

Land Tenure in Tikolod, Sabah

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**Joint SLUSE Basic Course, Autumn 1999
SLUSE 1999/2000**

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Abstract

This paper is dealing with land tenure and land tenure issues. The report is based on data collected during a 3-week field trip to Sabah, Borneo. The fieldwork was conducted in the village of Tikolod with additional interviews at the Crocker Range XPDC camp, the Department of Agriculture, District Office as well as PACOS a local NGO based in Sabah. As our point of departure we tried to let the local villagers themselves define issues they saw as being related to land tenure. This we combined with our own observations of what was actually going on.

Our research showed that there has been a change in the system of land tenure during the last decades. The introduction of the Land Ordinance, which is a system of private ownership to land, has resulted in changing patterns of land acquisition making inheritance more important. At the same time it has made land a scarce resource, because all the land in Tikolod has been applied for by the local farmers in their wish to secure themselves and their children. However, the introduction of the Land Ordinance has not meant a total abandoning of the traditional system of land tenure, the Adat. In stead some parts of the Adat has been incorporated into the new reality of the inhabitants in Tikolod.

Acknowledgement

The Land Tenure group would like to thank the following for making this report possible. Our partner student, Awg Mohd Nizam Hj Awg, for the good and relevant inputs during the fieldtrip in Tikolod. And to Joan George who did an excellent interpretation for us, which was crucial for our data gathering. The same for Kelvin Egay who contribute with an constructive and very useful supervision of our work. Also we would like to thank the people at the PACOS office in Donggongon, especially Jannie Lasimbang. Last, but not least we would like to thank to the villagers of Tikolod for their time, openness and hospitality during our stay.

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List of Abbreviations

CRNP – Crocker Range National Park

JKKK – Committee for Security and Development in the Village

PACOS - Partners of Community Organisation

PRA – Participatory Rural Appraisal

RRA – Rapid Rural Appraisal

NCR – Native Customary Rights

General Introduction

This is a general introduction to Malaysia and Sabah made in co-operation between the six SLUSE-groups that went to Malaysia.

XPDC and SLUSE

A 10 day expedition “Crocker XPDC ‘99” was held from 15th-24th of October 1999. This was the first in the series of scientific expeditions planned for Crocker Range National Park and involved both local and foreign researchers. The Danish participants of the Crocker XPDC ‘99 were a part of the SLUSE program. The SLUSE program is an interdisciplinary field course on Sustainable Land Use and Natural Resource Management. 4 lecturers and 23 master students from the University of Aarhus, University of Copenhagen, Royal veterinary and Agricultural University and Roskilde University attended the Crocker XPDC ‘99. The Danish Group was divided into 6 groups dealing with different problems of land and resource use in relation to the CRNP. In the period Oct 18th to Oct 29th the investigations were carried out in the villages Patau, Tikolod and Kuyongon. This introduction contains information about Malaysia, Sabah, Tambunan district and the 3 villages that are relevant for the following reports.

Malaysia

Malaysia is situated in south-east Asia and has an area of 329,733 km², and is populated with 21.3 m inhabitants according to an estimate from 1996 (Hunter 1998).



Map 1.1: Malaysia (Source: expedia maps)

The country is a confederation of 13 states stretching over two main parts; Peninsular Malaysia with 11 of the states and East Malaysia on the northern part of Borneo, with the states Sarawak and Sabah. (Fig. 1.1) The capital, Kuala Lumpur is situated on the Peninsular Malaysia. The currency is Malaysian Ringgit and 1US\$ = 3.799 MYR (Antweiler, 1999) The official language is Bahasa Malaysia, even though English is widely spoken (The Europa World Yearbook 1999).

Around 85% of the population live on the peninsular, and 15% in Eastern Malaysia. Sunni Islam is the official state religion, practiced by over half of the Malaysian population, mainly the Malays. Approx. 19% follows the Buddhist belief – including most Chinese descendants. There is an Indian minority being mainly Hindu by belief, while there is a small Christian minority among all Malaysian ethnical groups. The major ethnic groups in Malaysia can be seen in Table 1.

	Peninsular Malaysia	Sabah	Sarawak	Total
Malays and other indigenous groups	8,433,826	1,003,540	1,209,118	10,646,484
Chinese	4,250,969	218,233	475,752	4,944,954
Indians	1,380,048	9,310	4,608	1,393,966
Others	410,544	167,790	10,541	588,875
Non-Malaysians	322,299	464,786	18,361	805,376
Total	14,797,616	1,863,659	1,718,380	18,379,655

Table 1.1: The principal ethnical groups in Malaysia (Source: The Europa World Yearbook 1999).

The Federation of Malaya was established in February 1948, and Malaysia was established in 1963. Sarawak, Borneo and Singapore joined the federation, but in 1965 Singapore left it again. Being under separate colonial administrations before independence, Sarawak and Sabah still have a slightly greater level of administrative autonomy (The Europa World Yearbook 1999).

The federal parliament consists of the Yang di-Pertuan Agong and two Majlis (Houses of Parliament) known as the Dewan Negara (senate) and the Dewan Rakyat (House of Representatives). The former has 69 members where 26 are elected, 2 by each state legislature and 43 appointed by the yang di-Pertuan for a 3-year period. The Dewan Rakyat has 192 members and with a maximum life of 5 years (The Statesman's year-book 1998).

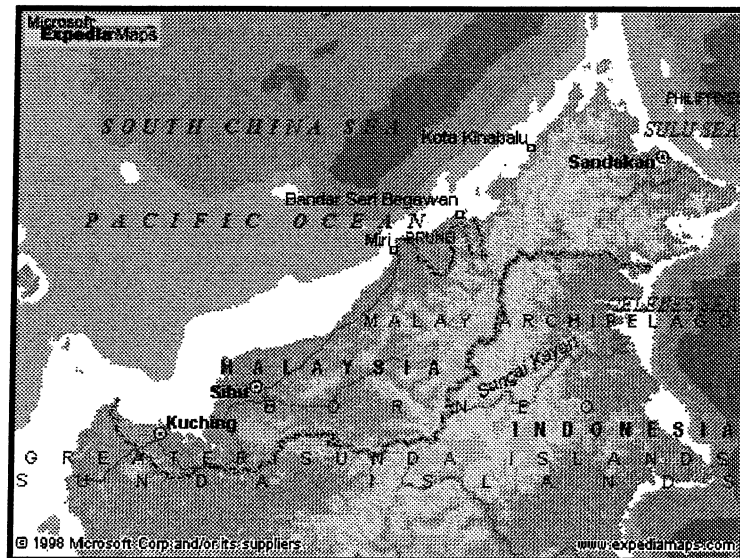
Industry, including mining, manufacturing, construction and power, made approx. 47.5% of GDP in 1997, with manufacturing as the largest export sector and engaging 38.2% of the employed labour. Agriculture, including forestry and fishing, accounted for approx. 11.7% of GDP, engaging 15.2% of the employed labor force in the same year. The country is the biggest producer of palm oil in the world, but has lost its leading position when it comes to natural rubber, experiencing a serious decline in production. Cocoa, pepper, coconuts, bananas, tea and pineapples are also important cash crops, while rice is the most important subsistence crop. Extraction of energy comes mostly from the country's own oil, but the oil as energy resource has lost some importance to the favor of natural gas, which increased from 19% in 1985 to 33% in 1993. The oil went from 71% to 38% during the same years (The Europa World Yearbook 1999).

Sabah State

Formerly known as British North Borneo, the state occupies the northern most part of Borneo and borders to Indonesia in the South and Sarawak in the West. (Fig.2) The state is administratively divided into four main regions; the West Coast, Interior, Sandakan and Tawau. Its capital Kota Kinabalu, also functions as the major port town of Sabah to the South China Sea. Sabah covers an area of 73,619 km² with an estimated population of 2,593,400, which gives a density of 35.2 persons per km² (The Europa World Yearbook 1999).

The population of Sabah consists of 33% of Dusun people who live in the interior and eastern part of the region, while Malay and Bajau's dominate the west and northern coastal zones of the state. Chinese, however, mostly live in the urban areas. Immigration from the Philippines has further altered the ethnic complexity of Sabah. The majority of the population, the Dusun, is Christian while minority groups such as Malays and most Filipino immigrants are Muslims. Buddhism and traditional animist religions belong to minor groups (The Europa World Yearbook 1999; Cleary & Eaton 1992).

Sabah joined the Malaysian Federation in 1963 after the emancipation from the British North Borneo Company, which had run the state as a limited company since the 19th century (Hurst 1990). In the March 1999 election the Cabinet in Sabah got 48 seats. The party Barisan Nasional, 31 and Parti Bersatu Sabah, 17 seat (The Europa World Yearbook 1999).



Map 1.2. Sabah State is situated at the northern point of Borneo (Source: Expedia maps)

The institutional set-up in the state of Sabah is divided in three levels; state, district and village. At the state level there is the Sabah government and different ministries as well as departments. The District Office is the main institution at the district level and beside this one there are also different departments. The connection between the village level and district level is through the headman of each village and the Committee for Development and Security (Lasimbang 1996).

When Sabah joined the federation in 1963 the Sabah State got formally decision making power over resources such as land and minerals, as well as language, religion and education. Today however, many of these rights have either been abolished or almost eroded which has resulted in worsening relations between Sabah and the Federal Government (Lasimbang 1996).

Economy

The economy of Sabah is based on forestry, agriculture and fishing. According FAO (1981), about 30% of Sabah are suitable for agriculture but less than 10% of the state is under permanent cultivation (Hurst 1990).

The climate is tropical-equatorial, temperature ranges from 24 – 28 °C, modified only by altitude and the humidity, which is very high, usually about 80-85 %. There is no dry season in Sabah but generally heavier rains occur from about October to May. Average rainfall varies from 3000 mm in the west coast to 1900 mm in Tambunan in the interior Sabah. (Cleary & Eaton 1992; Phillips 1988).

Sabah is predominantly covered by Ultisols. These soils are highly weathered, red-brown soils that develop in hot and humid climate. They contain a large amount of sesquioxides (aluminium and iron oxides) and the clay mineralogy is dominated by kaolinit. The cation exchange capacity is therefore low but varies with the soil reaction. Other soil types, with minor distribution in Sabah are Alfisols, and a complex of Histosols, Entisols and Inceptisols (FAO – UNESCO 1979).

