

Attachment-D6
Report on Socio-Economic Survey
for Community Forestry

REPORT ON SOCIO-ECONOMIC SURVEY FOR COMMUNITY FORESTRY (*HUTAN KEMASYARAKATAN*)

Background

The Study Team recognizes Community Forestry (*Hutan Kemasyarakatan* or HKM) is one of the key venues for solving illegal cultivation within the protection forest. In our report, we intend to propose a clear and feasible outline for the implementation plan for HKM in the sub-district Langowan. For this, socio-economic survey was executed. The survey is deemed to be essential because the central principle of HKM program is placed the forest management rights of local people and their participation.

Target Area

Through the preliminary survey, we have found that most illegal cultivators are residents of Ampreng village, Langowan. Thus it was selected as our target village.

Survey Objective

In addition to RRA results, to provide Mr. Sakai with socio-economic information necessary to formulate recommendations on HKM.

Major Activities

1. Preliminary survey
2. Identification of research topics, assumptions, indicators and creation of research guideline
3. Identification of survey method
4. Implementation of survey, including arrangement, selection of a local interviewer, samples and training
5. Meeting with representatives from concerned organizations
6. Preparation and execution of feedback workshop
7. Report writing

Survey Method

The survey team employed the following two survey methods: 1) semi-structured interview with local leaders (Head of Village, four Heads of Sub-Village) and informal leaders and illegal cultivators, and 2) focus group meeting with local leaders and illegal cultivators.

1. Semi-Structured Interview

- (1) Identification of Research Topics, Assumptions, Indicators and Creation of
DAT6- 1

Research Guideline

The team developed a detailed guideline that illustrates sample questions. The topics covered during the interview were brainstormed and, as shown below, finally narrowed down with the consideration in the availability of time and resources for the survey.

1. Reasons/Mechanism of illegal cultivation
2. Awareness of illegal cultivators towards forest conservation
3. Existing conflict and cooperation over the cultivation area

Based on the research topics, assumptions, indicators and an interview guideline are created¹.

(2) Selection of Local Interviewer

A local interviewer, Ms. Elen Aruperes², with a financial compensation, was selected based on the criteria that: 1) must be residing the village for a long time as to possessing comprehensive understanding in local socio-economic conditions, 2) must not have close association with the village government or Head of Village, 3) must have an formal education level that enable the person to understand his/her tasks. Head of Village aided the selection.

(3) Selection of Interviewees (Local Leaders)

The target local leaders for semi-structured interview were pre-selected both from administrative and informal leaders. The team selected one Head of Village, four Heads of Ward and one former Head of Village for the interview.

(4) Selection of Interviewees (Illegal Cultivators)

The team selected twenty illegal cultivators for interview using the existing list created by the village government. The availability of illegal cultivators on interview days was also considered.

(5) Execution of Interviews

The interviews with both local leaders and illegal cultivators took place at interviewees' houses lasting between one and one and a half hours from December 6, 2000 to December 11, 2000. In order to provide a safe environment for interviewees, the team clearly explained that the survey, and the project as a whole, has no intention of accusing them or punishing them.

¹ See Annex 1 for assumptions and indicators, and for the research guideline, see Annex 2.

² See Annex 3 for the profile of the local interviewer.

The interviewees' willingness to talk was confirmed before the interview, and their names were not asked. The interviews were on an individual basis in principle but executed with the participation of other members of their households. 6 local leaders and 20 illegal cultivators were interviewed (See Table AT-D.1 for their profiles).

2. Focus Group Meeting

In order to acquire additional information necessary for indicators, the team organized a session of focus group meetings with local leaders and illegal cultivators³. The team has selected discussion topics that are concentrated on Indicator 7 and 12 because a discussion on those topics should reveal information that was difficult to find through individual interviews.

FGM was divided into two groups: leader and illegal cultivator group. Separating the group is able to create a safer environment for the participants, especially illegal cultivators, to express their opinions. FGM was conducted on December 13, 2000 and lasted two and a half hour. 8 leaders and 15 cultivator families participated in FGM.

Findings and Analysis

1. Demography

According to the National Census executed in 2000, Ampreng village have 1,285 people with a moderate population growth at the annual average rate of 0.48 % between 1990 and 2000.

Population and Household, 2000

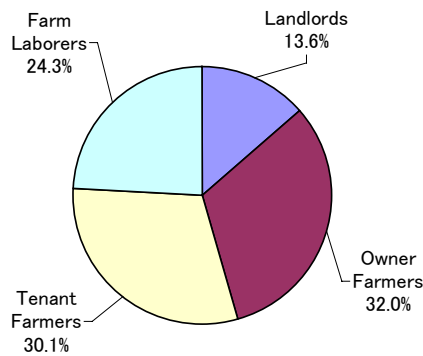
Male	Female	Total	Household
680	605	1,285	393

According to our respondents, the significant number of Ampreng people, especially younger population, has migrated to other areas to seek work. There is no significant portion of labor force in secondary or tertiary sectors as their primary occupations, and non-agricultural occupation is almost nonexistence.

2. Status of Farmers in Ampreng Village

There is no existing official statistics about the status of farmers at a village level. Based on the interviews with local leaders, the status of farmers and farm laborers in Ampreng is shown in the diagram below:

³ In addition to the six leaders, we have also invited leaders from school, church and local administration.



Status of Farmers

Landlords consist of agricultural land holders who are not involved in actual farming activities. Most landlords in Ampreng are former owner farmers who retired from farming. A few landlords have property in other villages.

Farm laborers in the graph represent those who work only as daily workers on farm. It is important to note that almost all tenant farmers and nearly a half of owner farmers

often work as farm laborers. Many farm laborers and tenant farmers (about 40 households) from Ampreng work in other places, including rice fields in sub-district Langowan and Kakas, and coconut fields in the Tonsea area. Therefore, Ampreng is a labor supply village to its neighboring places.

Because most job opportunities for the population are either informal contract as a tenant farmer or daily farm laborer, the official definitions of unemployment and underemployment rates are difficult to apply. Local leaders we interviewed said that those who are looking for a job and can not find work are limited to those who have been seeking while collar jobs, and they are approximately 5 % of village population.

3. Land Ownership and Agricultural Land Availability

Based on the information from our survey, the average size of per household in Ampreng is 0.5 ha. There are no landowners who have more than 2 ha. Approximately 10 % of agricultural land is resting during the past 1 year, and 10 % is abandoned at present.

According to local leaders, approximately 30 % of agricultural land in Ampreng is owned by outsiders, which limits the availability of land for Ampreng people. The majority of those landholders are from Taraitak village. There are a few landlords resides in the Langowan town center, Raringis and Tumaratas villages. A lot of them have kinship with Ampreng people and, according to Head of Village, purchased their land for their investment purposes. He also claimed that those lands are under-utilized.

There are 11 households in Ampreng who own land outside the village, such as Belang, Tombatu and Rataotok where the price of land is relatively cheaper. A few individuals have land in the Ratahan area village and sub-district Kakas.

All our respondents both local leaders and illegal cultivators feel that Ampreng village has been experiencing severe shortage of agricultural land. However, their response to the question about the reason and history of land shortage was inconsistent. They also expressed that it is extremely difficult for them to purchase land in neighboring villages due to its high price in its absolute term.

4. Access to Capital

Local leaders explained that they obtain capital for farming from the daily wage as a farm laborer. When the wage is insufficient to cover the expense for next planting, most of them seek loan from relatives⁴, other farmers, a saving and credit group (organized by church) and/or traders/farm input suppliers. There are no moneylenders or bank branches in the village, and a few households get loan from a bank located in the town center of Langowan (Bank Rakyat Indonesia). Almost no one uses moneylenders in other villages, according to our respondents. The informal network among fellow farmers is the main information source for loan and credit.

All our respondents said that their daily wages from farm laboring and income from selling natural resources, such as bamboo, timber, fuel wood, wild animals and herbs are the major sources to cover their daily expense. Their perception is that they make their living through those ad hoc works, and their farm production generates income source to stabilize their life. Women and children are extensively involved in the irregular income generation/expense-saving activities.

5. Illegal Cultivators' Profile

All our respondents have been living in Ampreng for more than 20 years, and 74 % of them are born in the village. The average size of their family is 4 people, and only one respondent has a level of education higher than the elementary school. 26 % of them did not finish the elementary school.

The average size of their cultivation area per farmer in the protection forest is 0.6 ha (0.3 ha is the smallest and 1 ha is the largest) and of their own land outside the protection forest is 0.3 ha (0.2 ha the smallest and 0.5 ha the largest).

