Social Networks:
A tool for understanding villages from the inside out
Phonesavanh, Viengxay, Nithkham, Nate

1. Introduction: Why social networks?

One of the key challenges for URDP, is to understand the outcomes of research and trial activities. Much effort has been spent in assessing the impact of interventions in the agriculture, forestry and livestock sectors. Having worked in two districts for 4 years, there is much to be learned about what happens to an information or technology once it is introduced into the field sites. Scaling-up and scaling out are priorities for the final phase of URDP, but the mechanisms by which new ideas are adopted and adapted are not well understood. This is closely related to another priority area of work, which seeks to help communities set up groups to promote production, marketing and achieve other benefits from economies of scale.

Traditional PRA and household survey methods often do not provide the needed insights on information and technology spread. Similarly, they are often not able to uncover the reasons for difficulties in management arrangements, decision making and problem solving. One of the reasons that our familiar tools do not provide the answers is that they do not look at a village as a place of interaction among individuals. These questions are at the heart of sustainability from a research-development-extension point of view. URDP is exploring alternative methodologies for understanding these social processes.

Social network analysis looks at interactions between actors in a community. In social network analysis, a network consists of actors and relationships, and can be shown visually in a network diagram. Visual representation of social networks allows us to see human interactions as a ‘social map’, and can bring to light characteristics of the way people interact that we may not otherwise observe. Network analysis brings a dynamic element to our data, and when used in conjunction with other datasets can help us avoid looking at households as isolated individual entities. Social network analysis is also very helpful in identifying the informal dynamics of a community, which are not visible in other research methods.

In URDP’s work in the ethnically diverse mountains, we need to understand how different ethnic groups respond to changes in their livelihood systems. The importance of indigenous knowledge is widely acknowledged, and some important lessons have been learned from indigenous institutions. However, better understanding of how non-Tai-Lao communities function will enable service providers to design their interventions in ways that are more appropriate for local society. Deeper understanding of these social dynamics can help development interventions to build upon and even strengthen local institutions as well.

A team of NAFRI/NAFREC researchers tested out a social network analysis methodology for understanding how villagers interact in their daily agricultural lives. The exercise was conducted within the context of a trip to consider mechanisms for improving the provision of extension services from the kumban technical service center (TSC).

This exercise was conducted as an experiment, with researchers who have experience with farmer communications but had not yet been exposed to network analysis thinking. The objective was to get researchers at NAFRI and NAFREC familiar with network analysis concepts, to test a survey tool and to enter data into the UCINet, a social network analysis software. Analysis was conducted throughout the
exercise at each step. Observations regarding data collection process and the findings as they emerged were discussed among the team.

2. **Social network analysis concepts**

Visualizing human interactions through social network analysis allows us to make observations on the relationships in a network. We can compare networks within communities and across communities, to understand how these might affect the outcomes of a development intervention. Network data consists of actors (nodes) and relationships (ties). Conventional data usually consists of actors and attributes, or qualities, and is concerned with individual actors. When we switch the focus of analysis to attribute data to relationship data, we can see not only structures but the dynamic side of human action, and can consider the entire system of interactions in a holistic way.

Four basic areas of observation provide useful criteria for understanding networks: 1) degree of centralization, 2) density of actors and relationships, 3) existence and location of sub-groups, and 4) bonding and bridging functions of individuals. The significance of each is introduced briefly below.

3.1 Centralization

The degree of centralization is a simple criteria for analysis, and is often the first characteristic that we observe when we look at a new network diagram. A centralized network is one in which one actor occupies a central position, with many of the other actors linked to this individual. A decentralized network has a more even distribution of relationships across the actors. Centralization of a network can mean that information, influence or other social capital is concentrated in fewer numbers of actors. The network below, consisting of six actors, is a centralized network. Actor B clearly plays an important role in the network.

As a result, there may be a high degree of organization or clarity in roles, but at the same time if the important actors in a centralized network do not perform their roles, the network may collapse. The
positive or negative elements of a centralized network depend upon how the central actors chose to wield their influence, share information or provide access to other resources.

