

Building a catchment-based environmental programme: a stakeholder analysis of wetland creation in Scania, Sweden

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Abstract The Kävlinge River Programme is a catchment-based initiative in Scania, Sweden, for converting agricultural land into wetlands in order to reduce nutrient emissions to the sea. The design and implementation of this programme are analysed, following a stakeholder analysis methodology. The most important components of the establishment and implementation of the Kävlinge River programme were found to be the following: (1) the existence of an overarching policy objective, (2) devotion and endurance found among a few local officials and local politicians, (3) a willingness among municipalities included in the catchment area to find compromises and funds, (4) the combination of traditional Swedish agri-environmental policy instruments and a trustful and constructive atmosphere in which the target group (farmers) is treated as an equal in negotiations, and (5) the existence of a mediating agent between authorities and the target group.

Keywords Wetland creation · Stakeholder analysis · Agri-environmental policy · Policy implementation · Catchment-based administration

Introduction

The efficiency in managing the water quality in a recipient would in general benefit from a coordination of measures taken in the associated catchment area. For example, such a coordination would facilitate the implementation of combinations of measures meeting a given water quality target at the lowest costs, and thus potentially result in substantial cost savings, cf. Gren (1993), Gren et al. (1997a, 1997b, 2000). However, catchment areas and jurisdictions do not necessarily coincide, which introduces difficulties in accomplishing a coordination.

A major Swedish example is the eutrophication of the Baltic Sea and the associated need for measures reducing the nutrient load to the sea. There has been a considerable increase in nutrient emissions to the Baltic Sea during the 20th century; estimates suggest a fourfold increase due to human activities for nitrogen and eightfold increase for phosphorus (Larsson et al. 1985). The eutrophication effects caused by this inflow include an increased water turbidity, more algal blooms, a changed composition of the algae flora, an increased frequency of anoxic situations, and a disturbed cod reproduction (Bernes 1988; Hansson and Rudstam 1990). Concern about the ecological conditions of the Baltic Sea was manifested already in the early 1970s by the signing of the Helsinki Convention in 1974. However, the problems remained, and in the end of the 1980s, international agreements were made to reduce the nutrient emissions by 50% by 1995 (Swedish Cabinet Bill 1990/91:90). While various measures have been taken, the objective was not met in Sweden or the majority of the other countries around the Baltic Sea, calling for additional efforts for reducing nutrient emissions (Naturvårdsverket 1997).

Coordinating such measures is a multi-scale issue. Gren et al. (1997a, 1997b, 2000) showed what cost savings are possible from an international coordination of nutrient reduction measures in the countries surrounding the Baltic Sea. Since the availability and costs of measures vary among countries, a uniform nutrient reduction target for all countries was found to be inconsistent with a cost-effective situation. The same might be true for different catchment areas within a country. But whatever the target should be for the load of a pollutant to the sea from an individual river, the coordination issue remains in terms of policy implementation: How can measures within the river's catchment area be coordinated?

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In Sweden, there are about 50 catchment-based water management associations, but a survey of their activities have shown that they—in contrast to their counterparts in e.g. France—are mainly concerned with water quality monitoring and not with strategic water management planning (Gustafsson 1999). The latter task is instead handled by local authorities (municipalities) or regional authorities (counties), which is likely to imply either a too limited or a too broad management perspective in relation to what would be needed for a catchment-based water management.

Therefore, how could more operational catchment-based environmental programmes be built? How would it be possible to initiate and establish cooperation between different administrative bodies within a catchment area and implement such catchment-based programmes successfully? What are likely to be the determinants of realising and implementing such programmes?

The purpose of this paper is to find answers to such questions. We do not have the ambition to build a general theory, but to provide empirical evidence on how an existing Swedish catchment-based environmental programme, the Kävlinge River Programme, was built and implemented. The Kävlinge River Programme (or simply “the programme” henceforth) is a water and nature conservation programme focusing on the creation of wetlands and riparian zones in the Kävlinge River drainage basin in SW Scania in the southernmost part of Sweden, see Fig. 1. We follow a stakeholder analysis methodology for carrying out this empirical study. Our findings draw on published information about the programme until 2001, and on data obtained in the period of 1997–2001 by survey-based research and more participatory types of data collection.