Illegal cultivators are concentrated in Ward III and IV where the history of settlement is shorter than Ward I and II. Many household members are relatively younger in Ward III and IV, and their agricultural land tends to be located far from the village center.

⁴ The loan from their family members can be obtained through informal lending, customary credits system called *arisan* and a form of family support system called *rukun keluarga*.

6. Illegal Cultivation

Illegal cultivation in the protection forest in Ampreng seems to have 3 types basing on the cultivation history: potentially permanent, potentially temporary and halfway point of the two.

The first type is potentially permanent, which has a longer history of cultivation started in the 1980s. The soil conservation methods, such as the application of contour ridging and fertilizers are more sophisticated than the other types, thus the level of invest to the land is relatively high. This cultivation area is concentrated in the “horn area (the area that the boundary of protection forest is “sticking out” along the north slop of the mountain),” and farmers have agricultural land next to it, and consider the illegal cultivation area an extension of their own agricultural lands.

The second type, potentially temporary, has shorter history of farming activities. The cultivation started within last a couple of years, and the agricultural land is concentrated in relatively deeper inside of the protection forest. Most illegal cultivators in the area have either very small land outside the forest or no land. The most no-land cultivators lost their land due to the voluntary sales of their original land for an emergency expense, such as medical fees⁵ and cost for family occasions⁶. The farmers also apply long-term soil conservation method, i.e., contour ridging, but their ridges are relatively primitive. It would mean the temporary nature of cultivation.

The third type is the one between the two described above. The cultivation has been continued for more then 3 years, and the location of the cultivation area is mainly concentrated in the end horn area. Illegal cultivators have small land outside the protection forest. Their land do not border on the forest.

The cropping pattern among 3 categories above is still inconclusive, but it seems that the more permanent the land becomes, more vegetables are planted, such as tomatoes and Chinese cabbage (*petsai*). Other annual crops are corn, red beans and green onions. Despite of the risk of relocation from the protection forest, 32 % of illegal cultivators plant perennial crops, coffee and sugar palm of which they get seedlings from the forest.

For all types, the significant portion of trees had been already logged when they

⁵ Two respondents said that they had to sell their lands because the breadwinners in the households got malaria.

⁶ In Minahasan cultural context, family occasions, such as wedding or funeral, are considered as events that they must spend a lot of financial resources.

started the cultivation. The area was relatively open with fairly smaller trees, bushes and non-wood vegetation. For the case of most farmers for the second and third types, land had been cultivated in the past and abandoned for a while, which had made the density of vegetation less at the time of clearing. They said that it would be enormously difficult for them to clear the land if the land had dense vegetation with no history of cultivation in the past because they would not be able to hire labor for land clearing due to the lack of capital. According to our respondents, they found the land when they approached to the forest to search rats for food.

All illegal cultivators stated that they do not know who cut trees in the protection forest, and they are very afraid of illegal loggers because they often scare the cultivators. But according to a few farmers interviewed, illegal logging become increasingly evident in the area since the 1980s with unknown reasons⁷.

7. Illegal Cultivators' Awareness, Knowledge and Attitudes toward Forest Management and Conservation

It seems that there is no explicit rules or mechanisms for collective forest management in the community at present. In the past, according to several local leaders and illegal cultivators, there was a practice in which people plant trees after logging. The practice has been fading way in the area⁸. Only a few respondents participated to re-greening activities initiated by the community, although several of them participated reforestation activities conducted by the Department of Forestry with financial incentives.

There was also a traditional ceremonial leader called *tonaas* who supervised both timber and non-timber forest productions. When local people hunt wild animals, cut trees or harvest fruits in the forest, they must bring the products to him for a local form of exorcism. It would have functioned as a type of forest exploitation control. The local exorcism had been practiced until the 1950s, according to Head of Village, and completely diminished after the vigorous promotion of Christianity in the area during the 50s and 60s. No other form of forest management system replaced the traditional one, except the forest control by the Department of Forestry.

Local people still possess the sense of respect towards the natural resources to a certain extent. For example, some villagers still ask permission from "above"

⁷ According to them, one of the possible causes for the increase is the ill act of officers from Forestry Service who allegedly gave personal letters of logging permit to certain people in Ampreng and Tumaratas.

⁸ RRA result in a neighboring village, Noongan, shows that a similar practice is still noticed in the village. However, the forest management in Noongan is in the private forest and executed by individual landowners.

when they use spring water or rocks. Also, people are allowed to cut trees for their domestic use only upon days of new moon, and most villagers follow the rule⁹. A few respondents stated that younger generations do not care about the customary laws (*hukum adat*) for expressing their respect to natural resources.

Illegal cultivators are aware, and have knowledge of soil conservation. All our respondents practice contour ridging to prevent soil erosion and infertility despite of their risks for relocation from the protection forest. They informally learned the contour ridging from either their parents or fellow farmers. However, their awareness on environmental issues and conservation is limited to soil conservation. During our interviews and focus group meeting, only a few cultivators were able to describe the negative environmental consequences of their action in the protection forest. It became very clear that illegal cultivators in general lack awareness and knowledge with regards to environmental issues.

8. Conflict

In June 2000, the District Forest Service organized a meeting with local leaders and about 40 illegal cultivators from Ampreng, Tumaratas and Raringis. The meeting took place at Ampreng village where the majority of participants were from. On the meeting, according to our respondents who participated the meeting, 21 people signed a statement pronouncing their intention to stop cultivating in the protection forest by the end of harvest season. They also discussed to form a group of illegal cultivators who will work for the rehabilitation of damaged forest area. Some people expressed that they feel trapped by the Forest Service and village government because they were called upon for training. Some of our respondents illustrated their feeling at the meeting “scared” or “uneasy”, whereas others said that they feel “usual.”

Even though most our respondents seemed to understand the risk of being in the protection forest, most of them have a long-term investment plan for the agricultural land. They said that they would like to plan more perennial crops such as coffee, sugar palm and fruit trees.

There has been a conflict between Ampreng and Tumaratas over a natural spring. People in Tumaratas village use drinking water piped from a spring in the forest area, and some Ampreng villagers buy water from Tumaratas village. In 1997, the village government of Ampreng established a project to construct a water reservoir right above the natural spring of Tumaratas village. People in Tumaratas feared that their natural spring might reduce the volume of water discharge after

⁹ People do not follow this rule for trees for sale.

the construction of reservoir. A group of people from Tumaratas used physical forces to object the project. The project is still incomplete at present. According to Head of Village, he has been mediating the conflict, and the relationship with Tumaratas became peaceful now.

9. Perception towards Department of Forestry and Local Governments

The perception of our respondents towards the Department of Forestry is somewhat mixed. Several people, especially the leaders, said that the previous effort of the Department was beneficial to the community. But some respondents stated that the Department's effort is not enough. They criticize the Department for not giving alternatives to illegal cultivation. They also said that re-greening activities are not effective enough, and officers only visit local leaders without site inspection.

For those who cultivate longer in the area tended to express their strong attachment to their land in the protection forest. The new comers seem to lack their affection to the land. The relationship between their emotional attachment to the land and their perception towards Forestry Service is inconclusive, but their attitude in general seemed to be quite relaxed.

All respondents stated that the government has the ownership rights over the protection forest, but expressed their hope to continue their farming activities in the area. They said they would like to be given the utility and management rights of the forest, and plant perennial crops that generate income, useful for a household and appropriate for conservation. Our respondents stressed to plant perennial crops, not timber woods, because they will not cut perennial crops, whereas timber woods tend to be cut by people and so not helpful for conservation. A farmer said "it's better we work there because if no one is there, more illegal loggers will come."

Conclusion

1. Heterogeneous Characteristics of Illegal Cultivators

Our assumption of a part of illegal cultivators being landless and a part having land proved to be accurate. Further, it seems to be the relationship between their land status and cultivation type, namely potentially permanent, potentially temporary and the one in between. The heterogeneous characteristics of illegal cultivation and cultivators themselves imply the needs for multiple approaches to counteract illegal cultivation. The HKM program must employ distinctive strategies in accordance with a characteristic of each type of cultivation.

2. Illegal Logging

One of the major findings of our survey is that illegal logging took place first and illegal cultivation followed. It implies two things. First, illegal cultivation might not be extended if illegal logging is controlled. In other words, the countermeasure for illegal cultivation will not be successful if the HKM program does not focus on illegal cutting.

