Communication structure and information distribution in an Indian NGO network
-A case study of the YRSHR-network

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Abstract

The aim of this master’s thesis is to examine how communication structures within an inter-organisational network affect the network activities. Questions posed are: who communicates with whom; how does the communication structure affect information distribution does the structure support the intended function of the network; are the participants satisfied with the information received; and how does the network structure affect the network sustainability. The theoretical starting point is the convergence model of communication applied in an analytic network context. Questionnaires were sent out to the network members and interviews were undertaken with some of the network participants.

The Young peoples Reproductive Sexual Health and Rights (YRSHR) network was founded in 2000. MAMTA-Health Institute for Mother and Child took the initiative since there was a lack of organisations that targeted the group of adolescents. The network consists of approximately 90 NGO's located in five different Indian states. In each state there is a state facilitating agency, (SFA) that is responsible for co-ordinating the network activities. The SFAs are also responsible for information dissemination and collection of activity reports from the local organisations (LO) in the state. MAMTA acts as a co-ordinating agency for the entire network on a national level and functions as a gatekeeper between the different states. According to centrality analysis, MAMTA does not have control or influence over the communication in each state. We believe that it is important to have a continuous information exchange that is built upon the participation and mutual exchange by the network actors. The YRSHR-network is low in density and this may be an indication of the member’s low inclination to engage in network activities. Still, the members regarded the YRSHR-issues as important and the mutual exchange between members a priority. The communication structure is an effective way of disseminating information, but it does not support the members’ participation in the information exchange or the development of more complex network tasks. To assure the sustainability of the network, a feedback system where the members can document their experiences and knowledge would benefit the active participation in the information accumulation and thus help to sustain the network.

Nyckelord: kommunikationsstruktur, nätverksanalys, nätverkssamarbete, informationsdistribution, centralitet, Non Government Organisations
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<tr>
<td>IEC</td>
<td>Information and Education material</td>
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<td>GRO</td>
<td>Grass Root Organisation</td>
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<td>LIS</td>
<td>Library and Information Science</td>
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<td>LO</td>
<td>Local Organisation</td>
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<td>MFS</td>
<td>Minor Field Study</td>
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<td>NGO</td>
<td>Non Government Organisation</td>
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<tr>
<td>RFSU</td>
<td>Riksförbundet För Sexuell Upplysning (Swedish Association of Sex Education)</td>
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<td>Sida</td>
<td>Swedish International Development co-operation Agency</td>
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<td>SFA</td>
<td>State Facilitating Agency</td>
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<td>WB</td>
<td>West Bengal</td>
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<td>UP</td>
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<td>YRSHR</td>
<td>Young people’s Reproductive and Sexual Health and Rights</td>
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1 Introduction

The idea of this case study came out of a common interest in international development issues. Our master’s thesis is conducted within the Sida programme, Minor Field Studies (MFS), which intends to give Swedish University students the opportunity to gain knowledge and interest in international issues. During the period 020303-020528 we did the empirical data collection, consisting of interviews and questionnaires in India. In this thesis we aim to examine the communication structure and information distribution within an inter-organisational network.

In organisational theory, networks have been used to illustrate both an organisational principle, as well as informal communication structures within organisations. Put into practice, the network principle has also frequently been used between organisations as a strategy to give collective strength in actions. Networking enables members without surrendering their autonomy to establish linkages, assist in communication and share information. It is also a mean for overcoming isolation of individual actions by providing access to like-minded, experienced individuals, groups and organisations. New ideas and concepts are conceived and elaborated through interaction among members and these interactions in turn lead to a common base around specific issues.

An increased part of the Swedish government social development aid is directed towards Non Government Organisations (NGO’s). By supporting NGO’s, the donor state hopes to avoid government ineffectiveness and inequalities of the market. NGO’s have an advantage of being small, are supposed to have high involvement by its members, a democratic structure and to be in general effective. The ties between different NGO’s in a network are intended to be effective and flexible tools. It is the relations that are important rather than status or group affiliation (Uggla, Support for Civil Society: 5pp).

Distribution and diffusion of information is crucial for every network regardless of the topics in focus. According to the organisation’s character, NGO-networks are often described as effective information distributors which also lead them to be a penetrating power considering idea and knowledge diffusion. While stating this, one usually refers to the external information, but to be able to be a striking power, the information inside the network is of vital importance. Therefore we decided to study the internal information structure in an inter-organisational NGO-network and the ties of communication which are intimately connected to the issue.

In order to select a suitable network for our study, we contacted the Swedish embassy in New Delhi. They have some insight in NGO’s activities in the country and they made the first selection for us. With their recommendations we sent out inquiries to about ten different organisations involved in networking. We received positive answers from some of them, but selected MAMTA, a health institute for mother and child, and the YRSHR-(Young People’s Reproductive and Sexual Health and Rights) network by several reasons: MAMTA has entered into a long-term partnership with Sida in order to work with a programme aiming at building beneficial environment for adolescents to attain reproductive and sexual health. This project also gets technical support from the Swedish agency RFSU (Riksförbundet För Sexuell Upplysning). Together MAMTA and RFSU have a twinning project that has the aim of mutual capacity building. Sharing information, research and the skills of conducting training on YRSHR issues is
part of the project. In our contacts with MAMTA, they expressed a genuine interest to have a network analysis done and felt that this could contribute further in their understanding of networking.

When MAMTA decided to add networking as an action strategy, they conducted a survey over existing networks in India. It was then observed that none of the studied networks had undertaken any documentation in the process of networking. Their experiences, i.e. difficulties faced at initial phases, and how they over a period of time changed their strategies to cope with the needs and demands of the network, was not to be found in any written document. Networking rather seemed to be a small part of the overall activities. No separate records in print were available. There was no formal system found existing in the reviewed networks on monitoring and evaluation of their activities (MAMTA, 2000, “Review of Networks in the Country- A step towards the India Network on YRSHR”). Perhaps our study can be a contribution to the process documentation of this newly established YRSHR-network.

An organisation that has the ability to draw information from its environment, adept and learn has a greater chance to survive. Choo (1998) regard organisations as information processing systems, in that context interesting questions are how; organisations perceive stimuli, interpret them, store, retrieve and transmit them. This approach to organisations is theoretically diverse and different theories make contributions to this field. However, Choo is of the opinion that the interest in organisations as information processing systems is lacking theoretical base for “information processing behaviours, the rapid diffusion of information processing technologies, and the increasing information processing content of organizational tasks” (Choo 1998:5pp). An organisation that has the ability to create information about information and extract meaning from data has an advantage. This means that it is important to reflect upon how the organisation organises, relates and uses data (Choo 1998:10).

Library- and Information Science (LIS) stretch across several scientific fields, and the research area comprises humanistic, social and mathematical sciences. The area of focus is the process of mediating information or culture that in some form is stored in a document. The forum for the supply of information or culture may be the library or any other similar institution. The question of information supplement and information systems has in relation to the expansion of information technology with its new forms of communication and databases expanded the research area of LIS. An important question is how information systems can be constructed to correspond to the information need that exists in various business and organisations and also how the individual can find valuable information in the society. Due to the bulk of subjects with relations to LIS and depending on the purpose of the study, different research areas can contribute with theory, method and knowledge to develop the subject further. It is, however, important to keep the perspective of LIS in mind when other subjects are included in the investigation. We have in our thesis what Lars Höglund (2000:8) calls an “innovation perspective” which means that we consider information as a resource and something that can contribute to new ideas. In this perspective it is also interesting to investigate the information’s effects and its potential for knowledge.

It is possible to see two paradigms within the subject of LIS. One focuses on the library as a social institution; here it is the library in it self, with its collections and service from the people that work there, that are the focal points. The other paradigm stresses the process of mediating and transmitting information. This process forms a system of human communication that is
connected to subject area of “information science”. In information science, the individuals’ information behaviour and the formation of information systems is placed in a wider context. General questions regarding information, information systems and information processes are posed (Lars Höglund 2000:2pp). Our thesis falls under the second paradigm, it is written within the research area of Information Science.

Additionally, we would like to thank our informants at the different organisations for their very much appreciated co-operation and hospitality, for practical help and invitations to their homes. Special thanks go to MAMTA, Executive Director Mr Mehra who kindly invited us to do the study, all staff for helpful support and Ms Aditi and Ms Savithri for special attention and guiding.

1.1 Presentation of the YRSHR-network

“Globally, the largest share of adolescents and young people is and will continue to be in Asia (UNFPA 1998). India has an adolescent population of 200 million and overall youth (10-24 years) of around 300 million and this age group is rapidly expanding in India and many countries. At 1.05 billion globally, today it is the largest generation ever of young people between 15 and 24 years. Worldwide statistics reveal that 11 percent of young women (about 29 million) aged 15-19 are sexually active, and are not using any form of contraceptive (the Alan Guttmacher Institute, 1998). It has been estimated that there has been an increase of 20-60 percent in unplanned pregnancies in young women under 20 years in developing countries (WHO, 1997)” (YRSHR-Young Peoples Reproductive and Sexual Health and Rights, 2003). In India, the outreach of the government health and family welfare programmes starts after an individual is married and practically ends by the time the offspring is five years old. Despite adolescence and youth being crucial phases of life, very little data is available to explain their special biological, psychological and emotional needs. Lack of information about their needs means that service providers are ill equipped to deal with these groups. There is some information about the married adolescents/young people in India, but very little is known about the unmarried ones. Researchers in the country have only recently begun investigating adolescent/youth sexuality in depth (MAMTA, 2001, “Adolescent Health and Development in India”).

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With this background, MAMTA started a project in 2000 dealing with strategies for better health and development of adolescents/young people. One action was to initiate a network co-operation to deal with these questions. The network had at the time of our investigation (2002) about 90 members situated in five states of India; Uttar Pradesh, Bihar, West Bengal, Andra Pradesh and Rajasthan. The size of the participating organisations varies from small grassroot organisations (GRO) to NGO’s with several hundred members. Most of the organisations rely to some extent on the work of volunteers, even though there is also paid staff engaged. To be part of the YRSHR-network there are some criteria that have to be fulfilled; adolescents and young people related issues have to be part of the agenda, the interested organisation should also have a willingness to contribute to the network co-operation. In the initial phase MAMTA acts as a co-ordinating agency for the entire network, in time this will be replaced with a co-ordinating group which will consist of 7-10 members from the various regions. Key decisions of the network will be taken by the co-ordinating group. In each region there is one member identified as a State Facilitating Agency (SFA). Their task is to further co-ordinate and facilitate the network.
members in the region. To be able to manage this task they are given external means for one employee. The number of members in each region is to be decided by the regional network members. Every regional sub-network frames their annual activity plan and finalises it in consultation with the co-ordinating group, which in present is represented by MAMTA. Activities undertaken to strengthen the network and the cause of YRSHR-related issues are financially supported by the networks common means. Individual or organisational efforts are not supported. The regional network members are also encouraged to mobilise resources in order to sustain the regional network. The co-ordinating group MAMTA are giving technical support to the network partners. The organisation of the network can visually be described as a star, with MAMTA in the core and the SFAs in a central position in each and every state. At the end of the chain the other members are positioned. In the following, we refer to the member organisations as Local Organisations (LO) or SFAs, when they have the function of a state facilitating agency. All organisations in the network are NGO’s, but by using the acronyms SFA and LO we can reflect the members position in the network.

1.2 NGO’s and Society in a Development Perspective

This thesis considers communication structure and information flow in a NGO-network. The network in question is active in a development context. Even though this is not a part of the problem formulated for the study, we think it is an important background to bear in mind when analysing the results and also when considering future possibilities and pitfalls.

In recent years there has been a trend in development co-operation business towards inter-agency interactions and co-operation. The interactions are thought to give the benefits of “(i) learn from the experience of each other, (ii) establish a more consistent dialogue with beneficiary countries and avoid misallocation of resources and divergences in policy orientations; and (iii) build more constituencies and “collegial references” for each agency” (Hallak 2000:154). What here is called the development co-operation business is a fast changing business. Aid organisations are in the business of bringing about change and they operate in an environment that varies a great deal between the different projects. Since projects can have very different premises, the aid organisations work context may change drastically over time. Aid agencies need to be able to adopt to the chaining environment and in order for this to take place, it is necessary for the agency to learn from experience and in a sense develop a learning organisation culture. Organisations that have the ability to learn can solve problems more efficiently (Edgren 2000:41pp).

During the last thirty years there has been an explosion in the number of NGO's and grassroot organisations (GRO's) that are active in relief and development business. The rise of the NGO's and the GRO's on the world scene is an important phenomenon with implications for the development prospects of poor people, for the future of these organisations themselves, and for the wider political economy of which they are a small but growing part. This rise of NGO's is not a coincident but is affected by more than one factor, one aspect is the increasing popularity of NGO's with governments and official aid agencies, which is itself a response to recent development in economic and political thinking. Since the end of the “Cold War” most of the development policy and aid transfers have become dominated by two basic sets of beliefs organised around neo-liberal economics and liberal democratic theory. According to this, markets
and private initiative are seen as the most efficient mechanisms for achieving economic growth and providing most service to most people. Governments enable private provision but minimise their direct role in the economy; because of their supposed cost-efficiency in reaching the poorest, official agencies support NGO's in providing welfare services to those who cannot be reached through markets. NGO's have always provided welfare services to poor people in countries where governments lacked the resources to ensure universal coverage in health and education; the difference is that now they are seen as the preferred channel for service provision in deliberate substitution for the state. Further, NGO's are seen as vehicles for democratisation and essential components of a thriving civil society, which in turn is seen as essential to the success of the economic dimension mentioned above. NGO's and GRO's are supposed to act as counterweight to state power- protecting human rights, opening up channels of communication and participation, providing training grounds for activists and promoting pluralism. As a result of these developments, governments have been prepared to channel increasing amounts of official aid to and through NGO's (Edwards & Hulme 1995: 3pp).

An increased part of the Swedish Government social development aid is directed towards NGO's. There are several advantages to support NGO's considering human right issues. The most obvious reason is the two-edge connection to the national state and the civil society. NGO's participating in a network co-operation also has a collective strength in actions, there is an effective distribution of information due to the organisation's character which also leads to a penetrative power considering idea and knowledge diffusion (Uggla, Support for Civil Society: 5pp). A network has the possibility of a broader coverage, a higher number of stakeholders and more exchange of experiences and learning. Because of this and because the impact is regarded as greater compared to the single project, Sida chooses to support networking (Interview Sida).

If and when donor funds are involved, they are given directly to each network member and not to the network, since the network as such is intangible. Some networks set up secretariats, centres or similar which has as its function to manage and co-ordinate the network. Such a centre can, if the network so decides, receive donor funds for its own need and/or for distribution among network members. Obviously, this will put demands on stability and competence. Reception of funds for distribution requires setting of criteria which can be elaborated either by the network or the donor (Ekroth & Paulsson, Sida report 2000).

The strength of collective actions is stressed by MAMTA in process and strategy reports. In order to create sustainability in the network the importance of independence from profit-making institutes is emphasised. Non-profit organisations, philanthropist institutes, government support can be generated for the YRSHR-network and if needed international agencies will be approached to support to the network. The YRSHR-network has its own bank account. Self-generative activities, such as producing Information and education material (IEC), collecting relevant research material in order to create a database, training in YRSHR issues, and so on, are encouraged within the network (MAMTA 2000:a, 2001:c). As the initiator of the network MAMTA identified and contacted organisations that worked with the related issues, in this sense the YRSHR-network has been more "constructed" than may be the case with most social movement networks. The consequence of having a planned structure has both advantages and disadvantages, something that we will discuss further on in the thesis.

Sida supports the YRSHR-network in the hope to see the policy according to YRSHR-questions
will have an effect. The funds the network receives are directed to the project of adolescents and within that project, networking is one of the strategies. At present there is no adolescent policy in India. With more partners working at state and international level there can be a micro as well as a macro level impact. This in turn should be translated into actual resource allocation, the issue of adolescents and addressing these issues. The network is hoped to reach more people and thereby have a greater impact. Adolescent issues have previously not been separately addressed, but put together with children’s or adults issues. The work is being done in a number of ministries and departments, ministry of youth affairs, ministry of human resource, and so on. The faceted approach means that the adolescent issue is gaining weight within various ministries and departments. The funds also give support for institution building. Documentation of the work is important. It is favourable if good experiences are documented so that they can be shared within the network. The advocacy is given extra power through the co-operation in contrast to the single NGO working alone (Interview Sida).

“The strategy of having fairly small, homogenous base organisations linked to higher levels of organisation permits assisting agencies [Local Organisations] to pursue the advantages of one of our most interesting findings; that informal [Local Organisations] roles and procedures seem advantageous“ (Uggla, Support for Civil Society: 10).

1.3 Purpose of the study

Networking is a way to achieve long term goals and a way to develop collective strength among different organisations and individuals to enable them to influence macro issues and policies. With a common development agenda the ties in the network assist communication, sharing of information and contribute to the participant’s knowledge of each other.

The YRSHR-network is a joint venture of more than 90 NGO’s. It strives to implement need based programmes, conduct research and advocacy on YRSHR issues. Giving visibility to young people and their concerns, bringing issues of reproductive and sexual health into the limelight, sharing ideas and experiences, widening organisational horizons, are some of the outward goals of the network. The more internal objectives are to build co-operation and collaboration in YRSHR related work and facilitate the sharing of information, ideas, experiences and resources at a national and regional level, and further to identify the gaps in the YRSHR related data in India and share research among the network participants. Thus, the information exchange within the network is of great importance.

The information exchange within any organisation or network forms a communication structure. This structure may have an effect on the overall performance of the network. To be able to fulfil its task every organisation needs access to relevant information. Our question at issue is; what is the present communication structure within the YRSHR-network, and how does the structure affect the network activity? To answer this comprehensive issue we have divided the problem into sub-questions;

1 Who communicates with whom? The communication ties between different actors have to be identified, i.e. which organisations in the network exchange information,
2 How does the communication structure affect the information distribution within the
Are the network participants satisfied with the information they receive from the network?

Does the communication structure support the function of the YRSHR-network?

How does the network structure affect the network sustainability?

The exchange of information is very important in a network, good communication between the network participants is crucial for the network sustainability. To conduct the study we have been using communication theory and network analytic theory and concepts.
2 Definitions

This thesis considers a lot of terms that can have a great number of meanings. Terms like communication and information are very wide and are often used in ways that overlap. The term network is likewise afflicted by different definitions. In order to state the way in which we will use the terms, the following chapter discusses our definitions.

2.1 Definitions of communication and information

Communication may take many forms; written or spoken words, gestures or visual symbols. It can convey messages by action, touch or sound. These different methods of transferring information make communication a dynamic and complex process. The word communication comes from the Latin word communis, and can be translated as common. Communication thus means, to do something together, to share something, like experiences, observations, reflections and thoughts. Communication is a human action, something that human beings do, and what is exchanged in this interaction is information. In other words, communication is a social process while information is a social artefact. Communication and information is however inseparable terms according to the notice that there can be no exchange of information without communication (Hård af Segerstad 2002: 34pp, Lewis 1987: 7p). Here the process of communication and the psychical aspect of information in the form of an artefact are denoted, in relation to our work, this distinction is important to make. In this thesis we will use the Rogers and Kincaids (1982) convergence model of communication. In this model information is defined as:

Information is a difference in matter-energy which affects uncertainty in a situation where a choice exists among a set of alternatives (Rogers & Kincaid 1981:48).

This is a rather common definition of information in the field of communication, but a significant aspect of the word is lacking. The definition does not give an understanding for the richness of the word and to its important relation to related concepts. Information is about objects, events and relationships in the environment, interpreted through the application of available codes and concepts. A greater knowledge gives the individual an increasing number of concept variations and ability to perceive differences in the environment. Once the information about objects and events in the environment has been interpreted into understandable codes and concepts, the information-processing can take place, either at an individual level or it can be the raised to the level of shared interpretations and mutual understanding. The individual information-processing is then replaced by communication between two or more participants. This does not mean that the participants have a biased relationship either towards the “receiver” or the “source” of information, their relationship is built on interdependency. When the participants engage in communication they have the purpose in common (if only for a brief moment) of understanding one another, the communication between participants may lead to convergence between them, but it may also lead to disconvergence and bring the individuals further away from each other (Roger and Kincaid 1981:48pp).

When two or several individuals have engaged in communication and managed to converge to
the extent that they have formed a common ground regarding a topic, they can make a collective effort and take part in the *collective action*. The collective action that takes place between two or more participants may result in the creation of new information (Rogers & Kincaid 1981:52pp). The term collective action has relevance to us when we take a closer look at the YRSRH-network. What we mean by "collective action" and "participation in the co-operation" is to take an active part in the information accumulation of the network, i.e. work documentation and the information dissemination that is represented in the communication structure. The discussion about accumulated information is important; it can become a further step to convergence and a development of an extended collective action. In the context of NGO's working within the field of development, this could take place within the forum of workshops and seminars where the participants interactively exchange information. And also in the form of written information, such as evaluations, reports or research material that are sent between the members.

In this thesis we make a distinction between *communication structure* and *information structure*. With the former we refer to the exchange and flow of information within the network, i.e. how the different actors are connected by links. When the information structure is discussed it is rather a question of how the information is organised, for instance if written or electronic documents are used, what language is used in documents, on seminars and on the webpages, etc.

### 2.2 Network, an organisational principle and an analytical tool

Network as a concept is a fairly recent phenomenon and the term became increasingly frequent during the 1980’s. It has during the last years been commonly used both in social sciences and in daily speech. It is important to differentiate between network as an analytic tool and as an organisational principle. Network as an organisational principle describes a flat organisation where the participants are kept together by different relations and contacts, often without a defined centre, it is then a way of organising a work co-operation. In the former case it is an abstract analysis which consists of a combination of a theoretical direction and a specific research method. Even so, the relationship between the organisation-concept and networks remains important. Organisations are conscious constructions with a formulated common goal; it also is the formal constructions which make them different from individual actors or other more informal collectives.

The interest in network and network analysis for scientific studies is, however, as an analytic tool where it is a combination of a theoretical direction and method. During the past two decades the network research has increased explosively and is nowadays used as an analytic tool in most social sciences for a number of different research issues. The analytical network shapes a certain structure with some basic components. In the mathematical model the different parts are called nodes, which are connected through links. In social or communication networks the nodes are also called actors. They are the social constructions, the structure has multiple models and it is likely that there are disagreements among the participants on its shape and construction (Melin 2002:83). The structure consists of parts that are reciprocally dependent of each other and the totality form a network. A social network is the dependencies or interactions; or rather relation patterns, that form the analytical network. We will use network theory and concepts as an analytical tool, to study an inter-organisational co-operation that *is* a network. A, for us, relevant definition of the analytical network is;
A limited set of organisations, linked by all defined relations that can be found among them. The network is further more a construction of the investigator, since he sets the limit for the population and the definition of the relations (Melin 2002:89)

In short, the network is in the mind of the beholder, the investigator defines its structure and limitations.

It is the total pattern of relations within a group of organisations that act to accomplish a common goal (Melin 2002:89).

