

Rural and Water Themes  
Fieldwork Project, Autumn Term 2009

**Höjeå Project: Accessibility, Restoration and the Potential for Participatory Action Research.**

**Abstract:** This paper aims to examine the background and motivation for the Höjeå project which has been carried out in an attempt to restore the areas waterways to their former condition, and to improve access to the waterways as a valuable and attractive green area. The paper is allocated into headings, each of which begins with a question which may have been posed by a planner or researcher being introduced to the project and to the Participatory Action Research (PAR) process for the first time. The first part of the paper is concerned mostly with the current situation, and circumstance surrounding Höjeå. The second part of the paper delves into the theoretical application of PAR. In conclusion the paper considers the potential shortcomings of the PAR process, and the reasons that PAR may not already be in widespread use throughout Skanias landscape planning.



Figure 1: Höjeå at Kallby outside Lund (From authors' photos, 2009)

## Urban and Water Themes

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### **Höjeå Project: Accessibility, Restoration and the Potential for Participatory Action Research.**

#### **Introduction; “What’s the story?”**

This paper aims to deal with a challenge that is inherently transdisciplinary in its nature. I will be conducting an examination of the Höjeå project; its intentions, objectives and results of the project. I will consider what was the background for the Höjeå project; why is it important, and what are the potential consequences of not facing the challenge? I will also investigate what the limitations of the Höjeå project have been, and what are the circumstances behind these limitations. It follows that I will suggest an alternative pathway for the Höjeå project, namely the potential for the application of a Participatory Action Approach (PAR) to the project, with the aim of including stakeholder and community members throughout the Höjeå project process, thereby creating an atmosphere of ownership and responsibility for the project and thus conceivably a more long term sustainable solution for the challenges posed by the current Höjeå waterway.

The Höjeå project was initially instigated by three municipalities in Skania; Lund, Staffanstorp and Lomma commune, all of which have an interest in ensuring a healthy and environmentally sound waterway. The project was allocated to Ekologgruppen; a consultancy firm working within environment, nature and waterway custody, and was initiated in stages; first from 1991 – 2003, and the second stage from 2007. The initial stage of the project was focused upon restoring the waterways and drainage from a canalised stream system to a more natural, organic waterway, in order to limit nutrient leaching, and to improve the biodiversity of the region. The second, more recent, phase has been focused more upon improved access to the waterway, by establishment of footpaths and access routes into the attractive green areas.

The research questions which will be tackled are, in correspondence to the project itself, also double-edged:

What is the relevance of the Höjeå project to the environment and the local community? What are the roots of the problem, and where does the problem stem from?

Could an alternative path have been taken in an attempt to ensure more community, stakeholder and landowner support for the interventions suggested by the Höjeå project?

The paper is allocated into headings each of which is introduced by a question. These questions bring in the exploratory nature of the study. The questions can be seen as questions being posed by a landscape planner, or a municipality employee being introduced to the project and the concepts for the first time. Thus the questioner and the researcher who is answering the questions undertake the study together, hopefully producing answers that are clear, succinct and may even provide some insights into the potential future for water-related projects.

#### **Historical Background; “Where did this problem come from?”**

During the years 1800 – 1850 the population of Sweden increased from 2.5 to 3.5 million. Relatively, this was the largest population increase Sweden had ever seen. This was a period of peacetime for Sweden, where the national focus was on self-sufficiency, and improving living standards. Mortality rate was declining, and thus the growing population required food. These were some of the major driving factors in

maximising productivity from Skania's fertile soils (Åberg, 1985). This forced changes across the Skania landscape. It went from being a region of small holding farmers, each with a plot of land to support himself and his family, to large scale farming, with landowners employing peasants to cultivate his ever growing fields (Anderberg, 2009). The desire for productivity resulted in drainage of wetlands and ponds to create more space for cultivation, to control the movement of water to avoid flooding, and to stabilise field boundaries (Mathias and Moyle, 1992). The introduction of machinery required the infilling of creeks and streams, to allow the machines to operate on the soils, and in places the streams were directed into culverts. Canalisation was used to drain water from the fields as quickly and efficiently as possible – thus meanders were flattened out, and deepened, allowing water to flush out of the system at a faster rate, stopping much of the aquatic flora from taking hold or being able to grow. All these interventions were part of a slow but steady process, and by the 1950's there were almost no visible creeks or streams left on the surface (Ewald, 2009). Research has shown that since 1800 the area of wetland was reduced by 90%, and the amount of open waterways was reduced by 50% (Ekologgruppen, 2007).

