carried out by department of Agriculture from Hakha in last year. According to this result, Carolus and Kufri varieties are growing well and good in both size and yield. The officer explained that seeds should be ordered 2-3 months advanced before sowing time. The seed potato has to be kept in cool storage after harvesting, and these should be out from storage and show with light 1-2 months before growing.

For next year, he suggests ordering 2-3 months before sowing time and they can arrange to supply as much as project needs. He gave us 8-10 viss of Carolus variety for this year to use in potato propagation center for Sakta village. He also explained that the seeds that he gave are old seeds and it means it will not be as good as new seeds cultivation in terms of germination and yield.



Kyaung Taung Village

Almost all cultivated crops are harvested in Kyaung Taung village, and community was busy with house constructions. Even the community building was upgraded with cement work. During fields visit, all the fruits trees which have been distributed in last year are growing well and no mortality according to one old beneficiary.

However longan has started flowering during visit because of grafts seedlings. Suggestion to remove or cut of the flower was oriented to community. Among fruit trees, growing rate of avocado is lower in compared with other types probably because of seedlings quality.

For livestock, we had visited 4 pig beneficiary households. 3 out 20 number of piglet were dead after distribution. During visit, the un-uniform growth of male and female was observed. In one household, male is bigger than female, but female is bigger than male in other. Total 5 households of pig beneficiaries are facing this problem, and these pig are not suitable for breeding.

Dr. Julian suggested that to substitute female pig instead of small female and male. Beneficiary should not keep rearing this small growth pig and should substitute with other for breeding.



Orange Orchard

Ywarngan is the largest area of orange cultivation area in Shan State and still growing. However as it is about 4-5 hours drive from Nyaung Shwe, Pintaya had been selected to go and visit orange farming. In the past 5-10 years ago, orange is the major crop for Pintaya area, but there are no more existing orange farm nowadays, except small area of lands are remaining.

Even though, the orange visited is located 4600 feet above sea level, the plants growth are not good and leaves are yellow and plants are stunted growth. According to neighbor's farmer, there was many orange farm in this area but now farmers are not willing to grow more because of disease problem and this farm was replanted just about 3-5 years ago. No disease infection was observed in this farm except yellow leaves are common symptoms probably nutrient disease.



Big M Nursery

To find out the plantisng materials for fruits trees, we have visited to Big M farm nursery. The seedlings are not much compared with last year, but the price for seedlings is higher than previous time.

Orange = 10000 / one

Passion fruit = 1500 / one

Jackfruit = 10000 / one

Avocado = 5000 / one

Logam = 8000 / one

Field Visit Report (Sakta village, Hakha Township)

(24th April to 30th April, 2019)

1. Potato Multiplication Center for seeds production

Two varieties of potatoes are being cultivated by two farmers in separated lands. Since the place for seeds production should be free from soil pathogen and soil born disease they selected the new lands area to grow these seeds potatoes. The places are not too far from the roadside but a half-hour walk is required to arrive. During this time, there was no rain for once and they planted just few days ago (5 DAS), the germination rate is not easy to identify and there is no so much different characters between Carolus variety and local one. Carolus variety is recommended by Heho Potato multiplication center under DOA and the local variety is the one which existing in Hakha region and called Dongva variety. Dongva is the name of the village, where potato cultivation is common and is situated near Sakta village. The farmers who sold the seeds explained the cultural practices such as removing of the first sprout of potato before planting.



2. Fish Multiplication Center

In last year two varieties of fish species (Golden carp and Tilipia) were distributed to 2 big ponds for fish multiplication purpose and other 15 small ponds for seasonal rearing. During visit, all the seasonal ponds have been harvested. One of the seasonal pond beneficiaries who is also the member of new village committee explained that he got total 18 viss of golden carps. One strange thing is that they don't feed anything, the fishes grow in wild when they harvest the size is about 6-8 inches according to him. The data of how many fingerlings received and how much they have harvested should be collected this year. The reason of why don't they practice the feeding is that they have no sources for purchasing

fish meal and rice bran. It is available only in Hakha and the price is high. So it is not affordable for the farmers to feed.



