

# COMMUNICATING REDD+ ISSUES AT LOCAL LEVEL: CREATING LATENT AND MANIFEST CONFLICT<sup>1</sup>

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## ABSTRACT

“Carbon offsetting” in forestry-related projects is widely regarded as the ideal solution to the three challenges of the 21<sup>st</sup> Century: climate change, biodiversity conservation and socio-economic development. At the same time, there is scepticism about the Reducing Emissions from Deforestation and Forest Degradation (REDD) proposal particularly because of the weak governance and institutional capacities in many developing countries, which could jeopardize the delivery of benefits at the local level. One major problem is that most people have little knowledge on the causes and consequences of the climate change. This is partly because the information is largely scattered among scientific journals, and obscured by jargon and sophisticated mathematical models. Consequently, REDD+ is beyond the reach of many of the people affected by REDD+. This paper examines the efforts and the capacity of the local governments and other development agents in explaining the REDD + issues and its impacts on the local people, especially customary communities. The research shows that lack of policy communication and promotion, as well as consultations with the affected groups are the main contributing factors to latent and manifest conflicts. In turn, this conflict has proven that NGOs, district governments and scientists have not been successful intermediaries. Thus, in the future policy communication on REDD+ should be aimed at improved network formation (i.e. between farmer groups with business partners and NGOs and other related actors), learning, negotiation and relationship building (i.e. between members of farmer groups, not only with their leaders within the farmer groups but also with governmental and business sectors). Policy communication should also create a new configuration of support and services in form of advocacy, empowerment and management skills and technical skills for conserving their natural resources, for adaptation to climate change and building more equitable governance and transparency at local level.

Keywords: Climate change, REDD+, communication, innovation, conflict

## I. INTRODUCTION

### A. Communicating REDD+ Policy at Local Level

The “carbon offsetting” of forestry-related projects' is widely regarded as the ideal solution to

the three challenges of the 21<sup>st</sup> Century: climate change, biodiversity conservation and socio-economic development. Hopes rest on the potential of the Reduced Emissions from Deforestation and Degradation (REDD) scheme, which after 2012 would represent the most likely option to manage the forest to achieve carbon neutrality; however it is not currently an official climate change mitigation strategy (Staddon, 2009). It is estimated that the global carbon market will grow substantially in terms of both volume and coverage through the inclusion of REDD+ in the international climate change regime. As a forest-rich country, Indonesia has vigorously pursued the REDD+ agenda for five

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years, with the aim of developing a national REDD+ strategy. This has been demonstrated by several significant events in 2012 (IFCA, 2007).

These significant events (e.g. defining socio-economic baselines, institutional setting for equitable governance and partnerships at multi-layers) are preconditions for Indonesia to accept payment under the scheme, but also set the stage for the development of methodologies and political commitment to test the activities that ultimately lead to a REDD+ carbon market based on a global scale (IFCA, 2007). Indonesia could earn between 400 million and 2 billion USD per year on the carbon market (Adhikari, 2009). However, based on a conservative estimation, the estimated value of carbon credits will be around \$ 2.5 to \$ 4.5 billion per year (MoF, 2008). Scepticism also exists about the REDD+ proposal, particularly over the weak governance structures and the institutional capacities in many developing countries that could jeopardize the delivery of the benefits at local level (Agrawal, 2008). Sceptics have emphasized that the REDD+ proposal must address three important aspects, namely - climate change, biodiversity and local livelihoods - in order to make it more equitable and inclusive (Adhikari, 2009). In addition, REDD+ may offer a great potential to support poverty reduction and climate change mitigation goals, but success will depend on the careful design of the REDD+ projects and real participation by the local stakeholders in their implementation and maintenance (Adhikari, 2009), as well as the way in which the REDD+ issues will be communicated at local level.

Despite the large amount of literature available on the subject, most people know little about the causes and consequences of climate change, partly because the information is scattered, and basically available only in scientific reports where it is obscured by jargon and sophisticated mathematical models. As a result, it is beyond the reach of many of the people affected by REDD+. This information is hardly accessible for poor countries like Nepal, even though they are vulnerable to climate change, thus their people cannot be alerted because of persistent poverty, illiteracy and ignorance. Lack of information inhibits effective policy formulation by limiting adaptation and mitigation, so that poor countries

are more vulnerable (Chaudhary and Arya, 2009). This situation is jeopardized by lack of research in communication regarding REDD issues.

There are several studies regarding communication on climate change, but they have just focused on the role of the media in the communication process (Russill and Nyssa, 2009), like various types of communication tools (Nerlich *et al.*, 2009), and non persuasive communication (Fischhoff, 2007). Not many studies have been done to explore the efforts and capacities of local governments in communicating climate change issues at local level. This paper examines the efforts and the capacities of the local governments and other development agents in explaining the REDD+ issues and its impacts to the local people, especially customary communities (e.g. Guguk and Pulau Rahman villagers). Directorate General of Forest Production (2007) in Noordwijk *et al.* (2008) defined customary people as particular communities who live in the surrounding forests for generations and use local wisdom in managing their forests and still apply their customs and traditions; while local communities are also living in the surrounding forests but they do not practice their customs and traditions. The outcome of this research is expected to provide some critical inputs to the local governments and third parties in developing strategy and capacity for communicating the REDD+ issues to customary people.