### **Consequences of Canalisation and Wetland Drainage; “Why is that a problem?”**

One of the major consequences of tampering with the drainage systems of the region has been a degradation of water quality, resulting in excess nutrient content in the water. This non-point-source pollution includes nitrates and phosphates added to the soil to improve soil quality, as well as pesticides and herbicides, animal waste, silt from soil erosion and salts and heavy metals leaching from the soil (Mathias and Moyle, 1992). The natural, undisturbed waterways and wetlands provide a cleaning function, with aquatic flora drawing many of the nutrients out of the water, and fixing them in the roots of the aquatic plants. The slow movement of water is vital for the ability of macrophytes and algae to filter many of the nutrients out of the water (Anissimoff, 2009). Once the aquatic flora is removed, or the flow too fast to allow absorption, the nutrients are flushed from the agricultural lands further downstream. In the case of Skania the streams flow into the sea; the Øresund and the Southern Baltic Sea, and have resulted in increased instances of algal blooms and eventual eutrophication of parts of the Baltic. The change in the status of water quality in the Baltic is a major regional and international problem. The HELCOM Baltic Sea Action Plan identifies the continued eutrophication of the Baltic as one of the most serious and difficult to tackle problems facing the Baltic Sea states today, indicators include the aforementioned algal blooms, dead sea-beds, habitat destruction and death of an already threatened fish population. According to the HELCOM Baltic Sea Action Plan, inaction in dealing with this problem will cause irreversible damage to the region, which will affect not only the marine and aquatic environment, but will also affect the essential resources for the future economic prosperity for the entire region (HELCOM website)

Another significant effect of wetland drainage and canalisation is degradation or downright elimination of biodiversity in the waterways. Altering the system, changing the patterns and varying the water velocity can have profound effects upon the flora and fauna of the waterway. This could be because of increased pollutants in the water, changed oxygen content, alteration of specific habitats, or displacement of species. According to Mathias and Moyle, 1992, studies which compare the canalised and un-canalised parts of the same stream have revealed a much higher diversity of organisms, from aquatic invertebrates, to fish, to riparian flora, in the un-canalised parts of the streams.

Ironically, another consequence of drainage and canalisation of the landscape's waterways has been increased instances of extreme events; flooding and drought situations. Because of the rapid movement of

water, there is increased flood risk further downstream, because the diminished ability of streams and wetlands to retain water. Equally, this also results in increased risk of drought during dry summer seasons (Carlsson, 2009).

**Improving Accessibility; “Why is this one of the project goals?”**

*“The availability of accessible and attractive green spaces is an integral part of urban quality of life”* Herzele and Wiedmann, 2003. Outdoor, green, fresh, attractive spaces are of immeasurable importance to people; both for recreation, for our health and for the vigour of the community. It is very hard to put a finger on exactly why is it important to us, exactly what it is we most appreciate, but I think that most people can agree that an attractive green space is important to our quality of life. Stress relief, relaxation, recreation, fresh air and the opportunity for exercise are all part of the package of quality of life and enhanced health which comes with the use of green spaces. Because of expanding urbanisation more and more people face the prospect of living in residential environments, with less and less access to green resources. Particularly people from low socioeconomic groups, who perhaps do not have the option to move to attractive green suburbs, face an increasing risk of an environmental inequity in regard to access to green areas (Maas, 2008). At an initial glance one might get the impression that the municipalities in question in this case; Lund, Lomma and Staffanstorp are perhaps not those most at risk of environmental injustice when it comes to access to green spaces. This part of Sweden has plenty of green spaces, and the municipalities take pride in well tended urban parks, green squares and walking streets. However it is important to include a varied and diverse range of green areas, where biodiversity and animal life also has the chance to flourish. This is expressed as being of importance in the application for funding remitted by Höjeå project planners; “The project has, so far, restored ca 80 ha of ponds, waterways and wetlands which, as well as contributing to reduced nutrient leaching, has also improved the biological diversity and created new spaces for outdoor activities and recreation. Many of these new environments are currently in hard-to-access islands in the farming and agricultural landscape. To increase their importance for recreation and biodiversity the corridors must be strengthened through various interventions” (funding application, 2006). Thus, according to the municipalities involved and the project planners the accessibility of the varied, diverse green outdoor space is of utmost importance, and will affect the frequency of use of a green area, as well as the number of people making use of the green area. In order to ensure that a broad spectrum of the population can make use of an area it must be easily accessible to all; walkers with their dogs, parents with small children, elderly people, disabled people as well as avid walkers and joggers (Neuvonen et al, 2007). This is of the driving forces behind the Höjeå project, one of which’s aims is to ensure an equitable access route for all of the citizens of the involved municipalities, to be able to enjoy the green areas stretching along the banks of the stream (Höjeå landscape plan, 2007).