The next network is a decentralized network, consisting of the same six actors. There is no single individual located at the center. Communication in this network is more disbursed. Decentralized networks can be more democratic, as each actor has a more equal set of relationships, but roles within the network may be less clearly defined. In terms of decision making, more decentralized networks may require more complex processes of distributing information about the decision and getting it implemented, as there is not a central point that provides information and authority.

The level of decentralization of a network is a first criterion that can be applied in analysis to give some first ideas about how a network functions.

3.2 Density

Network density is a criterion that considers how tightly the actors in a network are interlinked. In a dense network, there is a higher ratio of ties to actors; in other words, more of the actors are interlinked. In a less dense network, there are fewer ties among the actors. The following is an example of a dense network, composed of 12 actors. Each of the actors is linked to another with multiple ties. With multiple ties, each individual has varied access to network resources. In the case of information, this may be good because the individual will be able to compare between different sources, and will have more reliable access, given that they are not dependent upon only one other person. In a dense network of information sharing, information may travel quickly, as each individual passes on information to others through multiple channels.
In a low density network, such as the one shown below, each individual has fewer ties within the network. In comparison with the dense network, one can imagine the impact of one individual leaving the network would have on the whole. If Actor L were to stop functioning in this network, it would break into three smaller networks. If we are concerned with information, for example, this will result in a stoppage of the flow, and the three separate networks will not have a chance to exchange. On the other hand, a less dense network may be easier to manage, as the frequency of interaction is lower.

Looking at density, we can usually get a general picture of the resilience of a network, or how vulnerable it is to change in the composition of its members. We can also get a sense of how easily information or other social capital resources might flow.

3.3 Sub-groups
Networks can contain smaller-groups (called cliques). When looking at larger networks, such as villages, one often observes subgroups, which reflect the natural sub-groupings in society. For example, the diagram below shows how sub-groups can be found within networks:

![Network Diagram]

It is useful to understand what the sub-groups within a community are. For example, we may find sub-groups in a village defined by ethnicity, kinship, economic status, place of origin, educational experiences and many others. When development interventions are aimed at the village, it would be expected that the outcomes will vary according to the sub-groups. For example, some groups may decide to adopt a technology or not, some groups may not have access to the funds to make an investment, some groups may pool their resources to make a contract with a company, and so on.

3.4 Bonding and bridging

While the network diagrams give us a valuable view on the whole system of relationships, we are often drawn to the roles of certain individuals within a network. In general, there are two types of ties that can be observed: bonding and bridging. A bonding role is played by an individual that holds together a certain group. For example, in the first network diagram Actor B played a central role in unifying that network. A bridging role is one where an individual provides a link between other groups. Actor L in the sub-groups network diagram is a good example of this.

When analyzing a network diagram we need to ask questions about the roles played by certain individuals (and groups, in more complex networks). For example, who is Actor L and what gives her the ability to pull together the three other sub-groups. Similarly, who is Actor B in the first diagram, and why is he in center of the diagram? This requires that we have other supporting information about people in the network.

For each tie, there is an element of ‘directionality’. That is, in each relationship one actor is ‘selecting’ another when that person provides a name in answer to a question. This directionality is shown with arrows. In the above example diagram, the arrows were suppressed in order to maintain focus on the structure of the networks. In the following discussion, the arrows are displayed so we can see ‘who
chose who’ in the diagrams. In cases where two actors choose each other – a reciprocal tie – we assume that this signals a stronger bond than a relationship in which only one chooses another.

3. **Background: The three villages**

The social network analysis was conducted in three villages in Namo District of Oudomxay. These villages are research sites of the URDP programme. The URDP staff is very familiar with the people and issues in these villages. The villages are of different ethnicity, which is interesting because we wanted to test some of the basic assumptions we have about the way different groups organize themselves and interact.

