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Chapter 3 Research Framework

Introduction

This chapter deals with the methodological framework of the research project. In order to study the collective use and maintenance of qanats in Syria, two case study sites in Syria have been selected; Qarah and Shallalah Saghirah. At both sites, qanat renovations have taken place between 2000 and 2004. The study focuses on the qanat user community consisting of groups of individual actors learning through experience, each with their own frame of reference, perception and knowledge. The human ecosystem approach is applied in different scales of study. We aim at identifying key contextual factors of collective action for qanat maintenance at various levels. Zoomed in on the community, individual people are parts of a social network of power relations and their actions may seem unpredictable due to changing frames of reference or other endogenous factors that cannot be explained by the "people as things" approach. Collective action is partly based on cognitive states of these individuals, states that change over time during the political process of collective action. Irrigation lends itself to structural analysis because one can make many predictions about behaviour based simply on people's situations and roles (Uphoff, 1996). The study of collective action is operationalised in the empirical study of two field interventions (renovations) that form the core for the comparative case study method used in this study.

Organisation of this chapter

The first section describes the problem definition, objective and questions that lead this study. The second section of this chapter discusses the use of case studies of collective action for analysis. The last section covers the methodology used in data collection and fieldwork.

3.1 Problem analysis

Qanats in Syria are rapidly drying up and being abandoned by rural communities. At the beginning of the nineties, Lightfoot studied Syrian qanats to examine the role of qanats in a modern world (Lightfoot,1996). He identified two causes of abandonment; environmental abandonment and cultural abandonment. Environmental abandonment refers to biophysical causes such as earthquakes, falling water tables after introduction and expansion of irrigation systems, the tunnel silting up with calcareous deposits reducing seepage and floods. Especially lengthy qanats are prone to irreparable damage by floods and earthquakes (Lightfoot, 1996). Cultural abandonment occurs when

routine maintenance ceases due to adoption of newer technologies and the subsequent socio-political changes in landuse patterns combined with the Syrian landreform in the late 1950s (Lightfoot, 1996). Off-farm income and migration as exit-option also potentially draw people away from the villages (Lightfoot, 1996; Birks, 1984, 1980). Similar scenarios are being played out in Pakistan, Iran, Oman, Morocco and many other countries where qanats are still used (Hoogesteger and Vincent, 2006; Lightfoot, 1996; Vincent, 1995; Beaumont *et al.*, 1971, 1989, 1993; Wilkinson, 1977; Safadi, 1990; Birks, 1984; Kobori, 1982). With the abandonment of qanats, a large proportion of the local knowledge on qanats is also rapidly lost which results in turn in a definite abandonment (*cf.* Vincent, 1995).

