Brief Field Work Reports from Danish Researchers

The integration of Indigenous Knowledge (IK) in climate change adaptation projects in Central Vietnam	. 1
Field trip report for the Danish team during 9 December - 19 December 2014 and 16 January - 25 January, 2015	2
Field trip report for the Danish team during 26. May - 6. June, 2014	.4
Brief travel report for visit to Vietnam 27th May- 6th June 2014	.6
Field trip report for the Danish team during 20-29 November, 2013	. 8

The integration of Indigenous Knowledge (IK) in climate change adaptation projects in Central Vietnam

Ole Bruun

Local, traditional or indigenous knowledge (IK) may be defined as a cumulative body of knowledge, practices and representations developed and continued by local groups with extended histories of interaction with the natural environment. These include sophisticated sets of understandings, interpretations and meanings as part a cultural complex of language, naming and classification systems as well as of resource use practices and spiritual life. Indigenous knowledge is an integral part of the culture and history of a local community.

Originally phrased in anthropological and later used in ecology studies, the concept of indigenous knowledge has since made its way into the policies of international organizations like the World Bank, UNDP and UNEP, just as it was integrated into the Convention of Biological Diversity in terms of knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.

In any aspect of local-centered development, indigenous knowledge may be seen as a significant resource which may contribute to the increased efficiency, effectiveness and sustainability of the development process. It may in particular be seen as a basis for community-level decision making, such as in areas pertaining to food security, human and animal health, education, natural resource management and other vital economic and social activities. Development organizations increasingly demonstrate that good practices will add value to development in the productive as well as in the social sectors. Potentially, the harnessing of IK empowers local communities and may help improve effectiveness in poverty reduction. Integrating IK in local development may help external donors and state agencies in learning from local communities and facilitate learning between local communities.

According to the World Bank, IK is a key element of the social capital of the poor and constitutes their main asset in their efforts to gain control of their own lives. The integration of appropriate IK systems into development programs has already contributed to efficiency, effectiveness, and sustainable development impact. For these reasons, the potential contribution of

IK to locally managed, sustainable and cost-effective survival strategies should be promoted in the development process. Indigenous knowledge is particularly seen as a critical factor for sustainable development. However, empowerment of local communities is seen a prerequisite for the integration of IK in the development process. Supporting local and regional networks of traditional practitioners and community exchanges can help to disseminate useful and relevant IK and to enable communities to participate more actively in the development process.

Indigenous knowledge is many places overlooked and marginalized, and thus needs to be revived. Indigenous knowledge, like any other knowledge, needs to be constantly used, challenged, and further adapted to the evolving local contexts. However, many indigenous knowledge practices, such as environmentally friendly agricultural production, can at the same time be integrated into local, national, regional, or even global development efforts. Experience shows that this cannot be done by local institution alone: various forms of partnerships are needed to support this process.

In the context of Vietnam the relevance of IK has particularly been examined in relation to agricultural techniques and forest management in highland communities, but also to some extent in relation to conventional lowland agricultural communities. Centralized agricultural development over several decades and the continued practice of provincial and district level agricultural extension services issuing technical advice for farmers may have sidelined pre-modern knowledge, crops and techniques. On the other hand, increasing emphasis on private and local initiatives may have promoted the revival of local knowledge.

By means of the general socio-economic survey across three provinces and subsequent fieldwork in selected local communities the extent and relevance of IK will be evaluated and specific case examined.

Within the framework of the Project:

Specific areas of IK to be examined may include locally adapted crops and agricultural techniques, domestic animal rearing, creative resource uses for economic development, simple techniques for disaster management, and general water management under the impact of changeable conditions and possibly higher frequencies of water disasters. To contribute to the general study of IK as well as to report the findings of the present project it is planned to write two articles on the relevance of indigenous knowledge for climate change adaptation projects:

- 1. Indigenous Knowledge as a Resource for Climate Change Adaptation in Central Vietnam
- 2. Local Environmental Knowledge and Civil Society Development in Central Vietnam

Field trip report for the Danish team during 9 December - 19 December 2014 and 16 January - 25 January, 2015

Participants: Ole Bruun, Mette Fog Olwig, Pi Arnth Petersen and Frederick Rasmussen.