- **Ban Nam Neua** is a Black Tai (Thai Dam) village of xx households. URDP has worked in this village intensively, providing information and technology on fruit tree crops. The village, located near the road, has good access to the District market and traders. The villagers have large areas of paddy land and engage in a number of supplementary cash cropping activities. There are two settlements in the village. Since Tai Dam are native speakers of a Tai-Lao language, they have no problem communicating in Lao. The Tai Dam have a system of lineages, each of which has a different way of reckoning which days are auspicious for livelihood activities and traditional practices.

- **Ban Xaysamphanh** is a Phousang (Baza) village located on a mountain ridge. Swidden agriculture is their main activity of the xx households, supplemented with livestock and collection of NTFPs for consumption and sale. The Baza are a very small ethnic group and not much is known about their social structure or customary practices. They do have a system of patrilineal clans, and it is taboo to marry within the same clan. Recently, ten households have resettled by the main road. URDP has provided support to the village in the form of livestock management groups. Access to the district is not difficult. Until recently, communication with Phousang villagers was difficult, but it seems that the improvement of the road has meant that villagers are more comfortable speaking Lao.

- **Ban Kiu Lan** is a White Hmong (Hmong Daw) village on the road to Meo Chai, comprised of xx households. There are two main settlements, and the main livelihood activity of both is upland rice and maize production. The village has made agreements with a trader in Ban Ai-Ban Khwang to sell their maize. There is interest in rubber, but the village has not yet made a definitive move to adopt rubber. The Hmong have a strictly exogamous patrilineal system of clans, and a traditional system of clan leadership within the village. Language remains something of a challenge with the village, particularly with the women.

4. **Background: The network questions**

The most important step in carrying out social network analysis is understanding what type of network we want to describe. In the current fieldwork, the overarching interest was in how communities deal with information and technology. We decided to collect information on four different networks – information exchange, cooperation, advice and trust – to give a broad picture of how the communities function. Each network has one question that provides the data for the analysis. In terms of the data, we asked respondents to provide the name and relationship. We tested two variables in the networks – kinship and economic status – for influence on the networks. Unfortunately, the data supporting these two variables is not complete. While we cannot make any definitive conclusions across the three villages, we can be reasonably confident about see some basic patterns that emerge.

4.1 Trust: Respected individual
The overall situation of trust within a village often determines that village’s ability to benefit from development intervention and to cooperate to solve problems. Individuals were asked about the most influential individual in the village. The initial question was phrased as “Who is the most influential person in the village?”, but was translated into Lao as “Who do you trust and rely on most in the village?” This is a difficult question, because there are different cultural interpretations, and with the Hmong for example there are several ways to ask about informal leaders and influential individuals, each of which may influence the type of data received. It is best to base the questions in an understanding of indigenous concepts of trust. The trust networks for the three villages are presented below, without information on clan or economic status, just for comparison of the structures.

**Ban Namo Neua**

The network of trust in Namo Neua is oriented clearly on one individual, the village headman. However, the network is deeper than that, and three other sub-groups can be identified. In addition to the major network structure, there are five isolated small networks, which at this point cannot be explained. Six individuals chose not to answer the questions. Two individuals, providing the bridging tie between the main sub-group, and two other (top and left) groups are of interest, and would be researched further in a follow-up trip. This network diagram gives the impression that the village headman is well-respected, but that there are broad bonds of trust active in the village. One could hypothesize that the combination of these two factors would contribute to a coherent village that can mobilize collective action. That hypothesis can be tested against the two other networks below.

**Ban Xaysamphanh**

The network of trust in Ban Xaysamphanh is notable in that its core is rather dense, focusing on the three village headman and the teacher. At the same time, the whole network is quite fragmentated and has low density. The impression given here is that there is that one section of the village is closely knit,
but that the village as a whole may have some problems with cohesion. We know from previous work that the village has recently split into two settlements, and this may have bearing on the network observed below. For example, it is possible that the fragments on the left are part of the group that broke off. We also know that the current headman is not very active. We see the densest part of the network oriented around the number 2 and number 3 headmen and the teacher, who is very active in the community. A follow-up visit to this village would look at who these individuals are to explain the gaps.

