Tuomas Tammisto # Working the Environment:
History, Loss and Its legal Implications among the Mengen of East New Britain

In this article I will discuss the connection between the environment and history among the Mengen, a people living in the East New Britain province of Papua New Guinea, where I conducted three months of preparatory fieldwork in the summer of 2007. As will be seen, place in the environment of the Mengen is significant in questions of landownership and logging, which are central political questions today, especially in the parliamentary elections held in June 2007. Also, space and the environment hold interest for the state and companies, not just in terms of economical benefit, but in questions like control and management, which are especially visible in road building. In fact, the management and the creation of a "legible environment"[1] is of central importance to the state. Hence, the contact between the locals, companies and the state is physically acted in and on the environment. On the other hand the environment is also the subject of the dialogue between these three actors, since all parties lay sometimes conflicting claims on the environment.

In order to gather material for my Master's thesis on the politics and effects of logging and other natural resource extraction in Papua New Guinea, I did three months of fieldwork in Papua New Guinea from the end of May until the end of August.

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[1] Scott 1998, 11. By "legible environment" Scott refers to an environment that can be easily managed and "read" by government (or company) officials with the use of standardized measurements, maps etc. Creating a legible environment involves not only the creation of maps and gathering of information, but also physical management, such as the creation of monocultural forests for forestry, standardized fields, roads etc.

The main location of my fieldwork was a small village (VILLAGE1) of about 100 inhabitants in the southern part of Wide Bay (see Map 1) on the east coast of New Britain island, the largest island of the Bismarck Archipelago. The villagers were predominantly Mengen, but connections with the neighboring Sulka people are frequent, for example in the form of intermarriages. My main method was participant observation, which meant participating as actively as possible in the village life. This meant communal work in neighboring villages and work in the subsistence gardens, such as building fences, clearing new gardens and so forth. Much of my material is based on notes I took during the everyday conversations with people and my own observations. On the 30th of June 2007 there were also parliamentary elections in Papua New Guinea, which allowed me to observe campaigning by supporters of different candidates and discuss politics with people.

Along with participating into everyday life, I conducted recorded structured or semi-structured interviews among the inhabitants. During my stay in the village, I conducted 25 interviews with mostly inhabitants of VILLAGE1 and one man from a neighboring village. Among the people interviewed, were a local land mediator, members of a local conservation association, supporters of different parliamentary candidates and so on. During my stay in the Kokopo, the provincial capital of East New Britain, and Port Moresby, the capital of Papua New Guinea, I interviewed four members of different NGOs.
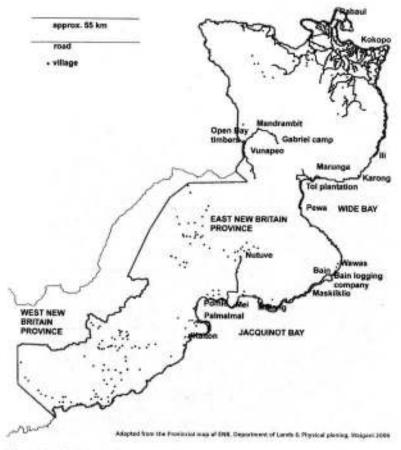
Meaning and History in the Mengen Environment

The Mengen number about 10 000 persons[2] and they inhabit the coast around Jacquinot Bay and the southern part of Wide Bay (see Map 1). The majority of the Mengen are subsistence farmers practicing swidden cultivation of mostly tubers, such as taro, yam and sweet potato. While the majority of the inhabitants of VILLAGE1 are subsistence gardeners, many have also a high formal education, such as university degrees (one inhabitant), degrees from teacher's colleges (about five inhabitants) or agricultural education provided by non-governmental organizations. Many young men work also as migrant laborers in other parts of New Britain.