## **B. Theoretical Framework for the REDD+ Communication**

The most important topic of climate change caused by humans today is the social and scientific challenges (McCarthy *et al.*, 2001 in Zia and Todd, 2010). To effectively address the challenges of global climate change, some scholars argue that it is very important to have an accurate and complete public information (Trumbo, 1996). Improvements in the understanding of the public are also required (see Moser and Dilling, 2007; NSF, 1999 in Zia and Todd, 2010). Thus, since human-induced climate change first appeared on the public agenda in the mid-1980s, public communication about climate change became prominent (Nerlich *et al.* 2009; Moser, 2010). The

most hotly discussed question of how to effectively communicate effectively climate change to the public has experienced a growing concern. To begin with, someone might ask how to communicate the climate change? Is it different from other environmental issues (i.e. illegal logging and forest encroachment), economic challenges, risks, health issues, or policy dilemma? (Moser, 2010).

Most of the early communications rather focused on the scientific findings and the synthesis reports, as published by the Intergovernmental Panel on Climate Change (IPPC), while the public was not trained enough, and therefore had difficulties to follow the details of the debate over the complex scientific matters; they were caught in crossfire communication between scientists. Today after more than 20 years of scientific progress and the growing number of scientific consensus, public communication on climate change is no longer just an opinion meeting between various battling experts (Moser, 2010). Communications efforts have convinced the public that climate change is going to persuade people to adopt certain ways to overcome the climate change issues (Nerlich *et al.*, 2009). In addition, it is important to take into account whether the communication is between two individuals, small groups or through mass communication (Moser, 2010).

Over the last two decades a lot of communication discussed the uncertainty of climate change issues and most importantly, whether human-induced climate change has occurred or not. Communication debated the importance of climate change and the difficulties inherent when speaking of climate change to various groups of people using different types of devices and communication strategies (Nerlich *et al.*, 2009). Endeavors beyond the communication of climate change science and scientific policy issues have opened up public discourse conditions: communicators are trying to reach more audiences (i.e. villagers, religious leaders, local government officers), more diverse use of forums and various channels and different framing. As a result, the issue of climate change has entered into the public's mind compared to a few years ago (Moser, 2010).

The impact of the challenges to communicate climate change is important to realize. First, climate change is difficult to understand for most audiences, so it requires that the communicators whether government officials or scientists have to be clear in communicating the issues, have to use simple imagery and description, and the framing of interest to lay the foundation for a better cognition process. Second, general/public audiences need to receive comprehensive, clear, quite strong and consistent information (Moser, 2010).

It is argued that public knowledge about climate change is important for public interest and concern for climate change translates into an action that requires public knowledge (Stern, 2008 *in Zia et al.*, 2010). In addition, efforts by the current government to affect this change of actions, to support low-carbon behavior, has continued to maintain that attitude among the public, which they appreciate, because communication can play an important role in engaging stakeholders in a low-carbon lifestyle: First, to facilitate regulatory acceptance, and second, stimulating participation in actions at grassroots level through rational and emotional behavior to address climate change (Ockwell *et al.*, 2009) through reduced emission from deforestation and degradation (REDD) (Andrey and Mortsch, 2000 *in Ferrari*, 2010).

The participatory action at the grassroots level, for example, are the forest farmer groups, as it is increasingly becoming clear that climate change will have a major impact on the agro-ecological conditions in which farmers and rural residents need to develop their livelihood strategies, for managing resources and achieving food security (Leeuwis, 2010). Thus, climate change communication becomes possible for forest dependent people that imply a process: from making them aware of climate change as an issue in transmission of knowledge about carbon sequestration and taking real action to address the negative impacts, such as failures in crop production (Andrey and Mortsch, 2000 *in Ferrari*, 2010).

Figure 1 describes the process of communicating REDD+ issues. In the process of communicating REDD+ issues, communication is

seen primarily as an intermediary or transferring knowledge and information function between science and user communities. First we need to consider the meaning and importance of the communication in the daily social interaction, and how it relates to the dynamics of the complex systems (Leeuwis and Aarts, 2010). In the process of the communication communicators that could be government officers, NGO staff or policy makers; in the process of informing or transferring messages to the public that may be made directly or through a partnership with other government sectors, NGOs or scientists. The process of communication can use a media such as training and public dialogue. Thus, the framework for REDD+ communication should consist of:

- Identifying the characteristics of the intended audience or participants;
- Ensuring those working at the forefront are informed and committed;
- Developing communication partnerships, to ensure that information flow is not just one way; and

Learning from other fields, especially about the risks involved in the communication effort.