In December Mette traveled to Nghe Anh Province and Ha Tinh Province and in January we all traveled to Ha Tinh and Quang Binh Province to visit the communes and villages that are part of the project. The overall purpose of these field trips were to carry out interviews with PIS local authority stakeholders as well as with villagers in the project areas.

We received interesting feedback in relation to the introduction of PIS and also discussed the participants' concerns with regard to natural disaster management in general.

Among our key findings are the following:

1. When asked about recent occurrences of natural hazards, many people explained that 2014 was unusual because there had been no floods or typhoons: many commented that this was the first year they had ever experienced this. Only very localized hazards in the form of extreme weather were reported. It was still apparent that many people were worried about drought, the early arrival of the cold weather, and ongoing salinization.

2. Apart from climate changes, we detected a high awareness of the impact of man-made environmental interventions on flooding. Floods were believed to be more extreme today than earlier because of the upstream felling of the forest, making the water move much faster downstream during heavy rains. Earlier it would take a few days from the rain started until flooding would begin, whereas today it only takes one day for the water to reach from upstream to downstream and begin flooding the area. Another problem mentioned is the extensive sand mining that is taking place along the river, also impacting the flooding situation. Furthermore upstream hydropower plants are described as a problem. In Nghe An two hydropower plants in the mountains were mentioned (one of them reportedly in Tuong Duong district). Hydropower plants and irrigation reservoirs cause two problems locally: 1) periodically they have to let out water during heavy rain because of concerns that the dam may break, 2) Water may be stored and diverted so that less water reaches downstream outside the flooding season. One local authority believed this was the main reason why salinity intrusion had become an increasing problem the past 10 years. In discussions with Vietnamese team members in charge of PIS implementation we mentioned these factors and encouraged them to include these real life challenges in the system to make it more realistic and useful.

3. It turned out that in Ha Tinh province the Japanese International Cooperation Agency (JICA) were establishing a GIS system similar to ours, including flood maps for Ngan Pho, Ngan Sau, and La river basin. In Quang Binh province JICA has a project called: "Project for Building Disaster Resilient Society in Vietnam Phase II," which also seems very relevant to what we are doing.

4. One authority summed up pretty well a concern we heard repeated many times: "I have some concern about the output of the project. I think the project is not helpful for the local people, I think the most important thing is a warning system, but this function was very small in the workshop (the project workshop for local authorities held in December). Also we only have half a day for the workshop, so I don't understand much about your project, but if everything is as you say, I just don't think much happens, it is a library of information. Maybe you can use it for the next generation, but I do not think it is useful now." Almost all local authorities were concerned with getting better warning systems and better means of communication during natural disasters, not least because the electricity is often cut due to the hazard it poses during typhoons and floods. Those local authorities who were positive about PIS mainly highlighted that it would enable a better warning system. However, there seemed to be some misunderstanding among several local government staff as to the nature and potential of the PIS system, since they believed it to be a warning system rather than an information system.

5. Another authority summarized his concerns as follows: "The first problem is how to administer this system, the second is how many people can use the system and the third problem is that because this is a warning system, you need to input the data to analyze the information, but who will input the data, the administrator or the people in the local authority, who will input the data? I think the information system is a good idea, especially for the administrator to know about the climate change, not just simple information like how big is the flood or typhoon, but also how to prepare for that natural disaster."

6. According to some local authorities, when the local people are warned in due time the extreme weather does not turn into a disaster. It is only when extreme weather comes as a surprise that disasters happen. In particular, they wished that the present warning system would be more specific for each area: the information they get is too general and therefore not very helpful. Furthermore, it is often stated to be incorrect. For example, this year when the cold weather started they were told it would only last a few days, but when we interviewed them in December, it had lasted one and a half months, which has severe consequences for rice production, aquaculture and livestock. Had they known the cold weather would last so long, they would have covered the rice with plastic, added more water to the ponds and moved the livestock.

7. Finally, a few local representatives indicated that the warnings produced by the higher level authorities (the meteorological institute in Hanoi) and sent (by letter) to the provincial level were often somewhat embellished as compared to the daily weather forecasts, making upcoming weather phenomena appear more extreme than needed, with the consequence that the local people began to underestimate the warnings. The danger is that when extreme and unusual weather phenomena eventually occur, the local people may be caught unprepared.