The paper is organised as follows. Since the distinctive features of the Kävlinge River Programme hardly can be grasped without knowledge of Swedish policy traditions, the section ‘Agri-environmental policy background’ briefly describes general Swedish agri-environmental policy. The section ‘The Kävlinge River Programme: an introductory description’ introduces the Kävlinge River Programme. In order to provide a basis for an in-depth analysis of the programme, the ‘Methods’ section presents a model of a policy-making process with an emphasis on the influence of the individuals and groups who have a stake in the policy outcome. Stakeholder analysis as a tool for studying this process is introduced, methods for applying it are discussed, and the data collection procedure employed is described. The ‘Analysis’ section presents the results of the analysis of the programme, and a concluding discussion is found in the ‘Discussion’ section.

Agri-environmental policy background

Swedish agri-environmental policy has gradually become more concerned with nutrient emissions from agriculture.

Changed agricultural practice has been encouraged, and at least in some Swedish agricultural districts, wetland creation has been introduced as one of several nutrient abatement measures (cf. Jansson et al. 1994). Indeed, research findings indicate that abatement programmes should include this measure in order to be cost-effective (Gren 1993; Gren et al. 1997a, 1997b, 2000). Wetland creation initiatives have also been nourished by an increased attention to the loss of biological diversity in the agricultural landscape, and by an agricultural policy encouraging land conversion as a means for reducing agricultural production (Lindahl 1998).

While conversion of agricultural land to wetlands is an example of a rather swiftly introduced new policy *objective*, it does not necessarily follow that it is accompanied with a new policy *strategy*. Policy strategies may be divided into three broad groups: regulative, economic and communicative strategies, each associated with a number of policy instruments that can be introduced for realising the policy objectives (Eckerberg et al. 1995; Vedung 1996). Traditions play an important role in the choice of policy strategy; it is likely to be rooted in a certain institutional setting and thus show a high degree of persistency (Winter 1994). In Sweden, there is a long tradition of a corporate structure in agricultural policy. For example, farmers’ organisations are closely connected and highly involved in the formulation and implementation of policy (Eckerberg and Niemi-Ilahti 1997:49). Farmers’ involvement in the policy process is facilitated by the dominance of one Swedish farmer organisation: The Federation of Swedish Farmers (LRF). Given this corporate structure, it is hardly surprising to find a heavy reliance on a communicative policy strategy in Swedish agricultural policy. Information, education and advice are thus common policy instruments, though typically in combination with other instruments. The tradition of corporatism also provide one explanation to the fact that economic policy instruments, when used in agricultural policy in order to meet environmental objectives, are often carrots, such as subsidies.

These traditions in the selection of policy strategy are evident also in the case of wetland creation in Swedish agriculture. Since 1989, a number of different national subsidy systems have been introduced for supporting wetland creation, see Lindahl (1998) for details. In 2001, the dominant national subsidy system for wetland creation (*miljöstödet*) was designed as a grant to the farmer per hectare converted land. A 20-year contract between the farmer and the government is signed, and then an amount of money is transferred annually to the farmer. The contract is uniform in the sense that the signing is not preceded by any negotiations; there are no opportunities to individual adjustments. In addition to the national wetland creation policy, complementary and independent local policies have appeared in some places in Sweden. One example of such policies is the Kävlinge River Programme, and this programme combines traditional Swedish agri-environmental policy strategies with less traditional components.