**Höjeå and the Surrounds; “Why here and why now?”**

Höjeå and the surrounding landscape is very interesting for study, not least because of its importance for biodiversity, flora and fauna, and as a water resource, but also because of its potential for transdisciplinary research and study. The area is, as afore mentioned, historically important as some of Sweden’s most productive agricultural land, it carries much evidence of agricultural and lifestyle development throughout Skania’s modern history, it is also, today a region under rapid development. The advance of The Øresund Region, encompassing South Skania, Copenhagen and Helsingør connected by ferry routes and the Øresund Bridge has brought huge potential for investment in the area, both economic, residential and in human

resources. This has seen many companies, educational facilities and industries moving to the area, some coming from parts of Sweden to be closer to Denmark and the continent, and others moving to Skania from Denmark for the advantageous price differences. This development has had the knock on effect of not only increasing population and expanding urban zones, but also increasing affluence, and the desire for space, green areas and a connection to nature. This has seen the growth of towns and villages outside the city, with inhabitants who have an essentially urban lifestyle; commuting to work in the city, not actively farming or owning farm land, and using all the amenities of an urban lifestyle. Examples of this include Lomma, Varpinge and Staffanstorp, all of which are towns that lie on the banks of Höjeå. The presence of these urban “islands” in a traditionally rural environment, and in such close vicinity of Höjeå, as well as its route past the periphery of the city of Lund, increases the need for transdisciplinarity, as this introduces a host of considerations in addition to the challenges posed by the water way in a solely rural environment. Certainly one of the biggest tests to any research and studies is that of working together with and in cooperation with people. This can pose one of the largest challenges, but also has the potential to make the most impact, and this is where the need for transdisciplinarity in the Höjeå project carried out by the municipalities comes in: It requires knowledge and understanding of the water ways and the hydrology of the system, comprehension of the agricultural methods and techniques, insight into the effects of expanding urban areas and hard cover, as well as the ability to collaborate and liaise effectively with landowners and community members in order to gain a valuable and operational result.

#### **Hojeåprojektet – the Höjeå Project 1991 – present; “So what’s been done?”**

The project was initiated by the municipalities of Lund, Lomma and Staffanstorp, and was initially intended to limit the transportation downstream of nutrients from the agricultural area, improve biodiversity in the landscape and to improve accessibility of the waterway. The initial intentions hold fast today, but have had to be modified and adapted to fit the scope and the judgments of the stakeholders. The plans included the construction of 80 hectares of ponds and wetlands within the Höjeå catchment area, as well as the establishment of 106km of non-cultivated land on at least five meters on either side of the waterways, planned to be in place by 2003. This early phase of the project has been deemed successful, with 1991 – 2003 having seen the establishment of 69 ponds and wetlands, covering an area of 75 hectares. This is identified as being 94% successful, with limitations as a result of an inadequate budget allotment (Höjeå landscape plan, 2007).

The more recent project; the 2007 landscape plan, aiming to improve accessibility as well as wetland establishment has seen less success. The aim of this part of the project included establishment of 25 km of footpaths, and the restoration of 80 hectares of wetland and grazing areas in five locations along the stream, amongst other initiatives. Unfortunately this phase of the project has been met with considerably more resistance, and since all the planned actions take place on private land, much of the planning has had to be revised. This has resulted in a reduction of planned footpaths to an approximately five kilometre stretch, and wetland restoration limited to one location west of Trolleberg.