In this definition the common, defined goal is emphasised. With this definition the actors’ position and the network structure are given importance. Melin also gives other important features of a network, both known and unknown network actors can construct a network. The actors may have different network horizons, that is, they have different viewpoints of the network depending on were they are in the network. The goal of the network does not necessarily have to be the same. It is important to note the different viewpoints and interpretations of the network that the actors have (Melin 2000:89)

There is, however, in both the sciences and the society a more concrete perspective on social networks. The term network is often used to refer to an organisational principle. Network in these terms can no longer be studied as a network, but as an empirical phenomenon that is a network (Borell & Johansson 1996: 51p). When the term is used as an organisational principle within social movements for instance, each participant exists as an independent body, can act in its own name, has status, a secretariat and resources of its own. The network is here formed as a means to systemise contacts and, possibly, to co-ordinate actions (Ekroth & Paulsson, Sida report 2000).

When networks are a way of organising work between individuals or organisations, for instance within social movements, they are mainly divided in two different types:

1 Networks as alliances (where actors have come together in order to co-operate)
2 Natural, emerging networks

Networks as alliances are defined groups of partners that to some extent have a common goal, a common perspective and an interest in the network. They act together to accomplish these common goals. Important features of these kinds of alliances are agreements on co-ordinations of activities, sharing of knowledge and resources. The participants in this kind of network have made agreements on their internal relations and their relations with the network, the alliance in itself can be viewed as an actor. The participating actors must give their consent to the “rules” and a membership in the network must have the consent from all the actors in the network. Natural emerging networks are the result of linkages that have emerged from co-operation between different types of participants, organisations or individuals. The network is a result of ongoing activities among the participants where the relations between them form the structure (Melin 2000:91).

To sum up the above discussion network is an organisational principle where the actors are kept together by relations. A network analysis is a method or theoretical approach, which will be more
thoroughly described in the theory chapter. When using it as an analytic tool, it is the links or relations that are of foremost interest. These links or interactions can also be described as a structure, for instance a communication structure. Our thesis is a study of an inter-organisational network, the YRSHR-network, and to some extent we use network analysis as a theoretical approach and an analytic tool to reveal hidden communication structures in the network.
3 Theory

Our theoretical framework in this study is the convergence theory of communication which will be applied in a network context. Convergence theory has its theoretical root in system theory and deals with communication and information exchange. We have chosen to have a holistic approach and when regarding the network as a system, we hope to come to some conclusions about its function. The point of considering something as a system is that it focuses on the interaction between the different parts that make up a complete system and not the separate parts in isolation. In the following chapter the system theory and the convergence model of communication are presented and related to the context of social movement networks. We will also explain the basic network concepts that are of importance to our study.

3.1 Systems Theory

Systems theory, developed partly as a mean of describing the set of properties and patterns that enable organisations to occur. The theory has been a descriptive model for organisational processes in a vast variety of research contexts. In social sciences it has been used to describe the multivariate social and environmental influences on economic and social structures. A logical development of the theory is its usage for describing human organisation development, structure and maintenance. (Kreps 1990:93)

Systems theory stresses the need for the organisation to be adoptive and flexible in order to meet the changing constrains from the environment. The organisation must be open to its environment to be able to survive. The formal and informal relations between individuals in a system are also stressed. The two-way communication is regarded as necessary in order to have a functional organisational communication. Openness is important to any sort of organisation and no organisation can in fact survive without being open to its environment, but in the context of social movements, it is of extra importance that the organisation can adopt and learn from its environment (Melin 2002:7, Rogers & Kincaid 1981:46, Kreps 1990:94pp).

In systems theory the whole is more than the sum of its parts. This offers an alternative to the atomistic approach that has the opposite opinion, the whole is just the sum of its parts. The system can be explained only as a totality because a system by definition requires interrelationships among parts to constitute a whole. The atomistic approach assumes that explanation is achieved by breaking down a phenomenon into its parts, and then understanding the parts. From a holistic viewpoint, something is lost when the system is broken down into parts and when the analysis has the individual parts as focal point. The organisation tries to accomplish optimal efficiency as a whole. As the whole is more significant, optimal efficiency in the individual subsystems is not so important. The combined and co-ordinated activities of the organisation create a synergy effect. This means that the mediating process of interaction among systems parts and between the system and its environment allows the organisation to create an output that is more than just the materials and information that the organisation started out with as inputs (Kreps 1990:94). The system of information flows provides communication feedback through various subsystems. Some of the system outputs are sent back into the system as new inputs to guide and control the system operation. The organisation is mainly viewed as an information processing system and this is why it is inconceivable to have an efficient
organisation without effective communication. Thus, communication plays a central role in systems theory (Rogers & Agarwala-Rogers, 1976: 46pp, Lewis 1987: 31pp).

Some criticism has been put forward to the model; systems theory assumes that an order is present within the organisation. A model that may be the result of data analysis is trying to prescribe this order. The argument is that this order does not generally exist (Carlsson Wohlgemuth 2000:111). Despite this the systems theory and the convergence model of communication put focus and give support to aspects that we consider valuable to our thesis. The emphasis on the whole system, such as our YRSHR-network, is important. The various regional/state networks can be seen as subsystems, but the subsystems are dependent on each other and it is the synergy effect that their co-operation generates that should be supported in the network. The organisations are information processing systems that, if they are efficient, have the ability to constitute learning organisations with their two-way communication and control of information.

3.1.1 The convergence model of communication

The convergence model has its theoretical roots in systems theory. The central aspect of the convergence model of communication is the information exchange between partners. Instead of a linear model of communication, with a sender and a receiver, the convergence model consists of cycles. The cycles are the information exchanges about a topic, there are no arrows that show a "to-and-from-situation", the information is shared by both participants. Hence, information is the central aspect of the model, information is seen as innately uncertain and imprecise and communication is a dynamic process of development over time. Communication is a process that involves giving meaning to information that is exchanged between two or more individuals. Communication is defined as a process in which participants create and share information with one another with the intended purpose, if only for a brief moment, to reach mutual understanding. A model of communication is incomplete if only one participant's understanding of the message is in focus for analysis. Communication is a joint action; at least two persons have to be part of it. This implies that a relationship is necessary in order for communication to take place. To reach a mutual understanding, it is essential to get feedback on the transmitted information, feedback on feedback creates new cycles and several cycles may lead to a greater mutual understanding. Communication may lead to convergence between individuals; this is the tendency for people to form a common ground regarding a specific topic. The mutual understanding between partners will never be complete, but that is also not necessary, if it is possible for the individuals to come together on certain things that may be enough (Rogers & Kincaid 1981, Rogers & Agarwala 1976:199pp).
The figure shows the relationship between the basic components of the communication process. The relationship between action and information is represented by the three bold lines. A similar relationship underlies the relationship of all the basic components of the convergence model. The communication process has no beginning and no end, only the mutual relationship among the parts that give meaning to the whole. Information and mutual understanding are the dominant components of the convergence model of communication. On an individual level information processing involves, perceiving, interpreting, understanding, believing, and action. Action has the potential of creating new information for processing. If information is shared among two or more participants, information processing may lead to mutual understanding, mutual agreement, and collective action. The components in the figure are organised at three different levels of “reality” or levels of abstraction; the physical level, the psychological level, and the social level. The creation of information occurs on a physical level and the understanding of information is processed on a psychological level. Perception bridges between the physical and psychological levels of reality. The communication between participants may lead to convergence, but it may also lead to disconvergence and bring the individuals further away from each other. Each component in the figure implies that the opposite might take place; misconception,
misinterpretation, misunderstanding, and disbelief may reduce mutual understanding, and lead to disagreement and conflict (Rogers & Kincaid 1981:52pp).

The most important part of the information-sharing process is the communication circuit. A circuit is the communication link or tie between individuals; it is not a one-way link but a continuous two-way exchange of information. No human system can be co-ordinated without feedback. The convergence model of communication does not imply that reaching a common meaning through information-processing has to take place in a face-to-face situation between individuals (Rogers & Kincaid 1981:57 pp). In our thesis the communication circuit or communication linkages are represented by the linkages between the YRSHR-organisations.

In this thesis we will try to apply a network analytic approach on the YRSHR-network and this gives a further aspect to the communication circuit, the communication ties between actors. The actors in the network are the participating organisations and they constitute an inter-organisational network. By using a network analytic approach, hidden structures of the network can be discovered. Using organisations as actors instead of individuals does not in any essential way differ from an analysis with individuals as actors, since the network as such does not form a superior structural totality. In an inter-organisational analysis the totality is a result of the relations between the actors. But the character of the actors, or rather the interaction between the actors, is different from individual relations. In the former case it is not the organisation that creates relations or interacts with the environment; the relationship has to be initiated and sustained by individuals within the organisation, so called boundary spanning persons. The contacts between the actors are thus not two-way relations, but three-way relations from the boundary spanning person's point of view, i.e. the organisation, the boundary spanning person and the interacting part from the other organisation. The actor's freedom of action gets limited since they have to consider the demands and regulations from their respective organisation. The character of the relationship gets instrumental and thus less flexible. There are more factors to consider regarding the constraints of boundary spanning person's interaction with the environment, but since this is not examined in our study we will not further develop the issue. However, what is important to bear in mind in the analysis is that the organisation is not an actor in itself, but it is the individuals within the organisation that can act and sustain relations. The implication of the three-way relationship means that every actor actually consists of two actors, i.e. the organisation and the boundary spanning individual. The consequences when treating these two units as one are that the organisation is considered as a monolithic unit and as an acting agent. The risk with having this point of view is that instead of revealing structural patterns it can rather contribute to hide them (Borell & Johansson 1999:65 pp).

### 3.2 Network Analysis

There are various possible approaches for analyzing the communication behaviour in organisations, among them network analysis. Communication network consists of the regular pattern of communication contacts which develops among people within a social system as they use various forms of communication, (for instance, face-to-face meetings, telephone calls, mail, etc) to accomplish a certain organisational task. Analyses of communication networks can be used to understand information flow within the organisation or other actors and thus affect its effectiveness and efficiency. Even though the network analysis is commonly used, it is still
theoretically disputed. Some researchers have the opinion that the analysis belongs to a structural analytic paradigm, others have the opinion that the analysis is theoretically underdeveloped, a third point of view is that the network analysis primarily is a set of methods rather than a theoretical direction. These theoretical objections are however by several researchers considered as the strength of network analysis due to the fact that the lack of theoretical and normative assumptions directs the focus to the actual relation patterns between actors (Borell & Johansson 1996:14, Phillips 1991:759, Wigand 1997:319).

An inter-organisational network is constructed by finding the ties between all organisations in a population based on a specified point of contact. An important notice is that the network is an analytical construction of the investigator, and it is not a corporate body that can “act” as an organisation. Communication networks consist of the detected patterns of communication contacts between individuals or organisations within a given system. The analysis can thus provide descriptions and characterisations of the systems structure.

3.2.1 Network concepts and structure

There are several key concepts in network analyses. In the following, the essential ones for this thesis will be presented. Network analysis is concerned with understanding the linkages among social entities and the implication of these linkages. The social entities are referred to as actors. Actors can be individuals or collectives. The use of the term “actor” does however not imply that these entities necessarily have the ability to “act”. Most network applications focus on collections of actors that are all of the same type, for instance people in a work-group or organisations in a co-operation. Such collections are called one-mode networks. Relational ties link actors to one another. The defining feature of a tie is that it establishes a linkage between a pair of actors (Wasserman & Faust 1999: 17pp). There are several examples of ties employed in network analysis, a tie activity can for instance be described as a flow. In a communication network this flow corresponds to exchange of ideas or information between the actors. The attributes of the actors, for example class, sex, income, are of less importance, it is instead the relations that are of significance. Attributes can persist across various contexts in which an actor is involved, relations on the other hand is context specific and alter or disappear upon an actor's removal from interaction with other relevant actors (Borell & Johansson 1999:14pp, Karlqvist 1990:12 pp, Knoke & Kuklinski, 1982:10pp).

The configuration of present and absent ties among the network actors reveals a specific network structure. The structure consists of parts that are reciprocally dependent on each other and the totality forms a network. Structures vary dramatically in form, from the isolated structure in which only a few actors are connected, to the saturated structure in which every actor is directly linked to every other individual. More typical of real networks are various intermediate structures in which some actors are more extensively connected to some than others are. The network structure is of fundamental significance in a network analysis since the actors’ position in the network to a great extent determines their actions. This is fundamental in network analysis, an actor’s location in the network has influence over the actor’s behaviour and perception and the structure has attitudinal consequences both for the actor and the system as a whole. The network analysis can be used as a tool in order to account for some aspects of the actor’s behaviour. For example a formal organisation with a centralised structure of authority may be the most effective structure in a calm, stabile environment, but in a more rapidly changing environment a more
decentralised organisational structure may be more effective (Knoke & Kuklinski 1982:12pp).

An important characteristic of networks is the density of ties between the elements or actors. Network density is measured as the degree of actual connections of ties compared to the number of possible connections. Ties within a network provide the structure through which resources and information may be exchanged, and form the basis on which coalitions may arise (Borell & Johansson 1999: 19pp, Phillips 1991:767).

3.2.2 Centrality

The network shape is the relation between the actors, the pattern of ties, and is an essential measure, which captures the distribution of ties, and thus helps to explain the possibilities for control or co-ordination of the flow of resources and information by any particular actor. Shape is most commonly examined in network analysis by calculated quantitative measures of centrality. One aspect of centrality is closeness, which refers to the dispersion, or alternatively, compactness, of ties in the network. Closeness is calculated as the minimum number of units any given unit must pass in order to reach each of the other units (often referred to as the path distance between elements). In other words, the measure focuses on how close an actor is to all other actors in the network. An actor is central if it can quickly interact with all others. At the network level, the average number of actors that can be reached within a given path distance is an indicator of how widely and easily resources and information can be dispersed. In the context of communication relations, such actors need not rely on other actors to get access to information. Closeness is a concept distinct from density and it is not necessary that there be a high density of ties in order to have a high measure of closeness. Density is an expression of the prevalent number of connections in the network. Centrality describes how the ties are distributed and where some positions can be more strategically central than others. In a communication network a wide range of path distances across the actors would indicate a significant difference in the facility with which individual actors can send or receive information. Even though a network may have a low density of ties, there can still be a high level of closeness if the path distance is low. If so, it indicates that information and resources may reach all parts of the network with relative efficiency (Wasserman & Faust 1999: 183pp, Phillips 1991:769).

Centrality can be measured in several ways, the above description is usually called global centrality and refers to the actor's position in the complete network structure. Local centrality is on the other hand a measure reflecting the number of direct connections, i.e. ties connecting actors with a maximum of two path distances in between. By using measures of centrality, actors that act as gatekeepers can be identified. The measure is then to what extent an actor is in between the other actors in the network. The way the researcher decides to measure centrality can be a determining factor for the analysis since an actor that is central in one aspect does not need to be central from another perspective (Borell & Johansson 1999: 20pp).

The use of mathematical models is central in network analysis. Some graphs will be used in order to simplify the understanding of the following discussion. Interaction between two nonadjacent actors may depend on the other actor in a set of actors. These other actors potentially may have some control over interactions between the nonadjacent actors. In a star network (fig. 4), the actor in the middle is in between the others and thus can have some control over the paths in the graph. The important idea is that an actor is central if it lies between other actors, and thus acts as a

A act as an gatekeeper, no ties between B and C

Fig. 3. Dependency on one actor in the information diffusion process.

Fig. 4. Star structure (Freeman 1978/79) each number represents an actor, from Borgatti & Everett 1999

In the star or wheel network all lines are connected to the centre. When mathematical measurements are undertaken, the star structure is proven to be the most centralised graph. In fig. 4 the centrally placed actor has a maximum of degree closeness, from its position it is only one path distance to all other actors, whereas the other actors have two path distances between them. The actor in the centre is in direct contact with every other actor in the network. This actor also has a high betweenness index, i.e. to what degree the actor is connected with only one path distance between other actors. The result of such measurements will prove that the star graph will get the highest centralised index. The other extreme is the complete graph, here all actors are connected to each other and no single actor can get a high degree of central measurements and consequently, it is the graph that is the least central one (Freeman 1978/79:231).

A common image in network analysis is the core/periphery structure (fig 5). Here, the group or network cannot be subdivided into exclusive cohesive subgroups or fractions; it consists of just one group to which all actors belong to a greater or lesser extent. The actors that occur near the centre of, for instance an MDS-picture, are proximate not only to each other but to all other actors in the network, while the actors that are in the periphery are relatively close only to the centre. A core/periphery structure can also have multiple cores, each with its own periphery (Borgatti & Everett 1999:375pp).
There is not much research done on how the position of the actors in a network influence the performance of the network as a whole, the studies done have for the most part had an egocentric viewpoint on the network. One challenge with the study of how the structure of a network is affecting its performance is that it requires looking into the character of the work (Cummings & Cross 2003:2). Cummings & Cross (2003) have in their paper investigated how the structure and positioning within a working group affects its performance. It was found that the overall group communication was negatively affected by a hierarchical or a core-periphery group structure. If there was a core-periphery structure in the group there was also more likely to be a hierarchical group structure. Concerning the performance of the group, the performance was negatively affected by a hierarchical structure and they got partial support for the hypothesis that the group performed worse in a core-periphery setting. Where Cummings & Cross focus on the structure of individuals within a group, we focus on an inter-organisational network. But their findings are still interesting. Although there is some research done on how the network structure correlates to its ability to attract new members and perform collective action (Gould 1993, Sparrow & Liden & Kraimer 2001), we have not been able find recent studies that have connected structure and performance in an inter-organisational/group network setting. The research that has been done on communication networks is of an older date (Rogers & Kincaid 1981).

Communication networks with centralised structures, or star networks, have in early research (from the fifties) proved to facilitate the diffusion of simple task information. However, when dealing with more complex tasks, it has been shown that groups with a more decentralised communication structure could finish the task faster than groups with a more centralised structure. This hypothesis was tested and it was found that hierarchical or core-periphery network structures might be effective for diffusion of information. However, when the work is of a more non-routine, complex nature, the results suggest that more integrated group structures would do a better job. The project-based work, which often requires effective co-ordination and integration of ideas makes the communication structure particularly important for task performance. (Cummings & Cross 2003:2-13).

The idealised network structure with high density and where everybody is just a path distance away from each other, fits better a social movement organisation with a high degree of collective identity and solidarity. The high density is a result of the network members’ similar high inclination to engage in collective action. Its non-segmented structure is an indicator of how all actors are structurally equivalent and they all see each other as a potential partner in some type of exchange. Density is thus seen as a rough indicator of the participant’s willingness, or unwillingness, to take part in the network co-operation (Diani 1992:119, Granovetter 1978:1427).

The star shaped network is a network with a central actor that is connected to all the other periphery placed actors. The star structure is very low in density, but because they are all but two path distances away from the central actor, it does not necessarily mean that they don’t have quick access to each other. The centrally positioned actor controls the flow of communication and exchange between the actors. Diani is of the opinion that this type of structure is significant for a movement where instrumental orientations are dominant over solidarity and the actors have a rather low identification with the movement as a whole. The actors prefer to focus on own issues and thus connections to other organisations are limited to the one central organisation. These ideal-typical models of the star network can be used as a reference point from which actual
findings can be contrasted (Diani 1992:119pp). There are some presumptions that are assumed when the comparison between the structure and the ideal type of a social movement network takes place: “…“(a) all actors in the network are known to each other; (b) all actors have enough resources to co-operate, on single-issue projects at least, with all other actors in the same network; (c) if this does not happen, it is because differences in belief systems prove so intense as to prevent co-operation, in spite of a shared, more tenuous sense of belongingness to the same movement“ (Diani 1992:119).

The often-used centrality analysis and its correlation to actors’ powers and influence has rarely been the focus of scientists that work within the field of social movements (Diani & McAdam 2003:105). The dynamics of power are multi-faceted and studies show that a central position does not necessarily have to imply that the actor holds the position of the traditional “leader“of the network. A form of centrality measure is to assess the organisation's capacity to relate to different sectors of the movement and therefore their potential role as linker of communication. Due to differences in specific goals, strategic and tactical and attitudes in general, communication and co-operation may be disturbed between social movement’s organisations. Accordingly, networks of “restricted access“may develop. If this situation arises the capacity to develop linkages between organisations that do not communicate is a great advantage. This may especially be true for an organisation network with great ideological differences. Organisations that are placed in an intermediary structural position may be more influential than an organisation with the same number of ties, but with linkages to the same network fraction. The difference to the centrality measure “betweenness“ that we have used earlier, is that here the actor is not only assessed according to how many other actors they are placed between, but also according to the position of the actors they have linkages to. The organisation that holds such a position does not necessarily have to be a leader in a traditional form. Such an actor is what Diani denotes as a “social broker“, a social broker is an actor that connects actors that are not in communication with each other. The lack of communication is then more due to specific political or social barriers, than to absence of practical opportunities to communicate. These actors have a crucial role to play. Centrality and brokerage reflects different dynamics within social movements. The centrality measures of “betweenness“, “closeness“ and the degree to which an actor is in direct contact with other actors, can be described as a measure of the “leader“ of the network. Organisation resources and the capacity to cover a broad range of issues affect the brokerage role. Larger resources give an opportunity to more collaboration, employ more and more skilled staff and make the organisation more visible. Centrality is on the other hand more affected by the employees ability to create social ties with members in other organisations, in other words it’s networking capacity. Centrality is supported and validated by interpersonal linkages, whereas a more neutral profile of communication seems to be significant for the brokers. In the more neutral space that the broker provides, members can more easily find a common ground regarding different topics. The presence of a restricted number of actors towards whom most interactions converge greatly facilitates the creation of a connected network; it provides ties for potential communication and co-operation. Because of the different network aspects centrality and brokerage show, Diani concludes that it is advisable to differentiate movement leadership from movement brokerage (Diani & McAdam 2003:105-120).
3.2.3 "The strength of weak ties"

In network analysis, the strength of a tie between actors is an often-considered factor in the analyses. Granovetter (1973) points out in his paper the importance of the weak ties between actors. The strength of a tie is measured in the amount of time, emotional intensity or the reciprocal services, which characterise the tie. The weak tie has importance to the relation between groups, regardless if the tie transmits information or manifests the connection between friends. In figure 3, the actor A is not only a gatekeeper, but also acts as bridge between B and C; this means that the path through A is the only path between the two. In the study of diffusion of information and influence such a bridge has an important role. In a large network it is unlikely that a specific tie will be the only path between two points. But the bridging function may nevertheless be a reality.