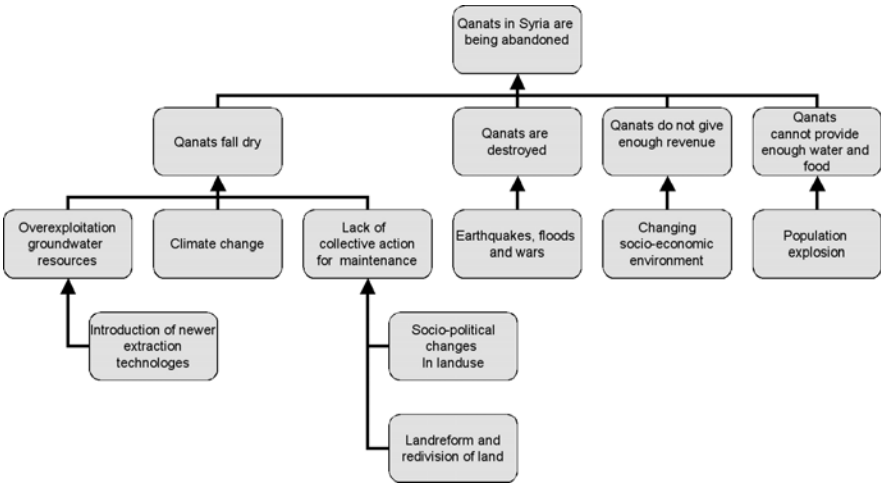

Figure 6 - Problem analysis of Qanat abandonment in Syria

Figure 6 gives an overview of the main identified causes of the problem of qanat abandonment. Environmental abandonment is often related to natural causes that are difficult to prevent such as the earthquake in Bam of 2003. In Syria qanats have been irreparably destroyed by floods and in some cases war resulting from invasions from other civilisations. Lightfoot calls this "ancient abandonment". The cultural abandonment of qanats is however connected with the lack of collective action in the users communities. If qanats are not maintained they risk silting up which stops the flow of water and qanats fall dry. This may have various causes such as changes in land-use patterns or land reform processes. These are external causes. Lightfoot does not elaborate on more internal deeper lying causes to the lack of collective action by qanat users. The non-emergence of collective action can have several endogenous and

exogenous causes such as internal community politics and other socio-economic and cultural factors. Contextualisation of the collective action is necessary to better understand the local level processes of collective maintenance of qanats. This study focuses on the underlying internal factors within a qanat community that influence collective action for qanats. Given the complex nature of qanats as human ecosystems, endogenous factors such as social history, perception, power configurations and heterogeneity may actually be more important than other factors concerning the lack of collective action and subsequent abandonment that occurred.

3.2 Research questions & objectives

The main objective of this study is to better understand collective maintenance of qanats as a common property resource and evaluate the social, cultural, political and environmental factors that have driven abandonment and decay of qanats in Syria. A more thorough understanding of these processes and factors will assist in placing qanats better in a development context. The main research question focuses on what are the local level dynamics of collective action on maintenance of qanat systems.

Main Research Question
What are the main endogenous and exogenous factors influencing collective action for maintenance of traditional water supply systems called qanats at and below community level in Syria?

To find out how dynamics of endogenous and exogenous factors relate to the maintenance and abandonment of qanats in Syria the following questions are asked;

1. What is the status quo of groundwater resources and abandonment of qanats in Syria and how is this related to non-emergence of collective maintenance ?
2. How do socio-cultural transformations and processes at community level in selected case studies influence qanat use and maintenance?
3. What is the importance of history, perception, power and heterogeneity during selected case studies of qanat renovation?
4. Which various socio-cultural and biophysical elements of qanats as human ecosystems can be identified in relation to their use and maintenance ?

We will use a human ecosystem approach to contextualise collective action and identify various elements of qanat systems. The study will base its findings on the comparative analysis of two case studies. The essence of case studies is situational analysis and the collection and interpretation of data at a micro-level with a set of quantitative and qualitative methods (Van Velsen, 1967; Majoor, 2003).

3.3 Field methodology and approach

The field methodology is mainly based on anthropological fieldmethods. Being a Western female social researcher in an Arab country has the advantage that you are treated mostly as something "neutral". It means that you can 'enter' both the female and the male world. In my case, most of my respondents during the renovations were men except for the monastery leader who was female. In some cases when doing participant observation I was literally treated as "one of the boys", especially when I cut my hair short. This could have led to a gender bias in datacollection. However I was also able to enter the female world and from that gain an insight into the social dynamics and gender aspects of qanat communities, specifically in terms of power configurations and internal household dynamics.

The study on endogenous and exogenous factors of collective maintenance of qanats necessitates both a structural (human ecosystems) and cognitive (collective action) approach. Uphoff (1996) describes that these are interactive theoretical constructs producing reinforcing insights to the same phenomena, in this case collective action. This is the nature of inter-disciplinary studies involving both biophysical and social sciences.