Second, a planner for the HKM program must carefully examine the beneficiary and benefactor of the program. Illegal loggers must burden a part of cost for the environmental damages they created. A planner must not load distorted cost on illegal cultivators.

3. Land Shortage

An external factor, or more specifically the shortage of agricultural land, seems to be playing a key role for the existence of illegal cultivation. However, the shortage was not simply derived from the population increase in the area given the fact that population growth rate has been quite moderate in the past 10 years, at least according to the Bureau of Statistics. One of the possible factors¹⁰ is the presence of outside landlords who allegedly own 30 % of agricultural land in Ampreng that are relatively underutilized. Assuming the outside landowners are relatively wealthy, it can be said that there is a causal relationship between the wealth gap and illegal cultivation in the protection forest. This implies that the HKM program should consider a poverty alleviation aspect.

4. Deficient Social Safety Net

Our survey revealed that a part of landless illegal cultivators lost their land due to the lack of/diminishing social safety net, such as affordable medical and insurance services¹¹, availability of consumer credits or traditional mutual support system at a community level. Based on our interviews with illegal cultivators, their land loss forced them to go into the forest. This implies that the effective HKM program should consider the strengthening/restoring of social safety net in the community.

5. Lack of Forest Management Undertakings and Strategic Plan

Our interviews with local leaders revealed that there is not explicit strategy or plan

¹⁰ Other potential factors for land shortage might be found in connection with low productivity, increase of food consumption, lack of non-agricultural labor market and macro economic trend, all of which are not investigated during the survey.

¹¹ In Ampreng, there is an indigenous health insurance program called "Dana Sehat" initiated by church. Church members can join the program, and the insurance will cover the medical expense based on a parameter.

at a community level to control illegal acts in the forest. Given the fact that the customary laws and traditional system of natural resource management had faded away, another form of community forest management with a strategic plan must be put into operation. In addition, a lot of our interviewees expressed that the government effort on forest management and strategic plan has been inappropriate, as previously described. For these, the HKM program should put a strong emphasis on the capacity building of local population and concerning government personnel (Forestry Service and local government) in respect to planning and implementation of forest management.

6. Lack of Collective and Voluntary Effort and Accountability

Based on the principle of protection forest as a public good, the management of forest must be supported by the public. Our survey in Ampreg village revealed the lack of collective and voluntary effort to maintain the public good. For example, they feel powerless when illegal loggers scare them. In order to empower local people and strengthen the collective and voluntary effort for the forest, the community must be organized. However, the team found out through RRA survey that so many community level organizations and groups failed in Ampreg in the past due mainly to managerial shortcomings. Therefore, the program must emphasize the importance of management capability building for the community group.

Group effort is often criticized for its ambiguity in accountability. It is also clear that relying too much on the collective effort is risky since the community at present lacks it. In order to ensure the accountability, the HKM program must consider two elements. First, the planners of the program must identify all the stakeholders, and clearly illustrate a realistic description of roles, responsibility and rights of each stakeholder. This process must be participatory with extensive negotiation so as to accommodate every stakeholder's strategic interest. If the time-consuming and political negotiation is discounted, the accountability would become hazy.

Second, the program must consider the maximization of individual interest. As our survey has revealed, they are extremely interested in planting and conserving trees (such as sugar palm and coffee) in the encroached area, as long as they can benefit from the trees. Therefore, the HKM program must make best use of their individualism in addition to the strengthening of collective effort.

7. Lack of Awareness towards Environmental Issues and Conservation

As described above, illegal cultivators in general do not possess adequate

consciousness and knowledge about the issue of environmental conservation. The conservation actions to be sustainable, local people themselves must initiate forest management and conservation. Those local initiatives will appear only when the people become aware of the issues. Therefore, the HKM program should put strong emphasis on the importance of awareness raising, environmental education, information dissemination and technical support, and apply creative and effective methods to those activities.

8. Lack of Dialogue

Based on the perception of our respondents towards the Forestry Service, the mutual understanding and collaboration between them are yet to be established. Without good understanding between people and government, the forest management and conservation will be extremely difficult. Mutual understanding only comes about when the two communicate closely and negotiate strategically in an appropriate manner. To acquire an appropriate communication skill takes a lot of effort and time. The HKM program must take account of the development of appropriate communication skills for the two parties.

9. Limited Physical Resources

Our survey revealed that some of the key physical resources, such as seedlings, transportation, building materials for a community forest patrol post and capital are insufficient for the community to manage the forest and control the illegal logging. The HKM program should be able to provide appropriate and maintainable physical resources.

ANNEX 1
Assumptions and Indicators

Survey Topic	Assumption	Indicator
Reasons/Mechanism of illegal cultivation	1. Some illegal cultivators are excess farm laborers, and potential illegal cultivators exist to a great extent.	1. Illegal cultivators' profile including their work histories
		2. Status of farmers, farm labors and jobless in the village
		3. Degree of land shortage for cultivation
		4. Availability of capital
	2. Some illegal cultivators own agricultural land in low land and sought additional land.	1. Illegal cultivators' profile
		3. Degree of land shortage for cultivation
Awareness of illegal cultivators towards forest conservation	3. Illegal cultivators have limited understanding on the negative environmental impact of deforestation	6. The level of their understanding on environmental problems
		7. The degree of retention of traditional practices/beliefs/wisdom in respect to forest conservation
		8. The level and kind of their participation in forest conservation activities
Existing conflict and cooperation over the cultivation area	4. Illegal cultivators realize the risk of encroachment	9. Kind of sanctions and punishment practices
		10. Previous incidents of conflict and cooperation
		5. Illegal cultivators' farming investment statuses
		11. The length of their occupation (sense of their ownership over their land)
		12. Their perception towards the Forestry Dept., local government and neighboring villages

Means of Verification

Indicator	Means of Verification
1. Illegal cultivators' profile including their work history	Semi-structured interview (SSI) with illegal cultivators (IC)
2. Status of farmers, farm labors and jobless in the village	SSI with local leaders (LL)
3. Degree of land shortage for cultivation	SSI with LL and IC
4. Availability of capital	SSI with LL
5. Illegal cultivators' farming investment statuses	SSI with IC
6. The level of their understanding on environmental problems	FGM
7. The degree of retention of traditional practices/beliefs/wisdom in respect to forest conservation	SSI with LL and IC
8. The level and kind of their participation in forest conservation activities	SSI with IC
9. Kind of sanctions and punishment practices	SSI with IC
10. Previous incidents of conflict and cooperation	SSI with LL
11. The length of their occupation (sense of their ownership over their land)	SSI with IC
12. Their perception towards the Forestry Dept., local government and neighboring villages	SSI with IC and FGM

ANNEX 2

Semi-Structured Interview and Focus Group Meeting Guideline

1. SSI with LL

Indicator 2: Status of farmers, farm labors and jobless in the village

- How many landlords, owner farmers, tenant farmers, farm labors and jobless, including women, do you have in Ampreng and wards?

Indicator 3: Degree of land shortage for cultivation

- How many landlords who reside outside the village do you have?
- What is the average size of agricultural land?
- How many percent of the total agricultural land in the area has been resting since November last year? How many percent of the total agricultural land has been abandoned?
- Is it difficult to have agricultural land or to find farming work in neighboring villages? Why?
- How many people own agricultural land outside the village?
- How many people cultivate outside the village?
- Do you think you have a shortage of agricultural land in Ampreng? Why? When did the shortage start?

Indicator 4: Availability of capital

- How do the farmers in the village in general get capital for farming? For consumption such as for a house, daily needs, education, social activities and luxuries?
- How easily can the farmers get capital for the activities described above?
- How do they get the information about credit?

Indicator 7: The degree of retention of traditional practices/beliefs/wisdom in respect to forest conservation

- Please explain the customary rules and practices today about cutting trees, cultivation and exploitation of non-timber products (such as *saguer*, honey, brown sugar, wild animals, fruits, herbs, sands, stones and etc.) in *Wentas*.
- Please explain the effectiveness of those customary rules and practices.

Indicator 11: Previous incidents of conflict and cooperation

- Please explain about the conflict and cooperation between Ampreng and Tumaratas? What happened?
- Do you have any other conflict and cooperation between Ampreng and other villages? What happened?
- Please tell us your opinions about the conflict and cooperation between some people from Ampreng and Dept. of Forestry?
- Please explain your role as a mediator for the conflicts or cooperation? What was the result of your intervention?