**Ban Kiu Lan**

The Ban Kiu Lan trust network is very distinctive in its structure. We observe two very clearly defined subgroups and several fragments. Because the clan data for this village is relatively detailed, we can explain some of these observations. For example, the larger subgroup in the network is focused on the village headman, who has been in office for more than 20 years. Clearly he is the object of a significant amount of trust. However, we can see from the labels that the majority of the individuals who selected him, most are of the same clan. There are individuals from the different clans but they are in the minority. The smaller group is focused around one individual, and most of the members of this subgroup are from one clan as well. Together this represents the leadership of the two dominant clans in the village. Here it is interesting to note that most of the individuals in the fragments are from the clan of the smaller subgroup. This suggests that there might be a fracture within this clan. Here we could consider that the gap may arise from the fact that the village has two settlements. Overall, we get the impression of a clear distribution of among the two clans, but with the smaller of the two possibly experiencing some problems with cohesion.

Of particular interest is the individual that bridges the two main subgroups. This individual was selected by the central nodes of each subgroup, signaling that this individual wields substantial influence. We know from our discussions that this individual has worked as a government official in the district and has a wide range of contacts outside the village. One story we came upon illustrates his role. Villagers in Ban
Kiu Lan have expressed interest in planting rubber, as they have seen other villages in the area go heavily into this activity. The respected bridging individual, knowing that there is a great deal of uncertainty regarding the benefits that will actually be had, has told the village to wait and see how the rubber investments around them pay off. To date, there is not much rubber planted in the village, and many are waiting to see how things play out. Based on such information and our initial analysis of the network diagram, we could suppose that this individual would play a large role in any dispute or difficult decision-making in the village, particularly a problem that involved more than one clan.

4.2 Advice: Consultation on agricultural problems

Villages use informal networks to solve the problems that they encounter in daily life. We asked villagers about who they rely on for help in solving agricultural problems. The question was “Who do you go consult with if you have a problem with your agricultural activities?” Data for this network is given with individuals color-coded for lineage (Thai Dam) and clan (Phousang and Hmong), without individual names. Each color represents a clan or lineage, meaning that individuals with the same color are members of the same clan or lineage.

Ban Namo Neua

Consultation in Ban Namo Neua is a relatively dense network with two main subgroups easily identifiable. The pink individual is the village headman again, showing that his role is not merely symbolic (as seen in the trust network) but also has practical elements to it. The second individual, in blue, is actually not an individual but represents district agriculture staff who are based in the village. The large number of individuals not included in the network is also noteworthy. The vast majority of these people answered that there is no one in the village that they can go to for answers or ideas about how to deal with agricultural problems. So we have a situation where people are not finding the necessary resources internally, and one subset goes directly to the outside source of information (which is conveniently located in the village). While this may be effective to parts of the village, it is certainly
not a sustainable model, nor one that can be replicated in villages that are located further from the district.

In our questioning, we also inquired into the most successful farmers in the village, as these may be a potential source of information, ideas and technology. It is interesting to note that these individuals do not play prominent roles in this consultation network. It should be recalled here that this village is located close to the main road and the district town, and individuals have much greater access to outside resources. The research team also discussed the possibility that these farmers were successful because of other reasons, such as amount and quality of land possessed or labor in the family. This is important information when considering what role model farmers might play. In theory, one would hope that model or champion farmers would be an effect way of channeling information out more broadly into the community. But this should not be taken for granted. (In fact, the dissemination of information and technology introduced into a community is another area of research that can benefit from social network analysis.)

Ban Xaysamphanh

The advice network of the Phousang villagers is rather loose. The village headman has, somewhat surprisingly, appeared as the main node in the network. This indicates one or at least possibilities: 1) as headman in a village where access to the district is more difficult, he is the default option for seeking advice, or 2) despite problems with his administrative role, he has agricultural knowledge or experience. We require further information to clarify this.