Swidden or shifting cultivation involves clearing of gardens into the forest. Fences are built around the gardens from the cleared trees and the rest of the trees and dried

2 The census data on Mengen is hard to find and somewhat unreliable. The number given here is a very rough estimation based on the census data by Panoff (1969a,1) who gives 5 000 as the population size of the Mengen in the late 1960's, on the Summer Institute of Linguistics, which gives the number 8 000 for the year 1982. More recent data was not available.

undergrowth is burned thus increasing the fertility of the soil.[3] Gardens (see Image 1) are cultivated for about one year, after which they are abandoned to regenerate the forest, which can be cleared for a new garden after five to seven years. Shifting cultivation, while as such ecologically sustainable[4], requires relatively large areas of land and many villagers with whom I talked perceived population growth as a potential source of land scarcity and conflicts. In addition to food, the environment provides still today much of the material needed for houses.

Map 1. The distribution of roads and villages in East New Britain Province.

3 Panoff 1969, 25.
4 Panoff 1969, 20.

Image 1. Human environments: A Mengen garden. For scale, note the man standing in the center of the garden.

The environment and subsistence is linked to the Mengen conception of time and history. Michel Panoff[5] has shown how the Mengen divided the year into months that can be equated with the seasonal variation of certain trees. This "village calendar" (*kalender bilong ples*[6]) is still used by the Mengen, to the extent that it was systematized some years ago and is now taught in primary schools to children. According to the villagers I interviewed, the village calender must be followed in order to gain a good harvest. The environment and particularly the trees are a way of reckoning time, for example an older man whom I was interviewing about history used the growth of coconut trees to count the flow of years.

But besides counting time and metaphorically conceptualizing history, which according to Panoff[7] equated with a tree and its growth, the environment also "documents" history. This two-way spatialization of history seems to be analogous to the process Alan Rumsey describes in Australia and New Guinea saying that the *"spatialization of knowledge* [...] *goes hand in hand with knowledge about places"*[8]. Stuart Kirsch has argued that for the Yonggom people living in central New Guinea individual life histories are inscribed into the environment in recognizable traces produced by the work of people, such as felling of trees or clearing of gardens. Thus the landscape holds *"memories of the past".*[9] According to my own experience this is the case also among the Mengen, as will be shown below.

Indeed, human action is literally inscribed everywhere in the Mengen environment. Trees along paths bear an ever growing number of marks chopped with bush knives by people, especially young men and boys, walking to their daily activities. This habit did not have "any special significance" according to the boys themselves, but it helped me to recognize the sometimes less than clear paths. The human action is not just seen in these trivial marks, but for example the Mengen terminology on different forest types seems to incorporate the aspect of human work.

The word *gurloon* (m) is equivalent to the English term forest and a general term with no specific connotations. However, *gurloon* covers four words that all describe various types of forest with emphasis on the age and use of the forest.

5 Panoff 1969b, 158.

6 Text in italics is Tok Pisin, the lingua franca of Papua New Guinea. The local language Mengen is also in italics followed by "(m)".

7 Panoff 1969b, 164.

8 Rumsey 2001, 12.

9 Kirsch 2006, 11.

1. *paplii* (m): refers to secondary forest or bush that starts to grow in gardens after they are abandoned. Recognized as former garden area. At this stage no new gardens can be cleared.

2. *mlaap* (m): secondary forest that grows in abandoned gardens. It is distinguished from *paplii* through the size and type of trees. Certain tree species start to grow in size and thus replace other species typical to secondary forest or paplii. Recognized as former garden and traces of human work, like tree stumps or ax marks, still visible. After about at least five years after abandoning the garden, a new one can be cleared again at the same spot. At this stage the forest has grown from paplii to mlaap.

3. *loom* (m): Primary forest, glossed as "virgin forest" by some Mengen. Is not seen anymore as a former garden, even though after a "long" time secondary forest can turn again into virgin forest. Distinguished from *paplii* and *mlaap* through the type and size of trees: in the virgin forest trees are of different species and considerably bigger than in secondary forest. Also, visibility is better in the virgin forest, because of the size of trees and lack of dense undergrowth, as opposed to primary or secondary forest. Traces of human action are visible, because people gather various materials from the forest. Trails are also marks of human action in the forest.