One problem arising from the overall framework for communicating climate change is that it must be conducted by means of a local-global interface affected by inequality between countries, and social groups within countries. We now observe the situation where, regarding the mitigation proposal, the participants involved in the REDD+ communication process include frontline officers, elite groups, men, and women, because they have interests in the REDD+ proposal (Nerlich *et al.*, 2010 in Ferrari, 2010). Within the process of the REDD+ communication, it often happens that the sender of the message tries hard to adapt it to the receiver's situation, only to find out that they pay little attention to it. Despite various communicative efforts by government and industry, for example, European consumers are still not very willing to adapt their views and accept biotechnology used in food products. Such cases are not so much due to ignorance or lack of effective communication, but rather the

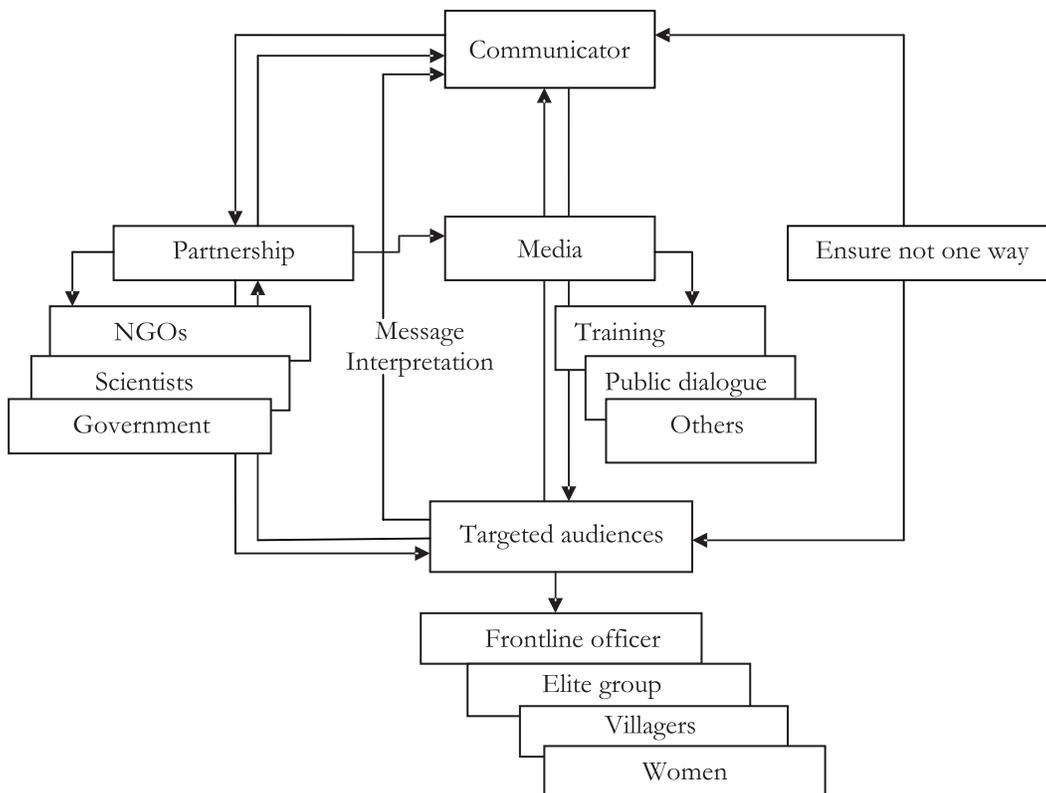


Figure 1. The framework for communication of REDD issues

differences in the perception. In light of such experiences, this type of communication is now regarded as a phenomenon which constructs a meaning for involvement in the interaction (Leeuwis, 2003).

Thus, differences in the interpretation should be addressed, not only as a matter of different prior knowledge, but also of other contextual issues such as the historical relationship between communicating parties, the configuration of interests, and also the influence of other actors not directly involved in the interaction. In short, the meanings of place-active, built-in complex contexts are not value free (Leeuwis, 2010). In the context in question, the communication of REDD+ would be associated with the framework of the conflict over being decided by a level of government far from forest resources. In this case, communicators must frame the problem of REDD+ communication within social constraints, as it depends on authoritarian and instrumental communication, which, in turn, results from the capacity of more powerful actors to manage climate change discourse and then impose their views on the local community by means of it. How many forest-dependent people who can engage in REDD+ projects know about climate change, and related concepts such as forest carbon storage and carbon enhancement? To this end, there are many initiatives for educating the public, but it is doubtful that the process responds to the issues of power (Ferrari, 2010).

## II. METHODOLOGY

### A. Multiple-case Studies

In this research, multi-case studies were selected given the two CBFM models, rather than single case studies (Yin, 1989, 1994a). This was to provide a rich context for understanding the phenomena under study (Zach, 2006). A multi-case study approach was chosen to overcome the limitations of much of the previous research based on single case studies, as reported in the literature (Sofaer, 1999; Hendry, 2005). It enables the researcher to conduct an in-depth investigation, to achieve holistic and meaningful characterisation of the real world, such as individual life cycles, organizational and managerial processes, social processes and changes (Yin, 1994a; Zach, 2006). In this research, purposive sampling is the focus of our discussion. This research took place in Jambi province, Indonesia, with particular emphasis on two research sites, namely Guguk village and Pulau Raman village in Merangin District. The aim of the research is to understand the Guguk's customary forest represented by a strong institutional setting and had been awarded and recognised as a sustainable model by the district and central government and related parties, such as NGOs. The other site, Pulau Raman Village, represented a relatively weak institutional setting without any recognition from the district government, as described in Figure 2.