The field methodology of this study is based on one of the participatory action models where a particular group action is initiated, facilitated and observed. Chambers (1983) describes it as follows: "Action anthropology begins with the premise that the anthropologist should operate within the framework of goals and activities initiated by groups seeking to direct the course of their development. The action anthropologist may use his or her technical skills to help a group clarify its goals, but generally avoids the temptation to direct the project." For this study the fields of applied anthropology, human geography and hydrogeology are combined in an attempt to bridge the "participatory" gap between social and physical sciences in natural resource management. Combining different scientific disciplines, and thereby their different traditions, theories, values, methods and ways of perceiving the study objects, is not an easy task (Reenberg & Paarup-Laursen, 1996). This poses a challenge for the use of a participatory action research (PAR) approach.

PAR originated from social and educational research and is one of the few research methods based on participation, reflection, and empowerment (Seymour-rolls & Hughes, 1998). It is also commonly called "new paradigm social science" as a parallel to "new physics" (Wadsworth, 1998). The goal of PAR lies in solving problems in a program, organisation or community in a pragmatic approach (Martin & Sherington, 1997; Seymour-rolls & Hughes, 1998; Brydon-Miller, 2002). The focus is on what the problems are within the community and the action lies in trying to solve the problem as quickly as possible together with all the relevant actors and stakeholders. In this, there is a core difference with regular applied research where the researcher is not involved in facilitating action with research subjects (Masters, 1995). The level of generalisation in action research is subsequently low; it deals with here and now for a particular community instead of a long-term policy for a larger group of society (Mikkelsen, 1995; O'Fallon & Dearry, 2002).

3.4 Cases of Collective Action; qanat renovations

In this study, collective action on maintenance of qanats is explored through the comparative analysis of two example cases of community qanat renovation. The first renovation was in 2000 and concerned the cleaning and renovation of the qanat of a pilot site called Shallalah Saghirah. During this pilot renovation the researcher was involved on a daily basis both through participant observation and living with the community households. The initiative of the renovation was based on a request posed by the community.

The second renovation[29] that is considered in this study took place in Qarah in 2003/2004. The renovation was unforeseen at the onset of this study; it followed spontaneously after a video feedback session at community level. The community requested the researcher to provide technical advice and information on funding contacts. In this renovation, the researcher was mainly involved in preparing an interim evaluation. The initiation, proposal development and ultimate responsibility was with the community representatives with little or no input by third parties.

The selection of the two cases was derived from a succession of decisionmaking processes. First, phase I of the ICARDA project called "Renovation of Traditional Water Supply Systems: sustainable management of groundwater resources" concerned the in-depth pilot case

[29] *Another renovation took place in Dmayr in 2001 but will not be discussed in this study. More information can be found in Wessels, J.I., R. Hoogeveen, Aw-Hassan, A., Arab, G. (2003) the Potential for Renovating Qanat Systems in Syria through community action –final project report for NRMP, ICARDA, Syria, 110 pp.*

study of Shallalah Saghirah. Due to the large amount of in-depth data and the extensive fieldwork, it was considered that this case could serve well as an example case of how collective action for qanat maintenance and renovation develops at micro level. Therefore Shallalah Saghirah was selected as first case study for this thesis.

The second selected case study formed part of the second phase of the ICARDA project. During this phase a national survey was carried out as well as 3 in-depth studies of qanat sites. These sites were Arak, Dmeir and Qarah. These communities were selected for the second phase of the ICARDA project because they had good potential for successful qanat renovation based on social and hydrological criteria developed during the pilot study of Phase I. In Arak the community however did not undertake collective action due to a weak social cohesion and conflictuous situation between community members. In Dmeir, a renovation was carried out as well as Qarah.

In the first instance, a comparison between Qarah, Dmeir and Shallalah Saghirah was suggested however constraints in the length of the thesis necessitated us to focus and choose two case studies instead of three. Moreover, the collected data of Qarah were more extensive than of Dmeir and could form a better picture of the various dimensions of the collective action at groundlevel. There were various similarities and difference between the two sites. Therefore we chose Shallalah Saghirah as example of a partially successful collective action and Qarah as example of a more fully successful renovation to compare and find out what are the main differences in external and internal dimensions at micro level where and why the collective action in Qarah developed differently than in Shallalah Saghirah.