The loosely distributed nature of the network seems to tell us that there is not a lot of knowledge and experience in the village that is useful for the villagers. This may also be partially a result of the fact that upland rice is still their main economic activity, and more than technical knowledge there is a reliance on the weather and other natural conditions. In any case, we can assume that villagers have difficulty in gaining ideas when they encounter problems they cannot solve themselves.
The role of a second headman and the teacher are evident again. It turns out that the second headman is also someone who was identified as a successful farmer (in contrast to the finding from Ban Namo Neua, where the successful farmers did not play a large role), and the teacher who is in general a good problem-solver.

Ban Kiu Lan

Ban Kiu Lan provides another interesting view on social networks, in its advice network. This network reflects interactions somewhat similar to those in the trust network. The network is basically oriented around the village headman. There is a clear subgroup dominated by his own clansmen, with a few individuals from other clans linking in. In this network too, we find some fragmentation of the blue clan, as opposed to the high centralization of the red clan. Interestingly, we observe actors from outside the village (shown in light green) – these are district staff, traders and Chinese middlemen.
In this network we see an interesting example of individual strategies. There are three individuals situated between the two main subgroups – two from the red clan and one from the blue clan. Observing the directionality of the ties, we see that each of them chooses the central nodes of the main subgroups. Basically, they access the information and experience of both of the main networks of advice, which one could argue greatly increases their chances of getting useful information and experience.

4.3 Cooperation: Labor exchange

Labor exchange in agricultural activities is typically a key mechanism of interaction in rural areas. In some cases, labor exchange is carried out within kinship groups. In other cases the social boundaries of the labor exchange are different. Labor exchange is often a way in which poor families can secure the needed labor. In some cases, we can see communities in which labor exchange systems are in the process of changing. The introduction of cash crops into subsistence production systems often results in major shifts in how people cooperate in their agricultural activities. The Ban Kiu Lan diagram below may be showing such a transition.

*Ban Namo Neua*

The labor exchange network recorded in Ban Namo Neua shows a very high level of density. The lineage data (not displayed here) also show that Thai Dam farmers are not limited by kinship in their agricultural cooperation. The major message from this network is that villages exchange labor freely and frequently. The economic status data in the network diagram is incomplete, preventing any real analysis. However, there are a few points to be made based on the diagram below. In this diagram, individuals in blue are of poor economic status. Of the seven poor households interviewed, three of them occupy relatively central positions in the network, while two of them remain outside of the network totally. The blue individual at the center of the diagram is receiving significant assistance from others, as he only has three people in his household. It is interesting to note that his ties are only in one direction, suggesting that he receives assistance but did not provide any labor. The lack of labor seems to be a common characteristic of those poor households located centrally within the network. If the data on household status were complete, it is possible that we could observe some of the social safety nets of this community. We heard villager narrative that they prefer to exchange labor in smaller groups than the *nuai*, which is supposed to be the basic unit of labor assistance.
Unfortunately the data for Ban Xaysamphanh is incomplete and we cannot say much about the cultural patterns of exchange in this network. We can, however, observe the basic network structure. We see that there is a dense group of exchange focusing around a few key individuals such as the three village headman, and the teacher. But the network extends to another group of individuals who are also relatively densely linked. The broad patterns of cooperation signal that the rice cultivation for which this network was recorded is still a central pillar of the village’s economy.

This network diagram raises one point about how we interpret these data. It would appear that there is a large number of people on the fringe of the network who have only one tie. These people in fact were not interviewed. So as can be understood by the direction of the arrows, these individuals were ‘selected’, but since we did not interview them, we do not have the full picture of their interactions. This is a constraint of the methodology, and must be recognized.
The Ban Kiu Lan network is interesting for several reasons. First, it seems that there is still some significant preference for exchanging labor with people of the same clan. In the diagram below one can see that there are is one main concentration of blue individuals and one of red. These sub-groups are not exclusive, but they seem to be the main patterns of interaction. The red and blue clans are the most numerous in the village, so it makes sense that they will appear more prominently. What is notable is that each has a trend to clustering together. A logical conclusion from this diagram is that there is a reasonable level of cooperation across clans, but that the basic tendency is towards cohesion along clan lines.