4. *loom son* (m): the definitions for this category were somewhat vague, but it refers to forest growing on mountain ranges, with poorer vegetation due to the less fertile land and poor fauna. In some definitions *loom son* was distinguished from other types of forest due to the lack of any (visible) human action. One informant also said that if people were to start using this kind of forest, it would change into loom.

As apparent in the forest terminology, great emphasis is put on the social aspect of the environment that is visible marks of human work. The first two terms are directly linked to the garden, since this type of forest would not exist without human action. The third term, while meaning the actual rainforest, incorporates too wide a range of recognized human activity, whereas the fourth one is distinguished precisely by the lack of it. When walking with my Mengen friends, I was often pointed out marks of human work, for example who had cut leaves for roofs where, who had cleared the particular track and so on.

In addition to this, the Mengen environment consists of different types of named places of different significance. These place names are either "only names", refer to a story or anecdote that had happened in the distant and sometimes in the mythical past on that spot or the names described the landscape. Many of the named places were abandoned villages and in fact the general Mengen term *knau* (m) refers to an abandoned village.

Some places, such as springs, rivers, certain rocks etc., are said to be inhabited by spirits (*masalai*). The *masalai* are in themselves neither good nor evil, but dangerous to those who fail to show respect and may cause sickness or accidents to trespassers. Human interaction with the *masalai* is however possible. Foreign people should be introduced to spirits by the locals, new places can be found, for example if one gets sick or has a dream of a *masalai* upon visiting a location and the *masalai* can be formally asked to leave a site by persons who know how to interact with them, so that it can be used for a new garden or village. Even some sub-clans are said to stem from *masalai* women whom humans have adopted as their children. In my opinion this shows that *masalai* places indicate that people have a social relationship with their environment and more specifically that people attach meanings to specific sites in their environment, know and appreciate them.

Along with individual action and life histories, also clan histories are visible in the environment. The abandoned villages are by no means forgotten and they are important marks of clan histories. Mengen clans know their history in form of genealogies and stories, mostly about the origin and movement of the clan or of individual elders and ancestors, called *tumbuna* in Tok Pisin. These *stori bilong tumbuna* hold also information about named places in the environment: what villages did a clan inhabit or found, where did some ancestors settle, from which plant were mythical ancestors born, where were old gardens located etc. And vice versa: this information is also evident in the landscape. Old and long since abandoned villages are recognized through the trees that the ancestors had planted, such as the *areca* palms that bear the constantly consumed betel nut and other cultivated plants that are signs of human activity[10].

The interlinked stories of clan descent and the founding of villages form indeed a history (even though different than the Western conception of "history"), since it forms a general consensus and the "traditional record" of clan migrations etc. can be checked through inquiries[11]. Today, these histories are a focus of much attention and

10 See also Panoff 1969b, 164.
11 Panoff 1969b, 163.

they are being inquired and documented by the Mengen themselves, because they are central evidence for the ownership of clan lands. According to the legislation of Papua New Guinea, land is communally owned by the traditional landowners under customary land title[12]. However who these traditional landowners are, is in most cases not specified and the land areas are not registered[13]. According to the Mengen, in the past there were no or fewer disputes over landownership and these are mostly caused by "development" (*developman*), i.e. royalties from logging operations and cash-cropping. Dispute cases are settled on various levels by land mediators, who hear both sides and consider the evidence given by both parties.