3.4.1 Pilot renovation: dynamics at micro-level in Shallalah Saghirah

The pilot renovation serves as an in-depth case study of a small but geographically clearly defined pilot site where a single qanat was the only source of water for the community. The objective was to study the local history and geographical, social and agricultural context of a local qanat at micro-level.

During the renovation an in-depth anthropological and geographical study was undertaken. A detailed map was drawn of the qanat, village dwellings and the irrigated gardens using aerial photos from a kite; an Electronic Distance Meter (EDM) and AutoCAD software. The rainfed fields of the village territory were mapped using Global Positioning System (GPS). A French Cadastral Map was acquired dating from 1926 and aerial photographs from 1958 (Syrian Cadastral Office in

Aleppo), which helped us to prepare the detailed Geographical Information System (GIS) using ArcInfo and AutoCAD software. Several satellite images (Landsat, 15m. resolution) were used to cross-check field data and geo-reference maps that were constructed. All these maps are public domain and available for further research from the GIS-Unit at ICARDA. A participatory qanat cleaning served as a renovation that was set up as the central action to be observed. This action took place over a course of 3 months in the summer of 2000. Data collection for the research on Shallalah Saghirah took place between 1999 and 2004 and was based on anthropological methods and participatory research tools such as participant observation, guided transects, focus groupmeetings, community mapping exercises, community involvement in collecting scientific data (rainfall and qanatflow) and audiovisual tools for process documentation and feedback (Digital Video/Slides/Tape recorder).

The initial rapport with the villagers at the pilot site was made towards the end of 1998. Several overnight stays and visits on social occasion such as weddings strengthened the relationship between scientists and community. When the research project officially started in September 1999, the first contact and rapport was already established and a start could immediately be made with a genealogy of the village family and its lineages. Various field jottings, participant observations and informal interviews helped in collecting data on social history and the use of the *qanat*. Furthermore data was collected on the use of domestic water and the irrigation rights attached to the *qanat*. Migration patterns and household characteristics are also described.

The anthropological method of research is based on the study of critical events in human experience, which is a distinguished tradition in modern anthropology. It developed strongly in the 1960s to provide insight into social dynamics and cultural change, and was conceived as a focus into social and cultural processes, sequences of events such as decisionmaking, conflict resolution, and transactions and exchanges between individuals and groups (Salzman, 1999). It is considered that the significance of particular norms can be best studied "situationally" within the contexts in which they are invoked by people (Salzman, 1999; Van Velsen, 1967).

Since this study is concerned with the causes why a commonly owned natural resource, a *qanat*, is not regularly maintained by the rightful group of owners, it needs to look at social processes and change that led to the negligence of the physical structure of this common resource. One research procedure to advance the study of this process was developed and deployed effectively by the Manchester University School of Anthropology. This approach is sometimes called "the extended case method" or "situational analysis" (Salzman, 1999; Gluckman 1955, 1963;

Van Velsen 1967). During this study, several social events took place and were observed. By focusing on these events, we are able to gain an understanding on the "ongoing contests, conflicts and competitions and the efforts to prevent, suppress, or repress these". In extended case study analysis, we go far beyond the comments of single informants in artificial interview environments (Salzman, 1999). Therefore most valuable data is collected by;

- informal interviews
- observing people's actions in their natural settings,
- listening to what people say in he course of their real lives,
- discussing directly with people their relationships with the other people involved,
- asking about other similar incidents and history of events,
- examination of relevant documentation, such as documents of ownership, contracts of agreement, marriage records.
- digital video and audio recordings

A hydro-geological assessment was carried out by a consultant to determine the biophysical context of the site and to measure the hydrological impact of the cleaning efforts. As a basis for the geological maps that are presented in the document, the main geological map of Syria was used (Technoexport 1964). An attempt was made to improve the geological map using a geo-referenced image of the Khanasser Valley from a Landsat7 image taken on 19 October 1999. On this image the borders of the geological strata are visible. Also lineaments in the terrain are visible on the image. A lineament is a defined linear topographic feature that reveals a characteristic like a fault or the subsurface structure[30]. For the geological map several trans-sects were conducted in the catchment, to study the basalt cover in more detail.