2. SSI with IC

Indicator 1: Illegal cultivators' profile including their work history

- Age, education, birth place, length of residency, major source of income, job and second jobs, size of family, location/size/conditions of his/her land, previous record of renting the land in *Wentas*, previous work experience

Indicator 3: Degree of land shortage for cultivation

- How many hectars/*tektek* of agricultural land do you have?
- How many percent of your agricultural land has been resting since November last year? How many percent of your agricultural land has been abandoned?
- Is it difficult to have agricultural land or to find farming work in neighboring villages? Why?
- Do you think you have a shortage of agricultural land? Why? When did it start?

Indicator 5: Illegal cultivators' farming investment statuses

- Please tell us your general farming practices to conserve soil fertility on your land in *Wentas*? Do you make terrace, guludang, bedengan, contour, line planting, etc.? Do you practice crop rotation to increase soil fertility on your land? Please explain if you have any plan for long-term investment for your land in *Wentas*?
- Do you participate training/workshop/campaign/ educational activities for farming? Who conducted the activities? When and how long the activities? Do you practice what you have learned on the land in *Wentas*? Why?

Indicator 7: The degree of retention of traditional practices/beliefs/wisdom in respect to forest conservation

- Please explain the customary rules and practices today about cutting trees, cultivation and exploitation of non-timber products in *Wentas*.
- Please explain the effectiveness of those customary rules and practices.

Indicator 8: The level and kind of their participation in forest conservation activities

- Are there any reforestation/re-greening activities in Ampreng? If so, when and how? Did you participate the activities? What kind of activities did you participate? Why?

Indicator 9: Kind of sanctions and punishment practices

- Do you have your own experience in being punished? How, when, for what?
- How do you feel about the sanctions/punishment?

Indicator 10: The length of their occupation (sense of their ownership over their land)

- How long have you/your family been cultivating the land in *Wentas*?
- Who do you think have the land rights the agricultural land in *Wentas*? Why?

Indicator 12: Their perception towards the Forestry Dept., local government and neighboring villages

- Please explain your opinions about the work of Forestry Dept and local government. Why?
- What is your expectation of Forestry Dept and local government?
- Please explain the relationship between Ampreng and neighboring villages. How do you think the relationship can be improved?

3. FGM

Indicator 6: The level of their understanding on environmental problems

- Please discuss present situation, history, causes and consequences of the environmental problems in Ampreng?

Indicator 12: Their perception towards the Forestry Dept., local government and neighboring villages

- Please discuss about the work of Forestry Dept and local government.
- Please discuss about your expectation of Forestry Dept and local government?
- Please discuss about the relationship between Ampreng and neighboring villages. How do you think the relationship can be improved?

ANNEX 3

Local Interviewer's Profile

Name: Elen Aruperes

Age: 30

Sex: Female

Marriage Status: Single

Final Education: Bachelor in Geography, Teaching and Education Institution
Manado, 1992

Previous Work Experience: Taught at Public Junior High School (1998 –present)

Length of Residency in Ampreg: 30 years

Table AT-D.1 Profile of Illegal Cultivators in Ampreng Village

Factor	No.	Sub-Village	Sex	Related by Resp.	Age	Level of Education (Educational Attainment)	Birth Place	Long of residence	Major source of income	Detail of major source of income	Job	Second Job	Size of Family	Wentas				Previous work experience	Cause of changes work	Now
														Location	Size (Ha)	Condition	Record of renting			
C	1	Satu	Male	Resp.	45	SD kelas 6 (Not Completed Primary School)	Ampreng	-	Farming act.	Own land & Farm labor	Farmer	Trap Rat	6		0.5		Never	Farmer	-	Y
C	2	Tiga	Female	Mother	58	SMA tamat (Completed Senior High School)	Tumaratas	37	Farming act.	Own land	Farmer	Church worker	4		1		Never	ex temporary teacher	-	Y
C	3	Dua	Male	Resp.	23	SMP Kls 2 (Completed Primary School)	Ampreng	-	Farming act.	-	Farmer	-	3		0.3		Never	Farmer	-	Y
C	4	Empat	Male	Resp.	55	SD tamat (Completed Primary School)	Ampreng	-	Farming act.	-	Farmer	Trap Rat	5		0.5		Never	Farmer	-	N
C	5	Empat	Male	Resp.	30	SD Kls 5 (Not Completed Primary School)	Ampreng	-	Farming act.	-	Farmer	Coachman horsecart just started 2 months ago	4		0.5		Never	Farmer	-	Y
C	6	Tiga	Male	Resp.	50	SD Kelas 4 (Not Completed Primary School)	Ampreng	-	Farming act.	-	Farmer	Trap Rat	5		0.3		Never	Farmer	-	Y
C	7	Satu	Male	Resp.	69	SD tamat (Completed Primary School)	Tumaratas	49	Farming act.	Farm Labor & Share System	Farmer	-	3		0.9		Never	Farmer	-	N
C	8	Dua	Male	Resp.	49	SD Kelas 4 (Not Completed Primary School)	Ampreng	-	Farming act.	Farm Labor	Farmer	-	5		0.7		Never	Farmer	-	N
C	9	Tiga	Female	Wife	42	SD tamat	Ampreng	-	Farming act.	Farm Labor	Farmer	-	5	Near Ranotelu	2		Never	Farmer	-	N
C	10	Tiga	Female	Wife	28	SD Kls 5 (Not Completed Primary School)	Ampreng	-	Farming act.	Farm Labor	Farmer	-	3		0.3		Never	Farmer	-	Y
C	11	Empat	Male	Resp.	29	SD tamat (Completed Primary School)	Ampreng	-	Farming act.	Farm Labor	Farmer	Trap Rat	4		0.3	slope 25 degree	Never	Farmer	-	Y
C	12	Empat	Male	Resp.	27	SD tamat (Completed Primary School)	Ampreng	-	Farming act.	Farm Labor	Farmer	-	3		0.7	slope 15 degree	Never	Farmer	-	N
C	13	Empat	Male	Resp.	30	SD tamat (Completed Primary School)	Ampreng	-	Farming act.	Farm Labor	Farmer	Coachman cow cart	3		0.3	slope 35 degree	Never	Farmer	-	Y
C	14	Empat	Male	Resp.	49	SD Kelas 6 (Not Completed Primary School)	Ampreng	-	Farming act.	Farm Labor	Farmer	Trap Rat	3		0.3					
C	15	Empat	Male	Resp.	42	SMP Kls 1 (Completed Primary School)	Tumaratas	40	Farming act.	Own Land	Farmer	Trap Rat	5		1		Never	Farmer since still single	-	Y
C	16	Tiga	Male	Resp.	51	SD tamat (Completed Primary School)	Tomohon	50	Farming act.	Farm Labor	Farmer	Trap Rat in Kotamobagu Bolaang Mongondow	3		0.5	slope 45	Never	Farmer and trap rat	-	N
C	17	Dua	Male	Resp.	41	SD Kls 4 (Not Completed Primary School)	Ampreng	-	Farming act.	Own Land	Farmer	Trap Rat	3		0.7		Never	Farmer	-	Y
C	18	Tiga	Male	Resp.	33	SD tamat (Completed Primary School)	Ampreng	-	Farming act.	Own Land	Farmer	Trap Rat	5		1		Never	Farmer	-	Y
C	19	Empat	Female	Wife	25	SD Kls 4 (Not Completed Primary School)	Ampreng	-	Farming act.	Own Land	Farmer	-	3		0.3		Never	Coachman horsecart	Because the horse is dead	Y
C	20	Empat	Male	Resp.	46	SMP Kls 1 (Completed Primary School)	Ampreng	-	Farming act.	Farm Labor	Farmer	Trap Rat	3		0.7		Never	Farmer	-	N