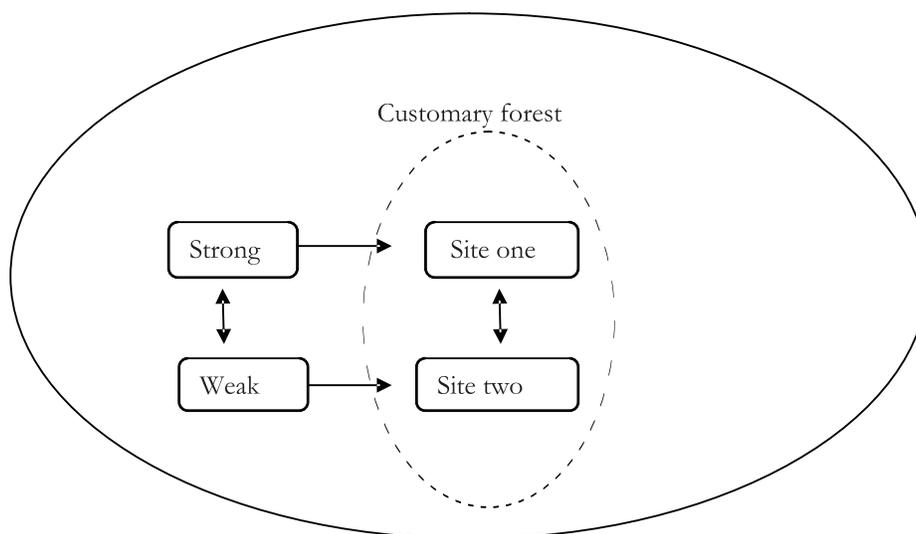


Figure 2. Multi-case studies used in the research strategy

This research strategy was chosen in order to explore complex cross-cutting issues affecting the two different sites, and determine how local people responded to them in their daily lives and within the broader socio-political structure. The synthesis of those case studies, the social constructions of the different actors and the literature would provide a basis to explore some paths to optimise policy communication of REDD+. Prior to undertaking interviews, the local institution was observed in order to deepen the context of the research. These observations were used to focus the research questions, which provided a frame for exploring socio-economic conditions such as livelihood systems, housing and other infrastructure.

### B. Data Collection Techniques

Qualitative data was explored using a semi-structured questionnaire through face-to-face interviews. The formal interview schedule was applied, both to sequence the basic questions to be asked and to guarantee that the same questions were applied to all interviewees (Elmendorf and Luloff, 2001). The research used purposive sampling as sampling design in order to ascertain the variety and depth of information and opinion being offered about issues of policy development and communication of REDD+. Actors were chosen from both individuals and organisations or groups with interests, roles, knowledge or information, and authority (Dewuf *et al.*, 2005; Long, 2002) regarding REDD+ at multiple layers such as national, provincial, district and local levels. In-depth interviews were conducted with 45 respondents, involving senior policy makers relevant to CBFM at central, province and district levels of government as well as enterprise's policy makers, officers of national-based non government organisations (NGOs), experts from university, program managers and field officers, journalists and other relevant respondents; and also with key informants at village level across eight villages within five districts, including chiefs of villages, heads of farmer groups, members of farmer groups, migrant people, and key informants who were not participants in CBFM.

### C. Techniques for Data Analysis

The data gathered from the field was interpreted using interface analysis in order to assess local responses to REDD+ communication issues conducted by some development agents. In this context, REDD+ policy development and design are viewed as an arena of interaction between different actors (Long, 2001, 2002; Lindayati, 2003). The evaluation was also supported by using documentary analysis.

## III. RESULT AND DISCUSSION

### A. Communication Models and Conflicts

A policymaker at district level explained that there have been at least nine customary forestry initiatives established in the *Merangin* District, in its total woodland area of 5,000 ha. They are distributed through a number of sub-districts, including *Rantau Kermas*, *Jangkat*, *Pangkalan Jambu*, *Sungai Manau*, *Pulau Tengah*, *Renah Alai*, *Bukit Perentak*, *Ngaol*, *Tabir Ulu*, *Batang Kibul* and *Guguk*.

Some respondents such as the head of management institution, chief of customary people, NGO activist told that *Guguk* has been established since the Dutch colonisation of Indonesia. At that time, the name of *Guguk* was *Pelegai Panjang*. According to interviews conducted during the field work, their ancestors originated from *Mataram* (Java) and *Minangkabau*.

Somewhat different to the history of the people of the *Guguk* is that of the *Pulau Raman* people, who are also of *Mataram* and *Minang* descent. The head of management institution of *Pulau Raman* Customary Forest asserted that they had been in the area long before the Dutch occupied Indonesia. However, their culture and traditional governance system remained the same as in the past they had in the *Pesirah* and the *Clan (Marga)* governance system. An informant asserted that after the advent of the post colonial state, especially in the 1970's, they maintained their forest assets such as customary forest and their jurisdiction over forests including their productive assets, which were still being acknowledged by the neighbouring villages. He said that if *Sekancing* people wanted to cut timber at *Bukit Temanang*, they have always asked

permission from *Pulau Raman* villagers. This means that they recognized the forest as a part of the *Pulau Raman* territory. Their forest assets officially came under the Customary Forestry in 1979 during the rule of *Hambali Pesirab* and was recognised as belonging to the *Pulau Raman* Village.