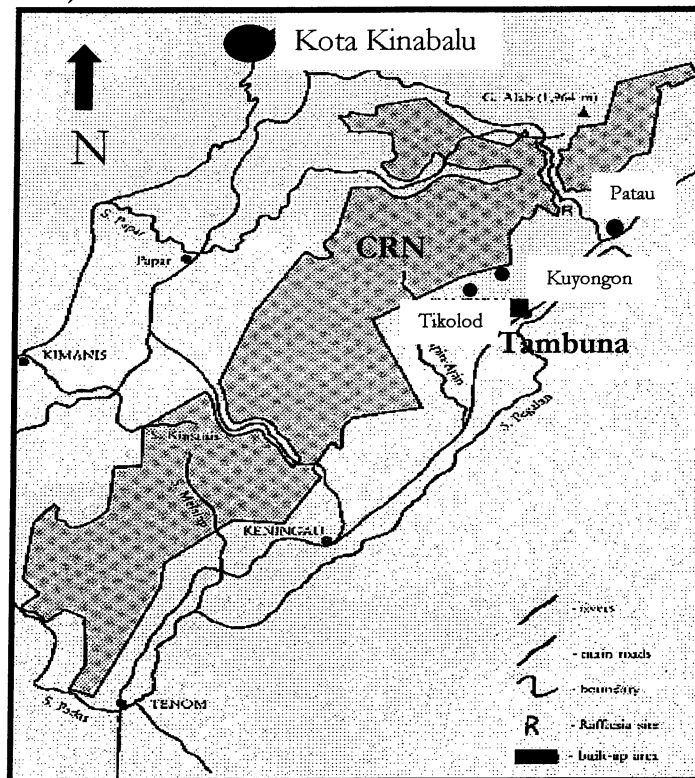
Sabah is sometimes called “land of biodiversity” referring to the fact that the region has one of the highest species diversity in the world (Whitmore 1984). The natural vegetation of the area is tropical rain forest and mixed dipterocarp forest covers the largest area of Sabah (Hurst 1990; Whitmore 1984). The official forest policy includes objectives such as the maintenance of the sound climatic and physical condition of the state, and protection of flora and fauna. However, it also mentions the need to promote exports and wood-based industries. In 1984 the area of forest reserve in Sabah was 45% of the total state area. In two thirds of this area commercial logging is allowed (Cleary & Eaton 1992). Sabah, like other parts of Borneo has a rich and diverse wildlife, including different types of mammals, such as monkeys, deer, squirrels and bats as well as birds and fishes. Increased hunting and disturbance of natural habitats in the recent decades is now a serious threat to wildlife. Many species are becoming scarcer and in Sabah some 29 species of mammals and 106 species of birds have now been listed as threatened species and are now protected (Cleary & Eaton 1992).

Crocker Range National Park (CRNP)

Crocker Range National Park covers an area of 139,919 ha and is the largest national park in Sabah. The park is situated on a long range of hills that rises from the western coastal plain of Sabah around 10-15 km inland from the coastline. (Map 1.3) The main ridge rises between 900 and 1800 m above sea level. Crocker Range National Park is a unique area in Sabah since it contains untouched dipterocarp forests, which are the major hardwood timbers of Sabah. The forests range from true lowland dipterocarp forest below 150 m to montane forest above 1200 m.a.s. Some tree species of the area are believed to be endemic to lowland and hill dipterocarp forests of north-western Borneo. The wildlife of the forest includes barking deer, bearded pig and hornbills. Larger mammals such as the Clouded Leopard and Orang-utan are extremely rare (Philipps 1988; Gaussett et al. 1999).

The park was enacted as a conservation area in 1984 for two main reasons; to preserve and protect the watersheds of the four main rivers in the west coast and the eight rivers from the interior plains. The

other reason is to protect the wildlife and flora of the area, especially *Rafflesia spp.* the world largest flower (Gaussett et al. 1999).



Map 1.3. Location of the research sites, Patau, Tikolod and Kuyongon. (Source: Phillips, 1988)

“Take nothing but photographs, leave nothing but footprints” is the motto of Malaysian national parks, which indicates that any kind of utilization within the park borders is prohibited. According to Sabah Parks enactment from 1996 any person who hunts, or has the intention to hunt any animal or bird, collects or destroys any vegetation or minerals in the park shall be guilty of an offence and will be fined or imprisoned (State of Sabah 1996). According to the park warden of CRNP, around 30 people are employed in the park but only 7 are employed as park rangers to protect the whole area, which means that people who violate the laws of the park are seldom discovered.

Tambunan district

Tambunan district is situated in the Interior Region of Sabah State (Map 1.3). The district has about 28,000 inhabitants mostly living in small villages surrounding Tambunan town. The traditional form for agriculture is the shifting cultivation of upland rice. The system and the length of the fallow period vary between villages. Most farmers grow wet rice but cultivation of cash crops does not seem to play a major role in the villager's livelihood. Animal production is also limited to a small number of fowl and water buffalo. Non timber forest products are collected from the surrounding forest and Crocker Range National Park and the products seem to be an important for the villager's livelihood. Temporary

migration to towns and off-farm work seems to be an important income-generating factor although it has been stated that most people return to their villages. Income from tourism is very limited (Gaussett et al. 1999).

Tambunan town shows obvious signs of being a farm town, with a market place where many of the farmers in the district sell their farm products, e.g. a large variation of vegetables, dried fish and a few handicrafts. There are also several shops with similar supplies of mixed everyday goods and tools, which might be used in the farms.

Patau, Tikolod and Kuyongon

Three villages in Tambunan district have been identified for the SLUSE study. These are: Patau, Tikolod and Kuyongon (Map 1.3).

Patau

Patau village is located 20 km north of Tambunan by the main road to Ranau and lies approximately 1000 meters above sea level. The village has around 660 inhabitants living mainly of agriculture. There are two gravel roads leading to the CRNP 5-6 km away from the main road. Two research groups were doing their investigations in Patau. One group dealt with intensification of agriculture and another one with the possibilities of developing eco-tourism in Patau village.

Tikolod

Tikolod area consists of four hamlets situated in a river valley stretching from the main road between Tambunan and Keningau to the Crocker Range National Park. There is approximately 70 households containing 470 people. The water and erosion group together with the land tenure group conducted their fieldwork in Tikolod area. The aim of the water and erosion group was to look at the potential risk for soil erosion and the land tenure group did research on land tenure issues such as the access to land and land use.

Kuyongon

Kuyongon village is located about 5 km from Tambunan, and lies in 950 meters above sea level. The village has about 260 inhabitants that live mostly from agriculture. Kuyongon lies only 4 km away from CRNP. Two groups stayed in Kuyongon. One investigated the gathering and use of forest products and the other one income-generating activities.

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Introduction

When we started this study our common interest was to look into problems with natural resource management in a rural area in what is often referred to as the third world. We chose to look into problems with land tenure in relation to encroachment in the Crocker Range National Park (CRNP). However, it soon became obvious to us that there were no major problems with encroachment in the park. Instead of searching for another problem, we chose to approach the issue of land tenure more broadly.

We find that having an insight into land tenure, whether there are explicit problems or not, is of essential importance for many different kinds of development projects and studies. Doing a development project supporting income-generating activities in rural areas would be difficult without having an understanding of people's access to the important factor of production, land. Likewise it would be hard to make a project on intensification of land use without knowing how land tenure affects the land use. And an insight into land tenure issues is just as important in environmental projects dealing with sustainable land use or conservation of primary forest. Land tenure is in other words affecting a wide range of issues, among these issues is natural resource management.

This study should be seen as part of a larger study or development project. It is aiming at *describing* the land tenure system at a specific location, in this case the village of Tikolod in Tambunan District. Of special interest in Tikolod is that there apparently has been a change in the land tenure system from the 'traditional' Adat, to the 'modern' Land Ordinance. We will therefore examine to what extent there actually has been a change. We will furthermore look into how the introduction of a new system of private ownership to land has affected different aspects of land tenure. This has led to the following research question:

What are the consequences of the changes from the Adat to the Land Ordinance, and what are the conflicts that arise from these changes?

- **How does the above conflicts and the changes affect inheritance, land use, access to land, land security and power structures?**

The latter is a working question concretising the main aspects that we have studied. By not narrowing down to a predefined problem we leave it open to our informants to define what they see as the main issues within land tenure. To achieve this, we have chosen methods that are open to what issues should be in focus. Still, this is done in relation to land tenure issues; i.e. access to land, land acquisition, land ownership, land security, land use and inheritance.

We assume that there have been some changes, but we limit ourselves to study the effects of these changes. Thereby we are limiting ourselves from looking into what have caused these changes. Likewise we are limiting ourselves from a normative discussion of pros and cons of the 'traditional' Adat and the 'modern' Land Ordinance. Instead we will present the land tenure system in Tikolod on its own premises. We will discuss our data using theoretical considerations only where we find them relevant. Hence we are not using a theoretical framework from which we try to see the reality in Tikolod.

The Structure of the Report

After a brief introduction to Tikolod Area we will present and discuss the methods we have used. This is followed by a presentation, analysis and discussion of our data. First we will describe and discuss the Adat and its system of access to land. Following will be a description of the Land Ordinance and a discussion of right to land under the Land Ordinance. After this we will analyse and discuss the effects that the change in system have had on inheritance, land ownership, land security, the power structures and the land use. The discussion is completed by a discussion of the complexity of land tenure issues. The report will be completed by a conclusion and a section where things are put into perspective.