Source: JICA Study Team

ator	Pasini Land											Wentas	
	Size(Ha)	Location	How	From	Addition Information	Before/In the past have pasini					Reason	Y/N	%
						Y/N	Size	Location	How	From			
C 1	0.252	Daerah kepolisian Noongan	-	-		Y	0.50	-	-	-	Cost for wife to apply to be civil servant (teacher) in 1986	Y	50
C 2	3 - 3.5	-	-	-		-	-	-	-	-	-	Y	45
C 3	0.17	Noongan estate	-	-	Pasini land not enough that why go to Wentas for to cultivate	-	-	-	-	-	-	Y	100
C 4	-	-	-	-	Respondent follow his friend to cultivate in Wentas.	Y	0.714	Onderneming (Keleylendo)	purchased 25 years a go	parents	Cost for his son wedding	Y	30
C 5	0.35	Keleylondey	-	-	His farmland in Wentas near with his pasini land	-	-	-	-	-	-	Y	50
C 6	0.35	-	-	-	Pasini land product decrease compare by farmland in Wentas so must be use fertilizer	Y	0.70	-	-	-	Cost because respondent sick in 1990	N	-
C 7	-	-	-	-	-	Y	0.54	Mabiyow	purchased in 1970's		He already bequeathed to his son	Y	80
C 8	-	-	-	-	-	Y	0.25	Near Ampreng	parents gift in wedding	parents	Cost for husband sick (malaria) in 1996	Y	53
C 9	-	-	-	-	-	Y	0.54	Kelelondey	-	-	Cost for his son mentally sick in 1996	Y	25
C 10	0.35	Mabiyow	-	-	-	Y	0.54	-	-	-	For cost her husband sick. Saled 3 times in 1997,1998,1999 respectively 0.17 Ha	-	-
C 11	0.17	-	-	-	-	-	-	-	-	-	-	-	-
C 12	-	-	-	-	-	-	-	-	-	-	-	-	-
C 13	0.17	-	-	-	-	-	-	-	-	-	-	-	-
C 14													
C 15	0.17	Mabiyow	Inherited since wedding day	Parents	inherited already 19 years a go	-	-	-	-	-	-	Y	100
C 16	-	-	-	-	-	Y	0.36	-	-	-	Cost because husband/resp. sick (malaria) 2 years a go	-	-
C 17	0.17	-	-	-	-	-	-	-	-	-	-	N	-
C 18	0.5	Mabiyow	Cultivated together with his parents	The pasini land own by his parents	His parents not bequeathed yet to him (respondent)	-	-	-	-	-	-	N	-
C 19	0.17	Mabiyow	-	-	-	-	-	-	-	-	-	N	-
C 20	-	-	-	-	-	Y	0.3	-	Inherited	Parents in 1982	Hospital cost for his son in 1984	Y	100

Cultivator	Resting land (%)							Abandoned land (%)						
	How long	Addition Information	Pasini		How long	Reason	Addition Information	Wentas		Pasini		How long	Reason	
			Y/N	%				Y/N	%	Y/N	%			
C 1	3 months a go		No	-	-	-	Pasini land never rest	N	-	-	-	-	-	
C 2	1 years a go		Y	32	2 years a go	-		N	-	-	-	-	-	
C 3	7 month a go		Never	-	-	-	In pasini land need fertilizer and pesticide costs Rp 400.000,- but in Wentas no because no capital for it	N	-	-	-	-	-	
C 4	6 month a go		-	-	-	-		N	-	-	-	-	-	
C 5	4 month a go		Y	50	1 month a go	make farmland fertile	-	N	-	-	-	-	-	
C 6	-		N	-	-	-	Cannot rest the land because if the land give rest cultivator have not work.	N	-	-	-	-	-	
C 7	7 month a go	to make re-fertile and because to old so if resp. has money he will hire his grandson to cultivate & buy fertilizer	-	-	-	-	-	Y	20	no information	N	-	-	to old to cultivate
C 8	7 month a go	-	-	-	-	-	-	N	-	-	-	-	-	
C 9	2 years		-	-	-	-		N	25	more than 2 years	N	-	-	-
C 10	-	no resting land	-	-	-	-	no resting land	N	-	-	-	-	-	
C 11	-	-	-	-	-	-	Farm land in Wentas and Pasini Never rest	Y	0.3	-	N	-	-	-
C 12	-	Farmland in Wentas still continue to cultivate so never rest	-	-	-	-	-	N	-	-	N	-	-	-
C 13	-	-	-	-	-	-	-	N	-	-	N	-	-	-
C 14														
C 15	7 month	Since May 2000 cultivator stop cultivated in Wentas	-	-	-	-	-	N	-	-	N	-	-	-
C 16	-	-	-	-	-	-	-	N	-	-	N	-	-	-
C 17	-	Farmland in Wentas still continue cultivated by respondent never rest time	Y	100	1 year	-	-	N	-	-	N	-	-	-
C 18	-	No farmland in Wentas to rest	N	-	-	-	No farmland in pasini to rest	N	-	-	N	-	-	-
C 19	-	Farmland in Wentas never rest	Y	-	-	-	Farmland in Pasini land never rest	N	-	-	N	-	-	-
C 20	almost 1 year	Cultivated in farmland in Wentas only 1 season	-	-	-	-	-	N	-	-	-	-	-	-

rator	o)	Shortage of farm land			
		Addition Information	Cause of	Year	Reason
C	1	-	Shortage	Product decrease but need high cost for fertilizer and pesticide. The price of farm product low so income minus	1985 Cost more expensive than income/revenue and no machine/technology for cultivate only labor There are landlord from outside (Taraitak) limited farmland cultivated
C	2	There is not farmland abandoned	Shortage	Number of population/new couple increase	No answer No answer
C	3	No farmland abandoned	Shortage	because no alternative farmland for to cultivate	Feb 2000 In that time, when resp. married in Feb 2000, he get farmland smaller than his brother from their parents
C	4	No his farmland in Wentas abandoned	Shortage	that why go inside Wentas	1997 Because in that time must be sales his land for his son wedding the sold land : 10 waleleng = 1 tek-tek = 0,35 ha
C	5	No farmland abandoned	Not enough	that's why cultivate in Wentas. Parents only give small land, many farmland in Ampreng but already have owners	In that time when resp. married he get farmland smaller the his brother
C	6		Shortage	If many farmland all labors can get work	1990 Because decrease of farming product & population increase
C	7		Shortage	Nobody ask for share system like in the past there are land owner ask respondent for share system	1986 Nobody offer to share system because they give to their kids for to cultivate
C	8	No farmland abandoned	Shortage	Population increase so farmland shortage	1990's -
C	9		Shortage	Many land saled to people inside and outside village	1995 When he must sales his land because his son sick
C	10	No farm land abandoned	Not enough	No answer	- -
C	11	-	Not enough	His own land not enough for family living	1995 Because when use share system if 1/2 and 1/2, imbalance Cultivator will loose because cost bigger the revenue His answer is not clear
C	12	-	Enough	but that farmland in Wentas it is not my fate	- His answer is not clear
C	13	-	Not enough	Excess of labor cause of labor go outside to seek job	1994 only smaller land from respondent/his parents give to him
C	14				
C	15	There are only kayu merah and kayu putih in pasini land because the land very stiff	Shortage	Population/Farm labor increase	1992 Many land owner sales their land for hospital cost
C	16	-	Shortage	Population increase, most of farmland cultivated	1999 Population increase
C	17	No farmland abandoned	Shortage That's why cultivate in Wentas	Population increase, most of farmland cultivated	1996 No farmland can cultivate and no owner land ask him for share system like before
C	18	No farmland in Wentas and pasini abandoned	Shortage	Population increase, most of farmland cultivated	1998 No answer
C	19	Farmland in Wentas and Pasini land didn't abandon	Shortage	Respondent cannot give answer	1999 Respondent cannot give answer
C	20	-	Shortage	Because only several families have more land than they need, but others not enough farmland	1980's Since respondent married, he feels the shortage of farmland in Ampreng