In the case of grassroots, the introduction of REDD+ issues to *Guguk* villagers has been carried out mainly by WARSI, a local-based NGO, and researchers, especially from ICRAF, a Regional Agroforestry Research Agency based in Bogor. They have been taught how to calculate carbon data from their forest. They found that their forest was quite rich in carbon, approximately 261 tones carbon per hectare.

The promising result has led to great expectations of the *Guguk* Villagers regarding possible income benefit from their forest carbon trading, as described in Figure 3. Consequently, even though customary forest has not yet contributed significantly to improve their well-being, the same villagers believe that in the future it will provide significant benefits to them especially if the carbon-trade mechanism is applied in the area. According to benefit-sharing projections issued by the Ministry of Forestry (MoF) (2009), regarding carbon project aspect of customary forest (*Hutan Adat*) in Indonesia, 10 % will go to the government, 70 % to the local people, and 20 % to the developer. The WARSI assessment involving local people and scientists from ICRAF, indicated that *Guguk* Customary Forestry could potentially generate total value of approximately 2,021,000 USD (19.8 billion IDR) from 690 ha. Furthermore, if the benefit sharing as mentioned above was applied, it has been estimated that, under the scheme, the communities would receive approximately 1,327,000 USD (13 billion IDR).

This diagram (Figure 3) describes two different communication models designed by the agents of development, and the flow of information to the community, along with its impacts. On the one side (*Guguk* Customary Forest), a local NGO in collaboration with ICRAF did communicate intensively with the local people focusing on technical issues such as how to measure carbon and protect the forest. However, it seems that the communication and facilitation process was not

followed by a clear role and responsibilities among local institutions, especially between village government, customary management institution and customary institution. We argue that this situation leads to latent conflict, meaning that especially among elite groups, there is no trust, and there are competing claims over the right to manage and to get benefit from the forest.

In *Pulau Raman* Village, the District Government tends to be reactive in addressing the REDD+ issues and lacks the capacity concerning how to communicate the REDD+ issues to the local people. The most important thing for the District Government, is to recognise the customary forest, so in the future the local people and the district can generate income from carbon trading without considering the local context. In brief, we perceive that the district seems to simplify the REDD+ issues as a possibility to get much money through protecting customary forest. Consequently, the policy of the district to recognise the *Pulau Raman* Customary Forest results in manifest conflict among *Sekancing* Village people and *Pulau Raman* Village because both of them feel they have right to claim the same forest. Thus, it can be concluded that both communication models contributed to the occurrence of the conflict, however its intensity was different from each other.

We perceive that the enormous expectations that derived from carbon potential and other carbon trading issues have a direct impact on the strength of the existing local institutions. Collectively, forest communities expect abundant carbon trading to be immediately implemented in the field, so they can be compensated for their efforts in conserving their traditional forest. However, the elite local institution that has the authority to manage customary forest feels that income generated from carbon trading must be their absolute prerogative right. They do not want to involve other institutions, such as the government, in managing funds from carbon offsets, because they are worried that the biggest part of the money will go to the government: "I fear that if many institutions are involved at the district level then the result will be a small amount of compensation", said a key local leader who manage customary forest.