The *qanat* was mapped, using a compass and a measuring tape. Mapping started from the outlet. From every straight part the length and the bearing was measured. Later the straight lines were combined. The *qanat* was positioned on the map using the airshafts that were visible from the surface. The community map drawn by the villagers helped in interpreting data and learning the local names of the airshafts. The positions of these airshafts were measured using an electronic distance meter (EDM). The vertical component of the EDM appeared to be corrupted after the measuring exercise, therefore the elevation of the *qanat* was not derived. The topographical map is not detailed enough to present the exact inclination of the *qanat*.

[30] http://www.merriam-webster.com/dictionary/Lineament

Groundwater levels used in the study were measured within the Khanasser Valley Project of ICARDA (Hoogeveen, Zobisch and Bruggeman, 1999). In this project, groundwater levels have been measured every three months for the years (1998, 1999, 2000). With the geographical map 1:50.000, the piezometric level of the groundwater is calculated using the program Surfer with the Kriging method.

Rainfall data was collected in the village using a totalizer. A girl in the village took daily readings and noted them down in a book, which we consequently transcribed on a regular basis. To measure the flow of the *qanat,* a water level recorder was placed in the surface canal after the outlet. The recorder was placed 1.5 months before the cleaning took place and removed 1.5 years later. It recorded water levels 24hours/day. The recorder is of a type, which has a drum with a pen that records the water level over time on paper which is wrapped around the drum. The line on the paper was digitized which resulted in a water level time graph. At several water levels the discharge was measured using a bucket and a stopwatch to calibrate the recorder. The measurements were taken at the point where the water flows into the irrigation reservoir. From these measurements the relation between the water level and the discharge was derived.

The water level recorder was placed at the end of the open surface canal just before the point where water enters the irrigation reservoir. This meant that only the water that was flowing into the irrigation reservoir was measured. It was assumed that the water level measured during the night represented an undisturbed flow of the *qanat*. The other reason for placing the water level recorder just before the irrigation reservoir, was that the overall domestic water use was recorded as well. Only one household took water after the water level recorder, which is negligible.

In order to describe the impact of cleaning the *qanat* on the quality of the water, chemical and biological samples were taken before and after cleaning. The chemical analysis was done in the soil and water laboratory of ICARDA. The samples for the analysis of the microbiology were taken in duplicate and analysed in the medical laboratory of Dr. Kebbewar in Aleppo.

3.4.2 Qarah renovation: a case of unintended effect

The Renovation in Qarah did not take place within the official time frame of the originally designed participatory action research (PAR). The collective action at community level developed after video feedback sessions. Therefore data for the case study of Qarah is based on the data collection during our national survey and an in-depth field survey in 2001. These data were complemented by observation reports during the community feedback sessions in August 2002 and an interim evaluation

visit during November 2003 where semi-structured interviews were conducted with the actors of the renovation. Further secondary data was gathered such as project reports compiled by the Monastery of Dayr Mar Yaqoub and personal communication through email with the Qarah project teamleader during 2004.

Following a national qanat survey that was carried out after the pilot renovation, it was decided to select Qarah for a more in-depth survey amongst two other sites (Dmair and Arak). We assessed that these sites had a high potential for successful renovation based on a low rainfall zone, good cleaning history and high activity of local people, financial capacity of the community and reasonable biophysical and hydrological chances. In-depth field surveys were conducted during the months of April, May and June, 2001. The flowing qanats were monitored and tunnels and irrigated areas mapped using a GPS, the respective qanats were leveled with the help of a rangefinder, compass and leveler. Each site was investigated using a structural method of reporting based on hydrological and social indicators developed during the pilot study and exploration survey. A GIS was used to combine various physical and social data. The use of digital video as a means for documentation supported all fieldwork throughout the research.