From there one may ask the question: Under what conditions do people cooperate across clan lines? In most cases, the cross-clan ties are cooperation between in-laws – for example, a man exchanging with his wife’s father or brothers. The red individual at the center of the diagram linking the two main groups together is an example of this. The cooperation with his own clan is with people in close family, but his other partners in labor exchange are in the immediate family of his wife. In this way, people diversify their resources for interaction through marriage ties.

One other interesting point in the diagram is that there is a relatively large number of individuals not in the network. There seem to be two main reasons for this: people are working alone because of labor shortages or they have started hiring people to work. In general, hired labor is most frequently used for cash crops, such as maize.

4.4 Information exchange

At first we were very interested in understanding how information flows within the villages. We tried to gather information on where people got information about prices of relevant crops in the village. It
turned out that the access to information in the areas is quite good, and the biggest mechanisms for crop price information dissemination are a) traveling to the market, b) talking to people that come from the market and c) the village headman. Villagers had a very hard time providing the necessary information, and when it was clear that the question was not appropriate for the current network analysis, it was discarded. However, the failure of this question is in itself an important finding, because we learned that access to price information is perhaps not something that needs to be directly addressed by external support in this area.

5 What have we learned about the villages?

We can make some observations and offer some general hypotheses about the villages we studies based on the network data. Each village will be discussed briefly below in terms of trust, cooperation and problem-solving, based on the three networks.

The social networks of Ban Namo Neua are consistently dense and show high degree of interaction between the lineage groups. Trust among villagers seems to be high, as shown by the relative density of ties in the ‘trusted individual’ network. Cooperation in the village, seen in the ‘labor exchange’ network shows a very dense system of interactions. The ‘advice’ network shows that there are mechanisms for people to seek answers to problems within the village, but in practice the problems that they face require a higher level of knowledge than is readily available. We can see that outside actors play an important role for parts of the Namo community, and the high number of people not included in the advice network implies that the village lacks the right type of technical information. The village leadership seems to play an important, but not dominating role in the community, suggesting that clear leadership is provided, but that villager are active in problem-solving. The overall impression from this data is that the village has high cohesion and is capable of deal with issues, if they have access to the right outside resources. Information provided to individuals in the network will likely be spread broadly, and if technical innovations are introduced there is ample opportunity for adoption on a broad scale.

In Ban Xaysamphanh, the everyday cooperation among villagers in this small village shows a tight-knit community that is able to support itself in its basic production activities. The in terms of both trust and problem solving, there seems to be a core group of individuals who work together, but the networks surrounding them are fragmented and not very dense. The village leadership and teacher are key individuals, but the village seems constrained by access to new ideas. Fragmentation in the network suggests that cohesion in the village may be on the low side, and this is supported by our knowledge that the village has recently split into two settlements. Trust is likely a problem. Because Xaysamphanh data is weaker than the others, we cannot say much about the clan or economic status factors. In any case, information introduced into the village may circulate, but fragmentation in the networks may hinder the community’s ability to form groups to deal with new technology and solve problems.

For the Kiu Lan community, we see very clearly that the social networks in the village are determined primarily by clan relationships. Within the dominant Lauj clan there is a high level of centralization on the village headman. For the Yaj clan, the second largest group, there is a clear preference for working together, but the network is more fragmented and disbursed than the Lauj. Bridging individuals play an important role, in terms of trust and problem solving, but the role is probably focused on dealing with large issues. Everyday cooperation, although guided by clan affiliations, is relatively flexible as shown in the labor exchange network. The overall impression of the village is that it functions because of the leadership of the headman and the various clans, but there may be some bottlenecks to flow of information and technology introduced into the village. We are not sure of the impact that the two settlements have on the village, because we did not collect this information.
6 What is the benefit of SNA?

As seen above, social network analysis can provide insights onto social dynamics within communities, bringing to light some things that may be missed in other methods of analysis. Because we can display a number of social factors visually, we are able to increase our understanding of the overall structure and function of informal networks. At the same time, we see clearly the important roles that are played by individuals.