Factor	practices	Conserve soil fertility	Farming technology	Reason to make bedengan	Learn from	Crop
						Y/N
C	1	Planting kanonang tree because its leaves easier to decay for became compost, but since 20 years a go Kanonang tree disappeared. In that time farmer started cultivate tomatoes. Tomatoes need ray of sun directly without shadows	Terrace (teras)	restrain of nutrient of soil	Parents	Y
C	2	Rest land and rotation crop	Bed (bedengan)	to loosen soil !	Parents	Y
C	3	Rest land 1 season (4-6 months)	Bed (bedengan)	Especially for tomatoes, maize, chilly and scallion	No inform	Y
C	4	Rest land	Bed (bedengan)	restrain for fast growth of weeding	Father	Y
C	5	Rest land (8 months a go in Wentas, 4 months a go use fertilizer in Wentas)	Bed (bedengan)		Parents	Y
C	6	Use Fertilizer	Terrace and bed	restrain decrease of soil nutrient by rain	Parents	Y
C	7	Planting kanonang tree to keep nutrient of soil	Bed (bedengan)	restrain decrease of soil nutrient	Father	Y
C	8	Resting land or give fertilizer for to keep the farmland fertile	Bed (bedengan)	To restrain nutrient of soil		Y
C	9	Rest land	Bed (bedengan)	Especially for maize to keep high production	Himself	Y
C	10	Give fertilizer and give rest time to that land in Wentas 2 season a go already use fertilizer	Bed (bedengan)	To keep crop growth well	Parents	Y
C	11	Give fertilizer dan make bedengan	Bed (bedengan)	-		Y
C	12	Give fertilizer	Bed (bedengan)	Especially for union - red beans - tomatoes. For corn & chilly didn't need bedengan and didn't need ridge	-	Y
C	13	Give fertilizer	Bed (bedengan)	To make soil loosen, easier for root growth	-	Y
C	14					Y
C	15	Make Ridge	Bed (Bedengan)	Especially for tomatoes to inhibited weeding growth	Parents	Y
C	16	Give Fertilizer but in Wentas now fertile so no need fertilizer (but esp. for red beans and chilly the soil in Wentas still fertile so no need fertilizer)	Bed (bedengan)	to keep soil nutrient not decrease	-	Y
C	17	Make Ridge and bedengan	Bed (bedengan)	to keep soil nutrient not decrease because of rain	Father	Y
C	18	Give Fertilizer	Bed (bedengan)	esp. for red beans and tomatoes to protect the soil from flooding	Father	Y
C	19	Give Fertilizer (Mix Urea and TSP) for to get high productivity in Wentas During 6 months cultivated in Wentas didn't need fertilizer but after that need fertilizer. So since last 1,5 years a go respondent use fertilizer in Wentas	Bed (bedengan)	esp, for union, red beans, Chinese garbage for to make good growing without fertilizer	Parents	Y
C	20	Don't burn the land	Bed (bedengan)	To restraint the soil when raining	-	Y

Cultivator	Wentas			
	Rotation practices	Reason	Existing of plan Have or have not	Reason
C	1 Tomatoes-red beans-maize	Didn't ask	Have	Planting whatever trees but seedlings from government. And cultivator planting and maintain the tree
C	2 Tomatoes-pumpkins-maize	relatively still high productivity	Have	There are officer prohibit to planting perennial crop, but cultivator can cultivate annual crop like maize
C	3 Tomatoes - union - chilly	still growth good & high productivity	Have	But have plan to planting coconut tree and glove but he is not have capital He has plan to cultivate perennial
C	4 Scallion - red beans	to restrain from soil fertility decrease!	Have	Have plan to planting coffee for domestic need and for sales
C	5 Pumpkin - red beans - corn - scallion	to make production still high !	Have	Have plan to planting coffee and seho (seho for to get saguer and brown sugar)
C	6 Maize - pumpkin - petsai - chilly	-	Have	-
C	7 Maize - petsai - tomatoes - red beans - scallion	to keep high production	Have	Have plan to planting seho
C	8 Tomatoes - pumpkin - maize	to keep soil fertility	Have	Have plan to planting coffee because can harvest every 2 weeks (based on resp. experience from outside Ampreg)
C	9 Vegetables (Chinese cabbage-papayas- <i>gedi</i>) pumpkins- maize-tomatoes- red beans - scallion		Have	Have plan to planting trees for get timber/wood and fruits if possible to get seedlings
C	10 Tomatoes - chilly - red beans	to keep good growth and high production	Have	Have plan but depends of capital, to plan for planting coffee for to get the coffee product
C	11 pumpkin - red beans (start Feb 2000 so just 2 season cultivating in Wentas)	-	Have	Have plan to planting more seho tree
C	12 Pumpkins - Maize	-	Have	Have plan to planting seho, kayu ampala, and Nantu (<i>Palaquim</i> sp)
C	13 Pumpkins - Red beans	-	Have	Have plan to planting annual crop
C	14			
C	15 Maize - chilly - cassava	Because price of corn decrease	Have	Have plan to planting coffee because planting coconut not succeed
C	16 Red beans (with Chilly) - Tomatoes . Respondent also practicing intercropping because the size of land big	-	Have	Have plan to planting coffee more and planting bamboo, avocado only that seedlings can get in Wentas
C	17 Maize - chilly - tomatoes (with Chinese cabbage) scallion - red beans	For to keep the fertile of soil and keep the good product	Have	Plan to cultivate (<i>ba kobong</i>) in farmland in Wentas
C	18 Pumpkins - chilly - red beans - tomatoes - scallion in Wentas respondent planting taro, cassava and banana too.	To keep the good growing	Have	-
C	19 Chilly - Chinese cabbage - scallion - red beans —maize - tomatoes	to keep height production	Have	-
C	20 Cassava - Banana - Chinese cabbage - scallion - pumpkins	to keep the soil nutrient, to get good income, to keep soil fertility	Have	Have plan to planting annual crop

ator									Exte
	Already planting	Source of seeds	Reason	Exist Y/N	Type of	Conducted by	When	How long	Practices in Wentas
C 1	Coffee and seho	from farmland around	-	Y	Environmental Conservation/ Preserve		1985	1 day	No
C 2	-	-	-	Yes	Agriculture ext (maize cultivate)	District office	1990	1 day	Yes
C 3	-	-	-	No	-	-	-	-	-
C 4	Coffee and seho	from farmland around	For domestic need and if possible for sales	No	-	-	-	-	-
C 5	-	-	-	No	-	-	-	-	-
C 6	Planting hundreds coffee seedlings when start cultivate but only grown/life 50 trees	-	-	No	-	-	-	-	-
C 7	Not yet	-	-	Yes	Corn extension	PPL from Tondano	1995	2 day	Yes
C 8	-	-	-	No	-	-	-	-	-
C 9	-	-	-	Yes	Agri. extension esp. corn	from Tondano	1999	1 day	Yes
C 10	-	-	-	No	-	-	-	-	-
C 11	Already planting seho but have plan to planting seho more, planting seho for to get/make saguer	-	-	No	-	-	-	-	-
C 12	-	-	-	No	-	-	-	-	-
C 13	-	-	If planting perennial crop, others people can take but if annual crop nobody can take.	No	-	-	-	-	-
C 14	-	-	-	-	-	-	-	-	-
C 15	-	-	-	No	-	-	-	-	-
C 16	Already planting coffee, bamboo, avocado because all of that seedling can get that seedlings in edges of road	edges of road in Wentas	-	No	-	-	-	-	-
C 17	Already planting seho and coffee	-	-	No	-	-	-	-	-
C 18	Already planting coffee and cempaka trees	From his pasini land	-	No	-	-	-	-	-
C 19	Already planting kayu taas / cempaka	-	-	Husband	-	-	-	-	-
C 20	Yes, coffee and seho	On the edge of road from village to Wentas	-	No	-	-	-	-	-

Factor	Reason practices in Wentas	Result of practices in Wentas	Trees Cutting	Planting
C 1	because they not drop yet seedlings like they already promise	No follow up	Before cutting talk to the trees but fade 5 years ago Addition information: To build house must mix type of wood more many types of wood more good	-
C 2	to prove their campaign about hybrid maize but the product not marketable	Product not marketable to much residu of processing (<i>konga</i>)	cannot cutting in new moon	-
C 3	-	-	-	-
C 4	-	-	don't do in full moon because the wood became powder	-
C 5	-	-	Cutting trees for domestic need for timber in no moon if in new moon the wood will be worm-eaten inside the wood	-
C 6	-	-	Cutting trees in old moon but respondent never cutting trees in Wentas	-
C 7	to prove their campaign and their campaign is right or not	God result	The best time in no moon	-
C 8	-	-	Respondent never cutting trees or bamboo in Wentas but if cutting trees didn't follow traditional rules	-
C 9	to prove their campaign and they right	God result	The best time for to cutting trees in old moon (<i>bulan tua</i>) don't cutting if there are moon	-
C 10	-	-	-	-
C 11	-	-	The best time in no moon so can use for long time Parents remind this rule in eating time after marriage	Good time for planting all plant before or after new moon
C 12	-	-	For domestic needs wait until no moon but for sales anytime can cutting trees for timber	Good time for planting all plant before or after new moon
C 13	-	-	The best time in no moon so the wood can use for long time	Respondent didn't follow trade rules anytime he planting crop
C 14	-	-	-	-
C 15	-	-	The best time in no moon especially for use themselves because for protect from worm	The best time in Full moon
C 16	-	-	don't do in new moon	do it in full moon
C 17	-	-	Respondent knew there are tradition for cutting trees before cutting trees must be see the signal from owl (<i>Burung Manguni</i>). But respondent didn't follow these tradition	-
C 18	-	-	In old moon (<i>bulan tua</i>)	in new Moon
C 19	-	-	-	-
C 20	-	-	In no moon	-

Note: *Bulan tua* = last phases of moon, *Bulan baru* = new moon = first phase of moon, *Bulan mati*