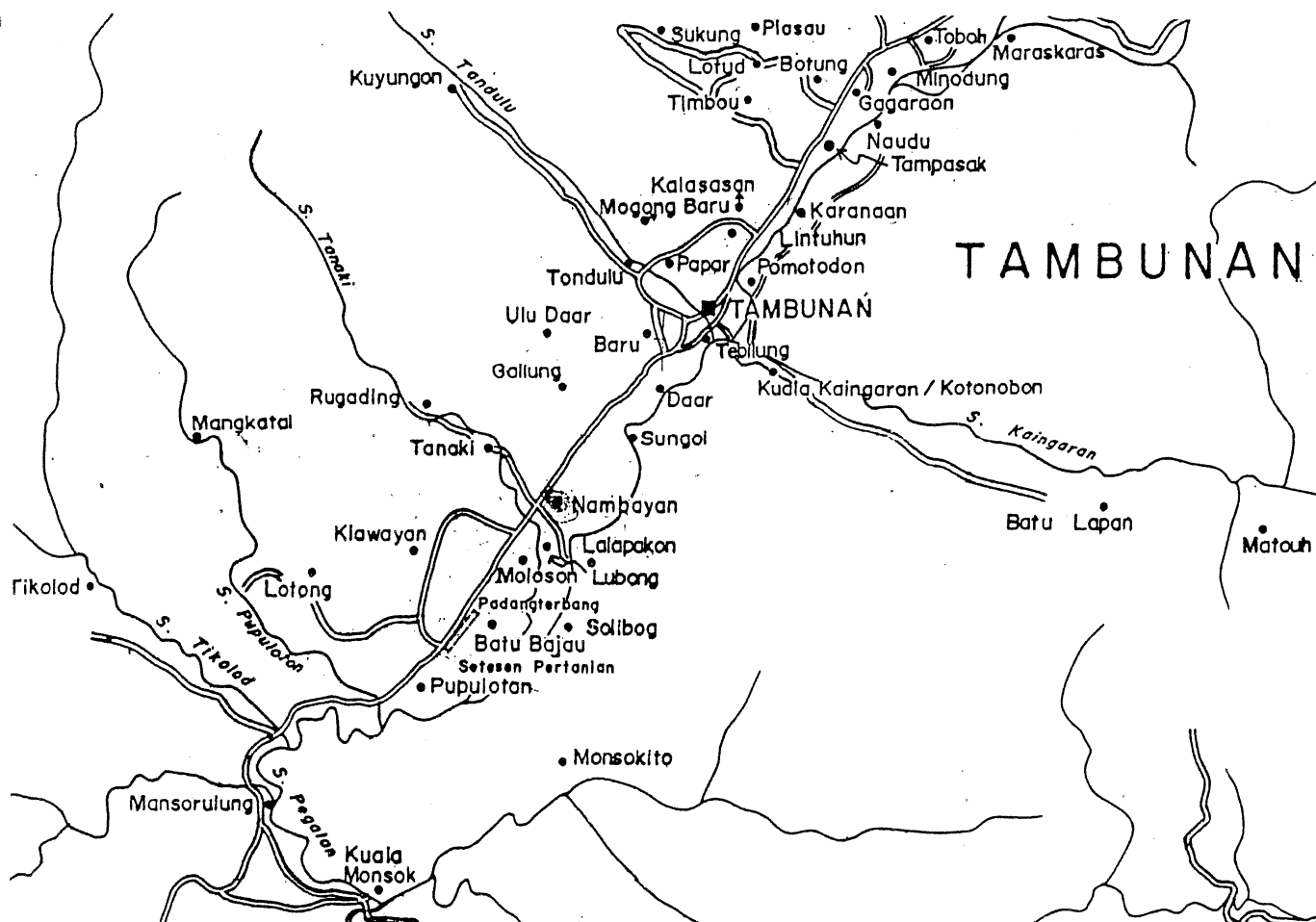
Introduction to the Tikolod Area

Tikolod is to be found in the Tambunan District, Sabah, Malaysia, approximately around latitude 6°N and longitude 117° E. Tikolod consists of four hamlets situated in a river valley stretching from the main road between Tambunan and Keningau to CRNP. Tikolod borders to either side of the valley it is situated in, with the surrounding hill peaks, so in fact the Tikolod village area is very much defined by the physical boundaries of the landscape (topography and infrastructure). The largest hamlet has around 40 households and the three other hamlets have around 10 households each. These approximately 70 households contain about 470 people. In the late 1970's there were only around 100 people in the village. This dramatic increase is caused by migration from Kionop village located within the boundaries of what is today the CRNP. However, it is hard to make precise estimates, since the village underwent a transformation 18-20 years ago, from consisting of scattered households, to being

centred around the four hamlets of today. The people in Tikolod speak Dusun and the majority of them - approximately 80% - are Catholics. The rest we are not sure of, but some will more than likely still be Animists. Small scale farming are the main income in the area supplemented with some handicraft production.

There are hardly any primary forest left but huge areas have secondary forest or are left fallow. According to our research the main crops in the area are hill rice and ginger, where the former is the main subsistence crop and the latter the main cash crop.

The most common land use is shifting cultivation using slash and burn techniques and the consequently planting of annual crops (ginger, hill rice), but also perennial crops are grown such as fruit trees, oil palm and even some coffee. The above mentioned crops are all grown on the slopes of the valley with gradients differing from zero to around 50 degrees. In the valley bottom, where the soil is levelled out, wet rice will often be planted permanently.



Methods

The difficulties in deciding which methods to use were partly connected with the fact that we did not have a whole lot of knowledge about the area we were going to do our research in and the short time in which we had to conduct our studies. A third aspect was that the group consisted of social science students, which exclude any natural scientific methods in our research. Further more, we wished to try different kind of methods in our research. We chose open-ended semistructured interviews as our main interview technique, supplemented with different kinds of PRA (Participatory Rural Appraisal) sessions. The PRA methods we decided on were observational walks, Physical mapping and Venn diagram. PRA methods focusing on one specific topic whereas the Venn Diagram is a visualisation of the power and institutional set up in an area or village. Physical Mapping is a map showing different locations in the area which is a fine supplement to observational walks. These make a good point of departure when acquiring insight into the local area and community.

In this chapter there will be a theoretical introduction, first to PRA and then the semistructured interview form. After the theoretical discussion there will be a discussion about our experience working with these methods. At the end of the chapter there will be some thoughts concerning how it is to work with an interpreter.

Participatory Rural Appraisal (PRA) & Rapid Rural Appraisal (RRA)

In the late 1970s the RRA methodology was developed in response to the disappointments and the criticism of the assumptions upon which earlier development work was conceptualised, planned and implemented. RRA was an attempt to overcome the time and cost factors associated with long-term research into rural social, economic and political processes (Furze *et al* 1996: 56). The RRA was undergoing a transformation and the new approach – PRA – sought to put the people first (Chambers 1994a: 1253). In PRA social research, those methods are chosen which maximise the development of key social knowledge, minimise the gaining of superfluous information, optimise the cost-effectiveness of rural social research and ensure the participation of local people. PRA work with principles like ‘optimal ignorance’, ‘triangulation’ and ‘legitimacy of the local level’ (Furze *et al* 1996: 56). Optimal ignorance means that it is impossible to know the object of the research completely, the rural processes – social, cultural, political or economic – are very complex. Because the lack of time doing field studies the second principle of triangulation is important. It involves the use of several different sources of information and PRA techniques to achieve social understanding. PRA is a two-way process, which is

why legitimacy at the local level is of great importance. If legitimacy is not achieved, it is difficult to obtain a learning and communication process between the researcher and the informants.

Experience with PRA

At the initial stage we had an observational walk thereby getting to know the area and some of the people there. Besides getting to know the area, observational walks are also a way of introducing yourself to the community, which is crucial when you come to a place as an outsider. It was a good way of getting to know the area and during the walk the informant told about Tikolod and the history of the area. One useful piece of information we got, was that Tikolod only 20 years ago went through a centralisation process

The mapping turned out to be a useful instrument for our further research, the map itself could work as a reference point in our further discussions and was also useful for locating relevant issues and informants. Who owns land, what, how much and where were relevant issues. Also important was the local perception of what was important and not. So instead of just gaining this information through interviews we also got the visual overview of the whole area, their property and communal land, as well as what part of land that was cultivated and what part lay fallow. Because the mapping session was of great importance for our further work we had the exercise in the beginning of the field study where three young informants did the mapping. Both the Water management group and the Land Tenure group who stayed in Tikolod were delayed in their fieldwork because of a funeral, which took place the day we arrived, and therefore we could not have a communal meeting until the day after. At the communal meeting only a few adults from the village showed up. Because of the lack of time and the fact that we only had contact to few people, the selection of the informants to the physical mapping was biased. We know that there were conflicts in Tikolod between some of the villagers, but we never manage to get a deeper understanding of these problems.

Our experience doing a physical mapping was positive as well as negative. There were some difficulties in making it clear to the participants what we actually wanted from them. It was especially difficult to get them to understand the importance of just using their own knowledge and not a pre made map. But because the villagers insisted on precision they used an official map as reference in order to get the roads and rivers geographically precise. They tended to use the pre made map too much, they tried to respond to our request for as detailed a description of the area as was possible. On the other hand, in trying to meet this request, they wanted to draw on pre made maps, which was not our intention. So we

tried to find a balance; between interrupting the session and letting the informants themselves take charge which is the whole idea of PRA. Another thing was that the session was more time consuming than expected, it took the whole day to make the map, however, the result was very impressive (see appendix 1). The session gave us a lot of useful information that turned out to be helpful in our further research. It gave us a picture of how they conceptualise land and how they categorise it. The three villagers had a huge knowledge about land use in the area, i.e. what people cultivated on their fields and how much land people in Tikolod owned and where.

The purpose of the Venn diagram was to identify village institutions and their interrelation. The outcome is a map of the institutional set up and power structures, which is relevant when working with land tenure issues. The Venn diagram was constructed by conducting a group session in the same way as with the Physical mapping, but where the procedure of Physical Mapping was rather easy to explain to the informants, the Venn diagram is more complex because the topic is more abstract. We were aware that it could be difficult to define 'institutions' for them and to choose good informants. We ended up with four informants for the session; two females and two males. We tried to select some of the more important and powerful people in Tikolod, because if the session were to be a success and the discussion as good a representation of the facts as possible, we needed people with an insight and knowledge about the institutions in Tikolod and also outside the village.

The two women never did fully participate in the exercise, which was dominated by the men. The women agreed on almost everything that was said, which makes the data biased. It could have turned out more successfully if we had divided the informants in two groups, females in one and males in another, but on the other hand it indirectly gave us some information about the relations between the sexes. Besides getting useful information we also learned a lot about managing a PRA session and how different it can turn out as opposed to the expectations. Whereas there was a lot of discussion during the first PRA exercise, the second exercise turned out unequal in regards to equal participation. The time of the day is also important to consider when planning a PRA workshop, the participants in the Venn diagram could not make it before 3 p.m., that means that the session took place during dinner time which is especially a problem for women. We did not manage to make it a group session at first; it was difficult to make the participants discuss among themselves, instead it was like conducting four interviews at the same time. And during the visualising phase it was only the men who participated.

As mentioned above RRA and PRA differ basically in the ownership of information. In RRA information is more elicited and extracted by outsiders as a part of data gathering and in PRA it is more generated, analysed, owned and shared by local people as part of a process of their empowerment (Chambers 1994a 1253). From this and our experience it is more correct to say that we did RRA sessions instead of PRA sessions even though it was our aim to do PRA. One might argue that PRA methods are more relevant in development projects and not so much in a research context. Our experience shows that it is difficult to hand over the 'stick' to the locals and let them define the problem, we had more or less defined the issue in advance.

Semistructured Interviews

The purpose of a qualitative research interview is to obtain qualitative descriptions of the informants cosmology. (Kvale 1996:124). We chose to use semistructured interviews as our qualitative interviewing. The feature of semistructured interview is that it is an informal way of interviewing people, which means that you work with checklists instead of questionnaires thereby permitting probing and following up on the unexpected, without the requirement that all the checklist points must be covered in any one interview.

Experience with Semistructured Interviews

To cover our purpose as good as possible meant that we had to get some valid data, which again meant we had to choose our informants from some pre made criteria. We decided to focus on the three hamlets closest to CRNP and conduct our studies there (Tikolod, Ulu Tikolod and Bolotikon). It would in a way make our research more representatives and less biased, the reason why we did not make any interviews in the fourth hamlet was because we wanted to know if the CRNP played any role in relation to land tenure. Besides that, we found it important to interview people with different background according to; 1) how much land they owned, people with many resources and people with less; 2) where did they own land; 3) have they inherited land; 4) were they cultivating communal land; 5) their age and; 6) gender. As a point of departure, and using the physical map, we chose two informants in each hamlet representing different aspect of the four criteria. Because of the internal conflicts in Tikolod, among other things such as land tenure issues, we decided to appoint a contact person who could help us in selecting the informants as well as set up the interviews by introducing us to relevant informants. Otherwise the selection would have been very random because of the difficulties in getting in contact with the villagers. Besides interviewing these six informants we also interviewed the headman in Tikolod, the chairman of the JKKK, two additional interviews concerning the future of Tikolod and many informal talks to the villagers. Outside Tikolod we had semistructured interviews with the

department of Agriculture and the District Office both located in Tambunan, the Park Authorities of CRNP, Sabah Parks and PACOS¹ which is a NGO working with the rights of indigenous people in Sabah.