6.3 Questions we can and cannot answer

We can answer questions about the general structure of networks, including how centralized and dense they are, and if they are composed of identifiable subgroups. These are all important in understanding how a community functions. We can compare and contrast between networks a) in the same village, to see differences in how people relate or identify key individuals, and b) across villages for specific networks to see differences between communities according to location, ethnicity and others.

The sampling issue is important in social network analysis, as with other research methods. Since social networks are complex and dynamic, we can never hope to capture the entire set of interactions. Rather, in our case, we are more interested in grasping the overall structures and principles involved in the interactions. There is a balance between a sample that provides a reliable enough snapshot of reality and an amount of data that we can feasibly collect and process. We have taken that household the basic unit of analysis, because basic agricultural activities are usually conducted or organized at this level. The information presented above is full of holes. This is normal in a test situation. We can see the constraints of the methodology itself, and we can also see how incomplete data collection can hamper analysis. When we consider what networks we want to explore, we need to think ahead to the different variables that will be needed to explain our data. Thus in our case, we knew that we wanted data on kinship, but our collection of economic status data was not standardized and this resulted in big gaps.

6.4 Questions we can ask

More interestingly, perhaps, is the range of questions that social network analysis helps us ask. We may observe many things in our first data analysis, but often we cannot explain them fully. Thus, it is better to consider social network analysis not as a rapid assessment tool upon which decisions will be made. Rather, this tool is very useful in directing us towards more focused questions in order to explain what we have observed. This can be linked to directions in interventions at a later stage. Thus, the network analysis methodology is a very good wait to get to know the basic social dynamics of a community. The first data collection should be follow-up with further data gathering to answer the second round of questions raised. From there, some conclusions can be made as to how interventions might be designed.

Social network analysis could be used for:

- Assessing the success/failure of groups (as already started in Ban Xaysamphanh)
- Assessing the spread of new technology
- Designing development interventions, such as forest management plans
- Understanding traditional resource management

One area that we have not yet explored, but running through all areas of work, is how social network analysis can help us understand gender issues in communities. One could imagine an exercise in which the women’s specific labor exchange or cooperation networks are researched.
6.5 Other datasets we can use together

It is very useful to start out this exercise with a list of household heads and their clan/lineage group if necessary and/or possible. The list could include a standardized, agreed upon ranking of economic situation, if it exists in the village. Other useful information includes lists of the official administrative and other positions in the village, production groups in the village and people who participate in various development projects. The social network analysis software allows us to display multiple datasets in the diagrams, although in this paper we used only one dataset per network, in order to keep things simple. For example, we can display kinship data with colors, economic status by changing the shape of the nodes and level of education (or anything else) by changing the size of the nodes. We can also locate the nodes in a spatially relevant way in order to observe what relationships might be affected by proximity of residence or location of field, for instance.

7 Considerations for using SNA

In addition to getting familiar with a new set of analytical tools and data analysis/presentation methods, the group learned many lessons regarding the socio-economic fieldwork.

7.1 Questions

Just one network is a significant amount of data to process and analyze. It is advisable to focus the data gathering efforts on the networks (supported by focused questions) that are the most representative of the issues we are interested in. At the same time, using indigenous concepts, such as the Hmong terms for local clan leadership, could enhance the quality of the data. Thus we need to do some preparatory research on our study site community, drawing on literature on the basic social and organizational structures of the communities.

7.2 Answers

The interview sheets should provide appropriate ways of organizing the data at the time of collection. Gathering data on multiple variables – such as kinship, relationship, and economic status, in our case – can be complex. Negative answers, in which people are not able to provide information relevant to the question, are important and should be recorded. Villagers often need time to think about the social relationships, and other more abstract concepts that we are interested in. From our experience, interviewing in the early morning and late afternoon or evening provided the best results. It was also helpful to have both husband and wife, with or without grown children, present to answer the questions.

7.3 Training of researchers

It is important to conduct training of the researchers before fieldwork is conducted. This training includes not only social network concepts and the interview questions, but the details of the variables to be gathered. For example, understanding of the clan and lineage group concepts were extremely important our study. It may be useful to discuss some hypotheses regarding the networks that will be examined, based on literature review and preparatory research.