#### **The Consultative Process; “So was there any cooperation with stakeholders?”**

The 2007 landscape plan has undergone an extensive consultative process, as part of the planning process, and in collaboration with the water authorities. This process was carried out by mail correspondence and informal interviews with the relevant landowners and stakeholders. Respondents to the consultation

include affected landowners in the catchment area, municipal authorities, the county board, the local forestry board, the fisheries agency, Skania regional board as well as a variety of concerned organisations and societies. The correspondence survey received approximately sixty responses, all of which have had to be taken into serious consideration, as any actions and interventions require the collaboration of all concerned parties. The results of the consultation can be coarsely divided into positive and negative responses, with approximately half of the respondents for, and half against the plan. Many of the negative respondents expressed their views very particularly, with a common fear being that increased access would disturb natural flora, fauna and livestock, fear that increased visitors would bring more rubbish and litter into the land and into the water ways, and also simply a matter of privacy on the land. Several respondents also expressed a worry that re-meandering of the stream, and establishment of ponds would increase instances of flooding because of storm water and less drainage from the increasing urban areas. This was a particularly strong argument, with many proponents.

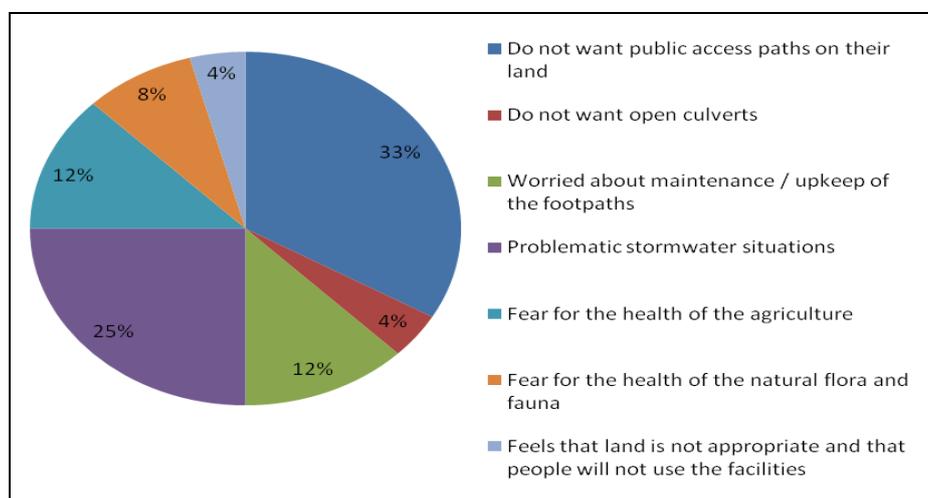


Figure 2: Reasons for negative responses to Höjeå Project 2007

### *“Could Participatory Action Research have strengthened the Höjeå Project?”*

The vision of a healthy freshwater system, an accessible and attractive green area combined with happy and collaborative landowners may seem far from true when one peruses the responses to the 2007 consultation process. Nonetheless, there may have been alternative methods which, while aiming for the same goal, might have resulted in a different response from landowners and stakeholders. Examination of the responses to the consultation process printed in the existing Höjeå landscape plan reveals that several people have felt overwhelmed by the plans, and express a wish for changes / interventions that have not been included in the plan. The use of PAR may have been effective at engaging these wishes and desires right from the start, thus creating a large foundation of supporters and aides which may have created a more effective result.

### **Participatory Action Research; “What is PAR?”**

*“In so many evaluations...no one thinks to ask the users. Participatory Action Research... engages all parties in all aspects of an evaluation, from defining the problem to gathering and analysing data to preparing recommendations” O’Brien, 1998.*

The exact meaning of Participatory Action Research (PAR) is not simple to define, as it is so dependent on each specific instance. It is a tool for experimental research which examines the role of the researcher and the research being carried out in a community, with the aim of solving a problem, or improving the conditions of a certain aspect within that community (Dick, 2004). It is important to note that PAR is not simply an extended version of the consultation process, but rather a means by which to create a cyclical process where change through research, analysis, action and evaluation can come about. Proponents of the PAR method see this tool as being “particularly appropriate for addressing complex human and ecosystem relationships” (Parkes and Panelli, 2001). Thus the PAR tool may prove to have provided a viable alternative approach to ensuring stakeholder support in the Höjeå project. The cyclical nature of PAR is important, as it is this iterative cycle of research, action and reflection / evaluation which underpins the process of the research, and the success of the project at hand. This cyclical process as compared to the successive nature of conventional research is illustrated in figure 3 a, and is further adapted to the Höjeå project in figure 3 b. This illustrated cycle, combined with a succinct description by Parkes and Panelli clarifies the role of PAR as: “...a form of inquiry where researchers and the researched population form collaborative relations in order to identify and address mutually conceived issues or problems through cycles of action and research.” (2001).