One major difference was that the interviews we conducted with the various authorities were done in English using a tape recorder. The interviews in Tikolod were conducted with an interpreter and normally two or three of us would be present. To make the sessions as informal and relaxed as possible we normally started with some informal 'small talk' in the beginning, which our interpreter was very good at. Each interview took between two and three hours. We divided the interview so that one did the interviewing while the other(s) wrote down answers. The reason for this division of labour was that it then became less confusing for both parties. Other strengths in interviewing in this way stems from the fact that the interviewer is then able to concentrate on having the personal contact with the informant.

Our original aim was to follow up on all interviews. However, realising that this would limit the number of informants we instead chose to conduct only one series of interviews and only following up on a few of them. The rationale behind the change was that after our first three interviews we then could change our checklist to follow up on additional information, meaning that we did not want to spend time asking our informants about facts we already had knowledge about like the procedure for land application. In that way we got to go more in-depth with some of the topics we had already touched upon. If we have had more time to conduct our fieldwork we would properly have followed up on several of the interviews.

PRA Sessions Compared with Semistructured Interviews

The point of departure in methods like PRA and semistructured interviews are very different, which can partly be ascribed to the fact that most PRA sessions are group exercises and based on consensus, while semistructured interviews are more individually based. The group element in PRA has been criticised for looking at the local people, the village or local society as one homogeneous unit with common interests (Laier 1999:43). Another consequence at viewing the society as one common actor is that power relations or conflicts in the local society can often be overlooked or at least suppressed. In our case we can in some way avoid this argument because of the Venn diagram exercise that deals with power structures and institutional relations.

¹ PACOS stands for Partners of Community Organisation.

5) men der er konflikter
som de er kan undrede

In theory PRA has the advantage of focusing on the participant views and priorities that are central, i.e. that the participants no matter which level you do PRA on hold the power and control. Therefore there is no hierarchy between the in- and outsiders. Another advantage is the visual element and also that the process is both informal and fun for the participants. The visual part is an effective tool in doing fieldwork. A disadvantage for PRA compared with semistructured interviews can be the time factor, interviews are less time consuming and you can often get almost the same information from it and sometimes even more controversial data. The fact that some groups can be more dominating than others, as we saw during the Venn diagram, can be problematic. You will not face the same problem during an interview, where it might be easier for marginal groups like women or poor people to get their points across. So what is said and written in theory can sometimes be difficult to implement or handle in reality. Like how do you implement 'participation'? When can you talk about that in reality.

Experience with Interpreter

Working with an interpreter was an important factor in our field work and most of the interviews we did turned out fine, but we did have one unsuccessful session with an interpreter who we did not use for the other interviews. The problem was that the interpreter could not speak Dusun, which our informant who was an old woman only could. So instead of speaking through only one channel of interpretation we had to speak through two channels before our informant got the questions. It was a very problematic way to conduct an interview. Some times it felt like it was not the old woman we did the interview with, but instead the young man that helped us. Because of that the data from this interview is very biased and almost impossible to rely on. However, we got a lot of experience in working with the difficulties in having an interpreter. One thing that is of most importance is that the interpreter understands and knows the object of the study.

Presenting, Analysing and Discussing of the Data

History of Ownership in Sabah State

The following is a short run through aspects of the development of laws on land ownership in Sabah State. This is important because it will enable us to see the land tenure system found in Tikolod in the wider context. We have to emphasise however, that among the different Dusun groups there are regional differences in local customs and practises, so we will not try to relate text book representations unless this representation is specifically about the Dusun in the Tambunan district, which have been the focus of our study.

The system of ownership in Sabah, called the Land Ordinance, is a law on the distribution of land, influenced by both the native laws as well as colonial and postcolonial laws. The British introduced the original outline to the Land Ordinance in the 1930s. Before that time admission to land was incorporated in the traditional system, the Adat, which is a holistic cultural system encompassing a wide range of practices and rules. The Adat continued to be the dominating system determining people's access to land several decades after the introduction of the Land Ordinance. Today land tenure in Tikolod is mainly determined by the Land Ordinance, but as it will appear in the following that the Adat still plays a role in land tenure issues.

With the introduction of the Land Ordinance land tenure became subject to a written set of rules. As was often the case with colonial legal systems introduced in the colonies, native laws were introduced into the Land Ordinance. However the Land Ordinance was still mainly a product of western laws, or concepts, of land ownership, albeit private property. Section 15 of the Land Ordinance law (1996) holds a definition of native customary rights in which there are seven criteria (pp.14-15). One of these criteria, actually the first point under section 15, states that "Native Customary Rights (NCR) shall be held to be - (a) land possessed by *customary tenure*" which means that "the lawful possession of land by natives either by continuous occupation or cultivation for three or more consecutive years..." (section 65, pp.31). Furthermore these lands have to be "dealt with...by a grant of the land to the claimant" (section 16, pp.15). This has direct consequences for the local land use system, but this will be dealt with later in this chapter. However, it is important to emphasise, that these NCR by no means is a codification of the Adat as it is now, or perhaps have ever been, but is an interpretation with inherited fallacies. Sally Falk Moore in Dalberg-Larsen (1994) points to the fact that the stability and static view held on legality in "primitive" societies is a myth, and that the laws here held are a product of change.

Also these changes are a product of a continued outside influence. Furthermore, and as we mentioned above, even among Dusun societies there are differences in local customs and practises.

The scenario found in Sabah, with regards to laws on land tenure and land ownership, can be characterised as *legal pluralism*. Hooker in Dalberg-Larsen (1994) point to four basic characteristics of legal pluralism, three of which applies to Malaysia and to the Sabah Land Ordinance. Firstly, the colonial power imported own law systems, in our case the Land Ordinance of the 1930s, partly incorporating local law - "indigenous law". Secondly, after independence, and based on a wish for modernisation, the new national government introduced a new legal system, often this is done through a continuation of the system introduced by the colonial power. Thirdly, in the cases where the local people have retained a traditional system of legality, this system often gains some formal recognition (Dalberg-Larsen 1994, pp.20). We feel that the above definition and characterisation of legal pluralism is a good tool to conceptualise what the Land Ordinance is all about, and also how it has developed, as well as a good representation of the actual situation we found in Tikolod. Based on the analysis of the structural and power relations in Tikolod this seems to be true. This will be discussed further on in this chapter.

However, land tenure systems are not just a product of political and economic influences. Also the physical properties of the landscape and environmental features can play an important role. According to Cleary & Eaton (1996) the natural environment influences tenure systems, where different parametres like climate, soils, drainage and relief are major determinants. Rivers, hills and other natural feature often form the territorial boundaries and different types of terrain encourage different types of tenure pattern. Mountainous regions may very well have fragmented holdings, giving farmers the opportunity to access different types of land, thereby influencing land use (Cleary & Easton 1996: 3).

The Local Institutional Setup

To understand the local systems and traditions in a community, it is crucial to have knowledge about the social institutions at both the local level² and the district level. The national - and state levels are also of importance because these institutions are the decision-making authorities, but in this report the focus will be on the local and district level because these are of most importance to answer the research

² Local level is here the Tikolod area and the district level is Tambunan.

question. The concept 'institution' is rather diffused and different, schools of Political Science³ and Sociology have taken this concept up for further research and discussion. One of the difficulties in defining institution is whether it is both the formal and informal rules that define an institution or only the former. In Sociology most researcher include both the informal and formal rules. In the following the term will be used in a sociological sense using Giddens' definition:

"Basic modes of social activities followed by the majority of the members of a given society. Institutions involve norms and values to which large numbers of individuals conform, and all institutionalized modes of behaviour are protected by strong sanctions. Institutions form the 'bedrock' of a society, because they represent relatively fixed modes of behaviour which endure over time" (Giddens 1995: 745).

In Tikolod the headman, JKKK⁴ (The Committee for Development and Security) and the church are the three most important institutions, especially the two first are crucial concerning land tenure issues. The church is not directly involved in the decisions over land tenure issues, but can still influence the Adat indirectly, but we will return to this later. According to the headman, as well as several informants, the headman's function is to solve problems among the villagers and determine the boundaries for the land that an individual wish to acquire, and he will also co-sign the land acquisition form (LA form), which is not a formal requirement. In the case that there are conflicts over boundaries, the headman will mediate and come up with a solution that is acceptable to all parties. However, this is how far his powers are able to carry⁵. In cases where the disputing parties are unable to reach a decision, based on the headman's mediation and decision, they can take the dispute before the Native Court, where the dispute is tried according to the Adat laws. If this also fails, the dispute is finally brought before the District Officer, who will make the final decision according to the laws prescribed by the Land Ordinance. So all though the old system is still used, and it does seem like people abide by these laws, it can not police it own laws, since only the Land Ordinance can be formally recognised. However, it is important to mention that the District Office will decide according to NCR in the Land Ordinance. Also the headman has a role in informing the villagers in matters concerning land acquisition and

³ Especially the traditions of Comparative Government, Rational Choice and International Relations have discussed institutions and how to define these.

⁴ Beside the headman the JKKK consists of a vice-chairman, secretary and four high members which are chosen by the three other members of the JKKK.

⁵ We define power according to Giddens (1995) which reads as follows: "The ability of individuals or the members of a group, to achieve aims or further the interests they hold. Power is a pervasive aspect of all human relationships. Many conflicts in society are struggles over power, because how much power an individual or

ownership, as well as a range of other things. This gives the headman some kind of real, almost formal, power. The knowledge he possesses makes him invaluable to the community, hence his power is in direct relation to his knowledge.

Several informants told us that the headman would often decide in land matters in co-operation with the JKKK. Also the JKKK play an important role in informing the villagers, as well as help the farmers in requiring subsidies from the state. This way the JKKK not only has formal power through access to knowledge, but also through access to financial means through its link to the government. The JKKK actually has the power to dismiss the headman if the villages were discontent with the efforts of the headman's work. The headman in Tikolod is not elected, but chosen by the District Officer, just like the chairman of the JKKK. The criteria are that the person can cooperate with the Sabah State government and are not in opposition. The above shows that there is legal pluralism on the local level as well. The headman represents the Adat, even though the Government now appoints him, and his decisions are based on these rules. The JKKK are a newer institution and will follow the Land Ordinance and the formal legal system. The role of the headman is interesting because he is in some ways divided between the two institutions and therefore also two sets of rules.

Besides the District Office and the Native Court at the district level there is the Land & Survey Office (which measure the land) and the different departments, i.e. agricultural department, water department and so on. The different departments have to be consulted before a grant can be given.