Fig 6. “The strength of weak ties”, from Granovetter 1973, examples of local bridges

Granovetter denotes such an actor as a local bridge, the actor will not be the only path that connects two groups, but its position is the shortest path between actors (see fig.5). In the communication between actors there may be a critical distance, beyond the critical distance it may not be considered feasible to transmit information, the distortion process between the actors will make it inefficient. The advantage of a local bridge and the weak tie would then be that it creates more and shorter paths. In the transmission process, the average weak tie is of more importance than the average strong one. In other words, whatever is diffused will reach a larger number of people, and travel a greater path length if it passed through weak ties rather than strong. The presence of many strong ties leads to fragmentation among cliques, i.e. a formation of actors in subgroups like in figure 6a. Each of the two subgroups are by themselves connected graphs, i.e. all actors in the subgroup have linkages to each other. A clique is more likely to consist of strong ties and it is more likely that the tie, or ties, that connect the two cliques are weak. (Granovetter 1973:61pp).
3.3 Sustainability of the network co-operation

It is quite easy to initiate a network co-operation, but it is much more of a challenge to sustain it. This is especially the case when the network has to rely on external support. Usually it takes several years to build up and consolidate a meaningful network, and it is often hard to keep the enthusiasm and activity up after external funds have ceased. It is then important to have active members that contribute to the co-operation - without it, it is not possible to sustain the network.

Gould (1993) connects social movements and social networks in his work. For social movements that to a great extent are built upon volunteers, it is crucial that people contribute to a collective good, or collective action. The act of contributing to the exchange of information within the network is to contribute to a collective good, a dialogue. In the study of social movements and collective action there is one problem that is often reoccurring. That is the problem of free-riders, people that choose not to contribute and by doing so can profit from the work of others and at the same time not bring anything to the working process themselves. In a network co-operation the problem of passive members is very much a reality.

Gould suggests a model for predicting the network actors’ willingness to contribute. He builds his model on a number of assumptions, the two most important ones is a norm of fairness, that encourages people to match the contributions that others make, and the will to avoid making contributions that will be wasted. In both cases, the contributions of others will affect how a specific actor will behave. In other words, the members make the decision on how much they want to invest in a collective good, based on their knowledge of the contribution of others. There must be a certain level of efficacy in the work; otherwise the actor perceives that the effort is not worth making. The members of a network must also have the sense of belonging to an identifiable collective; otherwise the members may not have a reason to think that they are bound by a norm of fairness (Gould 1993:182pp).

Gould tests his model of assumed participation on different network structures and he comes to the conclusion that the centralised network structure of the "star" or the "wheel" is the most suitable structure to spread motivation to others to participate. These structures are characterised by one central actor with links out to more peripheral actors in the shape of a star or a wheel (see fig. 4). A condition for the structure to be effective is that the most active actor holds the most central position. The central position in the middle of the star is connected to all the other members in the network, hence most actors will know the actions of the central actor and feel obligated to match the contribution. If instead, the most active actor is placed in the periphery of the network, it will take further path distances before the information of this actor's contributions has reached all, and along the way information will be distorted. In the case of the star structure Gould also comes to the conclusion that the dissemination of information is more easily done in a low-density network. In a high-density network where everybody is connected to everybody the motivating impact of the central actor’s actions is “disturbed”by the possible non-contributing actions of others. This shows that the influence of an actor over other actors’ behaviour is not only dependent on the network structure, but also on the position of the actor (Gould 1993:183).
3.3.1. Collective action

Collective action requires that the participants have built a common ground of mutual agreement and understanding. Four possible combinations of mutual understanding and agreement are possible: (i) mutual understanding with agreement, (ii) mutual understanding with disagreement, (iii) mutual misunderstanding with agreement, and (iv) mutual misunderstanding with disagreement (Rogers & Kincaid 1981:57).

In the convergence model of communication, information and action are closely linked. All information is a consequence of action and action may also become a consequence of information. In order to reach the level of collective action in the communication process, a certain level of mutual agreement and understanding must have been reached. If we here consider the basic components of the convergence model (fig 2) it appears as if collective action can be initiated prior to “mutual agreement” and “understanding”. We do not know if this is a compromise, made in order to make the model more understandable and possible to describe as a scheme. Even so and according to the text this certain level of “mutual agreement” and “mutual understanding” must have taken place prior to the collective action and this is also the distinction we make. Considering the convergence model, however, just like any model, one should keep in mind that it is a simplified construction of reality and it cannot reveal the whole complex process of human communication. The different levels and stages of “mutual agreement” and “collective action” may shift and be dealt with in the “wrong” order. To link the model closer to reality it is important to remember (i) the inherently uncertainty of information-processing (ii) mutual understanding as the basic purpose of communication (Rogers & Kincaid 1981:57).

The free-rider problem can also be side-stepped and the problem of efficiency can be viewed as the primary collaboration obstacle. The rational actor will only contribute as long as the effort is considered cost-effective. If the contribution is considered to be wasted, it does not matter how many in the interest group that might benefit from the action, it will still not be made (Macy 1991:730). Investments in a collective good can trigger other actors to take part and set off a chain reaction of actions within the group. This means that actors will investigate how many others have already committed themselves before deciding to participate. The problem with this so-called threshold theory and the idea of cost-effectiveness is that they assume that the actor deliberately calculates on the participation rate of the others and on the expected outcome of the investment in a public good. This means that a heavy information burden is laid on the actor, he/she must have knowledge of the actions of others and also information that can help calculate expected returns. More plausibly, the members do not calculate their actions; they are more based on feelings and the social feedback that are associated with alternative choices. The overall level of contribution tends to fluctuate around a balancing point. The smallness of the group, the learning rate, and the relative strength of collective interests are factors that bring the group closer to this breaking point. If the fluctuations are sufficiently large they will put a stop to the vicious circle that non-co-operative behaviour has on other members. But the model also puts new constraints on the actors; first decisions must be repeated. Secondly, “effective learning“ requires feedback about the relation between the situation condition and the appropriate response. The more time that passes between contribution and outcome, the less effective the reinforcement. That leads to behaviour that does not support the wanted outcome and the level of co-ordinated sequence of responses that is needed to pull the group up from the trap of a non-contributing state, is lowered. A collective action is more likely to be sustained if mobilisations
generate immediate results. For instance, a big participation in a crowd might be very gratifying even if the objectives are not met and the value is more of a symbolic nature. As in the convergence model, importance is given to feedback as a support for a continuous participation in collective action. It is factors that will increase the members’ willingness to contribute, feedback also gives the opportunity to co-ordinate actions. It is not hard to find studies that emphasise the advantages of a feedback system. One factor that should be considered is the size of the network. It is of course more time and finance consuming to give feedback to a large network and in support of Marcy’s theories; a larger network may have difficulties in motivating members to take an active part in the co-operation (Macy 1991:731).

3.3.2 Learning in an NGO co-operation

The purpose of collective action in regard to information accumulation and dissemination is organisational learning. The documentation, the collection and the dissemination of information has no purpose of its own. If it is not taken under consideration and possibly used for a development of new work strategies, new knowledge and then implemented in reality, it is useless. Aid organisations work in the context of “the business of bringing about change” and they operate in an environment that varies a great deal between the different projects and may change drastically over time. Aid-agencies need to be able to adapt to the changing environment and in order for this to take place, it is necessary for the agency to learn from experience and in a sense develop a learning organisation culture. Organisations that have the ability to learn can solve problems more efficiently (Edgren, 2000:41).

Learning is not purely an intellectual phenomenon, but a process, which is linked to a practice of change. NGO organisations often work within the framework of projects and have to deal with a fast changing environment. The process of learning in a development co-operation is a process where several organisations, geographically separated, are dependent on each other for effective learning. Information needs to be aggregated and synthesised in order to provide a comprehensible and available picture of the current situation. Organisations can be said to learn, if knowledge-based, on past experience which is incorporated in organisational skills, procedures and cultures (Carlsson & Wohlgemuth 2000:9). The issue of organisational learning in social movements is closely linked to the question of the action participation of members and the possibility to obtain and take advantage of other members’ documented experiences. Aid is a relationship between basically two parties, a donor and a recipient. In our case it is initially Sida that is the donor and MAMTA the recipient, but in the second stage it is MAMTA that is the donor and the rest of the YRSHR-members that are the recipients. Effective learning does require that both parties learn and that they have an opportunity to share their experiences and jointly work out an agenda of action. Learning is an issue which cannot be confined to one party only. The incentive structure of the organisation should be changed to reflect, as much as possible, the objectives of the projects and programmes they are handling. Evaluations should also be made more “recipient centric“, evaluations focus for the most part too much on the donor and local knowledge is not given enough recognition (Carlsson & Wohlgemuth 2000:8pp).

The subject of organisational learning is vast and it is outside the scope of this thesis to deal with all its aspects. Still we want to note the importance of organisational learning for NGO’s that work together to bring about change, its importance to a sustainable co-operation and its connections to the members’ own active participation.
3.4 Summary

The theoretical framework of the thesis is the convergence model of communication. The model has its theoretical roots in systems theory which concludes that "the whole is more than the sum of its parts". The central aspect of convergence model is that information exchange between partners has to be mutual. Communication is defined as a process in which partners create and share information as a joint action with an intended purpose to reach mutual understanding. The most important part of the information sharing process is the communication circuit, which is the tie or link between individuals. It is not a one-way link but a two-way exchange of information. In this thesis the communication circuits are represented by the linkages between the YRSHR-organisations.

One approach for analysing communication network is network analysis. Communication networks are detected patterns of communication contacts between individuals or organisations within a given system. The configuration of present and absent ties among the network actors reveals a specific structure. Structure is of significance for the analysis since the position of the different actors determines their actions. The location of the actor has influence over behaviour and perception and thereby consequences both for the individual actor and the whole system.

Centrality describes how ties are distributed and where some positions can be more strategically central than others. One aspect of this is betweenness. If one actor is positioned between others, it can act as gatekeeper and thus control the flow of information. A central concept in the network analysis is core-periphery structure. The group or network consists of one core group that is proximate to all other actors in the network, while actors in the periphery are relatively close only to the centre. The structure has implications on the network performance. Core-periphery network is likely to form hierarchical structures which might be effective for diffusion of information. However, in more complex, non-routine tasks, groups with a more integrated structure tend to be more effective.

An actor’s central position in a network does not necessarily have to imply that the actor holds a position of the traditional "leader" of the network. A central position can be that of a "social broker". A social broker is an actor who connects actors that are not in communication with each other. Organisation resources and the capacity to cover a broad range of issues affect the brokerage role.

To sustain a network co-operation it is of great importance that the participants contribute to the collective good or collective action. The act of contributing to the exchange of information within the network is to contribute to the collective good. A collective action is more likely to be sustained if mobilisations generate immediate results. If to much time passes between contribution and outcome, the reinforcement tends to be less efficient. As in the convergence model, importance is given to feedback as a support for continuous participation in collective action. The purpose of collective action in regard to information accumulation is organisational learning. The information should be used to develop new work strategies, new knowledge that is implemented in practice. Organisational learning is crucial for a sustainable network co-operation.
4 Method

When the first idea to this case study was formulated, our intention was to do a network analysis. We started out by writing a theoretical 5 credit essay on the subject during the spring semester of 2001 (Berggren & Elfving 2001). With these theoretical assumptions in mind we outlined a possible method for collecting data for the analyses with questionnaires and interviews. As the work progressed, we realised that the data we were able to collect was not enough to do the analysis according to our plans. During the fieldwork we therefore came to a critical point where we had to change the methodological course of action, or rather strengthen some part of the data, i.e. the interviews, as a consequence of a quite poor result with the questionnaires. This in turn also affected the theoretical direction in some way. This will be further explained in the following chapter.

4.1 Demarcation of the study

When using a network as an analytic tool, the question of where the network starts and ends becomes important due to the fact that a network does not have distinct boundaries towards the environment. Simply put: Where does one set the limits when collecting data on communication networks which in reality may have no obvious limits? The researcher thus has to decide a starting point and a way of drawing a line. This implies that in an analysis, the starting point as well as the boundaries is arbitrary and chosen by the researcher from the investigation in question. The starting point can be one of the actors in so called ego centric analysis. In a socio centric or complete network analysis attempt, the specific actor is not the focus, but rather the totality of the network. The boundaries of the network thus can either be decided by the study-object (for example by a specific actor) or by the researcher who can make selections according to practical or theoretical assumptions (Borell & Johansson 1999: 15pp). The first step in network analysis is to identify the organisations or actors that could be expected to constitute an interconnected group. By establishing certain criteria that are relevant for the research, the subject group can be selected (Phillips 1991: 761).

For practical reasons, our study is focused on inter-organisational relations, i.e. the information flow and communication structure existing amongst the partners of the YRSHR-network. One crucial idea of this network is to transmit a message, not only in between network partners, but also to external receivers in the community. But to be able to fulfil our objective, the network boundaries were set to the partners of the YRSHR-network and the internal information. Our collection of actors and samples thus constitute what Wasserman & Faust (1999) refer to as a one-mode network, i.e. actors that are of the same type, in our case the YRSHR-organisations.

Before we went to India, we had some problems to find out how many members actually participated in the network. To overcome this ignorance, two possible ways of conducting the study were devised. The most appealing idea was to make a complete network analysis, the study was thus to include all organisations participating in the YRSHR-network. We realised that it could be a too superior task if the network turned out to be very extensive. The time limits gave us no opportunity to visit them all. Our plan B was to select one of the five states where the network is operating and focus on partners in that specific state. After arrival to India and initial discussions with MAMTA, we still decided to do a complete network analysis including all
network partners. This was due to the opinion that we would lose a vital part of the network if the study was concentrated to only one state and to our sincere will to have a holistic approach according to system theory where “the whole is more than the sum of its parts”.

We use a triangulation of methods in our study. Using more than one method gives the advantage of acquiring more than one form of data relating to the same research subject. It makes it possible to study the same issue from more than one perspective (Denscombe, 2000:102pp). By using a triangulation we intend to visualise different aspects and this is also a way of giving further validity to the study. In the working process, when the data was collected, it also appeared to be absolutely necessary to use different data sources. The character of our comprehensive question in this thesis includes both quantitative and qualitative aspects. Quantitative data from a questionnaire is used to reveal network structures. To identify information needs and understand how the participants experience the network co-operation interviews were undertaken. As a preparation to the fieldwork, we reviewed the existent process documents done by MAMTA (MAMTA, 2000:a, MAMTA b, MAMTA 2001:c, MAMTA 2000:d). These documents were to some extent once again used in the analyse process in order to examine if the objectives of the network tend to correspond to the results of our study. The analysis is based on the understanding of the complete result of the data collection combined with the theoretical approaches undertaken during the study. These approaches had to, as mentioned in the introduction be re-valued and somewhat changed during the process. The different methods used will be further developed in the following. The problems that occurred and how they have been solved will be discussed. This chapter will finally describe the analytic methods used to process the quantitative data.

4.2 Questionnaires

Relations are the building blocks of network analysis. A network is generally defined as a specific type of relation linking a defined set of persons, objects, or events (Knoke & Kuklinski 1986: 12). In network analysis, it is above all quantitative data that is important due to the characteristics of the relations or ties as measurable units. To a great extent it is about measuring the total number of specific relations. To accomplish this, we have done a survey over the communication structure by following the flow of information in the network. In order to collect data that will fit this kind of analysis, we distributed questionnaires with mostly close-ended questions to the actors in the network. The questionnaire was administered to every organisation in the network and addressed to the network contact person within each organisation. The questionnaire consisted of five sections (see appendix 6); the first section were some orientation questions in order to find out things like the size of the organisation, number of people involved in the YRSHR networking, etc. The two following sections were close-ended questions in order to find out things like the size of the organisation, number of people involved in the YRSHR networking, etc. The last two sections consisted of questions related to the contact structure of the organisations within the network. When creating section two and three in the questionnaire, we had a survey from the International Communication Association (ICA), described by G. M. Goldhaber (1993) as a background model. Using close-ended questionnaires, with given alternatives, has several advantages. It is quick and easy to fill in, which in turn facilitates participation. The given alternatives are also easier to analyse. In co-operation with MAMTA we outlined the different information categories in the questionnaire in order to suggest relevant
categories for the network members. In an attempt to make the questionnaire as understandable as possible, they were presented in English as well as in Hindi.

4.3 Interviews

Network theories are not only concerned with quantitative studies. In general terms, the quantitative data define the network structure while qualitative data reflect the network relation content. We used semi-structured interviews to broaden our understanding of the network. Interviews are far more flexible than questionnaires, which can be an advantage even though this can cause problems in the analysis of the answer.

The informants for the interviews were selected because of their position in the network. According to this we interviewed MAMTA, which has the function of co-ordinating agency for the complete network on a national level. We also conducted interviews with four of the in total five SFAs, which have the position as co-ordinating agencies on a state level. To broaden our understanding of networking we also conducted an interview with Sida. Finally, seven interviews with local organisations were undertaken. The interviews were performed with one, or sometimes two, representatives from the different organisations. One of the interviews was developed to be more of a so-called focus group interview. This can be described as information or data gathered through group interaction about a subject given by the researcher. This was not really supposed to be, but it proved to be necessary, due to the fact that all the participants were in the room at the same time, and it turned out that only one spoke good English. The result was however satisfying.

The interviews have been recorded on a tape recorder, and we have also been taking notes during the interviews. We have permission to use the names of our informants, but since we do not think that this contributes in any way to the analysis, we only name them in the reference list.

4.4 Method discussion

Despite our efforts to make the questions and language clear, we realised (both in interviews and received questionnaires) that the information categories were misunderstood. There were some obvious misinterpretations, some informants filled in answers that we know are not correct. For instance, one of the organisations stated that they were using the e-meeting function on the YRSHR-web site, a function that at the time of the study was not used by any member according to MAMTA. There also seemed to be some confusion in how to fill in the questionnaire, some mistakes occurred repeatedly, this were misunderstandings that we did not predict since it seemed obvious for us how to fill it in. Possibly this could have been avoided if we had given better instructions, although we used a well-proven model, but maybe some of the misunderstandings can be explained by cultural differences? Some of the mentioned problems could probably have been avoided if we had stuck to our first idea of having one primary questionnaire sent out as a test. Due to practical obstacles in the beginning of the fieldwork there was unfortunately no time for such a project.

In the process of analysing the questionnaires, one of the information channel categories, “working group” had to be excluded due to the fact that there are several different working groups in the network, and the answers could thus represent different values. One of our most
severe mistakes when designing the questionnaire was to not give fixed alternatives on the question about how often the network members are in contact with each other. This question was the most misunderstood question in the questionnaire. When analysing the data we had to use a simplified system of values when measuring the strength in the contacts between the network members (see section 2.5.2). Unfortunately, the answer frequency was quite low; only 37 out of 98 circulars came back. This forced us to give more importance to the interviews than the questionnaires, which did not correspond to our original idea and method.

Before we started out on the fieldwork in India we had some kind of naive conception that the majority of the network partners had access to e-mail. This proved to be wrong, but in discussions with MAMTA we were assured that the ordinary “snail” mail was a possible way of distributing the questionnaires. The dispersal of the questionnaire by ordinary mail went well, but unfortunately we did not receive that many answers. Because of the time limits and the way we communicated with the network partners we did not have the possibility of sending out reminders. Because of the size of the complete network, about 90 organisations, there was no possibility to personally contact each and every one of them. We tried to reach as many as possible by asking the SFAs of every state to transmit the message to all the members in the state. Unfortunately this did not turn out very successfully.

Our first motive to carry out interviews was with the intention that these interviews were to give us new knowledge of the network co-operations and affect the design of the questionnaires. According to the time limits this was an obvious misjudgement, the questionnaires had to be sent out as soon as we arrived in India. Quite soon the interviews proved to be a very important source of information when we realised that our preconception of how the network was functioning was not in accordance with the reality. The data collected by interviewing participants of the network was thus very important for us when analysing the questionnaires as well as to our understanding of the network.

During the interview process and in combination with the insight that we probably would not receive as many questionnaires as calculated, the interview questions were also developed and became more detailed. In interviews and discussions with the different participants of the network we realised that our comprehension of networks was not in accordance with the real network. The character of the questions thus had to be evolved and modified. From the beginning the questions dealt with what kind of information is exchanged in the network and how this information corresponds to the members’ information needs. We also focused on the direction of the information flow since this reveals the communication structure within the network. We had assumed that there was interaction and communication between all the network partners. Initial discussions with MAMTA seemed to confirm this conception. During the interviews with the network members we realised that the interaction between the participants was mainly undertaken on a state level, interstate communication and information exchange were almost non-existent. What we experienced was a clash between our image of what a network is, based on theoretical studies before going to India and what we experienced how the YRSHR-network operated in reality. One might say that we had a too narrow and rigid definition of the network co-operation. Too narrow in the sense that we thought that we had found the “right“definition of what a network is. Too rigid, because when we found out that the YRSHR-network did not function in this way (with hardly any interstate communication between the participants) we had some difficulties in making a redefinition and we started to question what the function of the
network was. We had some difficulties in accepting that this redefinition of the YRSHR-network did not correspond to our theory-based definition. A difficulty lay in recognising that the incompatibles did not lead to the conclusion that the YRSHR-network did not operate as a network “should” and therefore was not a “well-functioning” network.

With an increasing understanding of the network, we had to add questions about the function and purpose of the network and the different actors, specific responsibilities. According to our new understanding that the interaction between the members was much lower than our expectations and the amount of information circulating within the network was quite modest, we also aimed questions to what function and importance the existing information has. Some of the questions differed depending on the organisation position in the network. To get an idea of what expectations outside stakeholders have on the YRSHR-network we also conducted an interview with one of the Sida programme officers in Delhi. Sida is one of the funding agencies supporting the YRSHR-network. The questions were likewise directed to why Sida supports the strategy of networking, and what kind of problems that is associated with the matter.

To master the interview technique is a very complicated task and we sometimes experienced difficulties to transmit the essence of our questions. First of all, this can be connected to language barriers, English is not our mother language and neither the native tongue of most of our informants. Despite this we managed without interpreters. Our difficulties can probably also be related to the nature of the questions, which regarded different aspects of information flow and communication structure, issues not well-versed to several of our informants. The fact that our conception of the idea of a network proved to be different from the examined network did not make the mission easier.

4.5 Methods of analysing the material

The analysis of a network has two basic components; a structural and a process analysis. The structural analysis is done in order to describe who is part of the network and in order to clarify who has relations to whom. But the structural analysis does not tell us anything about the content of the relations; here one has to use the process analysis. Simply put, the structure analysis has to do with the shape of the network and the process analysis has to do with its content. In the process analysis individual relations are in focus. The two components are closely linked and a network analysis should include both the structural and the process aspect of the network (Bengtsson 2001:222).

The interviews with the network partners enabled us to do a process analysis of the network. To process the data for the structural analysis we used two different techniques; cluster analysis and multi-dimensional scaling. Cluster analysis has been used to support the analysis of the first part of the questionnaires. This is an attempt to identify factors that have an effect on whether the organisations’ information needs are being met or not. The organisations that have answered the questions in a more similar way, i.e. if they are satisfied with the kind and the amount of information they receive, will form clusters. The organisations will in other words form clusters according to their satisfaction with received information; the level of satisfaction has to do with the content of information. This shows the difficulty in distinguishing between a structural and a process analysis. Multidimensional scaling is the method we used when analysing the
communication structure of the network. Since we, despite the poor result of the questionnaire, still wanted to do this part of the study, we decided to do the analysis only on the questionnaires from West Bengal. In this state the network participants had been most active in sending the questionnaire back to us. If an analysis of a communication structure will be useful it demands that there will not be too much data drop outs. In the following we will give the different methods some further attention.