Due to these disputes clan histories can sometimes become guarded secrets. Because clan histories are one form of evidence of landownership, some people worry about the possibility that other clans might "distort" the stories for their own benefit. Some clan members told that they would reveal the true clan histories in their totality only in court cases to neutral outsiders, because they have no interests in clan lands far away: *The information you give out about your ancestors, all other people can use this information and twist it around. Some people are becoming clever these days. The custom of before is no more. That's why people don't like to disclose their information, for the fear of that.*[14] - woman, NGO-worker, 50 years (10.08.2007, Kokopo)

Roads and legible environments

The State[15] has also an interest in the environment and the modification of it. This interest is not purely economical, such as the extraction of natural resources, but also administrative, since the State needs a standardized and legible environment, like standardized citizens and an administrable social life[16]. The State has to manage and administer much larger entities, both environmental and social, than local communities. The local ways of seeing the environment suit the local needs, but are often too complex and too heterogeneous for the State, as are local practices of social interaction[17]. These processes are too manifold and they have to

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12 Filer 1998, 30.

13 Filer 1998, 31.

14 *Information yu givim aut long ol... ol big man long yu bipoo bipoo... ol tumbuna bilong yu - ya, ol lain ken usim deila information na twistim twistim araun.* [...] *Some people are becoming clever these days. Pasin bilong bipoo, i no mo stap.* [...] *That's why people are... ol i no laikim disclosim information bilong ol, for fear of that.*

15 I use "the State" here as referring to the institution in general, not a specific state unless so mentioned.

16 Scott 1998, 22.

17 Scott 1998, 22, 24.

Image 2. Legible environments: Roads and plantations on the outskirts of Kokopo, the administrative capital East New Britain Province.

be simplified and standardized, in order to be easily comparable, legible and thus administrable.

In a very concrete way this process of abstraction is visible in the "scientific forestry" born in 18th century Prussia[18]. At first the abstraction was done on a conceptual scale by "ignoring" those aspects of the forest that were not economically interesting, but the logical outcome was that actual forest became managed in this way[19]. The product was a monocultural and even-aged forest, a *"neatly arranged construct* [...] *of science"*[20]. According to Scott[21] this process has to be seen as a part of a larger context, that of centralized state-making. In New Britain, especially in West New Britain Province, but also increasingly in the eastern province, oil-palm plantations form standardized and monocultural environments (see Image 2).

Roads and road-building are important things to bear in mind when discussing spatial and environmental conceptions and the modeling of the environment. The significance of roads is easily forgotten in places where they are taken for granted

18 Scott 1998, 12.
19 Scott 1998, 13, 15.
20 Scott 1998, 15.
21 Scott 1998, 14.

and where they are an integral and almost natural (or naturalized) part of the landscape. In addition to this, roads are also necessary for any kind of natural resource extraction and they are an essential part of the infrastructure needed by the state and companies.

Roads reform in a very concrete fashion the environment into the "legible" grid needed by states[22]. Moreover, road-building is a way of connecting (and submitting) certain areas more closely under the sphere of the State. As James Ferguson[23] has shown, road-building is not just a technical operation, but that it may have strong political effects. Ferguson uses as an example a seemingly unsuccessful "development" project operating in Lesotho during the 1980's. The project did not meet its goals, but through technical improvements, such as roads and other services, the area in question was tied more closely to the state, for example because the road made the area more accessible to the military, which indeed increased its presence in the area[24]. In East New Britain roads are now a central question strongly related to questions about the state, landownership and even ethnicity.

In East Pomio, the area inhabited by the Mengen, as well as nearly everywhere else in East New Britain, roads form a peculiar private infrastructure. Around the provincial capital Kokopo there is an extending road network, which however does not reach very far to other parts of East New Britain. Elsewhere in the province roads are not absent, but they are not connected to the limited network around Kokopo, or to anything else for that matter (see Map 1). Most of the roads in East New Britain are not built by the government, but by private logging companies, such as the Malaysian Rimbunan Hijau operating in the Baining areas and its subsidiaries like Niu Gini Lumber operating in East Pomio[25].