Two other important social institutions are the Adat and the Land Ordinance which will be the main institutions throughout this report, this is why they are going to be described in more details in the following section.

Introduction to some Concepts

To get a more detailed insight into land tenure issues it is necessary to make a clear definition of the concepts of rights and ownership. In this part we will therefore define and discuss these concepts. In relation to Tikolod it is especially interesting to discuss rights and ownership in relation to two kinds of property; common property and private property.

group is able to achieve governs how far they are able to put their wishes into practice at the expense of those of others" (Giddens 1995: 744).

When land is in *private property* only one person has ownership to a piece of land. The ownership is institutionalised in laws about access to land, and the owner hold a grant for the land. The owner has the *right* to do whatever he desires to do with the land. Hence, he can cultivate the land, leave the land fallow or lend out the land; it will still be his land and he still has the right to decide what should happen to the land. Moreover, private ownership to land also gives the owner the right to sell the land as well as it makes it possible for his heirs inherit the land

In opposition to this is land that is under *common property*. Land that is under common property differs from land that is private property in many ways. There is no private ownership connected to the former. Instead the land is commonly owned by a group of people, e.g. a community. The land is in other words not owned by someone, but by everyone (in the community) (Pearce & Warford 1993). It is not possible to talk about rights in the same way as under private property, since no individuals has the right to determine what should be done to the land. Instead all the members of the community have *use rights* to the land. These rights are usually institutionalised by a set of rules mutually agreed on in the community, and non-members of the community are excluded from the use (Berkes 1989; Pearce & Warford 1993). It is worth noting that land in common property is *not* equivalent to open access to land, since the latter is characterised by no one owning the land and hence no one having any rights to the land. With open access, use of land can instead be considered a privilege that can be enjoyed only because no one else has rights to the land either (Bromley in Pearce and Warford 1993: 249).

The Adat

The Adat is a localised system dealing with a range of issues, stretching from laws on inheritance, access to land and resource management. So as well as being constituted of laws of conduct it also encompasses taboo rituals concerning resource use and a wide range of other cultural practise, some of which will be introduced in the following. The Adat is thus an institution, which deals with a wide range of issues of the daily life of the Dusun.

Having had only 10 days in which to conduct our field studies, we were only able to ‘scratch’ the surface of the Adat, but we have been able to supplement some of our data with some ethnographic description as well as previous reports, although the latter is somewhat generalistic.

Traditional Dusun Concepts of Land Use & Resource Management

In the following we will touch on some Dusun concepts related to the Adat system. This is to give the reader an idea of what the Adat actually entails. However, we would like to note that although we are touching upon concepts of resource management, it is not the intention of this report to explore the effects the changes in land tenure has on local resource management concepts. In the final chapter where we try to put things into perspective we will try to make some connections between resource management and changes in land tenure, but not in any conclusive way.

According to an article in Makitaak, the Adat contains a number of conservation practises, both socially and environmentally. In the before mentioned article in Makitaak the writer points to a few conservation concepts among the Dusun socially as well as environmentally. These are as follows.

- *Ohusian* ensures respect for the environment, particularly plants and animals.
 - *Ogubian* ensures respect for older people. A concept that one should not be too fast to belittle others, or else one and one's family face shame.
 - *Ovusung* ensures that respect for the elders is given utmost importance. If this respect is disregarded the disrespectful individual will be persued by bad luck.
 - *Opuunan* ensures that shared accountability of one another's welfare and well being.
- (Makitaak 1999, No. 18, p.2).

An example of ohusian could be as follow.

"...avoiding area that contain water patches (which indicates a water table underground) is good practice, lest the well-spring be 'blocked' by the growth of crops above it and incur the ill-effects of Ohusian towards a member of the community." (Makitaak 1999, No. 18, pp.2).

Another example is the concept of *Tuwa di Pogowian* which prescribes that the last fruit must not be taken because it will halt the process of continuity and propagation, which is needed for the continued survival of the community (Tuboh *et al* 1999, p.2). There are in fact many more such examples, but common for them all is that they are there to serve a proper management of the local resources.

When a new piece of land was opened up one had to slaughter a pig. This was a part of the Dusun tradition, but it is not practised any more. This is one example of how the importance of the Adat has been changing over time. In some spheres of life the Adat is still important, while it in others is loosing its influence. Several informants pointed to the fact that people more and more follow religion instead

of the Adat⁶. One example of this is that whereas previously when a person died, this person would get buried on the family land, with the introduction of religion people are now to a greater extent buried in the community graveyard.

The pig slaughtering has traditionally been used for many ceremonies. Another of these ceremonies is the ceremony of *Managal*, which consists of the marking of a river site as “off-limit” or taboo. This ceremony is performed when the fish is on the decline in a river. So the Managal ceremony is the embodiment of a communal understanding of resource management (Makitaak 1999, No. 18, p.3). An important point here is that we in fact could observe that pigs were no longer a part of the local livestock.

Access to Land under the Adat

Our interviews with the inhabitants of Tikolod showed us that there were two different categories of land under the rule of the Adat; ‘ordinary’ land and ‘pesaka’ land⁷. There are big differences between these two concerning the kind of rights one has to the land and the way the land is acquired.

The ‘ordinary’ land was open to everybody in Tikolod. The Adat functioned as a set of rules that determined how the land should be opened, and what kinds of rights there were to the land itself and to what was cultivated on it. Since people from outside Tikolod had no access to the land, the land could therefore be characterised as the common property of Tikolod. According to the Adat all the members of the Tikolod community had the right to use the land for cultivation. Hence, the Adat gave the villagers the use right to the land, meaning that they could freely open up land and start cultivating it. However, opening up land did not mean that the villagers got private ownership to the land. Instead they acquired some rights to the land. Opening up land meant that the farmer had the sovereign right to cultivate the land. This right he kept for as long as he continued to cultivate the land. According to our interviews, the farmer would lose this right as soon as the land was laid fallow, and it would thus again be the right of all the Tikolod farmers to cultivate this land⁸. Only in relation to what was cultivated on the land it was possible to talk about private property. The crops were the belonging of the cultivator.

⁶ It is important to point out that religion can not be interpreted as a substitute to the Adat since a religion, foreign to the local contexts, does not contain local concepts of environment and so forth.

⁷ The villagers used the concept of ‘pesaka’ land, while the concept ‘ordinary’ land is our conceptualisation of the land that was not pesaka.

The procedure for acquiring land under the Adat entailed that the headman was conferred with before opening up the land and cultivating it. By doing this, the individual farmer ensured that nobody else had a claim to the land in question.

The case of 'pesaka' land is different. According to several informants in Tikolod 'Pesaka'⁹ land had a special significance. This type of land became 'Pesaka' when the cultivator died on this land or was buried on this land. The land then became the property of the family of the deceased. No one apart from the family could use this land according to the Adat. Hence, contrary to the 'ordinary' land, 'pesaka' land can be characterised as private property.

The differences between the two have implications for the way land was inherited under the rule of the Adat. Since there was no private ownership to the 'ordinary' land, only the 'pesaka' land could be inherited. However, as mentioned above the crop from the commonly owned 'ordinary' land was the private property. That meant that the crop could be inherited in case the cultivator died. The fact that the 'ordinary' land could not be inherited should be seen in relation to the system of use rights to the land. The children did not have to inherit land since they, as members of the Tikolod community, already had use rights to the land. Inheritance thus seems irrelevant in relation to use rights. Still the Adat holds very detailed descriptions of how 'pesaka' land is being inherited. As we will see in the discussion about how land is inherited today, these descriptions have been transferred to the modern system of land ownership.

The traditional inheritance of land under the Adat was patrilinear, which means that land was inherited from father to son. According to the informants we asked about traditional inheritance we found out that this is still the dominant form of inheritance. One informant explained it to us this way; land is inherited either by the youngest son or the oldest son of each generation depending on whether the father was the youngest or the oldest brother. However there were some uncertainties surrounding this information. With reference to the Adat rules of inheritance many of our informants wished to divide their land between their sons, and in some cases, especially if they had plenty of land, they would wish to leave some land for the daughters as well. It is hard to say whether women can actually inherit under

⁸ These data was by no means unambiguous. As we will show in the discussion, the literature questions our way of interpreting our data.

⁹ The term 'Pesaka' also applies to certain valuable items such as special jars.

the Adat or not, i.e. whether the system is absolutely rigid in accordance to the patrilinear rules, or whether these rules are merely guidelines for how inheritance is dealt with. We were also told that according to the Adat, the child that takes care of the parents in old age, will get more land than the other children. Hence, the data that we got on the Adat are by no means unambiguous. Later in this chapter we will return to a discussion on how the Adat is still playing an important role in the present system of ownership of land in Tikolod.

The Land Ordinance

We have already introduced some of the aspects of the Land Ordinance in the introduction to this chapter, however, we would like to elaborate a little on it here. Those sections of the Land Ordinance we are going to use in the following can be viewed in appendix 2.

The Procedure for Land Application under the Land Ordinance¹⁰

The essential point in the Land Ordinance is that it gives people private ownership to land. To get the grant that proves this ownership, the farmers must apply for the land. However, the land application procedure is very long. In Tikolod this was indicated by the fact that a lot of farmers were cultivating land that they had applied for, but still had not got the grant for. To get an understanding of the effect this have on what kind of rights the farmers have to the land they are cultivating, we will therefore in the following describe the land application procedures and discuss the kind of ownership and rights associated with the different stages in the land application procedure.

All the land in Tikolod Area is categorised as Native Land. That means that only the 'native' people of Malaysia, the Malays and other indigenous groups, can apply for this type of land. Hence, people other than the indigenous people to the area can not apply for land in Tikolod. This is probably a major reason why there are no non-natives in Tikolod. As mentioned in the introduction all the inhabitants of Tikolod are Dusun.

The application procedure can be divided into three stages. In the first stage the (native) farmer acquires an application form at the District Office. The filled in application form is given to the District Office with a drawn map showing where the land is situated. The farmers can do this by themselves but the vast majority chooses to consult the village headman at this stage. The headman goes with the farmers to the piece of land that they want to apply for and helps them drawing the map that must be

handed in with the application. He usually also signs the application form even though this is not a requirement. By consulting the village headman the farmers get security that no one else has applied for the same piece of land. Thus, already at this first stage the farmers get some kind of security that they will be the future owners of the land.

Once the application is given to the District Office, a number of different departments will get the application for approval. Only when the application is approved by the Department of Agriculture, the Forestry Department, the Water Department and the Drainage and Irrigation Department the application can be brought for the Land Utilisation Committee, where representatives from the different relevant departments will consider the application in order to give another approval. Very often the application process is stalled at this stage, simply because one or more of the departments does not deal with the application. The District Officer in Tambunan District mentioned this as a huge problem for the farmers and recognised that the farmers were not aware that they could speed up the process just by showing up at the different departments. In Tikolod it seemed that most of the farmers who applied for their land after the early 1980's, were still waiting for a grant to this land. This of course is not an optimal situation for the farmers, since they cannot make use of the privileges that follows with the grant (such as access to credit and subsidies for herbicides and fertiliser).