4.5.1 Cluster analysis

The data for the cluster analysis is from section two in the questionnaire. Unlike the communication structure that is the result of the MDS-analysis, all questionnaires, not just those from West Bengal, constitute the data for the cluster analysis.

Cluster analysis is the name for a variety of procedures that can be used to create a classification. The method is a statistical procedure that out of a set of data regarding an object attempts to organise them into relatively homogeneous groups. This means that objects with similar data are placed in the same group. Despite the variation in cluster analysis, most of the methods have four principal goals, that we also have followed in our study, these are;

1. building of, or development of a classification
2. deciding how it is useful to group entities
3. form a hypothesis on base of the data
4. test the hypothesis (Aldenderfer, Blashfied 1984:8pp)

Cluster analysis is traditionally described as a method for dealing with relationships between variables. A variable denotes those aspects that are identified as similarities between the cases and they will be used in order to assess the material. The variables we have used for the cluster analyses to measure similarities are: the state were the organisation is located, the access to e-mail, if the organisation is part of other networks, how many members the organisation has and how many people that are involved in the network co-operation.

The concept of similarity is complex and must be handled with care in order to avoid biases. In classification things that are denoted as similar or dissimilar are fundamental. To organise the things that are perceived as similar in groups, it is necessary to categorise. But depending on focus, what is perceived as similar or dissimilar may differ a great deal. Science must be based upon objectivity and it is therefore necessary to develop statistical procedures to measure what "objectively" can be called similarities (Aldenderfer, Blashfied 1984:16). With this in mind we have tried to identify factors that may have an effect on the member's level of satisfaction with the received information.

Notwithstanding these drawbacks, it has been shown that this method has its advantages. And its advantage is exactly that what is considered its disadvantage as well, in other words, that fact that the method is not affected by dispersion and size differences between the variables. But this effect may only be considered as something positive when the created differences are in fact due to a difference in the values given to the variables in the investigation and not due to the intrinsic variability of the variables themselves (Aldenderfer, Blashfied 1984:24). For further explanation see appendix 2.
4.5.2 Multidimensional scaling (MDS)

MDS is a mathematical technique that can be used to discover “hidden structures”. The technique illustrates the network data as spatial representation. It is often used in network analysis as two- or sometimes three-dimensional spatial representations in order to study equivalence or similarities among actors. Such representations can be useful to understand the internal structure of a group based on, for instance, the information flow between actors within a defined group. Multidimensional scaling seeks to represent similarities or dissimilarities, i.e. entities that are more proximate to each other are closer in space while entities less proximity is farther apart in space. Proximity is with other words a number that indicates how similar or how different two objects are. The spatial representation of the data can thus be used to identify network positions (Kruskal & Wish 1978, Wasserman & Faust 2000: 385pp).

MDS was used to analyse the communication structure of the YRSHR members in West Bengal. All organisations of West Bengal were put in a correlation matrix in Word Excel. West Bengal was chosen out of the simple fact that the answer frequency from the state was best represented of the complete answer frequency; there were 14 answers out of 21 in total. The raw data was imported to the statistical programme SPSS, and a distance analyse were made in MDS.

Section four in the questionnaire has given the data for the MDS image. The network partners have here written the name of the organisations that they have had an exchange of information with. In order to value the information contact in relation to each other, we asked them to estimate the number of contacts they have had with that particular organisation during a limited period of time. There are not many organisations that have done this estimation, so we had to rethink and see if we could value the information contact in some other way. It is possible to do an MDS-analyse without this kind of valuation, we would then simply have asked which organisation they exchange information with, regarding these issues. But in that case we would not know if the organisations are in contact with each other every day, once a month or once a year, i.e. we would not know how strong the connection is. To make the questionnaire more understandable and easier to fill in we had defined different types of information contacts, for example “face to face”, "telephone", "letters", "e-mail" and so on. We assumed that an information contact could be more valued if it counted more numerous types of information contact situations. In other words, if an organisation has "workshops" "face to face", "telephone" "e-mail" “and "letters" exchange with an other organisation, this contact is more valued than a contact that just consists of "letters". This means that we have counted the number of information contacts an organisation has marked that they have with a partner organisation. The amount of communication or interaction between the participants was thus used as a measure of the member’s proximity. This information was put into a matrix consisting of the number of contacts taken by each member in pairs. The data was arranged into a lower half matrix and then imported, processed and visualised by an MDS-programme.

Our intention with the 5a "Sending information" in the questionnaire was to reveal the direction of the information flow. Since not many of the network partners filled in this section we decided to exclude it. Instead, the investigation of the two-way communication in the network will find support in the interviews we did with the network partners. For further explanations see appendix 1.
5 Analysis

In order to answer our comprehensive problem formulation we will in the following chapter try to answer our detailed questions (see the introduction). The overall question was; what is the present communication structure within the YRSHR-network, and how does the structure affect the network activity? The sub questions were as mentioned:

- Who communicates with whom? The communication ties between different actors have to be identified, i.e. which organisations in the network exchanges information,
- How does the communication structure affect the information distribution within the YRSHR-network?
- Are the network participants satisfied with the information they receive from the network?
- Does the communication structure support the function of the YRSHR-network?
- How does the network structure affect the network sustainability?

The first question, to reveal communication structure in the network can be found in the first section of this chapter, 5.1 and 5.2. The network structure is examined by using the MDS-method. This kind of analysis is very sensitive to too many data drops and since we have the best answer frequency from West Bengal, we have concerning the MDS-analysis chosen to only analyse the questionnaires from the network members in West Bengal, chapter 5.1. With the help from network theory we will try to come to some conclusions about the effect the information distribution has on the YRSHR-network. When we consider the communication structure in the entire network, we have to combine the MDS-analysis with the interviews, chapter 5.2 and 5.5. In order to investigate if the network participants are satisfied with the information they receive from the network, we use the cluster analysis (chapter 5.4) in combination with the interviews. To find answers to the question of the function of the network and if the function is supported by the communication structure we use the interviews, chapter 5.3 and the MDS-configuration over West Bengal (5.1). The sustainability of the network is assumed to be founded in the communication structure ability to correspond to the intended function of the network and its ability to take advantage of the member’s contributions and constitute a learning organisation.

5.1 Communication structure in West Bengal

To reveal the communication structure of the network in West Bengal, we will analyse the MDS configuration. The network analysis of the communication structure in West Bengal is based on section 4a in the questionnaire. The results of the analysis are then related to network analytic approaches. Different measurements concerning centrality will be stressed in relation to the MDS-result. In order not to burden the following text with too many details, the full procedure of the analysis is presented in appendix, chapter 10.
The thickness of the linkage indicates how strong the connections between the organisations are. Tezganji is placed rather far from the centre, but the contact between CINI and Tezganji is strong (contact value 13). The thick linkage represents a rather strong connection, but if the connection is strong, why is it not placed closer to CINI? The MDS-program is striving to find the ultimate placement for all organisations in relation to all other organisations. The contact value between CINI and Netaji is for instance 12, but Netaji is placed much closer to the centre of the configuration. Netaji has higher contact values with other organisations than Tezganji does. This shift in the correlation between the proximity and the MDS configuration may also be due to the stress of the configuration. Although a stress level of 0.16102 is acceptable, it is not a perfect fit. The concept of stress is explained further in the appendix. If further dimensions are added to the configuration, the level of stress can be reduced, but then it also becomes increasingly hard to comprehend and analyse it (see appendix 1. for further discussion).

The measurements of the MDS configuration are based on our aim with the thesis and founded in our theoretical assumptions. In the analysis of the network configuration there are some central aspects, aspects that can say something about the function of the network. One very important feature of the network is its structure. The shape of the network is essential, it reveals the distribution of ties, and thus helps to explain the possibilities for control or co-ordination of the
flow of resources and information between the actors (Phillips 1991:769). In the analysis of the network structure aspects like centrality, closeness (or path distances between actors), gatekeepers and density are important. Centrality, closeness and gatekeepers give aspects to the control of information in the network and density can help to describe the level of information activity. But they are all intertwined and it is when they are related to each other that they can help us understand the distribution of information in the network.

Due to the configuration we can easily visualise one important property of the network. That is if it is connected or not. The network is connected if there are paths that connect all the actors, this means that all the actors are reachable for other members. The opposite can also occur, then the network is disconnected and all actors within the network cannot be reached.

![Connected and disconnected graphs](image)

In regard to communication, this means that information can travel to each and every actor in the connected network (Wasserman & Faust 1993:108). The YRSHR-network in West Bengal is clearly such a connected network. There are no isolates, i.e. actors that are part of the network but are not connected to it, the paths link all the actors together and this even though we have not received all the questionnaires. So even if we are lacking a questionnaire from a member, someone in the network has stated that they are in contact with this organisation, hence they get connected to the network.

5.1.1 The star structure

A star or wheel network consists of a single actor in a central position that has connections to all the other actors; there are no linkages between the actors in the non-central position (see 3.2.2).

Borgatti & Everett (1999) investigated the concept of core/periphery in their paper. The relationship of core/periphery is central in many network analyses and they seek to formalise and define this very used notion. To illustrate a core/periphery relationship in a network they developed Freeman’s star (fig. 4) into an ideal illustration (fig. 5). A network structure contains a core/periphery relationship when there is a strong correlation between the ideal configuration and the network structure (Borgatti & Everett 1999:378).

The correlation between our configuration and Borgatti & Everett’s image is strong, there is a definite core/periphery relationship in the configuration. The graphic presentation or map should be analysed as a greater distance reflects less interaction. Two organisations that together have a low contact value in the lower half matrix (see appendix 1) are placed far from each other and
two organisations that have a high value are placed closer to each other. CINI-C, SOHGAPH and ASHA hold a more central position in the centre of the core, an inner core, they are placed at a close distance from each other and they have extensive connections to other organisations. CINI-C is in the most central position of the three. Around these three organisations there are seven organisations that can be seen as an outer core Netaji, CSEWA, Sri Aurobinda, RHDC, SRHEDS, DANA, and Bankura. They all are at a similar distance from the inner core, they have not only connections to the centre, but there are also intersecting linkages between them. Finally, there are eleven organisations, Jeu Mahila, Social-legal, Nivedita, CINI-M, Nari, Nistha, Tezganj, Ashurali, Soul, Dana, New Bharti and SMOKUS in the periphery of the configuration. From the periphery all but one linkage is to the inner core - in other words: the communication contact is with the core and the centre and there is virtually no contact between the organisations in the periphery.

5.1.2 Centrality in West Bengal

The concept of centrality has had a wide range of applications and it is an important structural tool of investigation. It is the structural position that is most frequently associated with performance, power, influence in decision making and innovation (Sparrow & Liden & Kraimer 2001:316). In an inter-organisational network some organisations tend to be more centrally placed in the structure. One obvious measure to determine centrality is to what degree other actors are in direct contact with an actor in a particular position. The more members that have identified the organisation as a partner, the more central this actor will be. CINI-C is in direct contact with all the other actors, in this configuration with twenty-one actors (the maximum degree of connection can be twenty) hence, CINI-C’s value of its direct contact with others is twenty. The linkages in the centre of the configuration are a bit cluttered and it can be hard to distinguish the linkages between the organisations. In order to have a closer look at the absolute centre of the configuration we have to consider the half matrix (see the appendix 1). There we can note that also ASHA has been marked for being in direct contact with all the other network partners. SOHGAPH who also holds a central position has a degree value of nineteen. If we take an example from the outer core, RHDC, is in direct contact with nine organisations. The inner core gets higher degree values than the outer. The first measure, degree of ”direct contact” can be used in order to see communication activity (Freeman 1978:221). This means that the inner core of ASHA, SOHGARPH and CINI-C can be noted as more communication active, and CINI-C is the most active of them all.

Here we should remember that the configuration is built upon data that does not distinguish between the direction of contact. If we look at the full matrix (see the appendix 1), we can see that ASHA has stated that they have been in contact with all twenty-one network partners. But only seven organisations have answered that they in turn are in contact with ASHA. Because ASHA has given the answer that they are in contact with all the network partners, they are given a central position, the fact that the contact is not considered mutual is not reflected in the configuration. In the case of SOHGAPH, we can note that five organisations have answered that they are in contact with them. CINI-C has stated that they are in contact with all the other actors, fourteen of the organisations have answered that they are in contact with CINI-C.

A second measure of centrality is betweeness, i.e. the frequency in which an actor is on the path distance between other actors. If we look at the configuration we can see that in order for
information to be transmitted between for instance, Tezganj and Jeu Mahila, it must pass through CINI-C and so is the case for many of the networks actors, hence CINI-C’s betweenness is high. The position that CINI-C holds is the role of gatekeeper. But betweenness should not be mistaken for the role of the gatekeeper; betweenness is to what extent a transmission must pass through a certain actor in order to reach another actor. Since there are linkages between network partners that do not pass through CINI, information can find other ways and CINI-C’s betweenness is not complete. But the connecting linkages that are not dependent on them are still not that many and therefore CINI-C’s betweenness is high. As a contrast, we can note that the betweenness for the organisations in the periphery is non-existent, no other organisation is dependent upon them in order for information to be transmitted. This is also the case for the outer core of the configuration, although these organisations are on the path distance between some organisations, it is not necessary for information to be transmitted through them, the information can always find a way through CINI-C. An actor with such a position can influence the group by withholding or distorting information in transmission. With such a position comes the responsibility for the maintenance of communication, the position also gives opportunities for co-ordination of group processes and the potential for control of communication (Freeman1978:221pp).

The third measure of centrality has to do with the degree of closeness, i.e. to what extent an actor can reach other actors in the network in a small number of steps (Freeman 1978:224). If we once again consider the case of CINI-C and our configuration, we note that CINI-C is at a distance of one from all the participants in the network. If we compare with the case of Tezganj we see that Tezganj is at a distance of one from six organisations, its degree of closeness is not as high as CINI-C’s. But, since CINI-C is at a path distance of one from all organisations, there is no organisation that is more than two path distances away from all the other actors in the configuration. The concept of closeness has to do with independence. An actor is considered central if the control of others can be avoided, i.e. if an actor to a great extent has to rely on others to pass on the message, that actor is not considered central. A central actor has the ability to reach a large number of other organisations and is at the same time dependent on a small number of other organisations to transmit the information (Freeman1978:224). Once again CINI-C holds a central position in the network, since the organisation is only a path distance away from all the other organisations, CINI-C is not dependent on other organisations in order for information to be sent or received. But there are many organisations that are dependent on CINI-C to get hold of information from the other network members. Actors that have such a central position can be very effective in communicating information to other actors. If the focus is on communication links it is also most cost effective if the central actor has a high degree of closeness to the other actors (Wasserman & Faust 1993:184).

As we have mentioned earlier: when the level of betweenness is measured it is possible to identify the position of the gatekeeper. Cini-C has the position of gatekeeper in West Bengal, they do not control all the paths between the network members, but they are without doubt a very central actor. When one considers possible paths that information can take, it is not enough to look at the shortest distance. A path to an actor with a high degree of betweenness is likely to be more valued and used than a path to an actor with a low degree of betweeness (Wasserman & Faust 1993:193).
5.1.3 Density in West Bengal

The network density is an important characteristic of network, density can be described as the number of ties or connections between the network members. Network density is measured as the degree of actual connections of ties compared to the number of possible connections \((n * (n-1) /2)\). The value may range between 0 and 1 and it may be considered as a rough indicator of the actor’s willingness to cooperate and engage in the network exchange (Diani & Eyerman, 1992:118). Ties or connections within a network provide the structure through which resources and information may be exchanged, a low density within the number of ties often indicates weak communication structure (Wasserman & Faust 2000, Phillips 1993). A density analysis of the West Bengal network gives the value of 0.49 (with a scale from 0-1). This shows that the density in the YRSHR-network in West Bengal is fairly dense although it’s a segmented structure in the shape of a wheel.

5.2 Communication structure in the entire YRSHR-network

The MDS-configuration confirms the communication structure that reveals itself in the interviews. Our MDS analysis is done on one state out of the five that the YRSHR-network operates in. This means that we have to combine the result from the interviews and the MDS-analysis in order to come to some conclusion on the communication structure in the network as a whole. In network analysis quantitative data is used in order to investigate the communication linkages between organisations or people. It is the structural analysis (in this case the MDS-analysis) that clarifies the communication ties. The structure that is formed is of fundamental significance in network analysis. Interviews can be used to reveal the content of the communication ties or relation. The interviews have given us insight in how some members perceive the network co-operation. But we have also asked questions about the information distribution in the network and here we have to combine the two and apply network analysis theories on a qualitative material, namely the interviews.

In all the four states where we have made interviews, the communication structure is more or less the same. MAMTA has contact with all the SFAs and information that is aimed to reach all organisations in the network, is sent to them. It is the SFAs’ task to disseminate the information to the members in their representative state. Except some monthly updates that are sent via e-mail to a few LO members, MAMTA does not disseminate any materials directly to the LOs, the SFAs are basically their communication channel to each individual state. None of the LOs we talked to had any contact with MAMTA. The activity reports that are the base for funding are sent in to the SFA in each state and they compile the material and send it to MAMTA.

The communication structure is slightly different in Rajasthan and Uttar Pradesch. The SFA in Rajasthan, Chetna, and the SFA in Uttar Pradesch, PSS, each have two offices, a head office and a field office. The Chetna office in Ahmedabad receives information, monthly updates etc. from MAMTA, this information is passed on to the field office in Jaipur, which in turn sends it to the network members in the state. The procedure is the same in Uttar Pradesch, the PSS office in Delhi functions as a gatekeeper between the field office in Lucknow and MAMTA (and
consequently the rest of the network). Of course the gatekeeper function goes both ways, the field offices are the linkage between the state network members and the head office. For instance, the field office in Lucknow and Uttar Pradesh collects the activity reports from the network partners and sends it to the office in Delhi (SFA). Since the presentation of which respondent has said what does not add any value to the analysis we have chosen to let them be represented by; LO-A, LO-B, SFA-A, SFA-B and so forth. Although the organisation's name and location does not contribute to the further understanding of the YRSHR-network, their position in the network does. We therefore present them as LO (Local Organisation) or SFA (State Facilitating Agency), separated by A, B, C and so forth.

LO-A considered the contact with the SFA to be very informal. The SFA acts as a link in the information exchange between the network members and also between MAMTA and the different LOs, in fact most YRSHR information exchange depended on the SFA. Their contact with other LOs was limited to a few which were located close to them. At the yearly planning meetings they met network members from other states. LO-A and LO-B founded the communication structure between the members to be appropriate, but still more interactions and more information exchange is needed. They also had the opinion that the information exchange between the states should be developed. “Their experience will become our development” says one respondent. Their knowledge can give support in implementation; it then becomes possible to learn from each other. As it is now, there is no information of this sort in the network (LO-A, LO-B).

All our informants gave the same description of the communication structure and if we constitute an image of what the members have told us and the MDS-analysis result, we end up with the configuration that is shown in fig 9. The five different cliques are examples of core-periphery structures that may exist within the states. The core-periphery structure in West Bengal is verified by the MDS-analysis and the interviews support our notion that such relationships also exists in the other four states.
Although this is a simplified image, our results are so consistent that it is feasible to discuss how this structure affects the communication within the YRSHR-network. In some respect it is an "easy” task to draw conclusions from a communication pattern that presents itself like this. The deceiving lays in the simplicity of the image. The network is a star network and this structure is an often-used model in network analysis. The complexity of the issue lies in that reality is more complex than the simplified model. But with this in mind it is possible to come to some conclusion on the communication structure in the YRSHR-network.

5.2.1 Centrality in the YRSHR-network

Like the MDS-configuration of West Bengal, the whole YRSHR-network is a connected structure. This means that all member organisations are tied to the network communication structure and messages can travel from one organisation to another, it is also a fragmented structure. Member organisations in each state constitute cliques that are connected to each other by MAMTA. The complete YRSHR-network has the structure of a wheel or a star; hence there is a strong centre-periphery relationship. If we look at the concept of centrality in comparison between the MDS-configuration and the configuration we have drawn, we note that MAMTA like CINI-C is the centrally placed actor. But unlike CINI-C, MAMTA is not in direct contact with all members, they are two path distances away from the LOs. The SFAs are in direct contact with all the members in the state, in average there are twenty members in each state, hence generally the SFAs are only one path distance away from twenty other members. Based on the interviews we can say that MAMTA also has limited direct contact with LOs, the communication path that by far is the most used is the one that goes via the SFAs. This means that when we consider to what degree the centrally placed actors, MAMTA and the SFAs, are in direct contact with other actors, the SFAs come out as the most centrally placed and according to Freeman’s theory of centrality, also the most communication active.
Betweenness, i.e. the frequency an actor is on the path distance between other actors is also relevant in regard to the whole YRSHR-network. In each state the SFAs are between the LOs and MAMTA. This means that the SFAs have a rather high betweenness, again around twenty, the same number of members in each state. MAMTA is between all the SFAs, indirectly the LOs and functions as a co-ordinator for the entire network, but its betweenness is rather low, it is the same as the number of SFAs. When the level of betweenness is considered the SFAs are the organisations that can control the flow of information, hence also influence the group work and processes to a great extent.

Now we take Freeman’s last centrality measure under consideration, closeness, i.e. to what extent an actor can reach other actors in a small number of path distances. MAMTA is two path distances away from all actors in the network, the SFA is in direct contact with more members than MAMTA, but MAMTA has fewer path distances to a larger number of actors. In other words, the SFAs have to transmit information through MAMTA in order to reach members in other states, hence the SFAs are three path distances away from out of state LOs. According to this, MAMTA is the most independent actor in the network, but it is not the actor that has the most influence over the control of communication and information that reaches the LOs. Nor is it the actor that has the most influence over the work that is done in each representative state. When Freeman’s three measures of centrality are used, the SFAs are denoted as the organisations that hold the most centrally placed positions. The centrally placed position is associated with power, influence in decision making and innovation (Sparrow & Liden & Kraimer 2001:316).

A social broker is what Diani & Mcadam denote as an actor that connects actors that don’t communicate. The centrality measures of "betweenness", "closeness" and the degree to which an actor is in direct contact with other actors, can be described as a measure of the "leader" of the network. The capacity to cover a broad range of issues affects the brokerage role; this gives opportunity to more collaborations. Centrality ("leadership") is supported and validated by interpersonal linkages, whereas a more neutral profile seems to facilitate brokers. In the more neutral space of the broker, members can find a point of convergence (Diani & Mcadam 2003). Diani & Mcadam put focus on a different aspect of the concept of centrality that is represented in the terms of "betweenness", "closeness" and "in direct contact with". If we consider these three types of centrality measure, the SFAs are categorised as the more central actor, hence they also hold the position of the "leader". The SFAs have for the most part only contact with the group fragmentation within the own state. MAMTA on the other hand, has ties to all the five group fragmentations. The linking position that MAMTA holds, gives them the function of the social broker. According to Diani and Macadam’s theories it is an advantage if the role of "the leader" and the "social broker" is divided, instead of given to the same organisation.