These roads seem to run from nowhere to nowhere. They connect the coast with logging areas and often run through small villages. This network is only temporary: after logging operations cease in a given area, the road is abandoned by the company, not maintained and easily damaged by the heavy rains during the wet season. Bridges built by the company suffer the same fate. Even though the locals use the roads, where convenient, they serve almost exclusively the companies operating in the area. They are private infrastructure built for a single purpose, namely the transportation of timber, and thus very different from the road networks built by states, although in practice government roads in PNG are not always much better.

22 Scott 1998, 6.
23 Ferguson 1996, 253.
24 Ferguson 1996, 253.
25 Fajans 1998, 20.

The road network around the capital and in general the more "developed" infrastructure in Tolai areas, i.e. north in the Gazelle peninsula, is a legacy of colonialism, because the administrative areas and plantations were and still are located there. In Ferguson's account of road-building in Lesotho the roads come as mere "by-products" of a development project and advance the grip of the state almost unnoticeably. The situation in East Pomio is very different. Road-building is a central political question much debated by the inhabitants themselves. Paul Tiensten, the MP of Pomio district[26], advocates the so called "Ili-Wawas Integrated Project", which aims to connect the logging roads around Ili (Baining area) and Wawas (Sulka-Mengen) and thus the Pomio area with the road network of Kokopo and later Kimbe, the provincial capital of West New Britain. It is an "integrated" project, since it incorporates road-building, logging and the establishment of oil-palm plantations. According to the plan, logging companies build the roads, harvest timber and after this is done, plantations are established on the cleared areas. The aim is to save government funds by letting the companies build roads and it is hoped that roads will be maintained too by private funds, since it is in the interest of the plantation owners.

The majority of the villagers with whom I talked, were in favor of the road link, since it was hoped that a road to Kokopo would ease the financial situation, in as much agricultural products from the villages as well as cash crops (like cocoa and copra) could be transported to the market. Despite the positive attitudes, most were also afraid that a roadlink would bring problems, mostly *raskols*[27] and other suspicious people from towns. Some villagers, mostly men in their 30's, were highly critical of roads built by the company, because of their limited durability and the government's suspected inability and unwillingness to maintain the roads. Also, since the villagers do not have cars, nor can they afford those in the near future, roads and their maintenance were seen by some as useless waste of money.

Ferguson[28] has noted how the roads can bring tighter government control. It seems that in East Pomio the more stronger presence of the government is desired by many, if the area is connected to the provincial capital: *"It [the government] must think about the communities and it must set quarterlies or something like that,*

26 During his first term from 2002—2007 a minister under PM Michael Somare and re-elected in the 2007 elections with a great majority of votes. A Mengen originally from Wawas, a small village in the Wide Bay area of East Pomio.

27 *Raskol* is a Tok Pisin term for young men engaged in criminal activities such as hold-ups, rape and murder.

28 Ferguson 1996, 254.

patrol bases... men of law or police and the kind to look into the trouble [brought by roads]."[29] - man, in his mid-30's (26.6.2007, village in Pomio district)

On the contrary, the main worry seems to be that the roads will not bring with them government control, but just the violence and troubles from towns. On the other hand, the police does not solely prevent violence, but all too often some policemen are the perpetrators of it. For example, a conservation activist from the Lote people (Pomio district, south of the Mengen areas) told that he was assaulted and badly beaten by policemen, according to him acting on behalf of a logging company. Furthermore, people from the village in which I was situated told about an incident, where some armed policemen had threatened villagers who were opposed to logging.

In relation to his description of how states create standardized and "legible" environments, James Scott[30] has noted that also large-scale capitalism creates this kind of environments. According to him the scientific forestry, which "saw" the forests from a purely utilitarian and economic point of view, served *"the direct needs of the state"*[31]. This way of "seeing" is even more typical to logging companies, which see the environment from an even narrower economical point of view than most states.