There are two large ponds in village for multiplication purpose, one farmer raised Golden carps and another one is Tilapia variety. The farmer who raised Golden carp variety is very interested and enthusiastic and he actively explained what he is doing and planning for next year. According to him, he has about 10000 of fingerlings in his ponds and he will sell this with 200-500 kyats per one based on size. He asked for some training for fish rearing and multiplication.



During my last day of visit in Hakha, **State Fishery department** was visited together with our field researcher to meet with State officer. After briefing our project, he explained that they can help to get the fingerlings availability with cheap price and he also offer if the project can support the hatchery center, they can give training of breeding and hatching for the village. He also recommended the golden carp variety and Tilapia species which eats grasses to rear in Chin State. He welcomed our invitation for farmer learning sessions and he agreed to help to provide the training for fish rearing.



3. Livestocks

Pig Cultivation (2018)

In last year, 20 HHs of beneficiaries have received 20 piglets. During my visit they are growing well. They feeds corns meal, rice bran and banana trees. The data of how much they have to spend monthly and how much they get profits should be collected this year.

Mulberry trees cultivation for pig are not being conducted because the seedlings are not available in the forestry department's nursery and need to find out by the community and it will be conducted during this year for all pig beneficiaries.



Chicken Multiplication Center

In 2019 activities, one chicken multiplication center will be set up in Sakta village, and beneficiary was already selected in Sakta A. He has good experience of Chicken rearing and interested to rear for multiplication.

According to the township and district officers of **Livestock Breeding and Veterinary Department**, now is the season of **Bird Flu** and should be find out the local varieties only and should be postponed the distribution time until June and July. They also suggested applying some vaccination and medication for multiplication center and agreed to provide the training of animal husbandry for the farmer learning sessions.

4. Field Crops (Upland rice and Corn)

All the required upland rice seeds and corn have been delivered before my visit and distribution will be carried out during this week. During my visit to village, the village had to host the sports event for 27 villages of Hakha, all the HHs are busy with their guests, for this reason we have postponed the distribution. When we discussed with few farmers about CSB (community seeds bank system), all are agreed the system and they suggested one person for one crop. The meaning is that one person will be holder of CSB for corn and another one will be for upland rice. The distribution will be carried out as soon as the sport event finished because there is sowing season already.

5. Homestead garden

All the fruits trees which we have distributed in last year are growing well especially Avocado and plum. According to the community, they are not willing to grow many trees in households compound which can shade to other crops because all the HHs are going to grow vegetables in the households compounds during winter. They prefer to grow more fruits trees in their orchard. For this reason they shared the fruits trees with their neighbors which

they have received last year. For this year, KMSS is planning to choose the beneficiaries who are willing to grow such amount of fruits trees in the garden or in their available land.



Beneficiary selection is still ongoing and will be finalized after the sport events.

During my visit, we have found some few lima beans plants are growing with many pods in one home garden. According to owner, this is already about 1 and half year old. This is not the seeds of last year distribution and she got this seeds from nearby village of Sakta. Lima bean introduction should be replicated for this year by searching and supporting local varieties which already adopted with local climate.



Department of Agriculture (Farm)

According to the farm manager, they have prepared many seedlings of (Lime, lemon, orange, chest nut, grape, avocado and plums) in their garden, but the seedlings are still too young and it will be ready to grow in next 3 months. Therefore seedlings distribution will be carried out during July and August, but order of seedlings will be conducted in coming week by KMSS after calculating the price and available seedlings quantity.



6. Soil conservation demonstration

In last year, two demonstration plots of soil conservation practices with *alnus nepalensis* trees have been conducted by two farmers. However the sowing time of seedlings is late on September, and the seedlings quality is also not good and only few numbers of plants are still remaining. Since this is the new practice for their farm and they have no knowledge, the farmers are low interested to grow this type of trees in their lands and they are not willing to prepare their land for permanent farms because land availability is becoming easier for shifting. For this year KMSS will be selecting carefully the farmer who are willing to follow the practices and will conduct the demonstration plots.