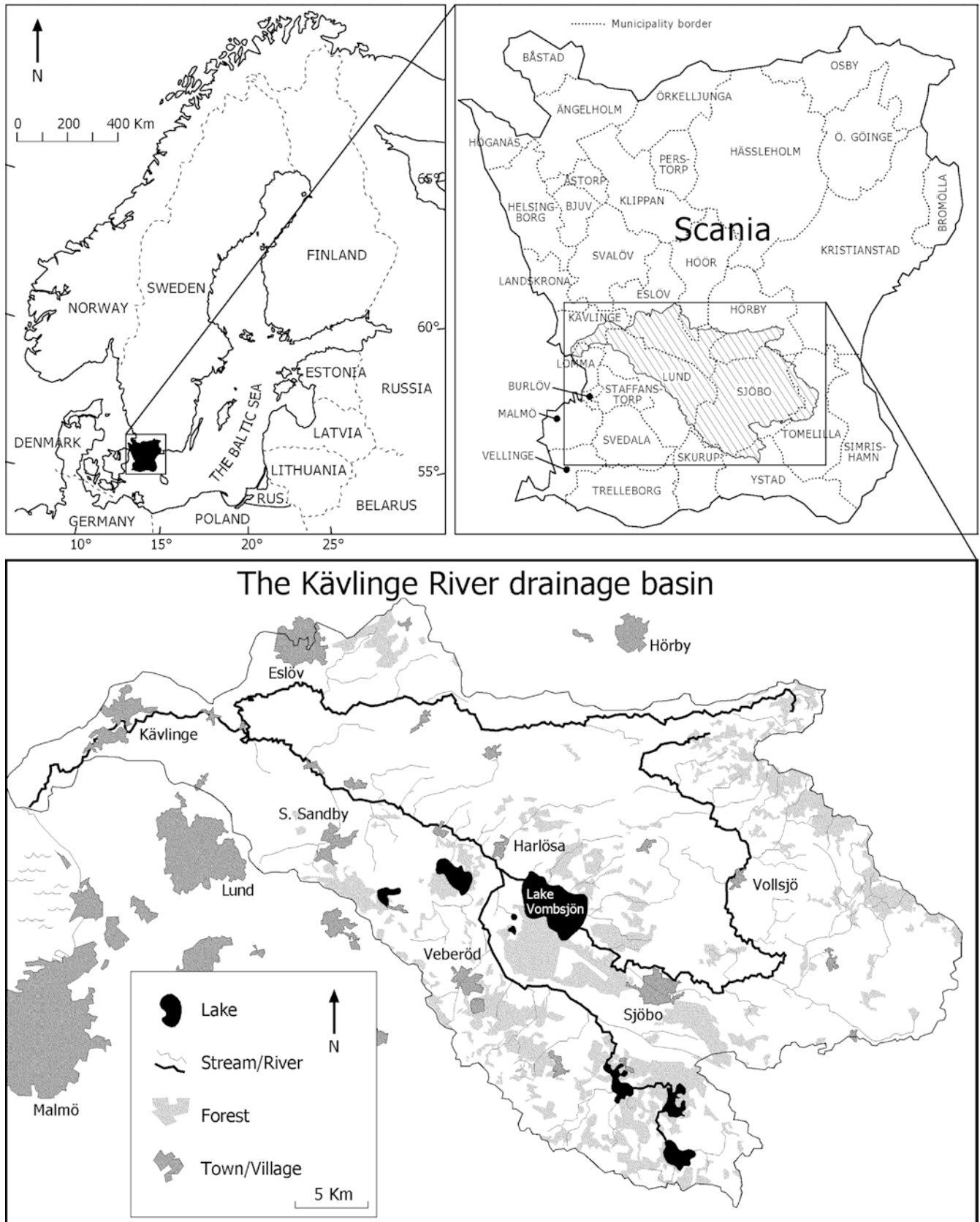


Fig. 1
The Kävlinge River drainage basin

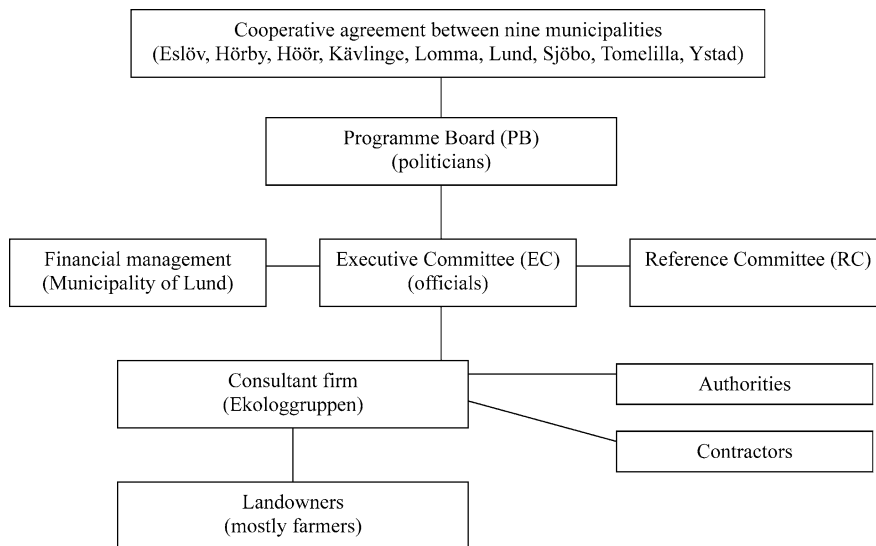


Fig. 2

The organisation of the Kävlinge River Programme. Source: Ekologgruppen (1997:3)

The Kävlinge River Programme: an introductory description¹

The Kävlinge River Programme was formally initiated in 1990 as a water and nature conservation programme for the Kävlinge River drainage basin. The formal initiator was the Kävlinge River Water Protection Association, in which the nine municipalities listed in Fig. 2 and some industrial companies are represented. Two consultant firms produced programme proposals (Ekologgruppen 1991, 1993, 1994a; K-Konsult 1992). One of these firms, Ekologgruppen i Landskrona AB ("Ekologgruppen" henceforth), was later selected as the executor of the programme, which was constituted as the Kävlinge River Programme by a cooperative agreement between the nine municipalities running from 1 July 1995 and 12 years ahead.

The main purpose of the programme is to reduce the nutrient load to the sea by the creation of 300 ha of ponds and 210 ha of riparian zones. This is viewed as being a complement to improved wastewater treatment and changes in agricultural practice, e.g. increased winter crop cultivation, smaller livestock holdings, and restrictions for the spreading time of manure.

The formal organisation of the programme is based on the cooperative agreement between the nine municipalities and is illustrated in Fig. 2. The programme is governed by a Programme Board, whose members are politicians from the nine municipalities. An official from the County Administrative Board of Scania is a co-opted member. The board meetings are chaired by a politician from Lund, and two municipality officials from Lund and Eslöv are Executive Secretary and Secretary, respectively. Two representatives of Ekologgruppen are also present at the board meetings. The implementation of the programme is