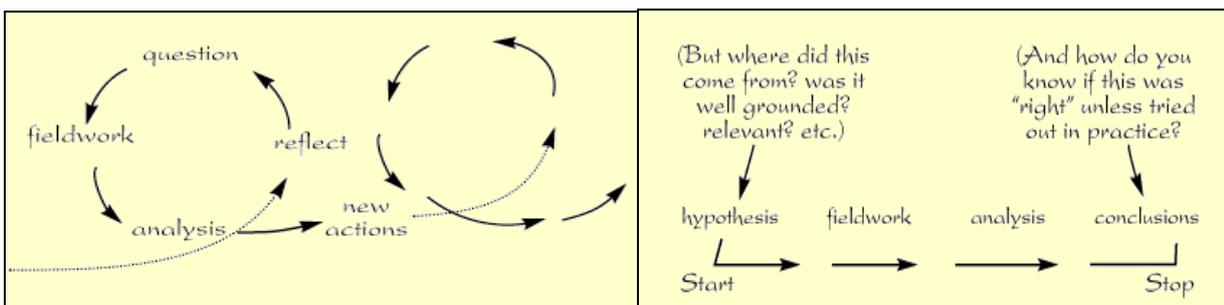


Figure 3 a: The cyclical nature of PAR, compared to conventional research (From Wadsworth, 1998)

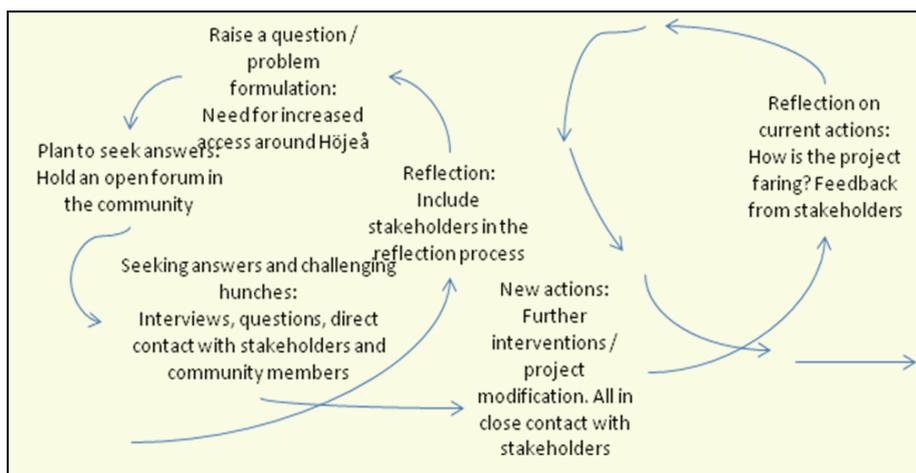


Figure 3 b.: PAR adapted to Höjeå project

**PAR and the Höjeå project; “So how could PAR have been used for the Höjeå project? “**

The importance of participation of stakeholder and local community in landscape and water planning is undeniable, with research throughout the 1990’s demonstrating that effective communication to ensure

that community experience and views are integrated into planning and development establishes better communication, and more sustainable policy and decision making (Radif, 1999). This importance has not been ignored in the planning process for the Højeå project, it was indeed a high priority, as many of the planned interventions required the permission of the landowners. However according to the PAR principles it was perhaps introduced too late. Rather than using local knowledge and concerned stakeholders to identify problems and make plans, the community was brought in for consultation once the plans had been made, and asked to respond to the suggestions. This course of action provides opportunity for feedback, but also limits the active participation to criticisms, disparagement and evaluation of the given project, rather than encouraging active participation in planning, identification of needs from the users and bottom-up planning.

The effective use of PAR in the instance of the Højeå project would have required going back to the very beginning.