Department of Forestry nursery

About 6000 of *alnus nepalensis* seedlings are being prepared in the nursery of forestry department but again seedlings are still young to be grown and it will be ready in next 2-3 months. KMSS will conduct the application process to order seedlings in advance.



Suggestions and recommendation

1. To collect the data of cost and benefits of seasonal fish ponds
2. To collect the data of cost and benefits of pig rearing households
3. To select the beneficiaries for each activities
4. To order the seedlings in advance in Department of forestry and Agricultural nursery
5. To distribute the upland rice and corn as soon as the sport event finish
6. To prepare the label cards for potatoes multiplication center and all distributed field crops
7. To search the mulberry seedlings for pig rearing HHs for feeds
8. To search the sources of local chicken variety in advance

Field Visit Report
Taungkhamauk village, Nyaung Shwe Township
19 June, 2019 – 22 June 2019

Itinerary

19.6. 2019	Travelling (Nyaung U – Nyaung Shwe)
20.6.2019	Aungban DAR, Aungban Market
21.6.2019	Taungkhamauk village (Seeds distribution)
22.6.2019	Taungkhamauk village (Avocado distribution)

1. Aungban DAR

All the required seeds for the field activities to implement in Taungkhamauk village for this season have been purchased but soy bean seeds. Accordingly, we have visited to DAR Aungban station to explore the available varieties of soy bean during my first day of field visit. Fortunately the head of department has arrived back from foreign trip and we asked suggestions from her.

She suggested three varieties of soy bean which can be cultivated as monsoon crop and also winter crops and we have purchased for this seeds. She also suggested other winter crop such as sunflower and wheat to cultivate after harvesting of corn and groundnut. However the sunflower seeds are not available in this station.

In this station, there is napier grass which was tested by farm researcher and she allow us to take some branches to distribute for village.

From Aungban DAR station, the following have been purchased for this sowing season.

1. Upland rice (three varieties – Tarpegu, upland-2,)
2. Corn (three varieties – Sweet corn, Ekery, Yezin-1)
3. Soybean (Three varieties)
4. Wheat for winter crop

2. Aungban Market

Fortunately, the day we have visited to DAR was market day of Aungban, and we were there to explore vegetables seeds and stocks for roots and tuber crops. In the market, there was no shop of seeds which we have purchased in last trip but there was traditional variety of taro which is a little bit small size and used only for cooking curry. Since there was only 6 kilo in shop, we have to go to vegetables whole sale of Aungban. There was plenty of taro and we have purchased 30 viss (48 kilos) to distribute for Taungkhamauk village.



3. Meeting with community

The meeting with community was held in second day of field visit at the village, but as these days are the sowing dates of corn and upland rice, only few people were able to attend the meeting. According to farmers the rainfall pattern was normal for this season, and every farmer is busy with their farm works.

The meeting was started by orientation of our activities, what are the objectives of activities and what are the criteria of the beneficiaries. The young man from this village had to translate because of language barrier.

One strange thing was found that during discussion of fruits tree plantation. Unlike with other CSVs, the beneficiaries from Taungkhamauk village's interest are more on field crops production rather than tree plantation. Almost all the farmers are willing to test the field crops varieties and only few farmers are enthusiastic on tree plantation. Among field crops, the most interest crop is groundnut and the researcher had to order more from Nyaung U dry zone station. During orientation on beneficiary selection criteria for livestock, the participants have agreed the criteria and also to practice revolving system and they know well this practice because they used to with Myaseinyaung government project. We have explained that unlike Myaseinyaung project, the beneficiaries only need to handover of what they received to other beneficiaries.