In the diffusion of information and influence, an actor that functions as the only link between two other actors, a bridge has an important role. In a large network it is unusual that a specific tie is the only path between two points, but in the YRSHR-network this is exactly the case. MAMTA not only is in the position that holds the paths that connect the fragmented network structure, they also have the shortest paths between actors. In support of Granovetters (1973) theories of communication between actors, there is a critical distance which can not be crossed in order for the information dissemination to be considered as feasible. The advantage of a local bridge and the weak tie (a linkage that is not so dense in communication) is that it creates more and shorter
paths. In the transmission process, the average weak tie is of more importance than the average strong one. In other words, the diffused information will reach a larger number of people, and travel a greater length if it passed through weak ties rather than strong. The presence of many strong ties leads to fragmentation among cliques, a formation of actors like in the fig. 5. According to the theory of weak ties, the linkages between MAMTA and the SFAs should be weak. Since we have not been able to conduct a network analysis on the whole network, we can only find support for this in theory. According to Granovetter’s theory, the fact that it is just one connecting link between the five different clique facilitates, the transmission of information, the same type of information, will travel a further distance without the distortion that a more densely connected communication pattern would give.

5.2.2 Density in the YRSHR-network

It is important to note the lack of cross-sectional linkages. In network analysis it is not only the present, but also the absent communication ties, that are of importance. In order for information to travel from one periphery placed LO to another, the information has to take the route, LO-SFA-MAMTA-SFA-LO. The absent communication ties tell us that the route LO-, to out of state LO, is non-existent (or virtually non-existent, keeping the simplified model in mind).

Because there are very few linkages between the five different states, the density in the entire YRSHR-network is also low. The number of possible linkages between the organisations is drastically increased when all the YRSHR-members are added, but the number of linkages is not at all increased in the same manner.

In the interviews most of our informants expressed the desire for more information than what they receive today. The LO members also experience that they do not receive some of the information that is supposed to circulate in the network, for instance monthly updates. One of the informants on SFA level admitted that not all information is transmitted to the network members due to mail expenses and lack of time. The present communication structure is vulnerable in this sense, if the linkages between MAMTA-SFA-LO are disturbed and because it is more or less the only route information can take, a lot of organisations will be affected. In combination with the fact that the LOs leave the responsibility of information distribution to MAMTA and the SFA, this gives a vulnerable low density network. But when we say that the communication structure can easily be disturbed, it is not the same thing as to say that it is not effective. According to Granovetter (1973) and Phillips (1991), a low-density network does not necessarily mean that information can’t be effectively disseminated. On the contrary, the concentration to a few linkages that connect the cliques in the communication structure may be a very effective way of spreading a message.

The network members are generally satisfied with the communication structure. One important aspect is that India is a huge country and rather a subcontinent than a country. India is very diverse and the states may to a great extent differ from each other. The culture, language and customs may be totally different. This means that problems and their solutions regarding YRSHR issues also differ from state to state.
5.3 Collective action in the network co-operation

As stated in the theory chapter it is very important to have active members that take part and develop the co-operation. It is the members that are the network and its survival is dependent on participating members. During the course of the interviews we noticed that the level of participation to a great extent varied between the members. The SFAs and MAMTA were the most active information disseminating organisations. The LOs took an active part in the workshops regarding the YRSHR issues, but except the activity reports and other documents the SFAs/MAMTA requested, they did not disseminate any information.

Some of the informants (LO-C) just recently joined the network and had therefore not taken part in any extensive collaboration and they had not had much contact with MAMTA. Some of the informants (LO-C & LO-D) also felt that MAMTA should be more active in their contact with them. In these interviews the fact that they themselves could contact MAMTA, if they were of the opinion that they were lacking information on the collaboration or other issues, did not seem to be a consideration of theirs. One informant in one of the SFAs said that most LOs had the concept of networking as something that will provide them with material resources. Most of the smaller LOs would also like to participate more but they have limited resources that hinder them from doing that (SFA-C). One reason for the organisations to be more likely to see MAMTA’s responsibility as an active partner instead of their own capability to take an active part in the communication is most likely connected with the fact that MAMTA is the initiator, co-ordinator and “owner” of the network.

We discussed the matter of active/passive members with an informant at Sida. Sida can not of course, and should not, regulate how the YRSHR co-operation develops, they can give support and contribute with ideas but not control how the members choose to work. But since they have experience in working with network organisations, we were interested to get their ideas on the subject. Our informant said that MAMTA at the moment has the responsibility to co-ordinate the entire network, to involve the network members and as much as possible strive for a collective effort. The challenge for them is to respect the members’ individuality and at the same time co-ordinate work in the form of an inter-organisational network. Generally it is desirable that all members take an active part, but this is not always the reality in the network co-operations. Presently MAMTA is taking a proactive role in documenting, collecting and disseminating information, it is a one nodal network. But it might evolve into a more shared responsibility, if the network grows and engages more partners, then there can be a more collective, more revolving responsibility, with more organisations taking an active part (Sida).

Information dissemination and documentation are mentioned as important strategies in the project document of MAMTA, not only to the projects but it is also something that is taken under consideration by Sida in their evaluation of the network. Research operation is very important within the programme and the dissemination of this type of information helps the projects to become an evidence-based intervention. Because of the importance of information, Sida has for instance given support to MAMTA in launching a library with access to important journals and documents. The library has a good collection of issues relating to adolescents. The three aspects of collecting, disseminating and implementation of information in the work are very important (Sida).
Just as all members thought the network co-operation was important and the mutual exchange a valuable source of information, they also all stressed the importance of extending the mutual exchange of ideas and information over the state borders (LO-D, SFA-C). An SFA respondent particularly emphasised the necessity of developing the communication between the different SFAs. It is important to have knowledge of other organisations’ processes in program implementation. It can give important inputs, how the SFA in Rajasthan has initiated the health fair, for instance. (SFA-E) There is a lack of knowledge in some organisations; here the exchange of information might be helpful. An address, e-mail and fax list of the network members would facilitate such an exchange. But because India is so culturally diverse and because of the great distances, there are few states that will have common problems (LO-C)

We asked our respondent at Sida if they had considered what disadvantages or barriers there might be in networking. She said that networking has its own positive points, but the major challenge while working with networking is to sustain it. Network form very easily but they also dissolve very easily. Because Sida has experience in dissolving networks, they consider the sustainability issues from the planning stage. There can otherwise be problems when the donor withdraws and there is indecisiveness in which direction to go. When the network is initiated by one single NGO, that organisation often takes on the ownership and the other members are not actively involved. The more the community and other important stakeholders get involved, the more likely it is that the network will sustain. For the network that starts with a particular issue in focus, the sustainability is supported if the members both can keep that focus but at the same time address other issues that affect the wanted outcome. This will lead to the involvement of further stakeholders (Sida).

It is very important for the survival of the YRSHR-network that its members take an active part in the learning process of these issues, both to develop their own skills, and to give new inputs for other members of the network on how they can work with the issues. In order for a learning process to take place, the participants must be active and contribute. If we consider the convergence model of communication (fig. 2), the "Perceiving", "Interpreting", "Understanding", "Believing" and "Action" part of the process is taking place on the individual level. When information is shared among two or more participants, information processing may lead to collective action, mutual agreement and mutual understanding. What previously was individual information processing becomes human communication among two or more persons. In the communication process they strive, if only for a brief moment, to reach mutual understanding. Through the various stages of information processing, action may become the consequence of information. The two-way communication between participants is of great importance; without it, it would not be possible to reach the desirable mutual understanding. Of course, the process may not be that positive and instead lead to misconception, misinterpretation, misunderstanding and disbelief, also this "negative" form of communication circuit takes place between two or more participants (Rogers & Kincaid 1981:55). Mutual agreement and mutual understanding is the foundation for collective action. In the study of social movements the term "collective action" is for the most part used to describe the participation in demonstrations and other forms of protest mobilisations (Diani & McAdam 2003). In this sense, the YRSHR network has not yet developed a collective action. There are some examples that such actions take place, for instance member organisations in Rajasthan organised a fair together regarding the issue. But the network is still at the stage of building a knowledge foundation, which they can operate from. In terms of the
convergence model, they are in the process of exchanging information in order to reach mutual agreement and mutual understanding. Collective actions in this sense may very well be an outcome from the co-operation. For instance did many members express the opinion that advocacy was one important function of the network and for advocacy to become a force and not a single organisation project, collective action is a necessity.

It is important to support the creation of active members that contribute to the information exchange, the building of a common ground of knowledge and consensus. In the convergence model all information is a consequence, or a physical trace of action. Information may create action that creates new information. Consequently, is it important that organisations document their actions and thereby contribute to the information and knowledge base in the network. To raise the creation of new information to the level of possible convergence among participants, information must be shared with other individuals. There are four possible combinations of mutual understanding and agreement, (i) mutual understanding with agreement (ii) mutual understanding with disagreement (iii) mutual misunderstanding with agreement, and (iv) mutual misunderstanding with disagreement (Rogers & Kincaid 1981:55). Feedback supports the information sharing that takes place between individuals, the continuous exchange of information may lead to mutual understanding. It is important to note that it is a process that has no end; it is the relationship between the participants that give meaning to the exchange. The documented experiences can be spread to member organisations and member organisations should as far as possible receive feedback on their work.

5.3.1 Function of the network co-operation

After our second interview we somewhat redirected our focus. From their lack of contact with organisations in other states, their own state and their scarce contact with MAMTA we got the impression that it was not one network, but five. The reality did not seem to correspond to the members’ opinion of what function the network should have. The members desired more exchange of ideas and experiences. From the documents at MAMTA we had made an address list with all participating members, but we discovered that the respondents that we were interviewing were not part of the list and this although one of them had been part of the network for a year. Several new members had been added to the network co-operation in the state, this without the knowledge of the co-ordinating agency MAMTA. All this made us wonder what the function of the network was. Previously we had asked about the “importance of the YRSHR-network”. By instead putting the focus on the function of the network we could also try to find out if this function or purpose was met in reality. The fact that the participants awaited MAMTAs actions and could not see their own passiveness made us ask about their organisations’, the SFAs and MAMTAs’ responsibility in the network. It should be added that our informant at the SFA in the state were we had our second interview said that although some of LOs have been part of the YRSHR-network for as much as a year, they have not had any contact with MAMTA or taken any active part in the network. In February, a fair was held in co-operation with MAMTA and from there on the network took a more firm shape and became more active in this particular state.

The most general feature of the respondent’s answers is that they all stressed the value and importance of the work that is done, or is aimed to be done within the frame of the YRSHR co-operation. This common vision helps to sustain the network.

Several respondents said that the issue of young people’s reproductive sexual health and rights
was quite new to the organisation and it has not been a focus of theirs before joining the network. The workshops that have been held within the network have helped them to see the importance of the issue. The workshops also gave them ideas on how they could incorporate this new knowledge in their projects (LO-A). It was also felt that the co-operation gave important knowledge on how to talk to the young people and how to advocate. The network gave a possibility for more collective knowledge and a better foundation for planning/implementation and it was considered an important information resource. Several members mentioned this as something that gave importance to the YRSHR-network. The possibility of sharing experiences with other network partners and enhancing the capacity building regarding the issue were found to be an important feature of the network. (LO-A, SFA-E, SFA-F) The YRSHR co-operation can give an opportunity to training and advocacy (SFA-G). In the interview we conducted with MAMTA they repeatedly said that they would like to see that the network co-operation can help them evolve new work strategies in order to enhance the impact on society (MAMTA).

Our SFA-F informant was of the notion that the networks' purpose or function was to advocate the problems of adolescents and make recommendations to the government in order for them to change (SFA-F). The network co-operation gives a possibility to share resources and the information from MAMTA is very important. This both in the sense of information and funds. By referring to how organisations operate in for instance Bihar, on national or international level, the network gives the work extra credibility and the own organisation new inputs (LO-D). But our respondent felt that more interactions among the members were needed. Meetings with participants from the whole network could for instance be held on a three months basis. He said that interaction on local, state and national level is necessary and just as the community interaction should be continuously, so should follow ups and meetings be. In order to learn from previous work that has been done, evaluation and follow-ups are necessary. (LO-D).

A respondent was of the notion that the whole idea with a network is that all the participants are actively involved. An active participation would also force every organisation to work with focus issues. The network as such exists in order to develop ideas that the independent organisations can share among each other. Thus money is not the driving force, but ideas and the exchange of information (LO-A).

An informant working in the SFA-H office said that the purpose and function of the network is to develop linkages between network partners and to create awareness about adolescents’ special needs. The purpose and function should be implemented in reality by network members trying to create awareness in the community through workshops and health campaigns for different target groups, such as women and adolescents. The network should also function as an incitement for developing linkages to different groups, like for instance, Panchayati Raj (local community leaders) and government. This would help to improve awareness of adolescents, the activities the network members are doing in the different districts and it could help them in their activities (SFA-H).

Our informants at MAMTA defined a network as the intersecting linkages that connect organisations. In the relation between the organisations it is not just one active partner that disseminates information, the interaction is built on mutual sharing of information and a two-way communication (MAMTA.) Further on, they said that one of the network’s functions is that they have representatives in five states, the SFAs, that co-ordinate the network in the state and
MAMTA in turn co-ordinates the network with the SFAs (MAMTA). We have not been able to investigate the two-way communication in the MDS-analysis. The LO members we talked to were generally pleased with the communication they had with their state SFA. Two out of the three SFAs we talked to were also pleased with the communication they had with MAMTA (the third did not always get the intended information, since it was not always passed on from the head office), we can here assume there is room for a mutual exchange and two-way communication (SFA-F, SFA-H, SFA-E, LO-B). But this exchange is lacking between the LOs, both between the LOs in the same state and between them from other states, between the SFAs and also between the LOs and MAMTA. The reason why we can conclude this is because the intersecting links between these actors are to a great extent lacking, if there is no communication linkages the mutual exchange and two-way communication is hindered. Indirectly, this type of communication may take place, i.e. via the SFAs and MAMTA that function as gatekeepers, but we think that the segmented, core-periphery structure restricts this type of communication. MAMTA considers the same structure to be a part of the network’s functions. Although the goal is to have active partners that all take part in the mutual information process, presently, and considering the whole network it is one partner that disseminates all the information, namely MAMTA. We asked our informants at MAMTA if it can be seen as five networks, but no, it should be considered as one network that is operating in five states. One other purpose of the network that our informants at MAMTA found valuable was that it contributes to the overall goal in the project and functions as a help in evolving strategies to work on YRSHR-issues. With the support from the network and all its members they see the possibility of learning from different regional contexts and further develop their work with YRSHR issues (MAMTA).

Advocacy was mentioned by several members as something that with advantage is done within the framework of the network co-operation. In order for the network to function as a force in advocating these issues, we would say that it is necessary that the network does more of collective or joint actions and not only functions as an information dissemination network. In this regard it is important to remember that the network at the time we were there still was at an initial state. Since few organisations had previously worked with the issue they had to form a foundation for the work before they could engage in any extensive form of collective action and the members valued the capacity building that was taking place within the co-operation. It was needed that the network partners felt fairly confident about working with these rather sensitive issues (MAMTA).

5.3.2 The question of network responsibility

Connected to the question of the network’s function is the question of who is responsible for the realisation of the network activity. As a result of the hierarchical structure/passiveness we started to ask questions about the members’ own responsibility in the network. Responsibility is also a question of finding ways for a more equally shared control among the network members. More control and influence in the co-operation can be a way to encourage the members to take a more active role in the network and thereby help the process of sustaining the network.

The YRSHR-network has a working group. The group was started on initiative from MAMTA, and it was initiated with the purpose to get inputs and help from different people in the initial state of the network. The working group gave a possibility to brainstorm on how the network could be started up. This resulted in many valuable ideas, for instance the guiding principles and
the action plan of the network. The working group consists of the SFAs and people from institutions, government, NGO's, from donor institutions and funding agencies. It should function as a core committee for the whole network and the aim is to share ideas and thoughts on the subject of networking. But the idea of the working group is that if the network co-operation is strengthened in such a manner that there is no requirement of a working group, the group should cease to be. It is no point in having the group just for the sake of it, when they feel that they have fulfilled their role, the group will be dissolved. (MAMTA).

Many members considered the present structure, with MAMTA functioning as a co-ordinator on national level and one SFA co-ordinating on a state level, to be functional. They had the opinion that there is an advantage if the same organisation has the SFA responsibility all the time. This means the organisation can specialise its communication knowledge and also develop important contacts. With shifting responsibility much knowledge would be lost. (LO-A) A member in a different state had a similar opinion; it is not a problem that the information is received through the SFA, the individual LOs cannot co-ordinate the network co-operation. They cannot send the information to all network members. That is why it is necessary with an organisation that has a more central role and functions as an SFA in the state (LO-C). As the states are recommended in the "Guidelines for the YRSHR network", the members take a great deal of responsibility on how to co-ordinate their own work within that region. For instance, is the number of participating member in each state/region decided by the regional members. This means that the network has taken slightly different forms in the different states.

In one of the states the formation of a core group was in progress. The SFA office was planning to put together a core group consisting of bigger LOs with more work experience. Some 15 organisations would take all major decisions and form an activity plan for the network. These organisations would in their turn choose LO partners. The purpose of the core group is to form rules for the network and delegate work. All the network members take part in selecting the core group and the group will then meet twice a month. The SFA would like to see a more shared responsibility of the SFA tasks, but some LOs have more experience of networking than others and the smaller LOs will have difficulty handling the responsibility. (SFA-F).

In a different state that we went to, no such plans were under consideration. Our respondent pointed out that the organisation needs to have the capability of being the SFA - size, financially, experience-wise. Different organisations can give support to the SFA and thereby learn more by taking more responsibility and thereby develop the local area. There could be a local agency under the SFA that is responsible for co-ordinating the activities on a local level. A sub-SFA can reach and cover a larger area of the state and thereby have more impact in the community. MAMTA is on the other hand responsible for dissemination of information; they have the contact with the different states and functions as an information resource and funding agency. Not all organisations have the capacity to do the kind of work that MAMTA does. They have experience in the field and it is needed that some NGO's are operating on state level. The LOs have the function of resource persons, their experience is limited and their personnel may not be professional. They need guidance because of their lack in experience. (LO-D)

MAMTA has the responsible of supervising, funding and co-ordinating. The SFAs' responsibility is to co-ordinate activities, technical aspects/input, capacity building and training. The LO are responsible for sharing experiences, advocacy and implementation (SFA-D). Another SFA
informant also stressed MAMTA’s co-ordinating role and was also of the opinion that it is MAMTA’s responsibility to inform the SFAs on network issues. The SFAs are responsible for keeping in touch with the different network members and update them on ongoing projects and activities in the network. They have a supportive and supervising role, are responsible for training and should do field visits. The LOs on the other hand strive to make their programs and projects more effective. They are also responsible for informing the SFAs about encountered problems and how they were solved. Because the SFA don’t have the same contact with the field, the network members are responsible for informing the SFA. The SFAs should have knowledge about the organisations working in the particular area. They have the responsibility of keeping in touch with the field and should know the actual needs regarding the issues. In order for things to run smoothly, some linkages between the SFA and the network LOs are necessary. Partner NGO’s have the responsibility of sharing their information with the SFA and LOs in other districts. Inter district meetings could help the development of such information sharing. (SFA-E)

5.4 Satisfaction with received information

When information is disseminated it is important to reflect upon who the receiver is. Does the information correspond to the needs of the recipient? In order to see if the members’ information needs were met we asked them what kind of information that was most important to their work and if they were satisfied with the information they received.

The five different states had different approaches in this matter. For instance an information clearhouse, a collection of documents that function as a source of information regarding YRSHR issues. The network members could here make their own copies of materials they found interesting. One of the two LO informants in this particular state used this service. This informant also gathered information and gave to the SFA in order for others to have access to it. All the same, our respondent would have liked to have more information, IEC-materials and journals regarding the issue. Since it is difficult to talk about these issues with youths and doctors, special education and field related information is needed. Capacity building information is important and workshops with MAMTA are valuable (LO-B). In the same state, another LO respondent would have liked to receive more information from the network and like his colleague he stressed the need for information that supports capacity building skills. Information that cannot be implemented in the community is irrelevant (LO-A).

When we asked the same question in a different state we got the answer that education information and information on what kind of programs that are running within the network is valuable. Our informant was interested in knowing about projects that are run in the different states. According to her, the network should function as a motivator and give support with statistics, research and implementation. (LO-C). From another LO member we also got the answer that they would have liked to receive more information on what projects other organisations are working on. Problems they are facing, having or have faced and how they have solved them (LO-D). In this state they did not have a documentation centre. The YRSHR-members in the state that had an “information clearhouse” were of the opinion that they needed more capacity and education material, this implies that the access to a documentation centre is not all that decisive to whether the members are satisfied with the information access or not.
Since the beginning of the YRSHR co-operation the SFA-F has collected information about the LOs’ work. It will be compiled and accessible to all network members. Our respondent working at the SFA-F field office would have liked to have more regular information from the rest of the network. The monthly updates for instance, which they sometimes got when they visited the rather distant head office. MAMTA sends the monthly updates to the head office, which then is supposed to be sent to the field office. If this communication linkage is distributed, the YRSHR-members in the state is not reached by valuable network information (SFA-F).

Our SFA-G informant would have liked to have more research information on how to sustain the YRSHR issues. This type of information could help to support and strengthen issues both at a micro and macro level. He had not had time to use the documentation centre or library of unpublished documents on the YRSHR web site and adds that a hard copy of the material is needed (SFA-G).

5.4.1 Factors that affect information satisfaction

In relation to the information needs, we were interested in investigating if we could find some factors that affected the organisations’ access to valued information. The method we used for this purpose is cluster analysis. This is a method of measuring similarities in a group. The organisations that have given similar responses to our questions in the questionnaires (section 2) have formed clusters and by using different variables we have tried to find their common feature.

There are, however, reasons why one cannot give to much validity to conclusions drawn from cluster analysis. Cluster analysis is for the most part not supported by any extended statistical reasoning. It is a rather simple procedure of using algorithms in order to create clusters of cases. The methods used for clustering are also to a great extent affected by the discipline in which the researcher works. Each discipline has its own biases and preferences as to the kinds of questions asked from the data and what types of data that are thought to be useful in building a classification. Different clustering methods can and do generate different solutions to the same data set. By emphasising different rules of group formation, different solutions can be drawn from the same set of data.

Another reason why we cannot give too much validity to the cluster analysis is the fact that we have a rather high percentage of missing values. The missing values are generated when a question has been left unanswered. The missing values have been replaced with the meridian value in order for the SPSS-program to be able to work with the data. A problem with the method is that the result is not stable, different solutions can be generated by reordering the data in the similarity matrix (see appendix). Stable groups are more likely to represent "natural” or "real” groups. The problems with stability are especially important when dealing with a small number of cases as we have here (Aldenderfer, Blashfied 1984:38). Considering all this we would like to treat the cluster analysis as something that can show a trend or indication of something present in the network. More validity is instead put on the interviews with the network members.