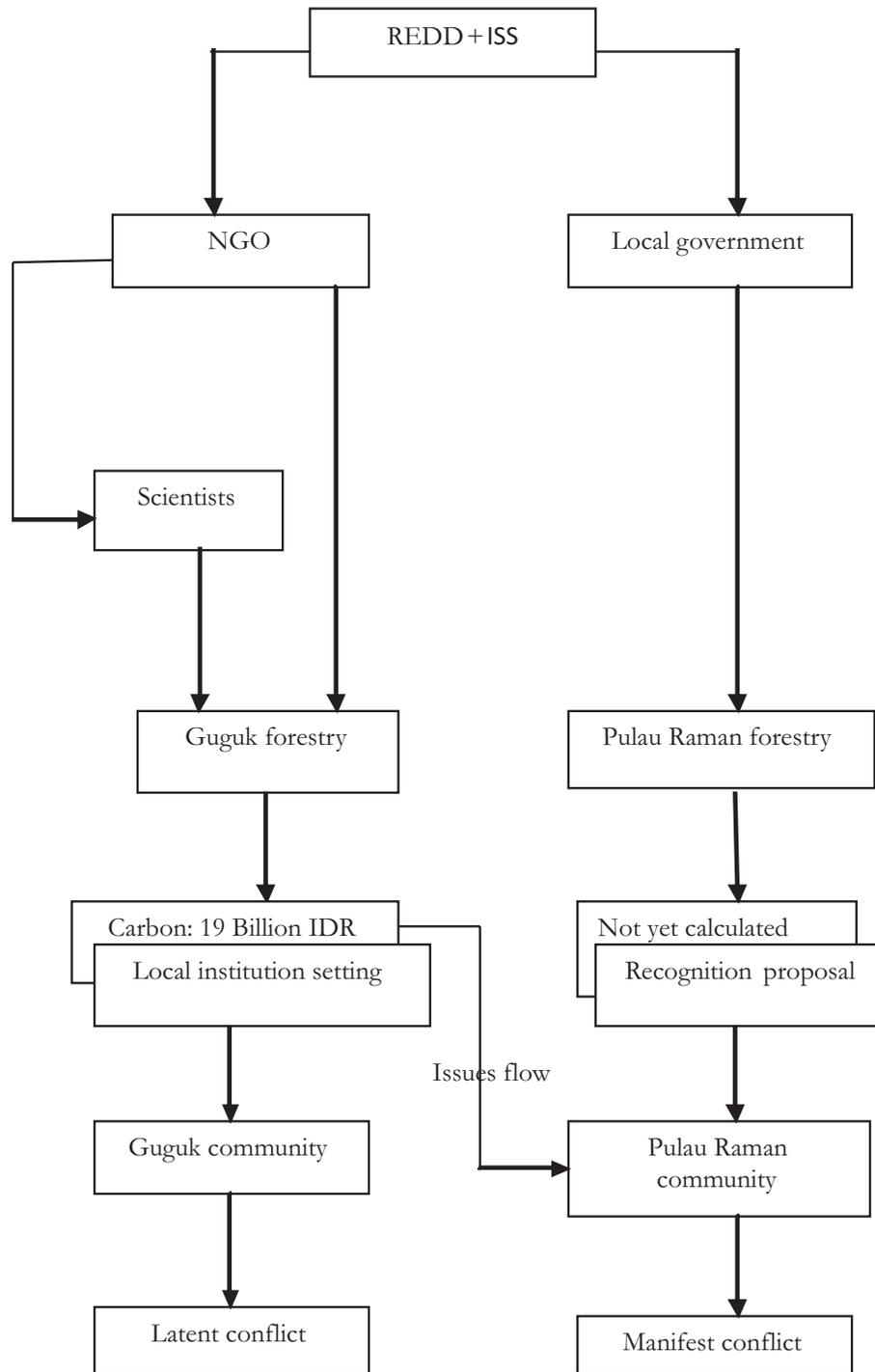


Figure 3. Flow of REDD+ communication and information to local people and intermediaries (agents)

The issue of carbon trading, and the tendency of exclusiveness of elite group who is responsible to manage customary forest, cause other elite institutions, such as village chiefs to worry that the elite group (Board of customary management institution) is the only one that will benefit from the carbon trading. Indeed, we argue that the

absence of a transparent benefit sharing mechanism, accountable forest management, and the exclusion model favoured by village officials, has sparked latent conflict in the society. Two respondents, namely, a key informant and a migrant who had lived for more than five years in the village, indicated that: "...*customary forestry*

*management is just monopolised by the board of the institution...".*

We summarise that the latent conflict occurred among various actors was caused by:

Lack of transparency in the management of customary forests, especially when the management institution got some aid (i.e. money and seedlings from various external stakeholders, such as central government or local government);

Lack of communication with the community management and other local institutions, such as the village government and traditional institutions; and

The unresolved issue of carbon benefits.

## **B. Contributing Factors in the Conflict**

As shown by the Guguk cases, REDD+ communication carried out by NGOs and some scientists has been successful in terms of transfer of knowledge, because the people are now technically knowledgeable and able to calculate the carbon potential of their forests. However, we view that communication may still be regarded as weak in terms of encouraging innovation in the strengthening of their forest governance, to become more transparent and accountable. "We have never been invited to discuss their program and we are just forced to accept accountability report of their management implementation" said a village chief. Thus, innovations in the communication context do not just consist of new technical devices, but also of new social and organisational arrangements, such as rules, perceptions, agreements, identities and social relationships. These are no longer considered external conditions that influence adoption, but rather integral parts of an innovation (Leeuwis, 2010).

Contrasting with the Guguk case is that of *Pulau Raman*, this village joined the CBFM program in 2005 when the Estate Crop and Forestry Service in the *Merangin* District decided that *Bukit Temanang* was the customary forest of *Sekancing* Village. The Forestry Service put a sign board in the forest area near the main road, and then recognised the customary forestry at the end of 2007. In 2008 conflict started between *Sekancing* and *Pulau Raman* over the recognition plan during the meeting hosted by the Estate Crop and Forestry

Service in the District. We perceive that this conflict has occurred not only because the district government was planning to acknowledge ownership of certain areas of the forest, but also because of carbon trade issues. Nevertheless, different views regarding boundaries, as well as historical factors, are the main reasons behind it.

According to one informant, management agencies have approved *Pulau Raman* Village to facilitate the process performed by the Non Governmental Organizations (NGOs). However, there is neither capacity for construction to be carried out nor any clear agenda for the management of indigenous forests in the area. While management agencies have an organizational structure, and the approval of the village government to operate, they have no plan of action. Thus, with respect to *Pulau Raman* Villagers, this program has not been well organized, partly because of limitations due to conflict involving *Sekancing* village.