When the Land Utilisation Committee has approved the application, it is handed over to the Land and Survey Department, where it has to get an authorisation to be surveyed. As soon as this authorisation is given the land can be surveyed. This is also a bottleneck since it takes up to ten years to get the land surveyed by the Land and Survey Department. But as a difference from the bottleneck in the second stage, the farmers seem to be aware that paying a private company to survey the land can speed up the process at this stage (according to the headman). Once the land has been surveyed the grant can be given. In instances where more people are applying for the same piece of land it is almost always the first applicant who gets the title. An exception from this will be discussed in the following.

Rights to Land in Application

The handing in of the land application marks a change in the system of land ownership to the land applied for. Conflicts over the land will from the day of applying be dealt with in accordance to the Land Ordinance. This however, does not mean that the Adat has no longer any importance in

¹⁰ This section is based on an interview with the District Officer of Tambunan District and the Headman of Tikolod village.

determining rights to land. As written in the introduction to this chapter, parts of the Adat are incorporated into the NCR in the Land Ordinance. This means that the right to the land at the time the land is applied for is determined according to the Adat. Hence, the right to the land is with the cultivator. If a farmer is applying for a piece of land that someone else is cultivating, the right to cultivate the land will still be with the cultivator. And if the cultivator subsequently applies for the same piece of land, he will get the grant. However, even though the Adat is incorporated into the NCR this does not mean that they are the same. Since the Adat system is different from place to place, sometimes from one valley to the next, the NCR can only be seen to represent a few central aspects common to the Adat, but it is not capable in capturing the holistic aspect of the Adat.

However, if no one has established a right according to the Adat at the time of applying, the land will be given to the applicant. Even if the applicant has still not opened the land and someone else opens the land and starts cultivating it, the grant will still be given to the applicant. This was illustrated in Tikolod where a farmer we talked to once became aware that another farmer had opened up a piece of land that our informant had applied for. The encroaching farmer was apparently not aware that the land could not just be opened, probably because he did not know that the land was applied for. As always in disputes over land where the involved parties are not able to solve the matter themselves, the case was brought before the headman. The result was that the encroaching farmer had to leave the land, but since he only planted hill rice, which is a short-term crop, he could wait until after he harvested and he could keep the crops. We asked what would have happened if the encroaching farmer had been cultivating perennial crops like fruit trees, and we were told that the involved parties would probably agree on sharing the fruits in the future, and that this was according to the Adat. In other instances the applying farmer would buy the fruit tree from the cultivator.

Apparently the Adat plays an important role in determining who has the right to the land at the time of applying. After this it is only in accordance to the native customary rights in the Land Ordinance that the Adat is influencing the assignments of grants. Although this is how it is in practice this is not necessarily the way it is perceived by the applicant. One farmer we talked to had three pieces of land. He had the grants for two of these lands, but the third one was only in the process of application (the land was applied for in 1987 and it was still not approved for survey). He was cultivating the latter continuously, doing shifting cultivation within the land. He explained that he was afraid that he would lose the right to the land if he did not cultivate it continuously. The consequence was that he did not

cultivate his other pieces of land. The example shows that the Adat is sometimes still playing an important role in peoples minds and thus in the way they act.

The practice of solving conflicts over land illustrates the way the Adat and the Land Ordinance is being mixed. As shown above, the headman will first try to find a solution. This he will do partly from his knowledge of how matters like this is being dealt with according to the Adat, partly from his knowledge of how the District Officer will deal with the matter according to the Land Ordinance.

Another example of how the two systems are functioning side by side was seen in the system of borrowing privately owned land. There were several examples of farmers who moved to Tikolod from outside the village. Some of them were born in Tikolod and hence they had relatives in the village. They did not have big difficulties borrowing land, since you, according to the Adat, have to lend land to your relatives if they do not have any land themselves. However, most of the outsiders came from the village Kionop, which was situated inside the CRNP. Their situation was special since most of them did not have any relatives in Tikolod. The Adat did therefore not secure them. One of them told us how she at a village meeting got someone to lend her land, but only after a long and tough discussion. This, she said, would not have happened before the Land Ordinance was introduced, because there was enough land for everybody at that time.

Effects on Inheritance

As we have seen above it was difficult to get an unambiguous picture of the rules of inheritance under the Adat. We therefore wish to draw on a paper from 1953 explaining rules of inheritance under the Tambunan Adat (Woolley 1953). That way we might be able to understand the very mixed information we often got on the issue of inheritance.

According to the ethnographic description of Woolley (1953) there are two types of property 'Pesaka' and 'Pencharian'¹¹. The concept of 'pesaka' was well known to all our informants in Tikolod. They perceived it as land where the cultivator died or was buried. It is a little unclear if that is in line with Woolley's description of 'pencharian' and 'pesaka'. According to Woolley, "*when a man who has acquired Pencharian' dies, that property becomes Pesaka' to his heirs*" (Woolley 1953: p.1). However, when our informants were asked about the concept of 'Pencharian' the showed no knowledge of this. This might

be a consequence of several factors. One reason could be that the villagers in Tikolod had another term for this, or that land that was not 'Pesaka' simply was not inherited. But we will return to this later.

According to Woolley, 'Pesaka' property must remain within the family (blood relations exclude relations by marriage) on the death of the owner, and the land is inherited by the children if any. Except for certain preferential female items of inheritance, sons will always exclude the daughters. If there are several sons they will take in proportion to a sliding scale, where the oldest will inherit the most and the youngest the least (in case there were no sons the rules would apply to the daughters). The latter is not the case in Tikolod, or at least not according to the information we got in Tikolod. In cases where there are no children to inherit the 'pesaka' land, the land will be given to the family of the deceased. Woolley's description of the Tambunan Adat holds a detailed description of the order of who will inherit 'pesaka' land.

Our data showed no signs that the land that was not 'pesaka' (what we termed 'ordinary' land) could be inherited. Instead land was just acquired by opening up any piece of land that was not cultivated. If this is true, the introduction of the Land Ordinance has meant essential changes in the way land is acquired in Tikolod. Except from the communal land all land in Tikolod can today be characterised as some sort of private property. In the case of the land for which the farmers have a grant it is obvious that the land can be inherited. But also the land that is in the procedure of land application can be inherited. This is due to the fact that the villagers consider the handing in of the application as a form of ownership. The signature of the headman on the application indicates that no one else in the village has applied for the land, and if the farmer knows that nobody is cultivating the land at the time of applying, he feels secure that the land is going to become his.

However, this change from only a minor part of the land being inherited under the rule of the Adat to a system of almost all land being inherited did not mean a degradation of the Adat rules of inheritance. Rather it has meant a growing importance of these rules since a lot more land is now being inherited. Many of the informants said that they would follow the Adat when they should decide whom of their children that would get what land. But when we asked them in details what they meant by following the Adat the answers were quite divergent. It seemed that the amount of land held often determined how

¹¹ There are according to Woolley (1953) two types of 'Pencharian', one referring to land acquired before marriage (Dusun terms are 'Nindapuan' or 'Kaki-kito') and one after marriage (Dusun term is 'Pinitaraian megium').

many of the heirs would actually be able to inherit. Given the description of the Tambunan Adat in Woolley (1953), and what we were told at the interviews, we would argue that only one son (or daughter) inherits the 'Pesaka' land. The rest of the land is then divided more or less according to the before mentioned system, i.e. on a sliding scale. However, we do not believe the Adat to be this rigid, as much of our data has indicated. One example of this, and which was pointed out to us by several of our informants, is that the child that takes care of the parents in old age, will get more land than the other children, and that this was according to the Adat.

To summarise our data on the subject of inheritance among the Dusun of Tikolod, we can conclude that the data by no means are unambiguous. There are therefore many ways of interpreting this data, either that people had lost some knowledge about the Adat, so when asking them about it, they mixed Adat rules and concepts with newly introduced concepts of inheritance. One could also argue that the Adat is a system under constant change, and that made the Adat now look different from the Adat 30 years ago, if in fact it could be considered a part of the Adat and not an entirely new system. Some of our informants told us that the Adat was actually changing over time in the sense that some parts of the Adat was growing in importance, like inheritance, while others were being eroded (like the witch). A third argument could be that the Adat has always been complex despite the appearance of one set of rules, and that the codification of the Adat has left only little space for this complexity.

System of Land Ownership

The system of inheritance is closely linked to the system of ownership. As with the case of the system of inheritance, the information we got on the system on ownership is somehow ambiguous. In our interpretation, our data shows us that the system of use rights meant that there were no specific individual rights to land after it was left fallow. However, this can be questioned. In other parts of North Borneo, e.g. among the Iban of Sarawak, there exist rights even to fallow land. Apparently they have the right to the land not only when they cultivated the land but also for the following fallow period. This right can seemingly be inherited.

It is difficult to say if we have misinterpreted our data about the 'ordinary' land under the rule of the Adat. It does not get easier when it comes to land ownership under the Land Ordinance. For land with a grant the owner have a quiet secure ownership¹². But when it comes to the land without grant it

¹² Still there is the part of the land ordinance making it possible for the government to expropriate the land for "public purpose" (Land Ordinance, section 28).

seems to be unclear who has what rights to what land. Since the land has been applied for, it is dealt with in accordance to the Land Ordinance. If any conflict arises over the land, it will eventually be brought before the District Officer who will solve the matter according to the Land Ordinance. But the District Officer is only the last instance. Conflicts will always be brought before the headman before it goes any further in the legal system. The headman will mediate and try to settle the dispute. Whether this is done according to the Adat or the Land Ordinance is not all clear to us. On the one hand the headman of Tikolod emphasised the role of the Adat and told us that he had to have a special knowledge about the Adat. On the other hand the example with the farmer that started cultivating land that another farmer had applied for, but still had not opened, shows us that knowledge about how the matter is going to be solved by the District Officer influences the headman's decisions. Thus the headman gave the right to the land to the farmer that applied for the land and not the one that opened the land.

The example with the farmer that only cultivated the land that he did not have a grant for on the other hand shows us that the use right system is still important. This farmer was afraid of losing his use right and consequently his chances of getting private ownership to the land, if he did not cultivate the land continuously. Hence, although the Land Ordinance has been accepted as the frame for land ownership the Adat continues to play an important role. Since the context has changed, the Adat today is not the same as it was before the introduction of the Land Ordinance. Some elements have been abandoned while others have been changed, but it is still perceived by the villagers as the Adat. An example of this is that the villagers refer to the new system of inheritance to land as the Adat. Many of them want their children to inherit land the same way as it was done under the rule of the Adat. Still, inheritance did not play any role in the acquisition of 'ordinary' land in Tikolod before the introduction of the Land Ordinance.