8. A separate issue relates to the actual placement of the project computers for PIS data processing. Plans are to allocate 3 computers to each province included in the project, so that province, district and commune levels each receive one. Some village leaders appeared to believe that the village would actually receive a computer with the PIS system, but talks with commune level authorities indicated that computers would be placed in the commune offices under the auspices of specially trained staff. This brings attention to two important issues with relevance for the overall success of the project. First of all, provincial and local governments do not seem to be short of computers in general, whereas village 'community houses' (many are newly built in accordance with the current rural community development plan) have none. It is of course questionable if anybody at village level has the skills to use the PIS system, but village leaders did express an interest in learning it. Secondly, the planned allocation of project computers calls for a discussion of the participatory aspect of the project. In a development context we would normally view participation as the inclusion, activation and empowerment of groups and individuals outside government and formal authority, such as local residents and civil society actors. In the present setup it is doubtful if non-government members of local communities will have access to using the system, or if they can request the staff in charge of the PIS system to carry PIS data processing for specific purposes. The PIS system is intended to allow open access for local community members and to allow for them to upload information, relevant experiences, photos, comments, suggestions and so forth. But if they depend on the service of one particular government staff for any access to the system this might seriously impact their motivation to participate. It is difficult to see how an open exchange of knowledge can take place within this arrangement.

Field trip report for the Danish team during 26. May - 6. June, 2014

(Ole Bruun, Mette Fog Olwig and Olivier Rubin. Mogens Buch-Hansen has compiled separate travel report, see below.)

The overall aim of this field trip was to ask follow-up questions relevant to the manuscript each team member is preparing for the special issue. Mogens is working with Anh, Ngoc and Huy on drafting an article that is focusing on Quang Binh Province, and therefore Mogens only visited this province (see separate travel report). Olivier, Ole and Mette started off in Nghe Anh Province to visit the villages that are part of the study. Two members of the Vietnamese team also joined us and they filmed the interviews with households and local governments in the field areas in order to have extensive documentation of the trips.

As this was the first fieldtrip for Mette, her focus was to get acquainted with the field sites. She is interested in the interrelation between mobility and climate adaptation and therefore also wished to explore this topic during interviews. During our first interviews with randomly selected households we became aware of a few villages in Hung Nguyen District that had been offered the opportunity to relocate households from outside the dyke to inside the dyke in order to be better protected in case of flooding (this is only possible when the commune in question has land inside the dyke to which the village can be moved). Several of the people we interviewed in the two villages in our study had mentioned their desire to move out of their villages, but their land was not valuable (because of the frequency of flooding) and no one would buy their land from them, making it impossible for them to move. We therefore thought it would be interesting to visit some of the partially relocated villages in which many households had been able to move with support from the commune. In addition to the villages that were part of the study, we therefore visited a few villages in both Nghe Anh Province and Ha Tinh Province in which households had moved, as well as a village where there were only two households left in the original location.

What we learned from this is that when the commune provides the opportunity that a whole village can move, most households express as desire to move, but some did not have enough resources to support the move and therefore had to wait until they had enough. The new sites were close enough to the original sites and therefore the households could access their original land, but the family temples had been moved. This created new issues as it was more difficult to farm and protect land because of the distance between house and land. In general, several interviewees in Hung Nguyen District and Duc Tho District indicated that they wished to move away from the most flood prone area, even if the new location would be far away from the temples and ancestral graves. While many household members had moved away from the study villages in Quang Binh Province to the bigger cities with better job opportunities, it was stressed here that the entire village could not be moved because of the family temples. Furthermore, in several of the interviews, in the three study sites, it became apparent that while the entire young generation did not live in the villages, grandparents and grandchildren did, and thus these villages serve an important function, and will therefore not disappear entirely. This was especially the case in the villages where most households had safe houses and therefore were well prepared for flooding. However, when no younger household members are present, it makes it more difficult for the household to manage in the case of a natural disaster as the younger household members are stronger and more able bodied. Mette is planning on retuning in order to investigate further the interconnections between mobility and disaster adaptation.