But do companies in fact create the same kind of standardized environment and infrastructure as do states? In East Pomio, as already noted, the company infrastructure is as narrow in its uses as is the point of view which produced it. The roads are temporary and they form isolated "grids" in the areas of interest to the companies. In response to Scott, James Ferguson[32] has argued that neoliberal capitalism in fact does not produce "national grids", but enclaves and "patchworks". Indeed, capital does not flow, but it "hops" from an usable area to another, skipping the "unusable" in between[33]. Ferguson's description of oil-companies in Africa seems in general applicable also to logging companies in East Pomio.

Until now the logging companies have created what seem to be enclaves, even though much less extreme than the oil-enclaves in Africa or Iraq protected by razor wire and armed guards[34]. The logging-road network spreads around the base camps of the companies, leaving other areas "off the grid". Some Mengen villagers were

29 *Em was ringting tu long ol community, so i mas settim olsem ... na... quarterly o desla kein, ol patrol bases bilong ol ... lo man o police o desla kein, bilong lukluk insait long ol trouble nau.*

30 Scott 1998, 8.

31 Scott 1998, 12.

32 Ferguson 2005, 379.

33 Ferguson 2005, 380.

34 Ferguson 2005, 381.

very critical towards this private infrastructure, calling the roads as mere tracks that will be washed away by rains in six months. But in some cases this kind of non-state infrastructure is desired by some inhabitants of East New Britain.

The Baining, an ethnic group living in the northern parts of East New Britain, more close to the capital Kokopo than the Mengen, have opposed a roadlink that would connect them to the provincial capital[35]. In East New Britain the largest ethnic group, the Tolai living around the provincial capital, have the greatest political and bureaucratic influence, but are short of land. Because of the land shortage, there is a constant demographic pressure from Kokopo towards the southern parts of New Britain, at least according to Fajans[36]. The Baining have sold rights to logging companies to work on their land and as a result of that the private logging infrastructure exists also in Baining areas. The Baining have viewed these roads positively, precisely because they do *not* connect to a wider network and therefore the threat of Tolai settlers is significantly lesser[37]. The Mengen seemed to be less concerned about the ethnic tensions between Tolais and other groups than about crime in relation to roads, even though they are aware of the problematic situation of land shortage among the Tolai and its implications to other groups of East New Britain.

The infrastructure situation in East Pomio and other parts of East New Britain, is less clear-cut than the scenario described by Ferguson (2005). The logging-company infrastructure resembles in many ways the enclave-like infrastructure of oil-companies, but with the Ili-Wawas plan there seems to be a trade-off between companies and the state, in so far as the companies get logging concessions for which they need still the approval of traditional landowners, while the state gets the desired infrastructure at fraction of the cost the state would have to pay if it were to build the infrastructure alone. But the companies and infrastructure do not advance the control of the state just by making the areas more accessible, but the infrastructure itself creates a need for the state and its security providing institutions, as the comment by the Mengen man well illustrates. And it is not only gang-crime that makes the state needed for the locals, it is also the companies that create this need. In cases of company abuse or disputes created by royalties from logging operations, the state can be the only level where these problems can be solved.

In East New Britain there are three different levels of infrastructure or road networks that sometimes intercede with each other: there is the state owned road net-

35 Fajans 1998, 20.
36 Fajans 1998, 20.
37 Fajans 1998, 20.

work in the north around the capital, the privately built temporary patchwork of logging roads around the province and thirdly, the local network of paths and waterways. With the advent of plans like the Ili-Wawas -project, the distinction between private and state infrastructure becomes increasingly blurred. On another level, the locals incorporate the private logging roads into their own system of infrastructure, as in the case of the Baining for example, but sometimes it also interferes with local network, destroying old trail networks thus disorienting the locals.