Effects on Land Security

Since all land has been applied for, meaning that there is no more accessible land, ownership is important because if there is no grant there is nothing for the heirs to inherit and take over. Before, when access to land was established through use-right, there was no need to secure land for one's heirs through property rights, since these could get rights to land by opening up and using it. However, the establishment of private property under Land the Ordinance section 16 (see appendix 2), has created a totally different scenario. Private ownership is now crucial to secure land for one's offspring through inheritance. One could argue that because all land has been applied for in order to obtain security in the

light of an expected population increase, land has become a scarce resource, meaning that there is no more land to apply for. However, whether or not population pressure is going to be a problem is hard to say. Since there seem to be enough land for the present population, talking about future scenarios is purely speculative for a number of reasons.

There has been a radical increase in the population over the last 20-30 years, but is this because of the birth rate in the community? The increase in population has mostly derived from immigration from a nearby village, but also the aforementioned village centralisation taking place 18-20 years ago could have a bearing on the increase. The village centralisation scheme could actually be a source to misinterpreting the population increase. The community of Tikolod might be made up very differently today than previously, hence parts of the population now considered belonging to the Tikolod community might not have been considered a part of the community before.

There are many loop holes and weaknesses in the Land Ordinance, and in section 28 it says that NCR can be overwritten if land is acquired for public good. According to PACOS one example of the complete loss of tenure rights is where the SFI (Sabah Forest Industries) use section 28 to acquire land (this happened in the southern Sabah). After a certain amount of years they cooperatise SFI (they were planting acacia mangium for paper), and after the cooperatisation the land goes to plantation companies and the local people no longer had any rights to the land. The villagers in Tikolod did not seem to be aware of this, or at least they did not see this as a threat. However, whether or not they see it as a threat, it most certainly can be one.

Communal Land and Native Reserve

Besides the privately owned land in Tikolod there is a piece of communal land. The communal land is a 1600 acre piece of land close to the largest of the four hamlets in Tikolod. Officially it has the same status as the four pieces of land where the villages are situated; the grant to the land belongs to the village as a whole, and the villagers are therefore entitled to set up rules for the use of the land. When Tikolod applied for the land it was to get grazing land for the cattle. On some of the land, grass has now been planted, but the amount of cattle is still very limited. Because of this, it has been decided to make it possible for the villagers to cultivate some of the land. Hence, a system very much like the cultivation system under the Adat has been introduced on the land.

There seems to be some confusion concerning how to borrow land on the community land. Some farmers told us that you have to get an approval from the headman. Others said that the chairman of the JKKK could as well give this approval. Finally there were farmers that told us that it was not necessary to get an approval at all; you could just start cultivating land.

The only constraint in cultivating the communal land is that the farmers can only grow short-term crops on the land like rice and ginger. If the community needs the land (e.g. for grazing purposes) the cultivator must leave the land when it has been harvested. Hence, the farmers only have the use-right for the land, and the land can therefore not be considered private property.

Those of the farmers that we talked to who borrowed land in the communal land also owned or had applied for other pieces of land. One of them had grant for two pieces of land that he had not cultivated since 1987 and 1992. It was thus not lack of fertile land that made him open land on the communal land. We did not get an answer why he had chosen to cultivate this way, but we noticed that the communal land was situated close to his house, which might have had an influence on his choice.

According to PACOS people are not aware that acquiring communal title is actually easier and faster than acquiring individual grants. Later this land can always be divided between the villagers if so desired. PACOS points out, however, that the communal land in Tikolod probably is native reserve, which is limited in the way that it can not be divided later (unlike communal title mentioned above). The District Office holds the trust to the native reserve, and the headman holds the responsibility. Normally a village will be under native reserve, whereas the assistance collector of land revenue holds communal title in trust, which is in charge of the Land & Survey department.

Effects on the Power Structure

The introduction of the Land Ordinance has changed the formal power structures. However, it would be wrong to argue that this has led to the undermining of the more traditional power structures.

The fact that there is a Native Court ruling on the basis of the Adat and also the fact that there is still a headman, and that these institutions still play a role, can be seen as a direct attempt to maintain a legal system that the local villagers can relate to. The importance of the different institutions in the eyes of the villagers might, however, be very different to the importance these institutions formally hold. When observing the Venn Diagram (appendix 3) it is clear that the headman ranks as the most important

figure when it comes to land acquisition matters. However, that the headman's signature is not formally needed when applying for land, therefore it could be argued, that the status of the headman rests on traditional law and not on the law as prescribed by the Land Ordinance. However, all though the powers of the headman, and the council of elders, are recognised, decisions are increasingly taken outside the community as a result of direct insisting changes in indigenous self-governance (Makitaak 1999: 4). This is best illustrated using the following quote:

“This political system (the council of elders) has experienced the inclusion of another kind of political system, i.e. the appointed Village Development and Security Committee (JKKK). Through this set-up, the indigenous community has been introduced to the idea of ‘handing-over’ problems for another to solve.”
(Makitaak 1999: 4).

Land Use in Tikolod

In this part of the analysis we will compare the data we collected with that collected by the Water management group. The reason for this is that our data is somewhat different than that of the water management and soil erosion group and also based on different criteria. The source of our data derives partly from our semi-structured interviews and partly from our first PRA session (the physical mapping, appendix 1).

The three figures in appendix 4 are very different on several points. Part of these differences stem from the fact that they came about in very different ways and also because they cover different geographical locations within Tikolod. But what do these figures actually show?

When observing the map, represented in the first figure in appendix 4, it is clear that all the rubber trees are located in plots either close to the road or around Kg. Tikolod and almost all of them located West off the village. The plots with ginger and hill rice are located closer to the CRNP nearer the catchment areas examined by the Water management group. The plots with wet rice cultivation are located close to the rivers in the valley bottom because of the need for irrigation, hence the need for an access to water, and because it would require too much work terracing the steeper slopes. However, the map is not complete, and the informant drawing it were all from Kg. Tikolod and therefore had a lesser knowledge of the cultivated lands near the upper part of the water catchment. On the map (appendix 1) there are fields left blank most of which were fallow, but some of the fields furthest away from Kg. Tikolod are in fact blank because our informants did not know what was cultivated there. This is where the data from the Water management group plays an important role in our description of the land use

in Tikolod, because their data was collected in the two water catchments located near the CRNP. From their data we can read that hill rice and ginger are the two most dominant types of crops. This coincides well with what can be observed on the map. The reason for the cultivating of wet rice near Kg. Tikolod and not in the area further up the water catchment could be due to topographical conditions, hence the closer to the Tambunan-Keningau main road the wider the Tikolod river valley becomes.

Until the late 1970s most people planted dry rice and yam. In the 1980s the land use changed and people began to plant ginger which they had to clear new land for along with limiting the amount of hill rice grown. One farmer actually found out that ginger was especially profitable and had a good yield if cultivated on virgin land, i.e. land that was cleared for the first time, and this set off a chain reaction in the community. In the 1970s the fallow period was around 4-5 years but this has declined to around 2-3 years at present time (approximately). Also there was a lot of primary forest in the Tikolod community in the 1970s, today there is nothing but secondary forest left. This could of course also be due the establishment of CRNP thereby limiting access to more primary forest.

One could expect that ginger farming would decline as a result of the lack of primary forest. However, ginger is still a popular crop to cultivate perhaps because of its significance as a cash crop. Instead plant indicators are used to detect the more fertile soil, which is then used for ginger. The more fertile soil would often be a result of a longer fallow period.

The more innovative farmers have now begun to experiment with other types of cash crops because the competition on the local ginger market is getting harder. This might explain the inter cropping with fruit trees and coffee, although the latter only occurs seldom. Another explanation for the change in land use could also stem from the fact that the cultivation of hill rice requires more land than when planting perennial cash crops. This is because the planting of hill rice requires a longer fallow period for the soil to regain its nutrients. The shortening of the fallow period seem to be a result of the change of land use and not so much a result of changed conditions concerning access to land, however, we will discuss the effect that the change of land tenure system could have on land use.

A reason for the need of ownership to land, i.e. holding a grant to ones own land, is the access this gives to credits, loans and government subsidies. It is worth noting here that in fact 13 out of 14 plots (figure 2 & 3, appendix 4), which was registered by the water management group, of which a grant had already been established, had crops on them eligible for subsidies (mainly fruit trees and other perennial

crops). However, we were not under the impression that receiving subsidies or credit for agricultural development was especially wide spread. This leaves room for different interpretations. While indicating that a grant is needed because it enables the farmer to change the land use system, we are also saying that changes in land use could be a consequence of land acquisition. Actually the opposite might in fact be the case also. As mentioned before (see also appendix 2 Land Ordinance section 15) there are seven different criteria to the type of land use one has to practice in order to obtain a grant¹³. This can also have consequences for the type of land use chosen. In this case land acquisition becomes a consequence of changes in land use. One could imagine, that in order to obtain a grant to land a farmer would e.g. plant fruit trees on his land thereby abiding by the criteria under section 15(b). There are many ways to go about this, for example a farmer could plant 50 fruit trees or more when laying the land fallow, thereby mixing the secondary forest with planted crops (this could also apply to the criteria under section 15(c)). Also the criteria that land should be cultivated or built on within three consecutive years could influence the farmers choice of land use, if the object was to obtain a grant. These were also all points pointed out to us during our interview with PACOS.

Summarising Discussion

In this chapter we have tried to illuminate the complexity of the different systems of land tenure and access to land. There is no clear-cut division between the Land Ordinance and the Adat in present day Tikolod. This has meant that it has been complicated for us to separate one system from the other in the analysing and discussion of land tenure in Tikolod.

We have seen that inheritance, access to land and land security are three tightly linked aspects of land tenure. There are many ways of acquiring access to land one of which is inheritance and another the formal procedure for land application. Applying for land and inheriting land are both ways of securing land, however, the lack of new land has meant that inheritance is perhaps to most important of the two in relation to land security.

It has been hard to analyse and discuss the link between land use and land access, but there is no question that this is a significant linkage. Because the Land Ordinance sets certain criteria for the type of land use one must practise in order to obtain a grant, this could carry with it some kind of change in land use. Also the change in land use can be derived from the fact that the farmers can obtain credit and government subsidies to further their investment in the production.

¹³ One is not required to meet all the seven criteria, one is sufficient.

The implementation of the Land Ordinance has led to changes in the power structures and procedures on a local level. Applying for land today is a far more complicated process entailing several departments and institutions. The fact that the JKKK has the power to deal with land tenure issues, and the fact that the headman is appointed rather than elected by the local villagers, indicates a change in the decision-making process.

The above shows the complexity of the interrelations between land tenure and a wide range of other features such as security to ownership, inheritance, power relations, access to land and land use.

Conclusion

As we have seen inheritance has become a key role in securing and acquiring land. There are several reasons for this. On the one hand the establishment of the CRNP has cut the population off from accessing new primary forest, hence new land. On the other hand, because there has been a significant increase in land applications and grants, as a result of the need to secure access to land, there is no more land to apply for. As a consequence of the limited access to land and the need to secure land for ones heirs, inheritance has become the key to acquiring land.