During this field trip, we also investigated the possibilities for participatory dissemination of results. We asked members of the local government and household members what kind of information would be relevant to disseminate and how this dissemination should take place. We looked into the possibility of providing computers to the commune houses in the villages containing the relevant information. We were told that many villagers had access to the internet and that a computer-based solution could be possible. The computers would be well protected in the commune houses as there is someone protecting the house at all times. Members of the local government mentioned that it would be helpful for them to have a map indicating which areas will be inundated in case of rainfall and household members mentioned that it would be useful for them to know how other villages adapt to the natural disasters. The next field trip will look further into this important component of the project.

Brief travel report for visit to Vietnam 27th May- 6th June 2014

Mogens Buch-Hansen

27th May: Arrival in Hanoi

28-29th May: Working with Anh, Ngoc and Huy on my draft synopsis of the article: 'The Complexities of Causes of and Adaptation to Water Disasters. A Pilot Study from Quang Binh Province, Vietnam' and deciding on the division of labour drafting the article. It was decided that I proceed to Quang Binh for doing 12 in-depth interviews with respondents to the Household Survey in the communities of True Ly and Ha Thiep in addition to the interviews done at my previous visit in March.

30th May: Travel to Dong Hoi

31th May: Preparations for interviews including hiring of interpreter

1-2nd June: Conducting 12 in-depth interviews in the two communities

3rd June: Writing-up results from interviews

4th June: Travelling to Hanoi

5th June: Winding-up meeting with Anh, Ngoc and Huy reaching agreement on how to finalize the draft article within the deadlines of 20th June for contributions and 30th for comments to the contributions. Brief meeting with Tan to introduce Mette.

6th June: Travelling back to Denmark

Brief Travel Report - Olivier Rubin (May 24th-31st 2014)

Olivier Rubin

Purpose with field visit:

Assess the impact of climate-induced WD and analyze the coping capacity of social groups, local communities and local institutions to WD. Gathering additional qualitative data to triangulate with quantitative survey. In particular information from local authorities (which were not part of the survey) Inputs used for article on the social capital dimension of flooding vulnerability in Vietnam (WP5).

Conducted 20 interviews with a total of 26 informants.

24 May 2014:

Travel from Copenhagen

25 May, 2014:

Arrive in Hanoi. Meet up with the research team (Danish and Vietnamese colleagues). Travel to Vihn.

26 May, 2014:

NGHE ANH PROVINCE HUNG NGUYEN DISTRICT HUNG NHAN COMMUNE Villages 1,2,6 and 8.

Interviews with local authorities:

- Nghe Anh Province: Hung Nguyen District, District Headquarter, Deputy chief of office of district

Interviews with households:

- Nghe Anh Province: Hung Nguyen District: Hung Nhan Commune, Village 1, in-depths household interviews

- Nghe Anh Province: Hung Nguyen District: Hung Nhan Commune, Village 2, in-depths household interviews

27 May, 2014 NGHE ANH PROVINCE HUNG NGUYEN DISTRICT HUNG NHAN COMMUNE Villages 1,2,6 and 8.

Interviews with local authorities

- Nghe Anh Province: Hung Nguyen District, District Headquarter (People's Committee of the District), Head of agricultural and rural development division, also head of the disaster management commission, Deputy Chief of office of the District, Vice Chairman of People's Committee of the district Nghe Anh Province: Hung Nguyen District: Xa Hung Loi Commune, Commune Headquarter (People's Committee in the Commune)

Interviews with households:

- Nghe Anh Province: Hung Nhuyen District: Xa Hung Loi Commune, Village 6, in-depths household interviews

- Nghe Anh Province: Hung Nguyen District: Xa Hung Loi Commune, Village 8, in-depths household interviews

May 28, 2014 Ha Tinh Province Duc Tho District Yen Ho Commune Interviews with local authorities: Chairman of the People's Committee Vice chairman of the People's Committee Women's Union Leader

Interviews with households:

- Ha Tinh Province: Duc Tho District: Yen Ho Commune, Village 5 (Trung Van Minh), indepths household interviews

- Ha Tinh Province: Duc Tho District: Yen Ho Commune, old village (Dien Hoa), in-depths household interviews

- Ha Tinh Province: Duc Tho District: Yen Ho Commune, new village (Tien Hoa), in-depths household interviews

May 29, 2014 Ha Tinh Province Duc Tho District

Interviews with local authorities: District Headquarters (People Committee in the District), agricultural office which was in the district headquarters Deputy Chief of Agricultural Office Interviews with households:

- Ha Tinh Province: Duc Tho District: Yen Ho Commune, Village 6, in-depths household interviews

May 30th, 2014 VINH HANOI Writing up interviews.