However, in the case of *Pulau Raman* village communication has occurred only in one direction and did not include exchange of information with local communities. There is no horizontal information sharing and a lack of communication in developing the local institutional adaptation process, to link REDD+ and local interests in its governance at the national level. As a result, the public received limited information about REDD+, mainly the value of cash transactions that will be accepted by forest management, which was leading to the worsening of the conflict between *Pulau Raman* and *Sekancing* villagers.

We have proven that the conflict that is occurring between the *Pulau Raman* villagers and *Sekancing* villagers is an example of the competition for resources that occurs between different communities. However, this situation is exacerbated by the limited understanding of district government regarding the complexity of the village society (Agrawal and Gibson, 1999; Sunito, 2005).

Protracted conflict is clear evidence of the failure of the central government's efforts to understand the local context. In addition, indigenous forestry, some times contributes to the conflicts between neighbouring villages, because customs' policies are sometimes misunderstood, given the fact that they are rarely promoted. As a

result, the head of the management agency, who has had much experience of indigenous forestry, commented that: "... *We are waiting for the district to take more initiative to resolve our conflict because they are the only institution which has authority to do that...*"

We view it is clear that manifest conflict involving two villages (*Raman* and *Sekancing* villages) provides evidence that one cause is the lack of communication policy formulated by the forest service. Unlike the case of *Guguk*, villagers from *Sekancing* and *Pulau Raman* Villages only have limited information about REDD+. They just know that carbon means just money received for protecting their forests. They have not learned how to manage the money and distribute it to all villagers and what is the consequence of the REDD+ scheme. This situation is exacerbated by the absence of certainty in REDD+ governance at global, national, and local levels. Consequently the REDD+ issues become elusive for the district government to understand.

Indeed, we argue that inadequate information and communication policy that tends to be limited to the transfer of knowledge by local authorities, through the affirmation of the idea of customary forest, has led to misinterpretation of the messages received by these communities. The local people just interpret the REDD+ issues simply as an issue of money. Thus conflict may be said to result from the communication process having failed to transform institutional behaviour. Therefore, we think that from a theoretical point of view, it can be said that any innovation supporting infrastructure should be able to support three essential processes: network building; social learning; and conflict management. Such support may certainly include well-known communication strategies and services such as advisory communication, horizontal knowledge sharing in support of innovation, awareness raising, and information provision.

We perceive that the most important lesson that has been learned is that supportive policy does not always have a positive impact. Lack of policy communication and promotion, as well as lack of consultation with the affected groups, are contributing factors in the conflict. Significantly, the available evidence shows that even social forces (e.g., REDD+ policy) can threaten

community-based conservation efforts (Agrawal and Gibson, 1999) so that it can be a real challenge to maintain them in villages.

#### IV. CONCLUSION

One important factor in designing the implementation of REDD+ at the local level is the communication that encourages innovation, in both the bio-physical and social institutional contexts. Innovation is the key word in the process of social change to create more robust and adaptable local institutions. They need to be responsive to changes at national and global level, because the vertical integration of traditional forest management into the global market is highly dependent on the structure of socio-cultural and local institutions.

Protracted conflict has proven that these institutions have not been optimal intermediaries. In the process of communication, the role of intermediary institutions, such as NGOs, extension agencies, and district government is crucial. Intermediaries' activities not only help the transfer of knowledge, but also provide information about potential collaborators, mediate transactions between two parties and help farmers find inputs, and support the improvement of the results of collaboration.

In addition, we perceive the most salient lesson that has been learned is that supportive policy does not always produce the intended results. The lack of policy communication and promotion regarding REDD+, as well as lack of consultation with the affected groups, have been contributing factors regarding latent and manifest conflict. Thus, future policy communication on REDD+ should improve network formation, learning, negotiation and relationship building; and create a new configuration of support and services to assist adaptation to climate change.