5.4.2 The choice of variables

Critical for the study is the selection of variables that best represent the concept of similarity. Preferably, the variables are chosen within the context of a theory that can support the
classification. This is very important and by finding support for the variables in a relevant theory it is easier to strive for objectivity (Aldenderfer, Blashfied 1984:21). We were interested in investigating if the position in the network might affect the members’ access to valued information. This type of question is well founded in network analysis, where the positioning in a network structure is given great importance. With the help from our informants we could identify three different positions in the network: National Co-ordinator (MAMTA), State Facility Agency (one in each state) and Local Agencies (the rest of the organisations). Since this rather hierarchical order was the same in each of the five states, we were interested in seeing if we could find a difference between the states, we wanted to see if we could find any tendency that organisations located in the same state gave similar answers. But since we only got one questionnaire from an SFA sent back to us, we cannot say if these three positions have an effect on the merger of clusters. The questionnaire from MAMTA was sent to us when we already had done the cluster analysis in SPSS and is therefore not part of the cluster analysis. We were also interested in investigating if the access to information might have an effect on the answers from the organisations. Here we choose to represent the access to information by the variables; having e-mail or not, or if they were part of any other network. The size of the organisation is also chosen as a variable. With the variables we will try to find explanations to the why clusters have formed the way they have.

There are two different sets of cluster formations (see Appendix 2, fig 14); they are each an answer to two different questions. Figure 1/a, 2/a, 3/a and 4/a is the reply the network members have given to the question "Amount of information received about the subject", section 2, named "Information needs" in the questionnaire. Figure 1/b, 2/b, 3/b and 4/b is the answer to "Amount of information your organisation needs on the subject", also section 2 in the questionnaire. Figure 1/a shows that cluster one, consisting of ten organisations, has a rather high percentage of organisations that consider that the amount of received information is "very little" or "little". If we look at figure 1/b, we note that most of the organisations in cluster one want more information on the YRSHR subject. In order to make the analysis simpler we will categorise the different clusters according to their answers. The first cluster shows organisations that can be categorised as "have not received enough information and want more".

In cluster two, with eighteen organisations, it is not easy to see any tendency in figure 2/a. The percentage of missing values is also rather high. The rest of the answers are more or less fairly distributed between the answers "Very little", "Little" and "Some". In the figure 2/b the missing values are less and both the categories "Sufficient" and "More" received a lot of answers. The organisations in cluster two are for the most part of the opinion that they have not received so much information, the answers are in the "Very little", "Little" and "Some" section. But they are to a greater extent satisfied with the information they receive. The ones that consider themselves satisfied are almost as many as the ones that want more information and they can therefore be categorised as "more satisfied with the rather low amount of information received".

The third cluster consists of a single organisation.

The fourth cluster consists of nine organisations. If we consider the figure 4/a we note that fairly many organisations are satisfied with the amount of information received about the subject and "Great" has received most answers, followed by "Some" and "Very great". On the question of the amount of information they need on the subject (figure 4/b) the category "Sufficient" has
received the most answers, but "More" has also been marked by many organisations. As in cluster two it is not easy to see a clear-cut tendency in the answers. But considering figure 4/a, the answers are in the "Some" "Great" and "Very Great" part of the questionnaire, unlike the organisations in cluster two that were in the "Very little" "Little" "Some" part of the questionnaire. In the answers on their information need they are more or less split between being satisfied and wanting more. They can therefore be labelled as "more satisfied with the rather large amount of information received". The percentage of missing values is rather low in both figure 4/a and 4/b.

The first cluster that consists of organisations that are "unsatisfied and want more information", has a fairly large amount of smaller organisations. Only one of the organisations has e-mail and most of the organisations are part of another network. We have received more answers from West Bengal than any other state; this means that their percentage of participation is higher than the rest, something that makes it hard to make a comparison between the states. But the answers from West Bengal have all, except for one, been evenly divided between the first and second cluster. The second cluster was to a greater extent satisfied with the information they received and to a lesser extent of the opinion that they needed more. Hence, the organisations in West Bengal have not given homogenous answers and this tendency in the data contradicts the hypothesis that the grade of satisfaction with received information is dependent on the state the organisation is located in. In the second cluster the amount of larger organisations are greater and this suggests that more sizeable organisations are more satisfied with received information than the smaller ones. But then again, cluster four consists of nine organisations that are similar in size to the ten organisations in cluster one ("unsatisfied and want more information"). Cluster four had the organisations that considered that they received the largest amount of relevant information. So from this material we can not say that the size of the organisation has any significant impact, either to the level of satisfaction or the amount of received information. In both the second and fourth cluster there are more people involved in the YRSHR-networking than in the first cluster. Both the second and fourth cluster were to a greater extent satisfied with the amount of received information, with the difference that cluster four actually received a larger amount of information. Cluster four has the largest amount of organisations that have e-mail (66%) and are part of other networks (77%). These factors may have some significance, cluster four that consists of "more satisfied with the rather large amount of information received" organisations, implies that if the organisation is part of other networks and have e-mail facilities it receives more valuable information. The number of people involved with the YRSHR network may also have an impact. Cluster one that consists of organisations that received the least amount of information that they thought were valuable to their work, also had less people involved in the co-operation.

Although our analysis can not show any strong tendency in the material, it does not mean that cluster analysis as a method is useless. A reason for our results may be that the chosen variables are not capable of showing the hidden factors that form the clusters. Although position in the network has not been a variable in the cluster analysis, we can from the interview conclude that it is decisive in the communication structure how the organisation receives information. It most likely also determines if the organisation considers that their information needs are being met. Due to the SFAs' position as a gatekeeper between MAMTA and the network members, two out of the three interviewed SFAs expressed that they don't lack information, neither from MAMTA nor the members. Only one SFA-informant was not as satisfied with the received information. In
this state the SFA had a field and a head office located in towns rather far from each other.

Below are the clusters presented with the chosen variables. In order to make it easier to compare the different clusters, the percentage of organisations in each cluster that correlate with the variable are presented. This means, in for instance cluster one, that ten percent of the organisations have e-mail in cluster one, 40 percent of them are part of other networks and so on.

**Cluster 1 (ten organisations)**
State: Bihar: 1, Rajasthan: 3, West Bengal: 9, Uttar Pradesch: 2
E-mail: 10%
Part of other network: 40%
Percentage of missing value in the group: 5%
Number of members in organisation: 80% less then 22 members, 1% 42 members, 1% 136 members
Persons involved in YRSHR-networking: 40% less than 3 members, 50% less than 7

**Cluster 2 (eighteen organisations)**
State: Andra Pradesch: 1 Bihar: 1, West Bengal: 9, Rajasthan: 3, Uttar Pradesch: 4
E-mail: 44%
Part of other network: 50%
Percentage of missing value in the group: 15%
Number of members in organisation: 44% less than 35 members, 16% less than 60 members, 11% less than 90 members, 5% 119 members, 5% 168 members, 16% less than 281 members
Persons involved in YRSHR-networking: 44% less than 6 persons, 50% less than 13 persons

**Cluster 3 (one organisation)**
State: Rajasthan
E-mail: -
Part of other network: yes
Percentage of missing value in the group: -
Persons involved in YRSHR-networking: 3

**Cluster 4 (nine organisations)**
State: Andra Pradesch: 4, Rajasthan: 2, Uttar Pradesch: 2, West Bengal: 1
E-mail: 66%
Part of other network: 77%
Percentage of missing value in the group: 6%
Number of members in organisation: 44% less than 17 members, 44% less than 43 members, 11% 140 members
Persons involved in YRSHR-networking: 33% less than 5 persons, 33% less than 10 persons, 22% less than 16 persons, 11% equals 35 persons
5.5 The information structure

The difference between the *communication structure* and the *information structure* is that the former refers to the linkages between the organisations that exchange information and the structure that the linkages constitute. The communication structure is represented in the MDS-configuration. With the latter we refer to the *how* the information is distributed or organised. Is it in the form of written or electronic documents, are they distributed via e-mail or ordinary mail? In which language are they written, what language is used on the seminars and on the webpage? Because of the information structures’ close relation to the communication structure, we asked our informants if they could see any particular information barrier in the information structure.

The YRSHR web site discussion forum and e-meeting was newly launched at the time as we were there. All the informants we talked to consider it to be a good communication/information channel and that it could be used to increase the contact between the network members (SFA-H). But all the same, most of the informants had not used it. They had either not had time to use it, had not received any information about it, had seen it but do not use it, had not seen it at all (LO-C, LO-D, LO-A, SFA-G). The lack of technical equipment was considered an information barrier. The network partner who had this opinion thought this to be a graver information barrier than for instance distance (LO-D).

When we visited the SFA-F office they had no functioning computer at the moment. No one had had time to clean the computer from the virus that caused the breakdown and the e-mail could not be properly used. Although few LOs in this state had access to a computer and that type of information structure therefore reaches a limited amount of members, our informant thought that the computers were valuable sources of information. The dissemination of information on the grass root level was not effective though. Few people even had the habit to read and for that reason face to face meetings became more important. Workshops, capacity building activity and the organisation of fairs were more effective ways of spreading information. On the grass root level, information in English was useless, information needed to be translated. Our informant said that the lack of money, postal problems, multiple languages and no access to the Internet were barriers that hinder the communication (SFA-F). Several LOs mentioned the lack of financial and technical resources as a problem (LO-D).

At the SFA-H office we got a similar response. Our informant said that the Internet is a good information channel, but many partners on the grass root level do not have access to the technology. The field office does not have access to the Internet either, so their communication is done via ordinary mail or phone. The organisations may in general be aware of the YRSHR website but because they don’t have access to the Internet, they can not use it. This problem can not be solved immediately, since it is connected to the development of the country. Our informant had received the id-code for the e-meeting, but had not taken part so far. Despite this she continued to say that information technology is a way for the SFAs to exchange information and learn more from each other; it functions as a tool for providing and sharing information. It is an important tool for advocacy and it facilitates information dissemination. But the problem is that the majority of the network members do not have e-mail. She said it is very difficult and time consuming to keep in touch with all the network partners. Networking is only one part of the work activities and the responsibility for its maintenance is substantial on the SFAs. She did not
consider language as a barrier; resource persons talk Hindi, meetings are held in hindi and documents are translated into hindi (SFA-D).

As a contrast, a respondent working at an SFA located in a state where the majority does not speak Hindi, considered language to be a major information barrier. He said that if the training program would be held in the local language, the network members would probably feel more confident and would be able to give more input. They would participate more spontaneously and the training would be more effective. This wish for a more local language based training program has been expressed to MAMTA as well. (SFA-E).

The information distribution is hindered by the fact that most organisations lack money and the constant electricity break downs make it difficult to use computers and the Internet. Travel to meetings is costly and distance is therefore a problem (SFA-G, LO-A).

A respondent said that organisations with limited resources are not doing any kind of research activity and they did not feel the need to visit the website. The smaller NGO’s are more focused on their work results, because they do not see the need to visit the website and search information. The level of experience varied greatly among the members and so also the use of the website (LO-C).

The website has many documents and a lot of information. For instance, a database is provided where various variables can be combined and statistics on the desired topic are obtainable. Many of the documents can without any charge be sent on demand. On the very superficial valuation of the material that could be done by surfing the site (www.yrshr.org 031212), the documents seemed to be helpful in the implementation process, evolving of strategies and it seemed something that can give support for the projects. But all material is in English, a language that many members do not speak or read. Neither do the smaller organisations have access or even the habit of using the Internet as a source of information. Although there are also larger and more resourceful organisations among the LOs, we conclude from the interviews that workshops and training programs are valued higher than the possibility to obtain information, although valuable, from the Internet.

Visits to projects in other states were particularly mentioned as valuable. Generally face to face meetings were highly regarded by the network members. So far, "out of state" project visits had not taken place and none of our respondents did have any significant communication with members from other states (SFA-F).

The SFA-F field office was not disseminating a lot of information. Our informant said that their responsibility and major objectivity was capacity building of the LOs, training and organizing of fairs on YRSHR-issues. They also organised two or three core group meetings per a year. If MAMTA sends information about, for instance a workshop they are organising, that information would be passed on to the LOs. The SFA-F office wasn’t receiving a lot of information either, research information for instance. The documentation of work experience was sent to the head office, which in turn send it to MAMTA. This should be done on a monthly basis, but it is not practically possible. The field office receives the activity reports and annual reports from the state network members. A lot of the smaller LOs do not have experience of documentation and they are not documenting their work. There is no plan for how this should be done. It is not a priority;
their main activity is to reach the beneficiaries. The workshops are important and through them they have contact with all the members in the state. Due to postal problems, the workshops are the only source of information for some of the LOs. It costs to send information and this constrains the information distribution. They do not have any communication exchange with LOs/SFAs from other states and they do not get information on their ongoing projects. (SFA-F)

If the information distribution is not smooth, appropriate, updated and adequate, then difficulties can arise. Technical shortcomings in remote villages with no access to a computer or e-mail are also a problem. Communication is the key to networking. Proper channels for networking and proper flow of networking are important (Sida).

The activity reports are that source of information and way of communication that regularly connects all the LOs with the SFAs and the SFAs with MAMTA. The activity reports are a way of seeing what is going on in the network. After each activity, the network members send in reports to get funds for the conducted activity. There is a fixed amount of money sent out to the NGO's for different projects. The report should consist of budget and information on the activity and projects that are being done (SFA-H).

The activity reports received from the different LOs are compiled into a quarterly report that is sent to MAMTA. This compiled version is only sent to MAMTA and it is not further distributed in the network (SFA-E). The activity reports are basically a report system that is used in order to get funding. We have the opinion that they could be developed and facilitate the exchange of knowledge between the organisations. Almost every network member we have interviewed has said that the great advantage of the network is that it gives an opportunity for mutual sharing of experience and learning. The activity reports are today outlined as the funding reports they are; they do not give any space for experiences learned by the organisations that handle the projects.

In our questionnaire, we included a compiled list of all the members. After our second interview, were we discovered that the communication between the states to a great extent was lacking, we showed the list to our informants and asked if they recognised the names of the participating organisations. For the most part they didn’t and this was the first time they were presented with such a list of all the member organisations. We had compiled the list from address lists that the five SFAs had sent in to MAMTA. The SFA send in updates on all the names and addresses of members in their representative state. If the members are not given information on where they on their own initiative can contact member organisations, a valuable source of information is lost. As one informant pointed out, she could then when she travels contact YRSHR-members. On the YRSHR-website there are addresses to network participants, but all our informants, except the SFAs, said that they did not have time, access or the habit of using the Internet. What is obvious is that a great number of members are not reached by the information available on the Internet. At the first meeting with our contact persons at MAMTA, they said that most member organisations could be reached via e-mail. There may be a glitch in MAMTA’s perception on the members access or habit of using the Internet and how many in reality actually do.
6 Discussion

We have tried to answer a complex set of questions. Networking, communication, information distribution and sustainability are by definition concepts that are hard to grasp. They are diffuse by nature, the actors to consider are several and the context is complex. By demarcation and concentration on what we have found essential to the issue of a network co-operation, we have tried to understand what consequences the information exchange can have to the function of the network, its sustainability and the amount of members that receive information that are applicable to their work. This will be further discussed in the next chapter.

6.1 The communication structure and its consequences

When a centrality analysis is done on the entire network, MAMTA stands out as the most independent actor in the network, but it is not the actor that has the most influence over the control of communication and information that reaches the LOs. Nor is it the actor that has the most influence over the work that is done in each representative state.

According to network theory, much of the networks' control and influence belongs to the position the SFAs hold. This may not be a problem if it is within the framework of the co-operation. Problem can arise if YRSHR members, either working at MAMTA or other organisations think that they have greater influence and control over communication and information, than they in reality have. There is a risk that this leads to a gap between the actual work that is done by the LOs and MAMTA’s perceived image of this work. It also puts into focus an aspect of MAMTA’s role, namely that of co-ordinator for the entire network. If the co-ordinator does not have knowledge of the work that is intended to be co-ordinated, problems will not be met with solutions and new work strategies will not be developed if needed. The LOs may find support and help from members in the state, but without MAMTA’s knowledge on what is on going on the LO level, sent information may be useless, work inefficient and knowledge cannot find its way between the states. All this considered, we think it is even more important that a feedback system is developed within the network.

From the perspective of the LOs, it is the SFA that is the central actor and MAMTA is a more distant one. In the interviews the LOs also expressed the opinion that MAMTA was conceived as a distant partner, a valuable national co-ordinator, but still a distant partner. Some of the LO informants expected MAMTA to be more active in their communication with them. The combination of a perceived distant partner that is expected to be more active in terms of information dissemination may cause some problems. A frustration about the perceived distance between MAMTA and themselves could be detected. The information structure means that a heavy information burden is laid on MAMTA and the SFAs. The weakness in the system is that the SFAs and MAMTA must disseminate information to the members, if they don't, no other organisation will and we think it is essential for the survival of the network co-operation that there is continually in the information flow. The funding from Sida supports the dissemination of information within the network, for the SFAs. This means that they are given the opportunity to employ one person part-time to work with the YRSHR-issues. Given the present communication structure, the information responsibility will of course remain, even after Sida withdraws the funding. The structure may be effective in the sense of information dissemination, but it is vulnerable. If the linkage MAMTA-SFA is disturbed, several members are affected. We
think it is necessary that those members actively involved in the development of the co-operation are aware of this situation and discuss if this supports the function of the network. If it doesn’t, the network’s full potential is not acknowledged. When the funding is withdrawn, it is important that the SFAs are willing to invest the extra time and money that comes with the SFAs’ information responsibility. A work that is extensive and time-consuming, as an SFA informant pointed out. The centrality analysis that we have used also shows that a heavy burden is laid on the SFAs. According to the hypothesis of centrality, the SFAs are more communication active than MAMTA. Their position as information transmitter in the state gives them great influence over the group and consequently also a responsibility for the maintenance of communication. They control the flow of information and are in the position to co-ordinate group processes. But MAMTA is the most independent actor, they don’t have to rely on other actors to pass information to them, they are in the position where other member organisations depend on them to receive information. Network members in other states were also perceived as distant partners and the extensive path distances between LOs from different states is probably one reason why our informants had this opinion. We should here remember that we only take the communication linkages within the YRSHR-network under consideration, that is, between the member organisations. MAMTA and several other member organisations may be very active in promoting the YRSHR issues in a different context, on a national or international level, but this is not within the scope of our thesis.

The MDS-image that shows the communication structure in West Bengal reveals a core/periphery relationship between the members. The interviews support the notion that there is a similar relationship in the rest of the network. Cumming & Cross found in their paper that the overall group communication was negatively affected by a hierarchical or a core-periphery group structure. If there was a core-periphery structure in the group it was also more likely to find a hierarchical group structure. Cummings & Cross has the focus on the structure of individuals within a group, were we have the focus on an inter-organisational co-operation. Considering the different levels and the fact that the theory of bounding spanning persons can be applied here, we cannot give too much recognition to Cumming & Cross, but their findings are in regards to network communication still interesting. We can also find support for the hierarchical nature of the YRSHR network structure in our interviews.

In spite of the hierarchical structure and our informants’ conception of MAMTA as the ”owner” and the ”initiator” of the network, the SFAs are in fact in the position of the ”leader” and MAMTA functions as the social broker of the network. According to Diani and Macadam’s theories, it is an advantage if the role of ”the leader” and the ”social broker” is divided, instead of given to the same organisation. Again, this shows that much of the work is in the control of the SFAs and not, what seems to be expected by many informants, in the hands of MAMTA. This also means that the network seems to be several regional networks and not one national one. There may be an advantage that MAMTA can function as a neutral point of convergence, but it is then also important that they are conceived as exactly that and not as the organisation that leads the work in the regions. From our interviews we conclude that this is how they mainly are viewed today, they are given a supervising, co-ordinating role, that in many aspects can be described as the ”leader”.

The network guidelines are very much outlined as a co-operation between the network members and the SFA in each state. MAMTA and other network members, on a national level, formed the
guiding principle for the entire network. Presently, the SFA and network partners in each state work together to form the network co-operation according to how they think it is best done. This means that how the network operates might differ from state to state. Although the communication structure in the five different states is basically the same, the network co-operation has taken slightly different forms in the states we have been in contact with. Considering the different cultures that are present in the states and the fast changing environment, an NGO, working in the field of development, has to handle, and considering that it may motivate members to take an active part if they feel that they have influence over the network co-operation, the flexibility is probably an advantage. But considering the entire network, the communication is on the contrary *inflexible*, the lack of crossing linkages between the organisations and the states does not invite to new collaborations.

All this considered, our informants are of the opinion that the communication structure is suitable and they think that the responsibility that is shared among the members, MAMTA, SFA and LO, is appropriate. The different actors have distinct roles and responsibilities, MAMTA is responsible for supervising, funding, co-ordinating, dissemination of information and they function as an information resource. The SFAs also has a supportive and supervising role. Whereas the LOs are responsible for informing the SFAs, which in turn are responsible for informing MAMTA about what is going on in the field. Here the LOs’ responsibility for informing about actions and projects made in the field is stressed. In the interview we understood this was not only meant in regard to the activity reports that must be filled in order to get funding, but also that it was their responsibility to give information about encountered problems, experiences and possible solutions that have been made. As we will discuss later on in the text, it is then also important that the organisations are given the instruments for such a kind of report system.

According to Granovetter’s theory of weak ties (1973), the communication configuration of the YRSHR-network seems ideal. The ties that link MAMTA and the SFAs are, based on the theory, weak. This facilitates transmission of information between the five different cliques, the same type of information will travel a further distance without the distortion that a more densely connected communication pattern would give. But in the light of the convergence model and theories of communication within social movement networks, we would like to raise the question if a little bit of distortion in the communication process wouldn’t be beneficial to the development of the network. The “distortion” would in this case be the creation of linkages between the members. We would like to put focus on the communication process between actors that share information. In the convergence model of communication, the information sharing as a process is stressed. This means that participants constitute a give and take information situation. There is a possibility that the weak communication ties, that may be effective in an information dissemination situation does not support a stable feedback system. The distance between MAMTA and the LOs may also be considered too extensive to cross.

### 6.1.1 Satisfaction with received information

The fact that the answers from West Bengal have all, except for one, been evenly divided between two clusters that are so different when it comes to the level of satisfaction, leads us to draw the conclusion that we from our material can’t find support for the hypothesis that the grade of satisfaction with received information is dependent on the state the organisation is located in.
Neither did the cluster analysis give us any result that led us to the conclusion that the size of the organisation would make such a significant impact. What we can see is that the number of people involved in the YRSHR-network and technical facilities may have some effect on the organisations access to information that they consider to be valuable to their work.

The theory of boundary spanning persons (see chapter 3) may have a connection to the questionnaires and numbers of "YRSHR involved person” in each organisation. The boundary spanning persons create a three-way communication, between the boundary spanning person, the own organisation and the other organisation. In this regard, it is important to bear in mind that the organisation is not an actor in itself, but it is the individuals within the organisation that can act and sustain relations. The organisation is not an acting agent and our result from the cluster analysis gives importance to the people involved in the network co-operation. The organisations network position has an effect on the organisations’ access to information, influence and control, but it is the persons working on the issue that create and uphold the relations.