Factor		Maintenance	Exploitation	Saguer	Honey	Brown Sugar
C 1	-		Cap tikus			Don't bring orange in the production place
C 2	-		Respondent didn't know			-
C 3	-					-
C 4	-					-
C 5	-					-
C 6	-					-
C 7	-	For to good growing especially for Tayapu, Taas/Cempaka its better the land under the trees didn't cultivate			Can get in Wentas and not traditional rules for to get honey in Wentas	-
C 8	-					-
C 9	-				There are honey in Wentas but respondent didn't get honey from Wentas	-
C 10	-		No		There are not honey in Wentas	No
C 11	-		The number of rat decrease			-
C 12	-		The number of rat decrease			-
C 13	-		The number of rat decrease			-
C 14	-					-
C 15	-	Weeding in the middle moon is god time	Not enough seho trees for to make cap tikus	possible to get		-
C 16	-	Weeding in full moon for all type plant annual crop or perennial crop	Don't know	possible to get		-
C 17	-		Not available	Not available	Not available	Not available
C 18	-					-
C 19	-					-
C 20	-				In the past respondent can get, and before get people must be get permission from the owner of the forest (<i>dotu</i>)	-

= dark of moon

ator		Rat	Fruits	Herbs	Sand	Stone
C	1	When use the first trap in Wentas must be talk to the owner of Wentas	available can get avocado	for raw material of traditional medicine (<i>obat makatana</i>) must be get permission from the owner of Wentas	No	No But in Toraget there are stone pillars
C	2	-	-	-	-	-
C	3	No rat in full moon Respondent knows about it when he in Kotabunan Bolaang Mongondow	-	-	-	-
C	4	-	-	No rule for <i>pakis/sayur paku</i> (edible fern)	-	-
C	5	There are rat in Wentas	There are mangos in Wentas	-	-	-
C	6	No traditional rules for rat, respondent use trap for to catch rat in Wentas. For 1 trip to catch rat he use 15 trap (<i>do deso</i>)	-	No rules for to get <i>sayur paku/pakis</i> (edible fern)	-	-
C	7	Can get from Wentas, respondent didn't catch rat in Wentas In the past there wild pig but dead in Soputan erupted	-	Respondent can get <i>sayur paku</i> in Wentas No traditional rules for to get sayur paku/pakis	to far for to get or take for to bring to the village	to far for to get
C	8	Respondent didn't catch rat in Wentas Now, number of rat decrease	-	Respondent get <i>sayur paku</i> in Wentas and didn't follow traditional rules	-	-
C	9	Respondent didn't make trap for to catch rat in Wentas But know others people do	-	Many sayur paku in Wentas and respondent get <i>sayur paku</i> from Wentas	-	-
C	10	Many rat in Wentas but difficult to catch them	No	<i>Sayur paku</i> can get for domestic needs and for sales	To far so people didn't take	To far so people didn't take
C	11	Number of rat decrease	-	No traditional rules for to take <i>sayur paku</i>	-	-
C	12	Number of rat decrease	-	No traditional rules for take <i>sayur paku</i> for domestic needs in Wentas	-	-
C	13	-	-	No traditional rules for take <i>sayur paku</i> for domestic needs in Wentas	-	-
C	14					
C	15	cannot get now but in the past if some one want to trap rat he must give rice and tobacco to forest guard	cannot get	many people can get especially for edible fern (<i>sayur paku</i>)	-	-
C	16	4 month ago respondent use 10 trap rat in Wentas for to catch rat in Wentas.	-	Can get many edible fern		
C	17	The number or rat only enough for family consumption	-	Edible fern for family consumption	-	-
C	18	people can get from Wentas. Respondent also can get rat from Wentas	-	people can get for <i>sayur paku</i> in Wentas and no traditional rules for <i>sayur paku</i>	-	-
C	19	There are 3 types for to catch rat: ba pangawo with dog, ba dodeso use trap, and ba tembak use air rifle	Respondent can get mangos, guava and gora (tree with edible fruit)	<i>Sayur paku</i> can take for to make meal	-	-
C	20	Respondent ba pangawo in the past but didn't follow the traditional rule	-	No traditional rule for to get <i>sayur paku</i> Respondent get sayur paku until now	-	-

rator	Effectiveness	Re-greening activity					
		Y/N	How	Conducted by	When	Location	Participated or not
C	1 Old tradition not practices in Ampreng because the influencing of the church	Yes/Yes	Planting Nantu / Planting Pines	GMIM / -	1985/ 1970	Tongkoya spring / Wentas	No/Planting tree
C	2 For cutting trees farmer in Ampreng still follow the traditional rules is cannot cutting in new moon	Yes	Planting Pines	-	1989	Wentas	No
C	3 Community in Ampreng didn't follow traditional rules because influencing by holy bible	Yes	Planting Mahoni, Akasia, Kayu Manis	Youth Church Org.	1991	Onderneming	Yes
C	4 For cutting trees not in full moon must be follow because the wood became sand if not follow the rule	Yes	Planting Pines, Akasia & Kaliandra	Contractor	1977	Wentas	Yes
C	5 Communities still follow traditional rules only if the wood they will use for domestic needs	Yes	but in Tumaratas planting Nantu	-	1990	Tumaratas	No
C	6 Only old man follow traditional rules, now community didn't follow	Yes	-	-	1980	Wentas	No
C	7 For cutting trees for domestic need , until now many people in Ampreng follow the traditional rules	Yes	Planting pines	-	1970's	Ampreng	No
C	8 -	No	-	-	-	-	-
C	9 Community in Ampreng still follow Traditional rules for cutting trees in Wentas	Yes	Planting Pines and Kaliandra	-	1975	-	Yes
C	10 Some people follow the traditional rules especially old people, respondent didn't follow	Yes	Planting Trees	No information	-	-	No
C	11	Yes	Planting Nantu and Pakoba	-	1980's	-	No
C	12 People from Ampreng still follow traditional rules about cutting trees	Yes	Planting Nantu and Pakoba	-	1980's	-	No
C	13 -	Yes	Planting Nantu and Pakoba	-	1980's	-	No
C	14						
C	15 Respondent still practices for cutting, planting trees and for weeding, he learns from his parents	Yes	Planting trees in spring area	Government	1995	Spring area	Yes
C	16 Respondent don't do ritual when he trap rats but know some people do it	No	-	-	-	-	-
C	17 Respondent didn't follow the rule for cutting trees. Only 25 % communities still follow the rule especially for the best time for cutting tree	No	-	-	-	-	-
C	18 Respondent didn't follow the traditional rules 25 % communities follow cutting trees rule	No	-	-	-	-	-
C	19 -	-	-	-	-	-	-
C	20 90 % people follow the traditional rule for cutting trees, esp. from pasini land to protect the wood from worm	Yes	-	-	-	Tombatu (outside village)	Participate

Cultivator	No.	Kind of participated	Reason	Sanction and Punishment					Integrated Ex		Addition Information (reason etc)
				Exist	How	When	For what	Feel about sanction	Attend	Sign The Statement Letter	
C	1	0/Labor to planting	Go outside the village/They higher resp.	No	-	-	-	-	Yes	Yes	
C	2	-	Contractor higher labor from outside	No	-	-	-	-	No	-	Respondent cannot come to Penyuluhan Terpadu because she went to the market in that time
C	3	Planting seedlings	Participant of that activity	No	-	-	-	-	Yes	Yes	In that meeting the statement letter, about to stop cultivate in Wentas read by officer not cultivator didn't read respectively. . Officer forced cultivator to sign soon
C	4	As a labor to planting tree	PT Heroly and Bonda hire labor from Ampreng	No	-	-	-	-	Yes	Yes	The letter read by officer and officer ask cultivators in Wentas to sign
C	5	No	-	No	-	-	-	-	Yes	Yes	
C	6	No	-	No	-	-	-	-	No	-	Respondent didn't come because he has work
C	7	No	They hired labor for planting trees	No	-	-	-	-	Yes	Yes	
C	8	-	-	No	-	-	-	-	Yes	Yes	
C	9	As a labor planting trees	They hired his as a labor	No	-	-	-	-	Yes	Yes	
C	10	-	Only hear about that activity	No	-	-	-	-	Yes	Yes	-
C	11	-	They hired labor from outside the village	No	-	-	-	-	No	-	Respondent cannot come to Penyuluhan Terpadu because he has teeth problem
C	12	-	They hired labor from outside the village	No	-	-	-	-	Yes	Yes	He knows the meeting only for campaign. But after meeting he knows he must stop cultivate in Wentas
C	13	-	They hired labor from outside the village	No	-	-	-	-	Yes	No	Go home before that meeting finish
C	14										
C	15	Planting trees	Planting trees for to keep the water still abundant	No	-	-	-	-	Yes	Yes	
C	16	-	-	No	-	-	-	-	Yes	Yes	
C	17	-	-	No	-	-	-	-	Yes	Yes	By loudspeaker cultivator in Wentas invite to come in campaign. The meeting from 10.00 to 4.00 in the afternoon. But start in 1 o'clock. Officer ask to stop next 3 month (1 season)
C	18	-	-	No	-	-	-	-	Yes	Yes	His brother (also cultivator) in Wentas so he sign the letter
C	19	-	Respondent heard there are planning to re greening in Wentas but until now, no follow up or no activity	No	-	-	-	-	Yes	Yes	Respondent didn't know for what her husband sign the letter According to her, she and her husband didn't know what's the consequences to sign the letter for to stop or still continue
C	20	As a labor	They hired respondent as a labor	No	-	-	-	-	No	-	