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## REFERENCES

- Adhikari, B. 2009. Reduced Emissions from Deforestation and Degradation: Some Issues and Considerations.
- Agrawal, A., and Gibson, C.C. 1999. Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation. [Journal]. World Development, 27(4):629-649.
- Agrawal, A. 2008. The Role of Local Institutions in Adaptation to Climate Change. IFRI Working Paper W08I 3. Ann Arbor, USA: University of Michigan.
- Chaudhary, P., and Arya, K. 2009. Global Warming in Nepal: Challenges and Policy Imperatives. Journal of Forest and livelihood, 8(1).
- Dewuf, A., Gray, B., Putnam, L., Aarts, N., Lewicki, R., Bouwen, R., and Van Woerkum, C. 2005. Disentangling Approach to Farming: Mapping the terrain Paper presented at the JACM Conference, Sevilla.
- Ferari, A. 2010. Communicating climate change, REDD and political ecology: A global land question and prospects for agroecology. Proceedings, 9<sup>th</sup> European IFSA Symposium, Vienna (Austria), 4-7 July 2010. Retrieved on 28 July 2012 at [http://ifsa.boku.ac.at/cms/fileadmin/Proceeding2010/2010\\_WS3:4\\_aLARCON.PDF](http://ifsa.boku.ac.at/cms/fileadmin/Proceeding2010/2010_WS3:4_aLARCON.PDF).
- Fischhoff, B. 2007. Nonpersuasive Communication about Matters of Greatest Urgency: Climate Change. Viewpoint November 1, 2007/Environmental Science © 2007 American Chemical Society & Technology, 7205.
- Hendry, L. 2005. Exploring the Six Sigma phenomenon using multiple case study evidence. Lancaster University Management School Working Paper 2005/056. Lancaster LA1 4YX UK: The Department of Management Science Lancaster University Management School Lancaster LA1 4YX UK.
- IFCA. 2007. Pioneering Work on Reduced Emissions from Deforestation and Degradation (REDD) in Indonesia. Discussion Notes. Indonesia Forest Climate Alliance.
- Klerkx, L., and Leeuwis, C. 2009. Operationalizing demand-driven agricultural research: institutional influences in a public and private system of research planning in The Netherlands. Journal of Agricultural Education and Extension, 15(2):161-175.
- Klerkx, L., and Leeuwis, C. 2009. Technological Forecasting and Social Change 76: 849-860.
- Leeuwis, C. 2003. Fields of conflict and castles in the air. Some thoughts and observations on the role of communication in public sphere innovation processes. This article is a slightly modified version of the inaugural speech given by the author on the 24th of April 2003 on the occasion of his accession to the post of professor of Communication and Innovation Studies at Wageningen University Establishment and embedding of innovation brokers at different innovation system levels: Insights from the Dutch agricultural sector.
- Leeuwis, C. 2010. Facing the challenges of climate change and food security: the role of research, extension and communication institutions. Assignment commissioned by the 'Research and Extension Branch at FAO, Rome Final Report, October.
- Leeuwis, C., and Aarts, N. 2010. Rethinking communication in innovation processes: creating space for change in complex systems. 9th European IFSA Symposium, 4-7 July 2010, Vienna (Austria) WS1.1 Innovation and change facilitation for rural development.
- Long, N. 2002. An Actor-oriented Approach to Development Intervention. Paper

- presented at the Background paper prepared for APO Meeting, Tokyo 22-26 April 2002.
- Long, N. 2001. *Development Sociology. Actors Perspectives*. London and New York: Routledge.
- Lindayati, R. 2003. *Ideas and Institutions in Social Forestry Policy*. In I. A. Y. Resosudamo & C. J. P. Colfer (Eds.), *Whic Way Forward? People, Forest and Policy Making in Indonesia* Washington DC USA: Resource for the Future and the Centre for International Forestry Research.
- The Ministry Of Forestry (MoF). 2008. *Reducing Emissions from Deforestation and Forest Degradation in Indonesia*. Consolidation Report. MoF 2008.
- Moser, S.C. 2010. *Communicating climate change: history, challenges, process and future directions*. Overview, Volume 1, January/February 2010.
- Noordwijk, V.M., Mulyoutami, E., Sakuntaladewi, N., and Agus, F. 2008. *Swiddens in transition: shifted perceptions on shifting cultivators in Indonesia*. Bogor. ICRAF.
- Ockwell, D, Whitmarsh, L., and O'Neill, S. 2009. *Reorienting Climate Change Communication for Effective Mitigation Forcing People to be Green or Fostering Grass-Roots Engagement?* *Science Communication* Volume 30 Number 3 March 2009 305-327.
- Rogers, E.M. 1962. *Diffusion of Innovations*, 1st edition. Free Press, New York.
- Russill, C and Nyssa, Z. 2009. *The tipping point trend in climate change communication*. *Global Environmental Change* 19: 336-344.
- Staddon, S. 2009. *Carbon Financing and Community Forestry: A Review of the Questions, Challenges and the Case of Nepal*.
- Sofaer, S. 1999. *Qualitative Methods: What Are They and Why Use Them?* *HSR Health Services Research* 34(5): 1101-1118.
- Sunito, S. 2005. *Continuation and Discontinuation of Local Institution in Community Based Natural Resource Management*. PhD thesis, Kasel University.
- Van den Ban, A.W. 1974. *Inleiding tot de voorlichting skunde*. Boom, Meppel/Amsterdam.
- Yin, R. K. 1989. *Case Study Research: Design and Methods*. (rev. edn. ed.): Sage Publications, Newbury Park, CA.
- Yin, R. K. 1994a. *Case Study Research: Design and Methods* (2<sup>nd</sup> Ed.). Sage Publication Inc.
- Yin, R. K. 1994b. *Discovering the Future of the Case Study*. *Method in Evaluation Research*. *American Journal of Evaluation* 15, 283-290. doi: 10.1177/109821409401500309.
- Zach, L. 2006. *Using a Multiple-Case Studies Design to Investigate the Information-Seeking Behavior of Arts Administrators*. *Library Trends* 55(1):4-21.
- Zia, A., and Todd, A.M. 2010. *Evaluating the effects of ideology on public understanding of climate change science: How to improve communication across ideological divides?* *Public Understand. Sci.* 19(6): 743-761.