Based on the interviews we can say that there are great differences in financial ability among the organisations. The access to technical facilities and the possibility to involve more employees/volunteers in networking may also be a question economy. In this regard we think the YRSHR communication system has its advantages. The LOs have valuable support in the SFA and the rest of the state network members. The smallness and the cultural homogeneity of the state group will most likely facilitate the interaction among them. The fact that the distance between them is not too extensive also gives the less resourceful organisations the opportunity to travel and take part in the workshops. The informants we talked to considered the workshops as very valuable. All this said, we think it is important to put some extra focus on the organisations that are less resourceful. Our material show tendencies that they are to a lesser extent satisfied with the information they receive.

6.1.2 Function of the YRSHR-network

During the course of interviews we discovered that the network had expanded in Rajasthan, this without the knowledge of the co-ordination agency MAMTA. Since MAMTA is the co-ordinator of information between states, this means that members in other states also were ignorant of the expansion of the network. When this came to our knowledge we came to question the purpose of the network. Is the network supposed to function as an information provider, i.e as efficiently as possible spread information about YRSHR-issues? If this is the case, the network should of course be present in as many states as possible. MAMTA also planned to find members in the state of Maharestra and add another state to the co-operation. All our informants considered the network as one national network, although participants in other states were perceived as distant and the cultural differences were acknowledged, it was one network and the knowledge from network members in other states was considered valuable. But if one reads the guidelines for the network, the question still remains, isn’t it in fact several networks? Several so called regional networks, which are held together by MAMTA? From our experiences, talking to network members and our questionnaires we would say, yes, the network functions as five networks held together by MAMTA, but the members think of it as one. They want to share experiences from activities and projects with all members, and not just from the state that constitutes their clique. At present there seems to be a glitch between what the members want from the network and how it in reality works. Problems can arise when the intended function of the network is not supported
in reality. The YRSHR-network has a structure and hierarchy that supports the function of being an information provider. Information is easily transmitted from MAMTA’s central position. But the structure and hierarchy of the network does not give support to the mutual exchange of information, ideas and experiences, information does not easily pass between the grass root organisations in different states. If the network in the future wants to develop the network co-operation and more collectively work with advocacy, this may be hard in a hierarchical network that supports information transmission, but does not support the more complex tasks that comes with advocacy. In the interviews we found that there was a demand for more exchange of experience between the organisations and particularly between the five different states.

Considering the entire network, this is not how the work is done today. But we are of the opinion that if the members choose to develop the co-operation towards one network that shares experiences and takes part in collective action, their consensus around important issues regarding the network gives them a great advantage. They have already come a long way towards the common ground that Rogers & Kincaid (1981) see as a necessity for collective action.

This segregated structure that is spread in the five different states has not been shaped due to radical differences in structural or tactical goals, something that may lead to what Diani (1992) calls networks of “restricted access”. It is in fact a planned and consciously constructed structure made on initiative from MAMTA. Our informants did not express great ideological differences, the organisations of course had different focuses, but they all consented on the importance of YRSHR-issues. The organisations that joined the network from the start were in fact approached by MAMTA and asked if they were interested in taking part. Later on the network has grown within each state, but a condition for taking part in the co-operation has been to conduct work with related issues. The network consists of a rather homogenous group of organisations. In theory this will make it easier for the organisations to converge on important goals and objectives. As Diani concludes, the presence of a restricted number of actors towards whom most interactions come together greatly facilitates the development of a connected network that has the channels for potential communication and mutual recognition. There is probably an advantage to have a structure like the YRSHR-network, it facilitates communication and convergence. But at present it is not a restricted number of actors towards whom most interactions converge. If we consider the whole network, on the state level, it is towards one actor, namely MAMTA. Additional linkages between organisations would be beneficial, in particular linkages that cross state borders.

All the informants we talked to were of the opinion that the YRSHR-issues were important and they were highly motivated in taking part. The crucial question is what they felt motivated to take part of. The information exchange, by contributing with information, knowledge and shortcomings about working with young people, or do they feel motivated to take part in more “concrete” work like, health programs, etc, regarding the issue? The distinction is built upon how one chooses to define the network co-operation. Is it in the first place a funding and information provider that supports each organisation to work within this field, or is it a network for exchange of experiences that will help organisations work with these kind s of problems and trigger work and collaborations between them? If the network is regarded as a funding and information provider it is not necessary to take own initiative to the information exchange, information is then received and not sent, the exception being the formalised report of action that is sent to MAMTA. One would think that if the network on the other hand is perceived as a information and
experience exchange network, the network members should feel more motivated in contributing to the exchange by taking a more active part in giving inputs to collaborations and experience on their own initiative and not only in formalised reports that are sent back on demand.

Both views on the network, as an information/fund provider and as an exchange of experience were expressed in the interviews. Although both the functions came up in the interviews, the network’s function as a forum for the exchange of ideas and experiences was stressed by the members. So was the mutual exchange that takes place in a two-way communication and the active participation of all the members. In many cases, this is what the members want and hope to find in the network. But the communication structure, with its low density in the entire network, and our interview material tells a different picture; the members are rather passive participants. In the next chapter "Sustainability and collective action” we will speculate on a possible reason for this.

It is of course a major challenge to constitute a forum for a exchange of ideas and experiences on all levels and it is not easy to accomplish. It costs time and money to establish a functional network co-operation and this must be realised by the participating members. From our material we cannot see that the network functions as a forum for the mutual exchange of ideas and experiences, in the states and between the SFAs and MAMTA maybe, but not on a national level.

6.1.3 Sustainability and collective action

The collective action that constitutes the communication structure is necessary in order for the network to be sustained. Particularly within the field of development, which partly relies on volunteers, it is important to attract contributors to projects and activities.

The star-shaped structure of the YRSHR-network is low in density. The low density can be interpreted as a sign of the members’ low inclination to engage in network activities (Diani 1992). The structure of the clique then represents a social movement with high density and the fact that everybody is just a path distance away from each other is a sign of social movement organisations with a high degree of collective identity and solidarity. Also Freeman sees density as a rough indicator of the participants’ willingness, or unwillingness, to take part in the network co-operation. It is interesting to note the three premises that Diani assumes in order for a comparison to take place between the shape of the network structure and the communication in a social movement network with such a structure. First of all, the actors in the network should be known to each other. This is not the case in the YRSHR-network, in the interviews, the lack of knowledge of network members from other states came across very clear.

The second premise that he assumes is that all actors have enough resources to co-operate, on single-issue projects at least and this with all other actors in the same network. The network was in a process of learning at the time when we were there, they collected the material the co-operation consisted for the most part of the information exchange in the workshops that were held. Even after this initial stage it is unlikely that many of the LOs will have the resources to co-operate with all the other actors in the network. Some of the organisations we talked to had very limited resources. The informants mentioned barriers like language, technical resources, distance and finical shortcomings that may hinder the co-operation between the network members.
Diani comes to the conclusion that if the organisations do not know all the organisations in the network and do not have the resources to co-operate on single issue-projects with all the network participants, it is because differences in belief systems prove so intense as to prevent co-operation and this in spite of a shared sense of belonging to the same movement. It is questionable if this is in the case of the YRSHR-network. In the case of the YRSHR-network on the national level, it is justifiable to wonder if the members at all have been given the opportunity to develop such a relation to member organisations in other states. With "not given the opportunity" we mean that the communication structure is very consciously constructed by the "owner" and "initiator", MAMTA and that it does not support the information exchange between the states. Hence, Diani’s theory on the correspondence between the structure of the social movement and the movement’s ability to mobilise participation is not relevant in the case of the YRSHR-network. In theory, the star structure is significant for a movement where instrumental orientations are dominant over solidarity and the actors have a rather low identification with the movement as a whole. In the star network actors prefer to focus on own issues and thus connections to other organisations are limited to the one central organisation.

There is a contradiction in our material: on the one hand the members were rather passive in the collective action that constitutes the communication action, this is supported by the assumption that the entire YRSHR communication structure is low in density. But on the other hand, the members emphasised in the interviews that they found the mutual exchange between members important and part of the network functions. A possible reason for the contradiction may be because they see the network as an information/funding provider, i.e. they are provided with material and resources and they don’t see themselves as actors of the network. One informant also said that this is probably how the less resourceful organisations perceive the network.

One characteristic for the star network that Diani presents might be applicable to the YRSHR-network. What he here calls "a low identification with the movement as a whole" can describe the members’ low identification with their own role in the network in the co-operation. Because it is not enough to see the important issue at hand and have a willingness to learn from others, the own organisation must be identified as part of the network and thereby put focus on its own contribution to the network process. In the interviews we noticed that some members were passive regarding networking, they awaited the actions from MAMTA. The reason for this might be that MAMTA at present functions as the "owner" and co-ordinator of the whole network. The reason why we during the course of the interviews added questions on the informants’ thoughts of their, the SFAs’ and MAMTA’s responsibility, was that the LOs seemed to wait for initiative, information or other forms of activity from MAMTAs instead of recognising their own responsibility in the co-operation. This is partly no surprise because MAMTA is the initiator, co-ordinator and provider, both financially and information wise, of the network. The structure of the network also reinforces MAMTA’s role as dito; the question is how this can be combined with the network members’ responsibility to take an active part. Our interview material contradicts Gould’s (1993) theory about the star structure and its function as a motivator for participation in collective action. According to the theory, the members’ direct access and possibility to see the actions of the central actor would motivate them to take an active part themselves. This does not seem to be true if we consider the collective action of information accumulation and dissemination. The star structure seems here rather lead to passiveness.
6.1.4 Learning and sustainability

It is MAMTA’s challenge, as co-ordinator for the entire network, to mobilise the knowledge and resources within the network. Without it, it will be hard to sustain the network. Learning and sustainability are definitely intertwined. An organisation that has an ability to learn and readjust to its environment can fulfil its goals and accomplish its task faster.

To a certain extent the communication structure is necessary since MAMTA is the funding agency and needs to have control over the projects in order to give financial support to the network members. But one important feature of the network that several respondents mentioned was that it gave the possibility to learn from each other and learning can not take place with mainly one active partner. One reason for MAMTA’s initiative to the co-operation was that they wanted to learn and develop new strategies to work with YRSHR-issues, hence our informants at MAMTA do not consider the learning process as something that takes place between ”the teacher”, MAMTA, and ”the student”, the LOs. The question is if the LOs and SFAs recognise this and see their own potential as provider of important information of their work. From the interviews we can see that MAMTA, SFAs and the LOs are given distinct roles in the network. MAMTA has the role of the supervisor, provider (information and financial wise) and national co-ordinator. The SFAs’ function as co-ordinator in the state and informants also see them as responsible for training and capacity building. The opinion that they need guidance because of their lack in experience was expressed and considering MAMTA’s and the SFAs’ role of supervisor, it seems natural that the supervisor has someone to guide, hence the LOs have the role of the guided. But we didn’t come across this opinion very often and generally we do not think that this is the role the LOs are given. More generally the LOs are responsible for implementation of activities and they are also responsible for reporting about the activities that are being done, first to the SFAs that in turn pass the report on to MAMTA. The distinct roles the organisations in the network have may cause inflexibility to the system.

One informant working in a SFA mentioned that many of the smaller organisations do not have experience in work documentation and do for the most part not see the value in it. We think it is important to give these organisations the knowledge and instruments for this type of work. It must then also be made clear why documentation is important to the development of the network. If their work is not documented and their knowledge and experience accessible to others than just the members they meet at the workshops, they are bound to be ”forgotten”. MAMTA, the coordinating agency, has little contact with them and in the hierarchical communication structure they can more easily become invisible. The information structure between the SFAs and MAMTA is to a high degree built on technical facilities and knowledge in English; the smaller, less financially strong organisations are left out of this information structure. And if their needs are not made visible they cannot be met with a proper solution.

An instrument that we think can be used for documentation is the activity reports. All the organisations in the network are given activity reports to fill in; they are a condition for funding and will therefore most likely also be sent back on demand. But their form does not give room for any extensive exchange of information, the members only mark the date and form of action taken place (planning, advocacy/meetings, workshop, report/account). The workshop report, on the other hand, gives more insight in the actions taken place. The report gives some space for evaluation and queries that are raised by the participants, participants being the targeted
adolescents. We think it would be beneficial to the entire network if some sort of documentation system was implemented in the network.

If such a report system is implemented on a larger scale than today, it is also necessary to acknowledge the importance of feedback on the experiences that is shared. If this type of information is not acknowledged, taken under consideration and in some form transmitted to other members, it is not worth making the effort of reporting it in the first place. In support of the convergence model of communication, the members must be given feedback on their reported knowledge, questions or solutions. In the YRSHR network there is also an instrument that can be used to give feedback on such material, the monthly updates. We experienced that the distribution of the monthly updates could be made more efficient. The Rajasthani SFA field office in Jaipur did not always get the monthly updates from the SFA head office in Ahmedabad. Consequently, the members in Rajasthan are left out of this information. It may not be financially possible to mail the updates to all the members, but if they at least could be read by the members when they have meetings or workshops at the SFA office, we think this would be valuable to the communication system and be something that would benefit the active participation of the members.

During the course of the interviews we sometimes discovered that we had difficulties making our informants understand what we wanted to know. They were often focused on YRSHR-issues and talked about how they worked with the issues. This is understandable, but this also stresses the issue that the members must be made aware of their own importance and role in the network and again it puts focus on the importance of documentation. If all focus is on work that is done in the field and the network is conceived as an information and resource provider, then it is hard to see the value of work documentation, other than as a condition for funding.

In regard to the members’ role in the network, it is interesting to relate their role to the matter of funding. The participating organisation may see the funding they receive from MAMTA as a necessity for the work they conduct within the field of YRSHR. In some ways this may be so, but they are in fact themselves a much more resourceful and bigger contributor to the cause. The time and effort they spend in their work is more valuable than the money they receive. They are the ones that constitute the network. The implementation of a stronger sense of importance and value to the work effort the members do could be beneficial to the members’ active contribution to the co-operation and thereby the sustainability of the network.

6.2 Conclusions

According to the centrality analysis, MAMTA is the most independent actor in the network, whereas the SFAs have more influence and more control over the communication in the state and over the information that reaches the LOs. Because MAMTA functions as a co-ordinator for the entire network, it is important that they receive information about the LOs’ work. This communication may be facilitated by the development of some linkages between the LOs and MAMTA. MAMTA should also be recognised as a social broker with the main function of a neutral point of convergence for the network member, and not as an organisation that functions as a leader for the co-operation. The SFAs in each state upholds that position.
We think it is essential for the survival of the network co-operation that the information flow is continuous, MAMTA and the SFAs are responsible for the information dissemination information to the members. Given the presently communication structure, it is important that this is done even after the funding has been withdrawn. The organisations are given distinct roles in the network co-operation. The LOs for instance are responsible for reporting their experiences from the field, but they are not given the instruments for such a reporting system. The value of documenting their work should be stressed and it may, in accordance with the convergence model of communication, be a start for a valuable feedback system within the network.

Considering the entire communication structure network, the communication is inflexible, the lack of crossing linkages between the organisations and the states does not invite to collaborations between them. The structure is an effective way of transmitting information but it is less effective in coping with more complex tasks, such as advocacy. The star-shaped communication structure of the YRSHR-network is low in density. The low density can be interpreted as a sign of the members’ low inclination to engage in network activities. There is a contradiction in material: on the one hand the members were rather passive in the collective action that constitutes the communication structure. But they emphasised on the other hand the importance of the mutual information exchange between members and as a part of the network-functions. A possible reason for the contradiction may be because they don’t see their own role as actors and information providers for other network members. The network may be perceived as something that provides *them* with resources and information.

In the cluster analysis we could see tendencies that the organisations with fewer people involved in the YRSHR-network co-operation and with less technical facilities were to a lesser extent reached by information that they considered valuable to their YRSHR-work. There is a possibility that these are less resourceful organisations and those organisations are also the ones that have little experience in documenting their work. For the sake of acknowledging their and other organisations experiences and needs, we see the implementation of a documentation/feedback system as beneficial; the activity reports may be developed and used for such as system. This would also put focus on the members’ own responsibility as information providers. In order to learn from the members’ knowledge and take advantage of the synergy effect that a network co-operation can give, as many members as possible should participate in the information accumulation and communication exchange. This would also help to sustain the network: MAMTA cannot in the long run function as the information provider for the entire network. It is the members’ time, effort and experience that is the real resource in the network and not the funding they receive.
7 Summary

The thesis is conducted within the Sida’s programme Minor Field Studies (MFS). The empirical collection, consisting of interviews and questionnaires, was conducted in India during the period 020303-020528. In this thesis we aim to examine the communication structure and information distribution within an inter-organisational NGO-network (Non Governmental Organisation).

We conducted our study on the newly established YRSHR-network (Young People’s Reproductive and Sexual Health and Rights). The YRSHR-network is a joint venture of more than 90 NGOs located in five different Indian states. It strives to implement need-based programmes, conduct research and advocacy on YRSHR issues. Giving visibility to young people and their concerns, bringing issues of reproductive and sexual health into the limelight, sharing of ideas and experiences, widening organisational horizons, are some of the outward goals of the network. The more internal objectives are to build co-operation and collaboration in YRSHR-related work and facilitate the sharing of information, ideas, experiences and resources at a national and regional level. Thus the information exchange within the network is of great importance.

The information exchange within any organisation or network forms a communication structure. We assume that this structure has an affect on the overall performance of the network. We also assume that in order to have a functional network co-operation, every participating organisation needs access to relevant information. Our question at issue is; what is the present communication structure within the YRSHR-network, and how does the structure affect the network activity?

The theoretical framework in this study is the convergence theory of communication applied in a network context. The central aspect of the convergence model of communication is the information exchange between partners. Information is seen as innately uncertain and imprecise. Communication is defined as a dynamic process in which participants create and share information with one another with the intended proposes, if only for a brief moment, to reach mutual understanding. To reach mutual understanding it is essential to get feedback on transmitted information. The mutual understanding between partners will never be complete, but that is also not necessary, if it is possible for the individuals to come together on certain things that may be enough. If the participating actors reach a consensus on certain topics, they can engage in collective action, action or collective action may become a source for new information.

In order to reveal the communication structure within the YRSHR-network, an analysis method called Multi Dimensional Scaling (MDS) has been used. The communication structure consists of the regular and irregular pattern of communication linkages between the participating organisations. It is the exchange of information that represents the linkages. The data for the MDS-analysis is collected from questionnaires where we asked the participants to specify which organisation they exchange YRSHR-information with. Due to poor answer frequency we chose to demark the MDS-analysis to the state of West Bengal. As a result, we had to give more emphasis to the interviews to come to any conclusion about the communication structure in the entire YRSHR-network. The YRSHR-network has the shape of a star, i.e. one central, co-ordinating organisation in the middle (MAMTA), in every state there is a State Facilitating Agency (SFA) acting as co-ordinator for the Local Organisations (LO) of each state. In all there are participating
organisations in five states, and thus five SFAs. Since MAMTA functions as a co-ordinator for the entire network, it is important that they receive information about the LOs' work. Presently, there is virtually no linkage between the states and no linkage between the LOs and MAMTA, the development of some linkage between the states and between the LOs and MAMTA may facilitate this communication. The network in West Bengal also has the shape of a star, the SFA is placed in the middle, surrounded by an inner core and an outer core, and hence there is a core-periphery relationship between the members in West Bengal. Based on the interviews we draw the conclusion that the communication structure in the other four states is more or less the same. The core-periphery relationship may have a negative affect on the communication within the group.

The concept of centrality is often used in network analysis and it is an important structural tool of investigation in the thesis. In an inter-organisational network some organisations tend to be more centrally placed in the structure. It is the structural position that in network theory is most frequently associated with performance, power and influence in decision making. The more participants that have identified one organisation as a partner, the more central this organisation or actor will be. According to the centrality analysis, MAMTA is the most independent actor in the network. On the other hand the SFAs have more influence and more control over the communication in the different states and thereby over the information that reaches the LOs. Some informants expected MAMTA to communicate more actively with them, but the hierarchical communication structure does not support that type of communication. MAMTA can be recognised as a social broker that may function as a neutral point of convergence for the network member, but not as an organisation that functions as a leader for the co-operation. The SFAs in each state upholds that position.

Since the structural positions are given importance in network analysis, we initially wanted to investigate if the actor's satisfaction with received information could be attached to a particular position. But due to our choice to demark the MDS-analysis to the state of West Bengal, the alternative positions were also reduced. The organisations’ position in the network was thus not possible to use as a variable. To investigate the level of satisfaction with received information, we used cluster-analysis, and all questionnaires that were sent back to us were used as background data. In the cluster analysis we could see tendencies that the organisations with only one or few persons involved in the network co-operation and with less technical facilities also to a lesser extent were reached by information they considered valuable to their YRSHR-work.

It is quite easy to initiate a network co-operation, but it is much more of a challenge to sustain it. This is especially the case when the network has to rely on external support. It is important to have active members that contribute to the co-operation, without it it is not possible to sustain the network. We see the act of contributing to the exchange of information within the network, as an act of contribution to a collective good, a dialogue. In a network co-operation the problem of passive members is very much a reality and we have in our thesis connected the problem of passive members to the sustainability of the network. In the YRSHR-network, the collective action of the participants are to contribute to the information accumulation, dissemination, sharing of ideas and experiences and thereby contribute to the capacity-building in the network. Several members mentioned capacity building as an important feature of the network and it is particularly valuable in relation to the YRSHR-issues that by their very nature are delicate to deal with. A network co-operation that has the capacity to learn is more sustainable and can better
accomplish its tasks. Given the present communication structure, it is important that MAMTA and the SFAs continue their responsibility as information disseminators, even after the funding has been withdrawn. The organisations are given distinct roles in the network co-operation. The LOs are for instance responsible for reporting their experiences from the field, but they are not given the instruments for such a reporting system. The value of documenting their work should be stressed and it may, in accordance with the convergence model of communication, be a start for a valuable feedback system within the network.

The documentation, collection and dissemination of information should be firmly founded and applicable to YRSHR-work, it can then give a possibility for a development of new work strategies, new knowledge and it can be implementation in the field. An instrument that we think can be used for documentation is the activity reports, but they should then be further developed for that purpose.

The YRSHR-network communication structure network is inflexible; the lack of crossing linkages between the organisations and the states does not facilitate the collaboration. The structure is an effective way of transmitting information, but it is less adjusted to cope with more complex tasks, such as advocacy. Our informants mentioned advocacy as an important feature of the network co-operation. During the course of the interviews we found that the members’ expectations and hope for what the network co-operation could give them did not correspond to how we believed that the network functioned. Because of this we wanted to further investigate if the communication structure supported the intended function of the YRSHR-network.