One could argue that the introduction of the Land Ordinance has resulted in a limitation of the access to land. While private ownership has resulted in an increased security, it has also limited access to other types of land than the one owned by the individual farmer. With a rule of 'first come, first serve' some people might be economically marginalised. The last to apply for a grant will naturally be applying for unattractive plots of land, since all the attractive plots of land will already be granted to others.

Because the Land Ordinance has brought with it a security to land, all of our informants, except one, were positive towards the new formal system of land acquisition. Some would argue that the former system (the Adat) is better because of its holistic character, but the local villagers did not seem to follow this line of argument. This does not mean that the new system of land tenure is entirely positive. Unless local concepts of resource management are upkept or developed within this new framework, it could have consequences for the environment despite the local acceptance of the Land Ordinance. However, this might in fact be a positive side to the change in land tenure, since many of the former rules connected to the Adat still prevail under the new system.

From the data, we have been able to read that plots to which a grant is held, in 13 out of 14 cases had perennial cash crops cultivated on them. This seems to indicate that land to which ownership is secure is more often developed in new and innovative ways. One can actually talk about an increase in land use intensification, which according to Aalbæk *et al* (1999), could result in increased soil degradation. This is yet another argument why resource management practices should be upkept or developed to meet the changes in land use as a result of changing land tenure systems.

While the decision-making process during the Adat was localised, the decisions concerning the future of Tikolod are now mostly taken outside the community. From this, one could argue that power on the

local level is decreasing hence the ability to effect decisions concerning their future. The headman, all though a traditional local institution under the Adat, has been incorporated into the new formal system. The headman still acts according to the Adat, but in accordance with the laws under the Land Ordinance. In a way he is the embodiment of the local traditions in a new legal context and so he is a local manifestation of the legal pluralism existing between the Adat and the Land Ordinance.

The methods used during this fieldwork have not been without problems. The choice of using PRA has been a giving experience, but it is perhaps not the most appropriate method to use under these circumstances. Our original aim was to let the local villagers themselves define what they saw as the important aspects of their land tenure system, but in practise this was hard to obtain. All though the two PRA sessions turned out differently than what we expected, the information gained was still highly valuable.

We feel that we have covered all aspects of our research question, all though we are aware that we have not been able to be equally conclusive on all points.

Putting into Perspective

A central issue in discussing the future of Tikolod with the villagers is the expected population growth. The average family size is six persons and since everybody wants to secure the future of their children, this influence the perceived need for land. One thing that could limit the growth in population would be if the young people, who are going to the larger cities to study, do not return. According to the interviews¹⁴ we made they will only come back if they can acquire enough land -either by inheritance or by buying land- to make what they consider a descent living.

How much land there will be needed depends on the way the villagers cultivate their land. A higher level of education might lead to serious changes in land use; if the farmers were more educated and better informed they might stop practising shifting cultivation. If the farming practices are changing toward a more permanent land use intensification, it will mean a decrease in the amount of land and labour input needed in the short run, because the very time consuming practise of clearing the fallow land will be abandoned. However, a permanent and perhaps a more intensified land use require an increased input of fertilisers and a change to an increased production of cash crops. To acquire enough land one could argue that buying and selling land will be more common in the future both to secure the future generation and to expand ones income. We got the impression that the younger people in Tikolod were the entrepreneurs and innovators, they have ideas about how to experiment with different crops and land use technique, one informant talked about getting enterprises to the area.

Shortening the fallow period in a shifting cultivation system may increase output, but in the long run it can result in degradation of secondary forest into grassland (Cleary & Eaton 1996: 21). So the maintenance of the ecological balance depend on the length of the fallow period, which can be a problem in the future for the people in Tikolod if they keep practising shifting cultivation. Also the intensification process that seems to be apparent will have an effect on the resource management. If the shortening of the fallow become a consequence of intensification, which it undeniably will, chemical farm inputs become a necessity in order to maintain the soil fertility. This, however, will not prevent soil erosion, which according to Aalbæk *et al* (1999) could be a consequence of agricultural intensification. In fact this might even worsen the problem, since not only the eroded soil will enter the

¹⁴ This section is mainly relying on the two interviews we conducted about the future of Tikolod. The informants were James and Jude.

rivers of Tikolod but also the nitrates from the chemical farm inputs, which the will make the water polluted and undrinkable in the long run.

Another issue that has to be taken into consideration when talking about the future is the CRNP. The policy behind the creation of the CRNP in 1984 was to protect the watershed area and supply the local people with clean drinking water, which in itself is a good thing. However, the aim of another government policy is to encourage the local people to intensify their land use to increase the production of rice so Malaysia will be self-sufficient. However, intensifying land use has some environmental consequences like soil erosion and water pollution. Looking separately at the two policies, the rationale behind them gives meaning, the problem arises when they are practised at the same time. What could be improved is the decision-making process and implementation, the lack of democracy creates some problems for the local people in their everyday life. The CRNP influences indirectly the lack of land in Tikolod.

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Appendix II

The following are the sections of the Land Ordinance that we are focusing on in the report; sections 14, 15, 16, 28 & 65. These sections are as follows.

- Section 14: Claims to native customary rights shall be taken down in writing by the headman or by the collector (the collector of revenue), and shall be decided by the collector (Land Ordinance, Part I, p. 14).
- Section 15: Native customary rights shall be held to be (Land Ordinance, Part I, pp. 14):
 - a) land possessed by customary tenure;
 - b) land planted with fruit trees, when the number of fruit trees amounts to fifty and upwards to each hectare;
 - c) isolated fruit trees, and sago, rotan, or other plants of economic value, that the claimant can prove to the satisfaction of the collector were planted or upkept and regularly enjoyed by him, as his personal property;
 - d) grazing land that the claimant agrees to keep stocked with a sufficient number of cattle or horses to keep down the undergrowth;
 - e) land that has been cultivated or built on within three years;
 - f) burial grounds or shrines (e.g. Pesaka);
 - g) usual rights of way for men or animals from rivers, roads, or houses to any or all of the above.
- Section 16: Native Customary rights established under section 15 shall be dealt with either by money compensation or a grant of the land to the claimant and in the latter case a title shall be issued under Part IV (Native Lands) (Land Ordinance, Part I, p. 15).
- Section 28: In this section it is stated that land can be expropriated for any public purpose or residential reserve as seen fit by the Yang di-Pertua Negeri (state or government) (Land Ordinance, Part I, p. 18).
- Section 65: "Customary tenure" means the lawful possession of land by natives either by continuous occupation or cultivation for three or more consecutive years or by title under this Part or under the Poll Tax Ordinance (this was replaced by Ordinance No. 14 of 1962, or part IV of the Land Ordinance, 1913 (Land Ordinance, Part IV, p. 14).

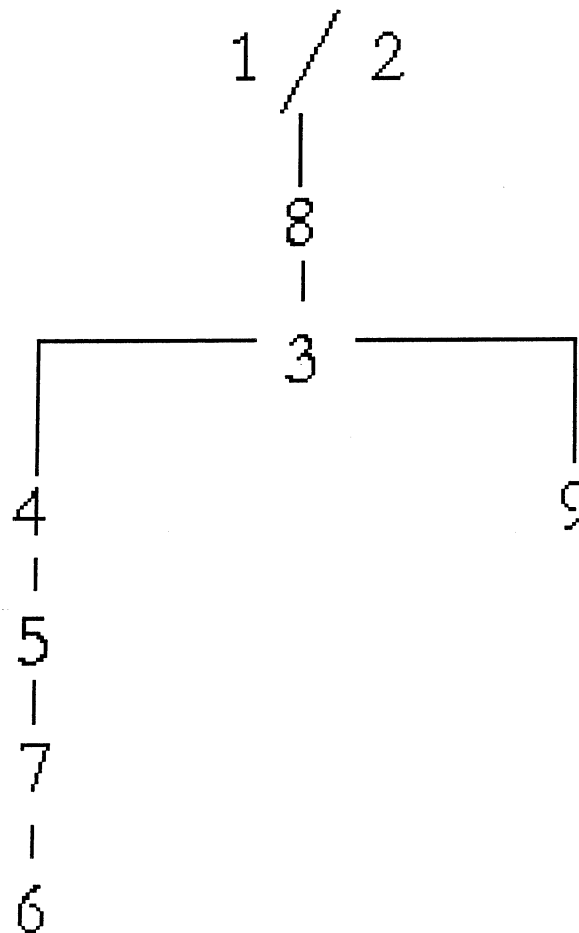
The above sections are all chosen because of their relevance to our discussion.

Appendix III

Institutions dealing with land tenure and land acquisition, chategorised in order of importance. This data is produced through a Venn Diagram session using four informants.

1. Village headman
2. Penggrusi JKKK
3. Land deparment
4. Department of Agriculture
5. Department of Forestry
6. Department of Health (Water department)*
7. Department of Water management (Health department)*
8. District Office
9. Land & Survey department

* On these two points there were some difference on which of the two departments were the most important.



The figure is the actual Venn Diagram, the numbers are equivalent to the abovementioned departments.

Appendix IV

Land use in Tikolod (data based on the physical mapping)*

Crop	Number of plots with specific crops	Percentage of plots
Rubber	12	14,28%
Oil palm	1	1,19%
Wet rice	22	26,18%
Hill rice	15	17,85
Coffee	2	2,38%
Ginger	16	19,04%
Fruit trees	12	14,28%
Paper tree	3	3,57%
Hard wood	1	1,19%
Total	84	100%

*Out of all the plots that was drawn on the map made on our first PRA-session, 69 were cultivated and what is worth noticing is that almost all the fields drawn borders to either a road, one of the three hamlets (Kg. Tikolod, Kg. Ulu Tikolod, Kg. Bolotikon) or to a river, especially the latter¹. The type and amount of fields planted with different crops are as follows (out of the 69 fields). Also notice that on some fields the crops are intercropped which accounts for the 84 plots as opposed to 69 cultivated plots.

Land use in S. Bolotikon watershed (Aalbaek *et al* 1999)

Crop	Number of plots	Percentage of plots
Hill rice	11	18,33%
Ginger	30	50%
Fruit trees* (mainly Durian)	11	18,33%
Wet rice	5	8,33%
Maniok	1	1,66%
Coffee (intercropped)	1	1,66%
Oil palm (intercropped)	1	1,66%
Total	60	100%

Land use in S. Tikolod watershed (Aalbaek *et al* 1999)

Crop	Number of plots	Percentage of plots
Hill rice	7	17,07%
Ginger	17	41,46%
Fruit trees* (mainly Durian)	7	17,07%
Wet rice	3	7,32%
Rubber	2	4,88%
Maniok	2	4,88%
Coffee (intercropped)	2	4,88%
Oil palm	1	2,44%
Total	41	100%

*On approximately half of the plots with fruit trees, the trees are intercropped with only a few trees in a ginger or hill rice field. It is therefore important to note that hill rice covers a larger percentage of the land than fruit trees even if the figures in the matrix above are equal.

¹ Of course it has implications for our numbers that it is only the lower fields in the Tikolod Valley that are drawn on the map