May 31st 2014

Back in Copenhagen

Excerpt of findings so far:

Flooding is the dominant natural disaster stress-factor for vulnerable households in the four provinces selected for this study. Only 1 percent of the households surveyed declared that floods have no adverse impacts on their livelihoods while 80 percent categorized themselves as highly vulnerable to floods (Survey, 2013). Relative to other stress-factors (such as illness, access to credit and access to land) flooding disasters were pointed to as having the most serious impact on people's livelihoods (Survey, 2013). Flooding is thus a part of life for the vulnerable households and their susceptibility to flooding is primarily caused by variations in flooding patterns both with respect to timing and severity. The qualitative evidence clearly indicated that vulnerable households were less concerned with the existence of floods as such and much more concerned with a perceived increase in variability and severity. The qualitative evidence clearly indicated that vulnerable households were less concerned with the existence of floods as such (most are actually dependent on limited flooding for irrigation of their crops), and more concerned with a perceived increase in variability and severity. The interviewed households complained that traditional coping strategies such as elevated storage facilities in-house and conduits to protect against saturation were no longer enough against floods that they considered to be more severe, faster (flash floods) and out of sync with the usual weather patterns. Most interviewed households across research sites pinpointed the year 2010 as particularly flood prone in recent times. The reported damages that year were greater than the vears 2009, 2011, 2012 and 2013 combined (Survey, 2013).

95 percent of the respondents had received disaster relief. The large majority of those 95 percent appear to be satisfied with the relief they have received: 93 percent answered affirmatively when asked whether they were satisfied with the relief (Survey, 2013). Although we did encounter a more critical attitude towards the quality of the relief in our qualitative interviews, there is little doubt that disaster relief (mostly in-kind) has a high degree of penetration and is met with satisfaction in the vulnerable communities. In-kind support (mainly clothes and food) was the alldominant type of support received by 98 percent of those who got relief from the local authorities, 30 percent received cash, and less than one percent got a loan (Survey, 2013). In the 2013 survey, the respondents were also asked to specify the sources of their support: 88 percent answered they had received support from the local government; 22 percent that they had received support from local social unions (in effect state associations that were often considered synonymous with the local authorities); 15 percent had received support from relatives; 10 percent had received support from neighbors; and 6 percent had received support from friends. Respondents overwhelmingly rely on the state for support. Both the objective indicators of disaster management (did you receive support and what kind?) and subjective indicators (rate the importance and usefulness of the support) point to this strong dependence on disaster relief from local authorities.

Field trip report for the Danish team during 20-29 November, 2013

(Mogens Buch-Hansen, Thorkil Casse and Ole Bruun)

The team started out by attending the joint project workshop in Hanoi on 19 November. Here all work packages were discussed and further progress and publication plans were outlined for each. On 20 November the team went through the original questionnaires from the recently conducted socio-economic survey, checking data consistency and discussing the overall methodology with Dr. Man. He pointed out that the survey had used the methodology as commonly applied by the Vietnamese Statistical Office. The Danish team were impressed with the professionalism with

which the survey was conducted and the high quality of data. It was found that the survey had provided a crucial database with relevance for all the Danish researchers. The same day members of the team discussed concepts and research issues relating to 'vulnerability' with Vietnamese students.

On 21 November the field trip to the three project areas began. We had decided to choose one village in each area and to make a random selection of households in order to discuss questions in the survey as well as some broader issues. The objectives were to cross-check questionnaire data and arrive at a better understanding of the conditions surrounding daily life in a disaster prone environment. A separate aim was to meet local governments in the field areas and to discuss disaster management with specialized staff and representatives of local mass organizations. From all forms of interaction at local level we got first-hand impressions of the impact of typhoons and flooding in the communities and discussed both financial and human consequences of water disasters. A range of interviewing related to experiences of changing weather conditions and seasonality, as well as memories of historical flooding patterns in relation to recent events, such as the 2010 flooding. The team also discussed agricultural practices with farmers, not least the uncertainty brought about by the changing occurrence of the rainy season, which makes the planting of a second yearly crop extremely risky.