Many members emphasised the importance of a mutual information exchange between them and considered this to be one part of the network-functions. But in fact, we found that the members were rather passive in the participation of the collective action that constitutes the communication structure. The star-shaped communication structure of the YRSHR-network is low in density. The low density can be interpreted as a sign of the members’ low inclination to engage in network activities. Still all our informants emphasised the importance of YRSHR-issues. The reason for their passiveness in regard to information accumulation and dissemination may be because they don’t see their own role as actors and information providers for the other network members. The network may be perceived as something that provides them with resources and information and the hierarchical communication structure reinforces that notion. A development of a documentation system may put focus on the members’ own responsibility as information providers. It is MAMTA’s challenge to mobilise the resources within the network. MAMTA can not in the long run function as an information provider for the entire network.
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### 8.3 Interviews

**Mr Rakesh Kumar, Director, Arogyam, Patna/Bihar, 2002-03-27**

**Mr Alok Ranjan Singh, Secretary, Mansi, Patna/Bihar, 2002-03-27**

**Ms Madhuram, General Secretary & Cdr. S. Kumar, Member Advisory Support, Bhavani Siksha Prasar Parishad, Hapur/Uttar Pradesh, 2002-04-22**

**Ms Leena Emmalty, Co-ordinator in education programme, Parivar Seva/PSS (SFA), Delhi, 2002-04-25**

**Ms Aditi Puri, Programme Manager & Ms Savithri, Senior Programme Manager, MAMTA, Delhi, 2002-04-2002-03**

**Ms Yasmin Zaveri Roy, Sida, Delhi, 020424**

**Mr Prem Nardan Sharma, General Secretary, Students Relief Society (SRS), Jaipur, 2002-04-15**

**Mr Vijaygoyal, Co-ordinator, National Institute of Rural Affairs (NIRA), Jaipur, 2002-04-15**

**Ms Vandana Mishra, Project co-ordinator, Bal Rashmi Society, Jaipur, 2002-04-15**

**Dr Veena Dewedi, Chetna, Jaipur, 2002-04-16**

**Mr Sanjib Saha, Programme Associate Child in Need, (CINI-C), Calcutta, 2002-05-17**

**Mr Bo Jarneving, Högskolan Borås, 2002-08-16**

Taped interviews are owned by Anna Berggren & Åsa Elfving
Appendix 1

Multi Dimensional Scaling (MDS)

In the structural analysis it is important to be on the same analytical level all the time. It is virtually impossible to investigate processes if the actors are not comparable. If one wants to investigate relations in between organisations it is important that all the investigated actors are organisations and not individuals for instance (Bengtsson 2001:222). The actors in the MDS-configuration are the YRSHR contact person in each organisation. This means that one individual is the representative of the entire organisation. In the first section of our questionnaires, the orientation questions, we have asked how many persons that are involved in the YRSHR cooperation in the organisation. The answer varies, but it is usually 3-10 persons. This means that there may be casual links between partners that are not part of our analysis. But the fact is that there is only one YRSHR-contact person in each member organisation. In the questionnaire we have asked the YRSHR-contact person to be a representative for the organisation. The organisation itself can not create relations and interact with the environment, the relationships have to be initiated and sustained by individuals within the organisations, the so-called boundary spanning persons (see chap 3.2.1).

We have valued the information contact according to how many information categories (in the questionnaire defined as, face to face, letters, e-mail, (and so on) that have been marked. Tezganj have for instance answered that they have seven different types of information contacts with CINI, they therefor get the contact value seven. CINI on the other hand have stated that they have six different types of information contacts with Tezganj and accordingly this contact receives the value six. Due to the fact that only a few organisations estimated the number of contacts, it was not possible to valuate the frequency of the contact, but this way we hope to estimate the richness of the contact. The data were put in a matrix. Acronym or short form represents the organisations horizontally, vertically, the number 2 represents the organisation Asha, number 3 Ashurali, number 4 Bankura and so on. A list of the organisations is presented below.
|   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Asha | 0 | 1 | 1 | 5 | 4 | 3 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 4 | 2 | 1 |
| Ashurali | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bankura | 2 | 2 | 0 | 5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 6 | 0 | 0 | 2 | 6 |
| CINI-C | 6 | 6 | 6 | 0 | 6 | 6 | 6 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| CINI-M | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Chapra | 6 | 4 | 3 | 8 | 3 | 0 | 3 | 0 | 4 | 4 | 0 | 4 | 6 | 0 | 0 | 3 | 0 | 3 | 6 | 3 |
| DANA | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Jeu | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nari | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Netaji | 4 | 5 | 4 | 6 | 4 | 5 | 4 | 0 | 0 | 4 | 4 | 0 | 0 | 4 | 4 | 0 | 4 | 4 | 4 |
| Bharti | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nistha | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nivedita | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SMOKUS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Social-L | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| SOHGAP | 3 | 3 | 3 | 9 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| SOUL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SRHEDS | 3 | 3 | 3 | 5 | 0 | 3 | 3 | 0 | 0 | 0 | 3 | 3 | 3 | 3 | 0 | 3 | 0 | 3 |
| SAAS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RHDC | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tezganj | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Fig. 10 Complete matrix, West Bengal

**West Bengal State Network Members**

2. Asha- Association for Social and Health Advancement  
3. Ashurali Gramonnayan yan Parishad  
4. Bankura Institute  
5. CINI-C Child in Need Institute  
6. CINI Moyna Rural Health Development Centre  
7. Chapra Social & Economic Welfare Association  
8. DANA- Development & Awerness Need Art  
9. Jeu Mahila Bikash Sanstah  
10. Nari-O-Shishu Kalyan Kendra  
11. Netaji Pathochakra  
12. New Bharti Club  
13. Nistha  
14. Nivedita Community Care Center  
15. SMOKUS- Sreepur Mahila O Khadi Unnayan Samiti  
16. Social-Legal AID Research & Training center  
17. SOHGAPH- School of Human Genetics and Population Health  
18. SOUL- Song of Unity and Liberty  
19. SRHEDS- Samsia Rural Health & Economic Development Society
This matrix is symmetric. This means that corresponding entries above and below the diagonal correlate, consider for instance the case of Tezganj and CINI (thicker marked numbers), where one entry is small, the other is usually small as well and where the entry is large the other is usually large as well. In order to be able to produce a MDS configuration the matrix should at least be roughly symmetric (Kruskal & Wish 1978:12). The matrix should be read as follows; Tezganj have marked a contact value of seven with number 5 that represents CINI-C and CINI-C have marked a contact value of six with number 22 that represents Tesganj. Since one linkage will represent the communication between two organisations, we have to, as we mentioned earlier arrange the matrix to a lower half matrix. i.e., the two values above and below the diagonal is put together and become one. In the case of Tezganj and CINI-C; the values seven and six become the value of thirteen, shown below, forth from the left in the half matrix. This means that it is not possible to see in which direction the information contact value is greater.

A MDS configuration is an image that has the ability to visualise data that we otherwise would have difficulties to comprehend. The matrix that the configuration is derived from contains so much data that we do not get the full picture, the MDS configuration helps us analyse and understand the material. The price for this is that the image can not completely reflect the data and it is therefore necessary to go back to the proximity data to see how they correlate with each other (Kruskal & Wish 1978:46).

Both the cluster analysis and MDS display similarities between variables or cases. But the MDS image is built upon more complicated mathematical calculations. Due to this the placement and the relation to other variable s in the MDS-image can give us more information than the cluster-image can. The MDS stress level is higher or lower depending on how well the MDS correlate to
the actual data in the matrix. A MDS configuration is always a compromise to some extent. Since each case is related to each other case in the analysis and this representation of the data produces a configuration that have two or more dimensions it is impossible to do the data full justice. The stress value indicates the level of compromise that has been made in order to produce the configuration; a higher stress value means that a greater compromise has been made. The stress level can be reduced if a further dimension is added to the MDS image. But by doing this it becomes increasingly harder to comprehend the image and thereby also to analyse it (Bo Jarneving 2002-08-16). This configuration is done in two dimensions. This means that the configuration has both height and width. It is a matter of opinion on what is an acceptable level of stress. Some researchers can accept a level that is over 0.2, but the majority are of the notion that the level should be under 0.2. Here the stress level is 0.16102 which we find to be acceptable.
Appendix 2

Cluster analysis

There are different ways of measuring similarity the one we have used is a correlation analysis or correlation coefficients. It is used in quantitative classification to determine the correlation between cases. Both interval scale variables and ordinal (ratio) data can be used (Aldenderfer, Blashfied 1984:22). Here we have used ordinal data. The value of the coefficient ranges from -1 to +1 and a value of zero indicates no relationship between the cases. The case variables are summarised and each case is given a mean value. The correlation analysis can be described as a shape measurement. The analysis is insensitive to the differences between the variables that create the mean value. This means that two cases can have the same correlation of for example, +1.0 and not yet be identical. Their correlation value may be the same, but when comparing the variables values given to each case, they may differ to a great extend. This means that some data are lost when the case mean value is used, it is important to keep this effect in mind (Aldenderfer, Blashfied 1984:22ff).

Cluster analysis is not a procedure of identifying existing groups of clusters; it is a procedure of creating new ones. This is why there may be radical difference in-group formation depending on the methods used for clustering. The cluster methods are used to find a structure in the data, the structure may not be visible at first sight and it may be hard to find support for it in other authority. When using cluster analysis one has to be careful with imposing a structure on data, the trick is to see "real" groups instead of a wanted structure (Aldenderfer, Blashfied 1984:14pp).

Hierarchical cluster analysis differs from other methods mainly due to the different rules for formations of clusters. There are many linkage rules; the one that has been used here is called complete linkage. In the complete linkage any case that is part of the analysis has to have a certain level of similarity with all the other cases (Aldenderfer, Blashfied 1984:40).

The clusters are formed when a vertical line is drawn from the horizontal correlation axis of the hierarchical cluster analysis image, the different organisations are vertically presented. The line can be moved, either more to the left or more to the right, and by doing this different cluster groups are formed. It is a demarcation line and the clusters are formed to the left of it, the cluster formations to the right are excluded. With the present location of the line four clusters are formed.

Determining the number of clusters, where to draw the line of formation is crucial to the analysis. Unfortunately this procedure is an unsolved problem in cluster analysis. This means that there is no commonly applied and recognised method for deciding how many clusters there are in the tree. One used method, which is better than subjectively deciding how many clusters there are, is to put the coefficient at which the clusters are formed against the number of clusters in a graph.
Fig. 12 Dendrogram of YRSHR-network, divided into 4 clusters.
In figure 13 the coefficients are put along the y-axis and the number of clusters are put along the x-axis. A flattening in the curve suggests that there is no new information that can be derived from the following cluster groups. After four clusters there is a slight flattening in the curve, this would suggest that there are four clusters. Another method is to look for a significant "jump" in the value of the coefficient. A jump in the values implies that two relatively dissimilar values have been merged, hence the formation before the merger should be the right one. When we consider our values we note that the coefficients are for the most part close to each other, the coefficients values are: 25, 18, 17, 14, 13, 12, 11, 10. The exception is between the coefficients for the first and second cluster, here there is a jump from 25 to 18. This would imply that a merger of dissimilar values has taken place and we have in fact only one big cluster. This might of course be the case but we have chosen to go with the first method that suggests that we have four clusters present in the cluster tree. (Aldenderfer & Blashfield 1984:53pp).

The correlation analysis can not deal with a missing value, a value can not correlate to a non value, so we replaced the missing values with the meridian value. We could not have used the mean value since that would have generated a decimal value, something the program can not handle. If we had excluded the cases containing missing values we would only have ten cases to analyse.
Cluster 1 a

Cluster 1 b

Cluster 2 a

Cluster 2 b

Cluster 3 a

Cluster 3 b

86
Cluster 4 a

Cluster 4 b

Fig. 14 Cluster groups, data from questionnaires (see below Appendix 6)
Appendix 3

Interview questions network members

Orientation question

What is Your position in the organisation?

What is Your function in your organisation?

How many employees does your organisation have?

What are the main objectives of the organisation?

When did your organisation join the YRSHR-network?

Information needs

Do you consider the information and co-operation of the YRSHR-network important to your work? In what way?

Would you like to receive information other than the already received information from the network? (for instance guiding principals of the YRSHR-network, research findings, issue based capacity building, capacity building skills, IEC-material)

If yes, what kind of information?

Does your organisation use the documentation centre or the library of unpublished documents on the YRSHR web site? If no, why? If yes, do you consider it to be an important source of information for your work?

Does your organisation use the Information Clearhouse? How does the Information Clearhouse work?

Do you think the exchange of information between organisations from different states is something that should be developed? If no, why? If yes, what kind of information do you consider important to distribute between the different network members? How would an expended information exchange benefit your organisation?

Direction of information flow

What kind of information does your organisation receive from MAMTA (activity report, monthly updates)? Through which communication channels (for instance e-mail, mail, telephone)

What kind of information does your organisation send to MAMTA (activity report, quarterly report)? Through which communication channels (for instance e-mail, mail, telephone) Why do
you choose this particular communication channel?

What kind of information do your organisation receive from Arogyam/Chetna (SFA in other states)(activity report, monthly updates)? Through which communication channels (for instance e-mail, mail, telephone)

What kind of information does your organisation send to Arogyam/Chetna (SFA in other states) (activity report, quarterly report)? Through which communication channels (for instance e-mail, mail, telephone)? Why do you choose this particular communication channel?

What kind of information does your organisation receive from the other NGOs in the network? Through which communication channels (for instance e-mail, mail, telephone)?

What kind of information does your organisation send to the other NGOs in the network? Through which communication channels (for instance e-mail, mail, telephone)? Why do you choose this particular communication channel?

**Follow up question;** why isn’t the same information sent to all the different members?

**Communication channels**

Do you use the YRSHR Internet discussion forum or e-meeting? If no, why? Do you consider the web site forum a good communication channel?

**Structure**

Which organisations in the network does your organisation have most contact with, considering YRSHR related issues?

Which organisations does your organisation have face to face meetings with? Other than consultations meetings and planning meeting. Why this/these particular organisations?

Does your organisation have face to face meetings with network participants from other states? (workshops etc) Other than consultation/planning meeting. If no, why? If yes, why this/these particular organisations?

Can you see any particular information barrier in the network (for instance structural barriers, distance, money, personnel issues?)

Do you think that the contact between organisations from different states is something that should be developed? If no, why? If yes, what kind of contacts do you consider important to develop? How would an extended contact structure benefit your organisation?

How is the responsibility of the State Facilitating Agency in Bihar (Rajasthan) organised, is it shared between the members in the state, i.e. if there is a time limit an organisation will act as SFA, and the responsibility passes over to one of the other organisations?
Do you consider this organisation of SFA responsibility to be good?
Appendix 4

Interview questions Sida

How do you/Sida define “Network”? 

Why does Sida support networking? In what way can this be an effective strategy? 

Are the funds to MAMTA specifically directed towards the YRSHR-network?
Do you have any specific demands on how the money should be used within the network? 

What expectations does Sida have on the YRSHR-network, i.e. what is the expected outcome? 

How do you understand the YRSHR-network, i.e. its structure, activities, co-operation, contact and communication between network partners etc? What do you consider to be MAMTAs responsibilities in the network co-operation? What do you consider to be the other NGO:s responsibilities in the network co-operation? 

How do you get information about the activities within the network? 
Do you in any way evaluate the network co-operation? If yes, how? 

We consider the communication structure and the flow of information to be important in any organisation and also in networks and that it has an impact on the performance of the network. It this something you consider in evaluating a network? Or if you do not evaluate network, do you think that this should be considered in an future evaluation? 

In choosing to support networking, Sida must have considered the advantages of choosing such a strategy. Have you also considered what disadvantages or barriers there might be in networking (hierarchical social structures, technical and economical obstacles, information barriers etc.)?
Appendix 5

Interview questions MAMTA

Orientation question
What is Your position in the organisation?
What is Your function in your organisation?

Network co-operation
What is the purpose and function of the YRSHR-network?
How is this purpose and function implemented into practice?
In what way do you consider the network co-operation contribute to the work MAMTA performs?
Who sets the guiding principles of the network?

How is the responsibility of the administrative tasks shared within the network, i.e. for instance updated membership lists, distribution of information, gathering for meetings etc.?

What responsibility does MAMTA have in the network? How is this function supposed to be performed?
What responsibility do the SFAs have? How is this function supposed to be performed?
What responsibility do the other NGOs have? How is this function supposed to be performed?

Information content and distribution

What is the purpose of the activity reports?
What happens with the reports after they are received at MAMTA (archive?? For instance documentation centres??)?
Is there a formalised standard for what the activity report should consist of?
Is there a fixed number of times (for instance over a year) that the different organisations should send in activity reports?

What is the Newsletter content? What is the purpose of the Newsletter? Who is the intended receiver of the Newsletter? Is there some information (other than the Newsletter) that all network participants should have access to? If yes, what kind of information?

Do you think the exchange of information between the different state organisations should be developed or do you consider the exchange sufficient as it is?
If yes, what kind of information do you consider important to distribute between the different network members? Do you have any idea of how to improve the information exchange between network members in different states?

Direction of information flow

What kind of information does MAMTA receive from the SFAs in the different states (activity report, monthly updates)? Through which communication channels (for instance e-mail, mail,
What kind of information does MAMTA send to the SFAs in the different states (annual report, newsletter, activity report, quarterly report)? Through which communication channels (for instance e-mail, mail, telephone etc.)?

What kind of information does MAMTA receive from the other NGOs (apart from the SFAs) in the network? Through which communication channels (for instance e-mail, mail, telephone etc.)? What kind of information does MAMTA send to the other NGOs (apart from the SFAs) in the network? Through which communication channels (for instance e-mail, mail, telephone etc.)?

**Communication channels**
What is the purpose of the YRSHR-web site (as a communication channel for the network in first place, or is a information channel for adolescents)?

Do you consider the web site forum a good communication channel? If yes, do you consider it a problem that a lot of the network members do not have access to technical facilities that enables them to use the media?

**Structure**
Do you have an opinion of have big (how many members) the network should be/have? Who has the control over the growth (increase of members) of the network? How are the members selected?

Which organisations in the network do MAMTA has most contact with, considering YRSHR related issues?

Which organisations does MAMTA have face to face meetings with?

Can you see any particular information barriers in the network (for instance structural barriers, technical or economical obstacles, distance, personal issues)? What policies do you have regarding translation of documents or other information within the network? Do you consider language to be an information barrier (for instance regarding the web site)?
Appendix 6

Questionnaire to the network members

Dear participants of the YRSHR network,

We are two Swedish university students that for our exam thesis will conduct a study of the YRSHR-network. To be able to fulfil our study we need Your help and would like You to answer some questions in the attached questionnaire.

In order to support the YRSHR-network objectives like capacity building and advocacy, the information exchange within the network is very important. The information exchange forms a communication structure and this structure will have an effect on the overall performance of the network. The attached questionnaires will generate data that enable us to do a network analysis, a mayor advantage of a network analysis is that it can reveal the communication structure and it can thereby be used to make the information exchange more effective.

The questionnaire consists of five sections;
1. **Introductive orientation**; the first section will give us a short orientation of your organisation.
2. **Information needs**; in this section we ask You if the amount of information correspond to the information need of the organisation.
3. **Channels of information**; in the third section we ask You to list the amount of information your organisation receives through different communication channels/media and also the amount of information wanted to receive through different channels/media.
4. **Information exchange contacts**; in the fourth section we ask you to list the network members your organisation have information exchange contacts with and also to estimate the number of contacts during a limited period of time. Secondly we ask You to consider if the contact structure is representative for a longer period of time.
5. **Sending information**; in order to be able to see the direction of the information flow, we ask You to consider which network members your organisation send information to during a limited period of time. Secondly we ask You to consider if the contact structure is representative for a longer period of time.

We sincerely thank You for Your co-operation and hope that this study will be a useful contribution to the YRSHR-network.

Best regards Anna Berggren & Åsa Elfving, University Collage of Borås, Sweden
1. Introductive orientation

In order to give us a short orientation of Your organisation, we ask you to fill in the following questionnaire.

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>1. Which organisation are You part of?</strong></td>
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<td><strong>2. What is Your position in the organisation?</strong></td>
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<td><strong>3. What is Your function in your organisation?</strong></td>
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<td><strong>4. How many members does your organisation have?</strong></td>
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<td><strong>5. How many persons are involved with the YRSHR-networking in your organisation?</strong></td>
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<tr>
<td><strong>6 a. Do you consider the YRSHR-network co-operation important to your organisation?</strong></td>
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<td><strong>6 b. If yes, in what way?</strong></td>
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2. Information needs

Listed below are a variety of information categories. For each information category, mark your response on the answer sheet that indicates (1) the amount of information your organisation are receiving on that subject, and (2) the amount of information your organisation need to receive on the subject. Other alternatives than the given can be added in the vertical column.

<table>
<thead>
<tr>
<th>Amount of information received about the subject</th>
<th>Amount of information your organisation need on the subject</th>
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<tbody>
<tr>
<td>Guiding principles of the YRSHR-network</td>
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<tr>
<td>Research Related info</td>
<td></td>
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<tr>
<td>Issue based capacity building</td>
<td></td>
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<tr>
<td>Capacity building skills</td>
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<tr>
<td>IEC</td>
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<tr>
<td>Other alternatives. Please list below</td>
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Very Little | Little | Some | Great | Very Great | Sufficient | More | Less | Don’t know |
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### Channels of information

Listed below are a variety of channels through which messages are transmitted. Please indicate on the answer sheet (1) the amount of information your organisation now receive through that channel, and (2) the amount of information your organisation would like to receive through that channel. Other information channels can be added in the vertical column.

<table>
<thead>
<tr>
<th>Amount of information your organisation receive</th>
<th>Amount of information your organisation would like to receive</th>
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<tbody>
<tr>
<td>Very Little</td>
<td>Little</td>
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<tr>
<td>Face to face</td>
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<tr>
<td>Telephone</td>
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<td>Letters</td>
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<tr>
<td>E-mail</td>
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<td>Network monthly updates</td>
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<tr>
<td>Workshops</td>
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<td>Technical visits</td>
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<td>Consultation meeting</td>
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<td>Working Group meeting</td>
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<td>E-meetings</td>
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<td>Discussion forum (website)</td>
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<td>Other alternatives. Please list below</td>
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</table>
4a. Information exchange contacts

Which organisations in the YRSHR-network have your organisation had direct contact with during the period 010302-010402? Please write the name of the organisations in the column to the left (see the attached list of YRSHR-network members). With direct contact we mean a situation where YRSHR related information is exchanged. We have suggested different types of information contacts, please estimate the number of contacts according to the categories.

<table>
<thead>
<tr>
<th>Name of organisation</th>
<th>Face to face</th>
<th>Telephone</th>
<th>Letters</th>
<th>E-mail</th>
<th>Network updates</th>
<th>Workshops</th>
<th>Technical visits</th>
<th>Consultation meeting</th>
<th>Working Group meeting</th>
<th>Other alternative</th>
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4b. Do You consider this contact structure to be representative also for a longer period of time, i.e. for example during the last year? If no, why not?
5a. Sending information

The purpose of this questionnaire is to reveal the direction of the information flow between the different network members. To which organisations in the YRSHR-network did your organisation **send** information during the period 010302-010402? Please write the name of the organisations in the left column (see the attached list of YRSHR-network members). We have suggested different types of communication channels, please estimate the number of times information has been sent and through what communication channel/media.

<table>
<thead>
<tr>
<th>Name of Organisation</th>
<th>Telephone</th>
<th>Letters</th>
<th>E-mail</th>
<th>Progress report</th>
<th>Other alternative;</th>
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5b. Do You consider the given answers to be representative also for a longer period of time, i.e. for example during the last year? If no, why not?