managed by the Executive Committee, which consists of municipality officials from all the nine municipalities. It is chaired by a municipality official from Lund. A Reference Committee is a formal link to some stakeholder groups and the scientific community.

The nine cooperating municipalities have agreed in principle to cover 60% of the programme's total costs. The agreement can however be renegotiated every three years. The municipalities' share of the total costs was somewhat lower (56%) in the first period of the project (1 July 1995–30 June 1998). A grant from EU/Life covered 25%, whereas the remaining 19% was obtained as *miljöstöd*, contributions from regional foundations, donations and landowners' own contributions to irrigation pond projects (Ekologgruppen 1998). The proportion of costs paid by each municipality is determined by the area and population size of the municipality in the drainage basin and where in the drainage basin the municipality is situated. Those situated in the western part of the drainage basin bear a higher relative cost.

Ekologgruppen is responsible for the execution of the Kävlinge River Programme, and the work follows the sequence illustrated in Fig. 3. Dissemination of information about the programme is crucial since its implementation hinges upon the willingness of the drainage basin's more

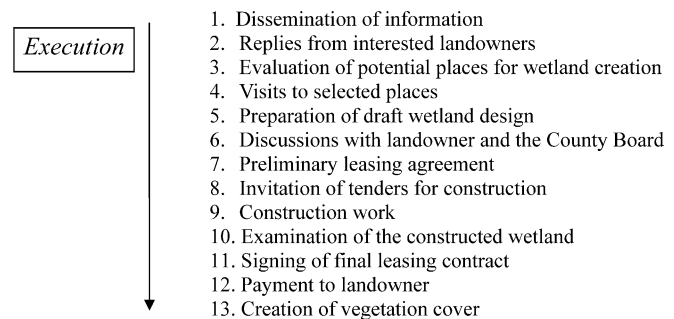


Fig. 3

The process of execution of the Kävlinge River Programme. Source: Ekologgruppen (1997:4)