4. Meeting with KMF

Short meeting with KMF to finalize the activities' design and number of HHs based on allocated budget was taken place in the office on 2nd day of my visit. Based on community preference, interest, budget availability and currency rate, the following activities and number of HHs per each activity had been finalized as follow.

1. Field crops activity will include PVS and crop performance trials

- a. Upland rice (total – 50 HHs)
- b. Corn (Ekery, Sweet corn – 50 HHs)
- c. Groundnut (Two varieties – 30 HHs)
- d. Sorghum, millet (10 HHs)
- e. Soy bean (10 HHs)
- f. Wheat (10 HHs)

2. Livestock

- a. Chicken (15 chicken/HH – 10 HHs)
- b. Pigs (2 piglet/HH – 5 HHs)
- c. Fodder crop plantation (Napier grass – HHs not limited, will distribute to all livestock owners based on seedlings availability)

3. Fruits Tree plantation

For fruits tree plantation, we have divided two beneficiaries groups based on availability of seedlings. Unlike with Dry zones, the seedling such as avocado, orange and lime are cheap and more plants are achievable than our allocation.

Goup 1 – 20 HHs

- a. Jackfruit – 4
- b. Longam – 4
- c. Avocado – 30
- d. Orange – 20
- e. Lime – 20

Group 2 – 10 HHs

- a. Avocado - 40
- b. Lime - 5
- c. Orange - 10
- d. Banana (Number and variety has not been identified yet, it will be discussed with beneficiaries' preference because almost all of common banana varieties are available in village)

4. Homestead vegetable garden - (20 HHs)

- a. Vegetable seeds (based on beneficiaries preference what types of vegetable they would like to grow)
- b. Roots and Tuber crops (Sweet potato, Taro and Cassava)

5. Soil conservation practices demonstration (3 HHs)

- a. Boundary planting (Cassia siamea, Glyricidea)
- b. Fruits tree plantation (avocado, mango, lime, orange)
We have selected only three because most of the HHs are not familiar with this sort of agricultural practices and are not willing to follow. Some HHs even wouldn't like to grow fruit trees. However we have ordered about 1000 seedlings of cassia siamea seedlings from the nursery of DOF.

6. School Garden

Our field researcher of KMF has discussed and met with head mistress of school and they are happy and keen to develop the school garden. In the school garden the following activities will be included based on land availability.

- a. Vegetables plots
- b. Fruits trees
- c. Ornamental plants

7. Sign boards for IEC materials

The sign board was discussed during the meeting and the community has agreed to place in the compound of monastery. The board will be two sided and will be constructed in during this month.

5. Seeds & Avocado seedlings distribution

Upland rice, corn, soy bean and avocado seedlings were distributed during my last day of field visit. The seedlings were from the nursery of DOF and brought together with us to village. According to field researcher, the remaining other seedlings will be distributed during July because some seedlings are not ready to transplant. Lime and orange seedlings are from the Siseing which is one of the biggest orange cultivation areas in Shan State. Other longam and Jackfruits are from Big M farm same with last year.



The glyricidea seeds which distributed last time were nurtured at the nursery of Forestry, but the germination was not good enough and only about 100 seedlings are germinated and will be distributed to demonstration farm. The new seeds that Dr. Julian gave to me during training were also given to KMF and they will prepare seedlings at forestry department nursery.



Field Visit Report

Htee Pu Village, Nyaung U

16-22 June, 2019

16.6.2019	Travelling
17.6.2019	Kyaukpadaung Nursery and Native Chicken Breeding Center
18.6.2019	Meeting with community & Field monitoring

Day 1.

1. Kyaukpadaung Nursery

First day of field visit was started with Kyaukpadaung nursery with field researcher to check and order the seedlings which will be distributed for this growing season. All the seedlings which will be distributed are already booked. All the seedlings are good in quality and suitable size to distribute in soon.

One thing to be done in this year is shade tree plantation which is one of the activities from Community options and tamarind was considered as one of the options before and has been ordered 1000 seedlings. However, when we arrived to nursery, we have found that one type of trees which cultivated for hard wood purpose.