ator	tension	How long Cultivating (Years)	Reason
	Feel about that meeting		
C 1	Guilty, but difficult to stop because need that land for to support his family life	8	The first/previous (Cultivator 7) owner to share or borrow his land to Cultivator 1 in Wentas
C 2	-	11	Cultivate in Wentas for to protect their farm land from rat because their pasini land beside Wentas
C 3	Difficult because respondent need that land, so although already sign he didn't like to stop cultivate in Wentas. Officer ask respondent to stop in June 2000	0.8	Because only small kayu sirih trees Cultivating in Wentas because pasini land not enough for to support his family needs so he need bigger land
C 4	Feel guilty	3	Because only small kayu sirih trees so easier to cultivate Cultivate in Wentas because saw and then he follow his friends
C 5	No comment	0.7	Because only small kayu sirih trees
C 6	-	0.7	beside the road and near his pasini land (about 200 meters) For life cost 3 kids is not enough so cultivate in Wentas
C 7	Regret, difficult to left from Wentas because annual crop already planting and already growing and no farm land for alternative land for to cultivate	16.0	Hear there are people cultivated so possible to cultivate in Wentas
C 8	No comment, because only went to that meeting for sign because his teeth has problems	1.0	Just follow his friend already cultivated Only small number of small trees so easier to clean
C 9	It is nothing (Biasa-biasa saja) did not afraid like others. It is nothing (Biasa-biasa saja) because already submit..	3.0	Respondents son like to work in farmland so respondent as a parents looking for farmland in Wentas
C 10	Cannot give answer because only cultivator attend that meeting so cultivator wife cannot give answer	No answer	Cultivator wife cannot give answer
C 11	-	1.2	because when respondent went for Wentas for catch rat , he saw only small trees like kayu sirih and big tree like cempaka already cutting
C 12	He feels like trapped, fed up because he didn't know at the end of the meeting must be sign the letter for to stop cultivate in Wentas	1.8	-
C 13	-	1.2	-
C 14			
C 15	Difficult because must stop cultivate in Wentas, unhappy because from his friends he knows he can continue but the reality must be stop	2	Because only small Nantu trees
C 16	Submit because his folks to cultivate in Wentas. His friend ask him to go to campaign. Before the meeting he didn't know the meeting purpose.	1.1	Because only small kayu sirih and walantakan trees
C 17	Sad because already tired to clear that land for to cultivate in Wentas, but must be stop	1	Because farmland/pasini land in Mabiow not so good like in the past (the product decrease), respondent ready to take serious risks because cultivate in Wentas
C 18	His brothers attending that meeting so he cannot tell his feels about that	1.2	Because only little Tayapu, walantakan, sirih trees (with diameter about 30 cm)
C 19	Disappointed because must be stop cultivate in Wentas	2	-
C 20	-	3	

Cultivator	Wentas				Who the owner of Wentas
	Condition when cultivator started cultivating Already clear or not	Already cultivate before or not	Already abandoned or not	Addition Information	
C 1	The forest already clear because people from Ampreng, Tumaratas and Raringis logging	Yes			State
C 2	Already clear from big wood trees	No one cultivated before	-	-	Government
C 3	-	No one cultivated before	-	-	Government
C 4	Almost clear, but there are trees	-	-		Government
C 5	Already clear, 15 years abandoned by cultivator from Jaga II Ampreng	Already cultivated before	Already abandoned before		Government
C 6	Already clear	Already cultivator before		When respondent started cultivate his farmland in Wentas there are bedeng And there are banana and cassava	Government
C 7	Before from Tumaratas cultivated his land	Already cultivated before		When Sopotan erupted many crop like vegetable and corn damaged so respondent friends ask to move but he can move because to old This Cultivator 7 gave about 0.3 part of his farmland in Wentas to Cultivator 1	Government
C 8	Already clear	-	-	-	Government
C 9	Big trees already cutting	Not yet cultivate before	-		Government
C 10	-	-	-	Cultivator already use fertilizer 2 planting season a go in farmland in Wentas	Government
C 11	Already clear	Not yet cultivate before	-	Respondent catch rat by dog. Dog indicate hole of rat so respondent dig the hole. Respondent sales rat, if many rat he and his family can consumption too.	State
C 12	-	-	-	He fed up and cross for to stop cultivate in Wentas because he has not or no more left of farmland	State
C 13	-	-	-	-	Government
C 14					
C 15	Already clear	Already cultivated before	Already abandoned	Respondent knows the location of his farmland area in Wentas possible to cultivate when respondent catch rat by trap in Wentas	Government
C 16	Already clear	Already cultivated before	Already abandoned	Respondent had/be forced to cultivate in Wentas	Government
C 17	Already clear	No one cultivated before	-	The first three months when respondent to clear for to cultivated in Wentas, He stays there only his wife bring rice, dried fish, oil. In harvesting time respondent stays in Wentas 5 days a week.	Government
C 18	Already clear	No	-	-	Government
C 19	No information	-	-	The first 2 month 5 - 6 days must be stay in Wentas. Now only 1-2 days stays in Wentas with bring stock for meal Rice, white fish and dried fish	Government
C 20	No information	-	-	The first 2 weeks stays in Wentas, now respondent cultivate Chinese cabbage and will harvest 2 month later. In planting time respondent can go and back in 1 day	Government

ator		Addition comment	Expected to local government and forestry office
C	1	Land own by government but community have right for fruit	Feel guilty so must be participated for planting and maintenance trees, but seedlings must be from government. Cultivator planting and maintenance because many cow in this area can damaged the young trees
C	2	No comment	Give permission for to continue cultivate in Wentas
C	3	But because shortage of farmland so for to make bigger he cultivate in Wentas	Can continue cultivate in Wentas
C	4	Only Ampreng government have right in Wentas	Give permission to respondent for still cultivate in Wentas
C	5	No comment	Give Seedlings for re-greening, Cultivators will planting in theirs farmland in Wentas
C	6	But because already cultivate so cultivator already have right. Regret for move because already planting, so if must go out from Wentas must be give compensation more than Rp 500.000,-	Give Coffee seedlings, cultivator will planting and the product for daily need
C	7	But because hard situation be forced to cultivate in Wentas	Use Share system. Government (Forestry office) will get 1/3 parts from farm product and cultivators 2/3 parts. So cultivator can continue cultivating in Wentas
C	8	Respondent only borrow that farmland from government	Give Coffee and Seho seedlings. Seho for make saguer and cap tikus
C	9		Give permission to continue so respondent and other cultivator can clean and maintain the trees
C	10	No comment	Still give continue cultivate in Wentas
C	11	No comment	Conduct re-greening, before trees disturb crop cultivator can continue cultivate crop
C	12	No comment	Conduct re-greening, before trees disturb crop cultivator can continue cultivate crop
C	13	No comment	Can still continue cultivate in Wentas
C	14		
C	15	No comment	Establish groups by forestry office for to cultivate annual crops (like corn and others) and trees and trees for timber
C	16	No comment	Give seedling for re-greening activity (already give this suggestion in Integrated Campaign like suggestion from Cultivator 1
C	17	No comment	Still can continue cultivate in Wentas
C	18	but only people from Ampreng have right for to cultivate in Wentas	Give permission can continue cultivate in Wentas
C	19	No comment	Still can continue cultivate in Wentas
C	20	Community only borrow that land in Wentas from Government	Conduct re-greening and re-greening activity or re-greening trees trees must be give benefit to both government and community