Another aspect of the local infrastructure that needs to be remembered are the waterways. In East Pomio, all major distances are crossed by boat, whether it is "internal" movement from the villages to the larger centers of Palmalmal or Pomio, or from the villages to Kokopo. Even though the use of these "highways"[38] is very fuel-intensive and thus expensive, it is perceived by some locals as an independent form of transport: *"There are other and cheaper alternatives to get development that don't pose any danger to us. Like the improvement of ports. We could use only sea-transport and short distance roads* [to the ports], *like we here in* VILLAGE1. *"*[39]- man, 37 years (2.7.2007, village in Pomio district)

Along with paths, the waterways form the local infrastructure that is in some cases contesting the other two "built from above" types of transport network.

Environmental Destruction and the "Scenes of Loss"

The state and the companies do not just produce environments legible from the center or patchworks of infrastructure, but in many cases they also destroy existing environments. In East New Britain logging is not done according to the characteristics of scientific forestry according to which the "forest as an economic resource [is] managed efficiently and profitably"[40]. Trees are not re-planted in uniformed ranks, nor are there any foresters administering and "reading" the forest[41]. The Malaysian companies operating in New Britain and elsewhere in Papua New Guinea cut down timber in rainforests and once an area is cleared of the valuable trees, it is abandoned by the companies leaving the logging roads unattended[42]. Accounts of company

38 Hviding 1992, 2.

39 *We are but i much cheaper. Na bilong kamapim developman bai i no givim mipela eny danger. I get ol narapela alternatives.* [...] *Say, like mipela i improvim ol ports tasol. Na mipela i usim sea transport na rot wot distances long rot tasol, like mipela long hia antap long* Village1.

40 Scott 1998, 13.

41 Scott 1998, 15.

42 For abuses by Rimbunan Hijau in mainland New Guinea, see for example Schieffelin's (1997) account on the Bosawi.

abuses in Papua New Guinea are numerous[43]. In contrast to the homogenizing, yet sustainable scientific forestry, logging in East New Britain seems unsustainable and destructive natural resource extraction. Only now, with the advent of the ever-increasing oil-palm plantations, does the grid-like and administrable and non-diverse environment extend itself. Even though the end product of these two types of processes might be entirely different, the result can, and often is, in both cases the destruction of the local environment and infrastructure.

Logging and other forms of natural resource extraction, even though sometimes supported by the locals themselves, can threaten the local forms of subsistence. Logging might decrease the number of wild animals making hunting more difficult, the oil-palm plantations often impoverish the ground and pollute waters. Especially the latter is an often forgotten point that might have far-reaching effects. This was also evident during my stay in East New Britain: the villages in which I stayed relied solely on the rivers and collected rain in terms of water. Often after the rains the rivers were muddy and I was cautioned not to drink the water. The rains washed soil loosened by logging in the mountains into the rivers and the water was not potable even at the mouth of the river by the coast.

The effects of environmental destruction can however go far beyond questions of subsistence, even though they themselves are extremely important. The Ok Tedi -mine has radically changed the environment of the Yonggom's. The environment, made unidentifiable by the impacts of the mine, affects the Yonggom according to Kirsch in many different ways: on the one hand the Yonggom find the radically changed environment physically disorienting, because missing landmarks make moving in the environment more difficult, and also due to the destruction of the landscape, that is connected to memory, the history of the society is in danger to be lost[44]. Therefore Kirsch calls the "empty" places destroyed by the mine as *"scenes of loss"*[45]. The destroyed environment represents, and in a very concrete way *is*, the loss of history and lifestyle.

The impacts of these "scenes of loss" became concretely evident to me when walking in the forest with two young men, my best friends from the village. The other one, my adoptive brother, is a hunter and knows the rainforest very well, not least, because it is his clan's land area. My friends showed me around in the forest, pointing my attention to important things, such as a poisonous plants or abandoned villages as we walked. Going further on top of a slope we encountered an illegal logging road

43 CELCOR & ACF 2006, 10.
44 Kirsch 2006, 189.
45 Kirsch 2006, 190.

Image 3. Rot bilong kampani: The way of the company. An illegal logging road in Pomio district.

built on my brother's clan land during a land dispute some years before. Another clan had claimed the land area and granted the logging company permission to do exploratory logging. The case was disputed and after lengthy processes involving court cases in the provincial capital, my brother's clan had won the dispute and the company left leaving behind the road that looked something like a slowly healing scar in the forest (see Image 3).