¹This section is based on public information about the Kävlinge River Programme, such as folders and annual reports published by Ekologgruppen, see also <http://www.ekologgruppen.com/kavlinge/htm/start.htm>.

than 1,300 landowners to convert some of their land. Booklets, meetings, media attention, letters and phone calls have served as information channels. The landowners have hitherto been considerably more interested in creation of ponds than in riparian zones (Ekologgruppen 1998:9).

The potential places for wetland creation are evaluated on the basis of, inter alia, land use and size of the drainage basin of the feeder stream to the potential wetland. For each selected place, a draft design of the wetland is eventually subject to discussions with the landowner and the County Administrative Board. Negotiations also take place with the landowner about municipal leasing of the land to be converted. The term of the lease is 30 years for ponds and 10 years for riparian zones. The leasing agreement does not change the property rights to the land, which means that the landowner's hunting and fishing rights, if any, are not affected. The Swedish right of public access may however be applicable to the converted land, which means that the general public is allowed to visit the wetland for, e.g., recreation. The landowners are offered a rent equal to the construction costs of the wetland plus the opportunity costs of land, measured as the market value of the land subject to conversion. In a case when a landowner is judged to benefit financially from the conversion, mainly through irrigation, the policy is to pay not more than 60% of the construction costs. Successful negotiations result in a preliminary leasing agreement between the programme and the landowner. The subsequent step in the execution is to invite tenders for the construction of the wetland. The most favourable tender is selected, and the wetland is then constructed in consultation with the programme. The final leasing contract is signed when the construction work is completed.

Methods

We have chosen to approach the questions posed in the Introduction by putting an emphasis on the role of the attitudes and behaviour of individuals, groups of individuals and organisations who have a stake in the policy outcome (the "stakeholders"). Such a focus is likely to shed some light on the conflicting interests that have to be at least partly reconciled in order to build a catchment-based programme aiming at land conversion. In the case of the Kävlinge River, agricultural land use and the consequences of land use changes are the issues at stake.

Stakeholders in the policy-making process

The concept of "stakeholders" is broad, which can be illustrated by the following three definitions sampled from the literature: "Individuals and groups who affect and are affected by the policy-making process" (Dunn 1994:9), "any group of people, organised or unorganised, who share a common interest or stake in a particular issue or system" (Grimble and Wellard 1997:175), and, when applied to a foreign aid context, "any person, group or institution having interest in an aid activity, project or programme. This definition includes both intended

beneficiaries and intermediaries, winners and losers, and those involved or excluded from decision-making processes" (ODA 1995:3). In a policy-making process, stakeholders possess a varying degree of power and influence, and take more or less deliberate actions, in isolation or as a part of more or less formal networks.

Following Winter (1994), four stages in the policy-making process can in principle be distinguished, and stakeholders exert influence in all of them: (1) the formulation of policy objectives; (2) the policy design including the implementation framework; (3) the policy implementation process; and finally (4) the actual achievements and effects. In practice, these stages are interlocked and each of them can hardly be isolated; our efforts mainly focus on issues found somewhere in the middle stages of this process (2 and 3). The potential significance of stakeholders for the policy-making process calls for a way to analyse who they are, how the policy would affect different stakeholder groups, and what attitudes and likely behaviour are associated with these groups. One tool available for such a research effort is referred to as stakeholder analysis; a procedure with multiple origins, see Grimble and Wellard (1997) for a review. In the last ten years, stakeholder analysis has to a large extent become associated with participatory approaches for designing and planning projects, in particular in a development aid context (Chambers 1994; ODA 1995; MacArthur 1997; Ellegård 1998). In such participatory activities, the researcher typically takes active part in the policy process, is attentive to local groups, trying to empower them to help themselves by assisting them to organise their own knowledge and resources. That is, the traditional role—or, as some would say, façade—of the researcher as an objective observer is not maintained. In participatory methods, stakeholder analysis is mainly a tool for eventually working out solutions in a process involving stakeholder groups. However, as emphasised by Grimble and Wellard (1997), stakeholder analysis may also be used as a tool for observing and understanding complex policy situations, i.e., a scientific tool rather than a management and mediating tool. It is in this case more easily reconciled with conventional social science, though it tends to make use of participatory techniques for diagnosis and data collection; see also Grimble and Chan (1995). We have employed stakeholder analysis in the "observation and understanding" sense in order to approach the policy-making process in the case of the Kävlinge River Programme, and our procedure for obtaining data is described in the following subsection.