In Dry zones area, acacia catechu is not only the climate tolerant trees and but also widely used wood for house and buildings because of its hard and resistant to rain and water. In previous decades, acacia catechu was abundant in their forest and environment, but it is becoming rare because of free grazing of goats and cattle in the forest and the community has no practices of forest reservation and replanting trees for their wood purpose. Therefore the village community has to use palm trees for their building nowadays. The difficult availability of woods is also directly related with deforestation for this area and the community should be fostered to reserve the community or private forest and to grow more trees around their available places.

Acacia mangian is becoming popular trees in Myanmar because of its hard wood quality and rapidly growth rate. It can be suited well in wide range of soil type and it can improve soil fertility because it is under leguminous species. Depends on soil type it can grow up to 5 meters with 5 cm of diameter within 5 years after sowing. The price is 1500 kyats per plant and it has been ordered 200 plants to try and test for the community.

Numbers of seedlings to be distributed from Seink Sann (Kyaukpadaung) nursery

1. Mango - 550
2. Guava - 350
3. Custard apple - 125
4. Jack Fruit - 125
5. Acacia mangium – 80

2. Native Chicken Breeding center (Nyaung U)

This is the only one center of Myanmar under LBVD and located in Nyaung U Township. On the way back to Nyaung U, I have visited to breeding center to meet with Dr. Phoe Saw and to check the quality of breeds which ordered for our livestock activities. Unfortunately, the manager didn't allow entering into the farm because of quarantine reason, and he only showed small breeds and pictures of adults. The prices are different based on the size of chicken. The small one after light cage stage is 3000-3500 kyats, pullet stage is 6500 and adults who start to lay egg is 8000 kyats respectively. The farm manager explained that anyone can order chicken as much as they want but need to order 2 months in advance and need to pay partial payment in advance because of feed and management cost. For the feeds, broken rice and napier grass as green feeds are used in their formula. He continued that they have own formula of combining feeds but it is confidential and will not be shared to others. However, the raw formula could be shared to the farmers and he will join if there is any training program related with livestock in the village.

For the manual and handouts, he suggested us to request from the township or district LBVD departments and he will provide and share if his department approve.

Moreover, the hatchery machine is available from this department, but it will cost about 200-300 USDs for 50 eggs machine including cost of solar panel, battery and hatching machine.

Day .2

1. Field Monitoring visit

Monsoon has started since at the end of May for Dry Zone, but only once for sufficient rainfall and drought period again after that. Some farmers have started sowing sesame, short duration variety of groundnut and pigeon pea. However, since there was no sufficient rainfall after the first, groundnut and sesame plants were wither during my field visit. Before June, seeds distribution for this coming growing season was done by our researcher and some farmers have started sowing.

For this season, the following activities will be conducted as follow;

PVS - Groundnut, Sesame

Crop performance Trial – Groundnut, Sesame, Green Gran, Pigeon Pea, Sorghum, millet

Intercropping Demonstration – Pigeon pea + Groundnut, Pigeon pea + Sesame

Lab Lab beans

Meeting with community

According to request of our researcher, small meeting was organized to orient the respective objectives for each activity and overall goal of why we are doing such sort of activities in their village and what the project expected because almost all the famers have no idea about what is climate smart in relating with our current activities. The meeting was attended by over 10 farmers whose are the beneficiaries of previous year's activities and women who will include in livestock activity for this year.

After orientation, all the participants have discussed the topics of Community seeds banks and revolving system for livestock. The objective of CSB was presented that every farmers who received seeds from the project will give back to project twice after harvesting, but the

returned seeds will not be kept by project and will be kept by represented farmer from the village. The idea of the activity was that the returned seeds will be for next farmers who interested to cultivate this particular variety, as some kinds of seeds variety are not easily find out and buy even from the DAR. All the seeds will not be kept by one farmer, and each crop will be maintained by each particular farmer, for example groundnut farmer will be responsible to keep all the groundnuts varieties and so on. All the farmers have accepted the CSB system and they understand that this will be the way to promote the seeds variety availability within village.