Greatly impressed by my brother's knowledge of the forest and his ability to move in it, I was surprised when we lost our way coming back from the wreck. He told me that he did not know the exact and shortest way back, since the logging road had destroyed parts of the trail network. *"Not even the ancestors* [or elders; *bigman* in Tok Pisin] *would recognize the trails they themselves treaded."* claimed my brother and my other friend agreed. After a while, my brother picked up his route again and we continued our journey. Following my friends making their way in the rainforest, I started thinking about the different, and in this case conflicting, levels of infrastructure and how for me the only legible and recognizable part of the forest, namely the road, was so disorienting to my friends.

But the possible implications of environmental destruction dawned to me only much later when I was learning how land disputes are settled. As already mentioned, clan histories and knowledge about the relevant places in the area are not just histories of the society, but also evidence for the ownership of specific land areas. They are evidence not only during the first step of land dispute settlement that is done by Local Land Mediators in the villages, but also in higher court stages, where particularly difficult disputes are settled.

The abandoned villages, old graveyards and other places relevant in land dispute cases are recognized through the visible marks of past human activity, such as planted trees etc. What happens when these are destroyed, by a logging road for example? My brother lost his way in the forest, because the road had destroyed some trails, but what would have happened if the road had been built on an abandoned village? I asked my brother what would happen if an old village ground were to be totally cleared. He reminded me of the time we were lost in the forest due to the road and pointed out that the abandoned village would not be recognizable anymore.

Conclusion

Large scale natural resource extraction and the establishment of oil-palm plantations, now a rising industry with bio-fuels being increasingly fashionable and demanded, can leave people such as the Mengen, unable to continue their traditional way of life. Monetary income is a problem for many: school fees, daily needs, such as kerosene

for lamps and so on, all cost money, which is occasionally hard to come by. Still, the Mengen are owners of their land, being nearly totally self-sufficient in terms of food and housing. Even if they retain the title for their land areas, but the environment is radically changed, for example with the establishment of a plantation, the Mengen may be transformed from low-income subsistence farmers into poor rural proletariat, much less in control of their lives than now. Ira Bashkow has summed up this concern precisely and chillingly: *"But in the long view, development does poor people little justice if it binds them to a life at the lowest rungs of western modernity that exchanges the wealth of their own cultural forms for only the lowest-grade trappings of western civilization: broken-grain rice and canned mackerel.*[46]

Even though concerns about subsistence and economic survival are extremely important and central, other aspects of environmental destructions should not be forgotten. Especially, if such cultural, ideological and even religious factors are again deeply connected to economy and control, as in the case of landownership among the Mengen and elsewhere in Papua New Guinea. Kirsch calls the landscape *"an embodiment of memory"*[47]. And indeed, when history is inscribed in the landscape, the destruction of it is the destruction of the "documents" that are evidence of the history. This can at its worst mean the loss of identity and even culture, but it might have also more far reaching legal implications.

In the situation of Papua New Guinea, where land is owned by mostly unspecified "traditional owners", ownership has to be testified often, especially with large scale natural resource extraction, which has lead to the rise of registered land disputes. The case of my brother's clan is a good example of this. Places are, at least among the Mengen, part of the evidence of the traditional ownership, also in formal court situations where the disputes are settled, and its loss might affect the result of the dispute. Of course places are not the only evidence, but given that "traditional knowledge" is of central importance in land dispute cases, the possible impacts of environmental destruction ought to be considered.

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46 Bashkow 2006, 238. Bashkow's book is sensitive and beautiful account of modernity and its problematic among the Orokaiva people of Papua New Guinea that is applicable to many other parts the country too.

47 Kirsch 2006, 195.

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