We worked with an interdisciplinary team of scientists, consisting permanently of a hydro-geologist, an applied anthropologist and a research assistant. Occasionally the fieldwork team was complemented with research volunteers and students of various scientific backgrounds, from agricultural science to GIS/remote sensing. This proved to be very useful in terms of efficiency and the time pressure of the project execution. Especially in the field of mapping and leveling the volunteers were very helpful.

We collected secondary data before we went into the field in the form of satellite images, topographical maps of 1:50.000 of each site and personal field notes of Prof. dr. Lightfoot from Oklahoma state University who conducted a survey in 1994. During the fieldwork we also collected secondary data on qanat discharges, chemical water composition and rainfall from the Regional Directorates of Irrigation in Homs and Damascus and the Arab Center for Studies of Arid Zones and Dry Lands (ACSAD). We mapped the qanats and the irrigated areas using Global Positioning System (GPS), leveled the respective qanats with the help of a rangefinder, compass and leveler. Each site was investigated using a structural method of reporting based on hydrological and social indicators developed during the pilot study and reconnaissance survey.

Indicators

For each site we made use of specific indicators that we would focus on. These derived from our earlier experience with the pilot renovation in the village of Shallalah Saghirah and existing literature on Qanat preservation. The indicators helped us in determining whether the site was eligible for future renovation or not. We have divided the complete set of indicators mainly in hydrological aspects and sociological aspects. There are also agricultural indicators with regard to the irrigated areas, in this field both hydrological and sociological aspects come together.

For the biophysical indicators we looked at the construction and damage status of each specific qanat. Together with the leveling of the qanat, we also measured the depth of the water level in each airshaft whenever possible. The discharge, pH and EC we remeasured for each qanat. Furthermore we took chemical and biological samples of each qanat. We observed the geological and morphological surroundings and if there was any pumping activity, we monitored the nearby pumps. Agriculturally we looked at the present irrigated areas compared to the irrigated area in the past that can be observed on the ground. We undertook transect walks with key informant farmers to observe the environment facilitated by video recording and the recording of GPS positions. We looked at the land degradation, duration of irrigation rotation, main cultivated crops and farmers' practices. The method of irrigation and other general observations concerning the irrigated areas were also recorded.

For the social indicators, we focused on qanat users and key informants who were knowledgeable on the qanats. We concentrated on educational level, family size, the main sources of income, migration rate, division of irrigation rights, landholdings, water sufficiency, accessibility of qanat water and investment pattern. We looked at the local knowledge of the qanats, the existing regulatory system and its development and the decisionmaking process concerning qanat upkeep. Furthermore we investigated the history of the qanats and why people are abandoning them. Another indicator for us was the opinion of users and key informants about what should be undertaken to improve the qanats and who should be involved in this improvement action.

These indicators are not extensive and are a representation of a pantheon of possible indicators. We thought these indicators were at least necessary for us to develop recommendations and prognoses on the future of qanats in Syria. We understand that other approaches might well be valid in a similar research exercise. However regarding the time pressure of the project and the interdisciplinary nature of the research team, we thought a focused approach on certain indicators would be suitable in

terms of efficiency and applicability for decision makers on national, regional and local level. Also regarding the complex nature of the subject, we thought this would make communication between various disciplines easier. In order to systematically investigate these indicators we developed a system of observation reports which will be described in the following section.