For livestock, the criteria for beneficiary selection was oriented and discussed during meeting. The primary targeted beneficiaries are women headed households in last year. However, some poor and women headed HHs are not able to maintain the livestock because they have to work out as casual labors in outside for whole day and have no labor power to take care their livestock. For that reason, the beneficiary selection criteria was expanded including poor HHs, landless HHs and marginal farmers and the participants made agreement.

Concerning with revolving system of livestock, the participants agreed and accepted the idea and they understand well that this is for their village. The beneficiary will give back same numbers of piglets and chicken after one year from received date. This topic was discussed by our researcher in previous community meeting. After orientation this system, one of the beneficiaries from previous goat activity, gave back these two goats to chairman because she didn't like participating in such kind of activity.

Breeding purpose for pig issue was also discussed for easy availability of good quality breeds in village. The community explained that they like the idea but they have no experience and knowledge of rearing breeding pig. One participants who has experienced once for rearing gilt explained that this is not easy job to rear gilt, because it does take about one year to deliver piglets and special care are necessary during delivering piglets. For that reason, they would like to rear only for meat production purpose.

Concerning with fodder crops, CDA has planned and ordered acacia catechu to distribute this year for goats' feeds. However, there was a case of toxic to goats and dead according to community's experience after eating acacia leaves. So, the community wouldn't like to use acacia as fodder crops for goats. However the napier grass are available in LBVD departments and sale with 50 kyats per plants. Accordingly we have ordered to purchase and test napier grass with litter numbers of plants per HHs.

Pig – 2 nos – 5 HHs

Chicken – 15 nos – 5 HHs

Field Monitoring

During this summer period, there was very dry and prolong drought which leads to scarcity of feeds for animals and livestock. According to the culture of Hteepu village, the animals from the village are grazed freely after finalizing of harvesting field crops such pigeon pea and groundnut. The scarcity of animals feeds and water was more intense than previous years, the cattle ate even cassia siamea and mango trees. Since there are no proper fence in the farms, cattle entered into the farms and destroyed many plants. Even the owners covered the plants with spine and branches; it was not able to control. Eating the leaves is not serious and plants can't be dead, but as the cattle have no upper teeth when they pull

the leaves the roots are lifted and many plants dead, according to experience of mango farmer. Except farmers who are able to fence with iron chain fence are reliable from that. After discussion with field researcher, the numbers of alive and dead will be collected in this month.

Home garden

One strange thing found during field visit is that almost all the beneficiaries who received Jackfruit plants have faced 2-3 plants death out of total 5 plants. The plants were wilt and dry. While checking the roots, there was wound around the roots like insects bite, but there was no damage after splitting the stem. The plants growth rate was very slow it was just 6-12 inches if compared with before transplanting. Probably this was the consequences of drought. Since the community have to buy water even for domestic use, they can't buy water in the village when the tube well broken. Accordingly the community has low interested on Jackfruit plans. Other types of fruit tree, custard apple and dragon fruit have no problem.

School Garden

Same as the case I mentioned above, the school garden also could not avoid the animal entering into the garden, because there is no proper fence between monastery compound and school campus. However, it was not too serious and less damage in compared with the farms. All the fruits trees are growing well except Jackfruit and slowing growing rate of date. All the glyricidea plants which have been grown as direct seeding was fail and all are dead. According to our researcher, the new head mistress is good in collaboration and willing to support and participate in organizing school garden activity. For school garden, one activity was added for this season based on the suggestion of FSWG participant. Flowers and ornamental plants will be grown to promote the willingness of students to participate in the school garden activity especially targeted to girls. The following are the types of trees which will be sown for this season;

1. Mango, Guava, Jackfruit, Custard apple, Pomegranate,
2. Leafy vegetable trees – Acacia intsia, soap acacia (Acacia concinna)