A general impression, however, consistent with survey data, was that most households are experiencing a substantial income increase from year to year, despite recurring losses from flooding. The most significant contribution to income increase appears to come from non-farm sources, primarily migrant labour. Survey data indicate that general living standards vary between project areas and interviewing also pointed to significant variations in ability to cope with disasters, both between project areas and between households. Initial impressions concerning which households were most vulnerable to disasters pointed to the groups of elderly as well as to households with insufficient labour or with social problems. Income variations between regions may also reveal a common trend in rural areas, namely that the better off villages also have better access to further improving their incomes and living standards, whereas the poorer regions in general experience lower rates of growth, thus effecting regional economic differentiation. This again results in the better off communities having better means to protect people and property during disasters, such as by means of new and stronger private housing with elevated 'rescue rooms' or joint rescue buildings. However, both the survey data and the qualitative information from the field trip await further analysis with regard to exposure, economic conditions, losses, regional variation and vulnerability.

The effectiveness of disaster management as well as the scale and significance of emergence aid during critical events were also discussed with government staff, representatives of mass organizations and individual members of local communities. Obviously every locality has its own challenges in terms of environmental conditions, exposure to typhoons and floods, and internal community dynamics. Analysis of survey data will provide further background to these issues and point to local and regional variations as well as to critical problems of reaching out during and after disasters. It was found that a range of state, private and NGO funding was available for disaster relief in most communities.

A series of interviews were performed to get qualitative data on the contents and significance of indigenous knowledge (IK) in the villages. Survey data had pointed out that local people mostly saw the value of IK in agriculture, animal husbandry and various ways of coping with disaster such as storing foodstuffs, but with considerable variations in opinion between households. Interviewing brought out details about specific knowledge, techniques, and vernacular sayings that people would have at their disposal as complimentary to modern agricultural knowledge. Examples included watching unusual behavior of insects around the house as pre-warnings of floods, observing the growth patterns of bamboo and other trees and plants, taking note of specific weather conditions or unusual seasonal weather patterns, watching the moon and sky, making use of the traditional rural calendar, fortunetelling, or recollecting old sayings about various unusual events and cause-effect relationships. A wide range of knowledge and techniques related to coping with disaster, such as storing foodstuffs and equipment and ensuring the survival of domestic animals during flooding.

It should be emphasized that the overall impression of the actual relevance of IK in the strict sense, such as for coping with disasters and for various economic activities, is limited. Many aspects of IK such as mentioned by local people may simply refer to common sense and general experience. In the broader sense, however, various forms of local knowledge are constantly built as a link between age-old agricultural experience and the conditions in the modern society. New inventive means of dealing with floods are seen and new income opportunities based on changing social and environmental conditions are created. Thus, supporting a higher rate of information exchange at the local level as well as between regions could be an aim in itself. But based on the various opinions expressed by local people a broader range of contents may be considered, such as local knowledge, new income opportunities, alternative crops, appropriate technology for farming and livestock breeding, animal care during floods, new technology, market conditions, credit opportunities, weather and flooding forecasts, disaster warnings, health and sanitary issues during floods, new forms of organizing etc.

From interviews with government staff and a range of individual households we also gained insights into local water issues not immediately related to climate change. Hydropower and irrigation reservoir construction along major rivers in Central Vietnam is increasingly impacting lowland farming. Once built, these entities may regulate lesser instances of flooding. But they also tend to optimize their capacity at the expense of the security of lowland communities, to the effect that they may be forced to release water at the height of extraordinary rains, such as during typhoons, thus exacerbating lowland flooding and increasing the risk of flash floods. For instance, in the Quang Binh field site households located outside the large dike were reportedly affected heavily by the construction of three large upstream irrigation reservoirs. Consistent reports indicated that decisions made by the water management authorities to release surplus water during flooding would raise the flooding level by 1 meter as well as cause the flood to rise faster. Another commonly mentioned problem related to water management was declining numbers of fish in rivers after large-scale dam construction. These observations point to the need of more comprehensive approaches to water disasters, incorporating man-made constructions and decision making as much as climate change.

After finishing the field trip the Danish team had a brief discussion with Dr. Ngoc and other members of the Vietnamese team concerning the overall impressions and findings. Some initial ideas for jointly authored articles were exchanged and it was decided to write the first article proposals in December.

On behalf of the Danish team,

Ole Bruun