Observation reports and questionnaires

Based on the indicators described above we developed our own interdisciplinary reporting system. Next to the use of field jotting books, photo camera and video recordings, we had fixed observation reports and questionnaires that we filled in on each site. The system contains three different observation reports, one questionnaire, one semi-structured interview and one leveling sheet;

- Semi-Structured Interview with Key Informant (SIKI)
- Qanat User Questionnaire (QUQ)
- Hydrological Observation Report (HOR)
- Damage Observation Report (DOR)
- Bustan[31] Observation Report (BOR)
- Qanat Leveling Sheet (QLS)

All indicators mentioned above are covered by these observation reports. The SIKI's were usually done in an informal environment and most of them are fully recorded on digital video. The QUQ was done whenever we found users either irrigating or next to the outlet of the qanat. A total of 106 qanat users were interviewed on the three in-depth sites. A further 23 semi-structured key informant interviews were conducted. The QUQ's were conducted based on a random sample of qanat users and the population of the research site. For example Dmayr has a high number of QUQ's due to the population size of the site and the number of qanat users. We took an approximate 10% of the group of users of each specific qanat. A user is defined as the head of the household that holds an irrigation share from the qanat. The semi-structured interviews with key informants were conducted at random whenever we found a person with a strong local knowledge about the qanats.. The HOR was conducted by measuring the hydrological indicators, walking random transects to explore the geology and other observations. The DOR was done by walking a transect through the underground part of each qanat whenever safe and possible. For the BOR we used a Global Positioning

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- [31] *A Bustan refers to the garden connected to the qanat*

System (GPS) to map the boundaries of the irrigated areas and often with the help of a key informant, we filled in the observation points or recorded several observations on video. We used the QLS for leveling the qanats using a leveling device. For each site we compiled a status report table to keep a record of all the completed observation reports. During and after fieldwork, the completed reports were arranged per site and data, coded accordingly and entered electronically for further analysis.

3.5 Participatory video (PV) and community feedback

The audio-visual data in the form of digital video recordings, audio recordings and slides formed a crucial part for both case study sites. In total over 45 hours of digital video, more than 600 slides and 4 hours of audio recordings dealing with qanats in Syria have been described, indexed and where necessary translated. The video recordings took place between 16th April 2000 and 13th of November 2003. The four sites that have been recorded on video are Shallalah Saghirah in the North of Syria, located near the city of Aleppo, Arak in central Syria, located near the city of Palmyra and Qarah and Dmayr both located near the southern city of Damascus, Syria's capital. The advantage of the audio-visual recordings is that they can be viewed over and again. In this way, vital issues like body language or emotions during the interviews can be observed. In addition to a means of documenting the various interviews and actions, the recordings were edited into films used in feedback meetings with the communities to serve as facilitating tool.

Due to the nature of the recordings, number of hours and in-depth information available from the pilot renovation it was decided that this material had to be treated separately from the audio-visual material recorded in the second phase. It was decided that two different video viewing documents should be made, one for the pilot site and another document on the three survey sites.

The video recordings that took place in Qarah, Arak and Dmayr and are less intimate than the video recordings of the pilot site in Shallalah Saghirah. The most important question during the interviews seen in the footage was why people are abandoning qanats and not keeping up the maintenance as in the past. Following the video recordings at the various research sites, an interview with a government representative of the Regional Directorate for Awaj/Barada was also recorded. This directorate is very active in trying to preserve the qanats in their region.

From March until June 2002 video editing took place providing a visual document showing the use and renovation of Syrian qanats with its social implications. The editing was done on a digital video edit set that can edit video recordings in a non-linear manner. For scientific use, non-linear editing has an advantage over linear editing because the scientist

may decide at the end of the editing to insert some interviews at the beginning or other necessary insertions later on in the project. The initial video documents were not longer than 1 hour. The reason for the duration was that when using a video document in a feedback meeting with the communities, the respondents would remain attentive for at least 1 hour.

After compilation of the video documents, I returned to Syria from 3-26 August 2002 and organized community feedback sessions at Qarah, Dmayr, Arak and Shallalah Saghirah in the form of focused group meetings on the fieldwork sites of the previous phases. Parts of the feedback sessions with the local community were also filmed to document and incorporate in later editing of the video documents if appropriate. With the remarks of the community, better and more accurate versions of the video documents were edited and prepared. During my visits to Qarah in 2002 and 2003 I also recorded the process of renovation.