Data collection procedure

Our analysis is based on a combination of written documentation of the Kävlinge River Programme and information gained by a mix of informal mapping, participating in local meetings, questionnaires and interviews. More specifically, it included:

1. *Examination of written documentation and informal stakeholder mapping.* The documentation and discussions with a few key informants allowed a preliminary listing of stakeholders. This list included 121 persons

and organisations, including 68 landowners, see Söderqvist and Lewan (1998) for details. Referring to Grimble and Chan (1995:119), this way of obtaining a preliminary set of stakeholders may be viewed as a mix of the “focal group” and “reputational” approaches to stakeholder identification.

2. *Meetings with stakeholders.* The listed stakeholders were all invited to participate in either of two identically designed 2½-hour meetings, see Söderqvist and Lewan (1998) for details. The meetings provided a forum for discussions on the programme. In addition, three 2-hour small-scale focus group meetings with representatives of the general public were organised.
3. *A mail questionnaire to stakeholders.* The meetings provided opportunities to communication both between the invited stakeholders and between them and the researchers. It was however not possible for all invited stakeholders to participate, and some may have found it difficult to express an opinion at the meetings because of lack of time or the presence of other participants. The meetings were therefore complemented with a mail questionnaire, which was sent to all the 121 listed stakeholders together with the invitation to the meetings. In order to give the respondents as few cues as possible, almost all questions in the questionnaire were open-ended. It included questions on landowners' participation in the programme, driving persons/organisations within the programme, these persons'/organisations' motives for participating in the programme, and the pros and cons of the programme. 41 stakeholders participated in the meetings, and there were 62 respondents to the questionnaires, 20 of whom also participated in the meetings. In total, 69% of the 121 invited stakeholders thus contributed to this collection of information by participating in a meeting and/or by answering the questionnaire. A separate mail questionnaire survey was also made among a random sample of farmers living in the Kävlinge River drainage basin, see Söderqvist (2003).
4. *Face-to-face interviews.* The findings from the meetings and the questionnaire were communicated to the participants and respondents, who were given the opportunity to react on the findings at a follow-up meeting. The preliminary results gained by this data collection process were validated through face-to-face interviews with seven persons identified as key persons in the design of the programme.

In the following, if it is not evident from the context, data received from the meetings, questionnaires and interviews are referred to by M, Q and I, respectively. Data received from a particular interviewed person are referred to by initials, see the Appendix for details.

Analysis

In this section, the data gained by the procedure described in the section ‘Data collection procedure’ are used for obtaining a more refined picture of the programme, see