**Method; "So how is PAR applied in practice?"**

PAR in practice can be seen as more of an attitude or style rather than a fixed set of instructions. The research must be flexible and eternally dynamic. Research tools include effective and engaging presentation and information techniques, inclusive discussions and focus groups. The people concerned are encouraged to take the lead, take ownership of the process, and feel empowered to make the required changes (Cornwall and Jewkes, 1995). The initial phase of implementation of PAR, triggered by the researcher, starts small, with the identification of a concern, problem or issue. In the case of Højeå the biggest concern is perhaps



Figure 4: Swimming forbidden. (From Thisted news.dk)

invisible to the naked eye of the stakeholders involved; namely the threat of eutrophication of the Baltic Sea. However, eutrophication may not be as far removed from stakeholders and laymen than one might think: Recent summers have seen growing instances of closed beaches due to algal blooms and dangerous toxins in the coastal waters, and this is as a result of initial stages of eutrophication. Thus by educating, informing and highlighting the roots of the problem, stakeholders and concerned members of the public would be able to identify their own role in the problem and thus also their role in the solution. Awareness of the knock on effects of actions must be made carefully. It is important that information be distributed in a way that is not accusatory, critical or pointing fingers at anybody in particular. The issues being dealt with are a result of historical activities for which no one person holds responsibility, and we have all, in some way, reaped the benefits of the actions which are now creating the problem. The identification of the problem is where the cyclical PAR action begins. The following phases are perhaps most easily represented in the table below. The table has been adapted from Seymour-Rolls and Hughes, 2000, to suit the Højeå project.

Cycle	Phase	Action
Cycle One	1) Reflection	<ul style="list-style-type: none"> <li>➤ Recognition of the problem, and identification of the stakeholders:</li> <li>➤ Problem: Increased instances of harmful algal blooms.</li> </ul>
	2) Planning	<ul style="list-style-type: none"> <li>➤ Examination of the problem, including a transdisciplinary approach; considering social ramifications as well as environmental and economic concerns.</li> <li>➤ Ensure that all potential stakeholders are informed and given the appropriate forum to participate on an equal level.</li> <li>➤ Even concerned individuals and community members must be allowed to express their views and opinions, in order to gather community support for the project – this support could prove to be vital in later phases.</li> </ul>
	3) Action and observation	<ul style="list-style-type: none"> <li>➤ Plans are carried out. Implementation of the interventions, such as re-meandering of streams, creation of wetlands and ponds, infilling canals, removal of culverts etc. All activities having been fully approved by stakeholders and landowners, and with as much of the work as possible being carried out by, or in collaboration with the landowners and stakeholders, to ensure a feeling of ownership and legitimacy of the projects.</li> <li>➤ Observations are made, and hopefully benefits are felt throughout the stakeholder community. Not only in helping to resolve the larger problem (Baltic eutrophication), but also additional benefits, such as biodiversity increase, less instances of flooding, and enhanced community spirit.</li> <li>➤ It is important to note that this phase is not immediate; it may take a year or more to feel the benefits of the interventions.</li> </ul>
Cycle Two	1) Reflection	<ul style="list-style-type: none"> <li>➤ The reflection phase is important, as this allows any creases in the project to be ironed out, as well as airing concerns and further apprehensions.</li> <li>➤ It is also here where the impetus for further improvements and maintenance is generated.</li> </ul>
	2) Planning	<ul style="list-style-type: none"> <li>➤ The next phase of planning could include furthering the project to other local waterways, maintenance of the current activities, and inclusion of more stakeholders and community members.</li> <li>➤ This phase could also allow for other directions of the Höjeå project; increasing public access to the waterways and green areas. As can be seen from the results of the existing Höjeå project, the access issue is considerably more contentious than the previous intervention. Thus care must be taken to ensure that all stakeholders and landowners are heard and considered. All interventions and actions require their expressed permission to continue.</li> <li>➤ Due to the participatory nature of the first phase of the project, there should be a feeling of tenure to the project, and the value of the project should be clear to all participants, thus tentatively, all condemnation of the project should be minimal.</li> </ul>
	3) Action	<ul style="list-style-type: none"> <li>➤ Maintenance of the existing activities, as well as implementation of the newly agreed activities, such as establishment of footpaths and construction of gates and stiles.</li> </ul>
	4) Observation	<ul style="list-style-type: none"> <li>➤ Observation of consequences of the actions. Examination of the further improvements of the original intervention, as well as the new activities.</li> </ul>
Cycle Three	1) Reflection	<ul style="list-style-type: none"> <li>➤ The project would almost certainly continue beyond the two PAR cycles composed here, as it is an iterative process, which, as long as the support and interest of stakeholders and the community is maintained, could continue indefinitely</li> </ul>

Figure 5: The PAR cyclical process: Adapted from Seymour-Rolls and Hughes (2000) for Höjeå project.



Figure 6: Public participation (From World press 2008)

### **The Shortcomings of PAR; “So if PAR is so ideal, why wasn’t it used before?”**

The use of community participation in research and subsequent action can be interpreted as a deviation from the traditional pragmatic science paradigm, which tends to generate “knowledge for understanding.” PAR on the other hand focuses upon “knowledge for action” (Cornwall and Jewkes, 1995). The use of participation in research is acclaimed by proponents for ensuring locally defined priorities and opinions, and the bottom-up approach certifying long term effectiveness and sustainability of projects. However PAR has also come under considerable criticism and debate, as it can be seen as inherently bias, vulnerable to researcher prejudice and unreliable.

In practice the use of PAR rarely follows the efficient and straight-forward pathway that is described in documents and PAR instructions, usually because of the presence of one imperative factor, namely the presence of people! One of the major challenges to PAR is the human element; as much as people can be helpful and enthusiastic, they can also be unreliable, contrary and unsupportive. The researcher may well be met by scepticism towards the need for investment of time and energy into the participatory process, even if the benefits seem clear (Cornwall and Jewkes, 1995). However if PAR is carried out sympathetically, where stakeholders and community members feel heard and respected, and are able to express their true views and opinions, hopefully the researcher should be able to overcome hindrances and lacking enthusiasm. It is conceivable that the first phases of the project would see less enthusiasm and participation than desired, but once the phases begin to be implemented, and the project becomes visible, it is quite plausible that more and more people would want to be involved, and it is this dynamic that must be captured and maintained to ensure a healthy cyclical research process.

Another challenge is the location of power in the research and action phase. This is sensitive, and must be dealt with carefully. The beauty of a comprehensive PAR process is that the researcher is on an equal level to stakeholders and community members, thus the research and project implementation is carried out together. This is potentially difficult. The researcher may have preconceptions of enlightenment beyond that of the local community, for example a “better” understanding of the eutrophication process. Nonetheless, in such an instance the researcher must also acknowledge that local community members also have a local knowledge which is just as valuable as external knowledge, and may even be more constructive in the implementation process.

The research taking place at Höjeå is complex, both socially, environmentally and economically. The utilisation of PAR would, despite its many benefits and advantages, almost certainly result in longer time being spent on the project planning phase than would be intended by conventional planning methods, and would thus also cost more money. Sadly it is such that the decisions and judgements on how much time and effort will be applied to projects often boils down to a matter of funding and available financial support. However proponents of PAR would argue that a project carried out through the PAR process may require an initial higher investment in money and time, but would eventually result in a more long term sustainable outcome, with improved community cohesion and a sense of community ownership and responsibility.

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**Appendix One: Images of Höjeå and the Surrounds.**



Figure 7: The flat agricultural landscape of Skania, through which Höjeå flows (authors' photo, 2009)



Figure 8: An example of the culverts and straightened streams which have been constructed at Höjeå (authors' photo, 2009)



Figure 9: Höjeå, note the steep constructed bank, which allows the high water velocity (authors' photo, 2009)



Figure 10: Easy access footpath from the urban periphery to the green area around Höjeå (authors' photo, 2009)



Figure 11: Example of platform giving easy access to the water for study and recreation (authors' photo, 2009)



Figure 12: Algal growth in the water of Höjeå, possibly facilitated by excess nutrients from agricultural runoff (authors' photo, 2009)



Figure 13: Højeå, note the proximity of the agricultural land to the stream, this could increase the nutrient rich runoff from land to water (authors' photo, 2009)



Figure 14: Easy access gateway to the stream and the green surroundings. The gate allows easy passage, but stops livestock (authors' photo, 2009)



Figure 15: Access to Højeå prior to the project; difficult for all but the most nimble walkers (authors' photo, 2009)



Figure 16: Information signs on the banks of the stream, to inform users of the project (authors' photo, 2009)



Figure 17: Despite attempts at drainage the surrounding meadows suffer from flooding (authors' photo, 2009)



Figure 18: Højeå at Kallby, outside Lund (authors' photo, 2009)

**Appendix Two: Map showing a segment of Höjeå, as it passes Lund municipality**