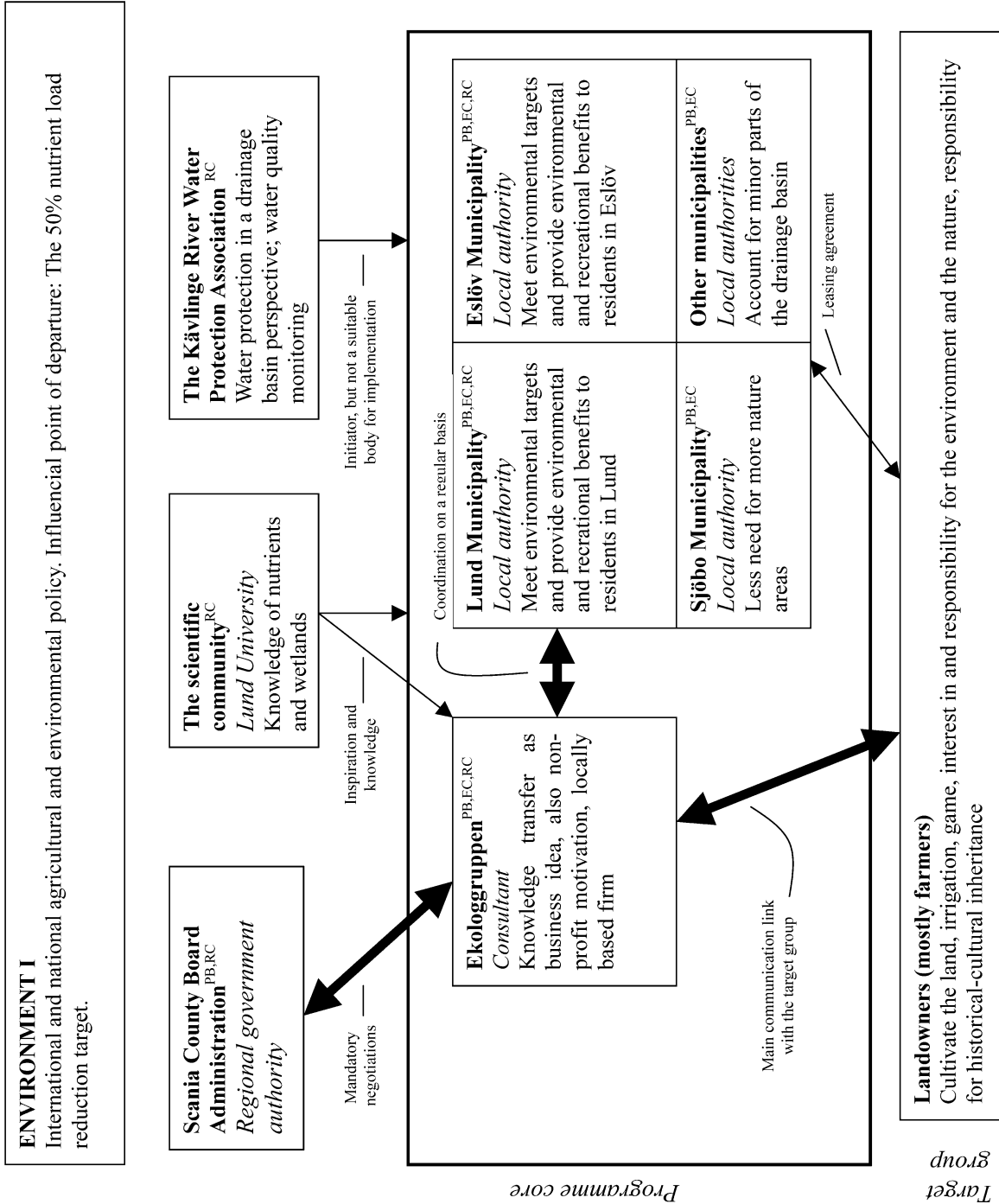
Fig. 4. The figure indicates what circumstances, groups and organisations have influenced the programme. In the following five subsections, main actors are identified, the programme core, the target group and three actors tied to the core are described and discussed and finally, three different environments of the programme are identified and described.

Identification of main actors

The mail questionnaire provided indications on some of the crucial components found in Fig. 4. The 62 respondents, who are divided into various stakeholder groups in Table 1, were asked to report their perceptions concerning driving persons and organisations in initiating and planning the programme. Table 2 shows the importance of locally based actors; a cluster consisting of local politicians, municipalities, municipality officials, and the programme's Executive Committee and Board accounts for 53% of all actors stated by the respondents. The respondents who were landowners tended to perceive Ekologgruppen as somewhat more important than this cluster, while the other respondents mainly stated actors included in the cluster. The answers indicate that the municipalities of Eslöv and Lund were perceived as especially driving, and some officials in these municipalities were even named. The right column of Table 2 summarises the answers to a question on driving persons and organisations in the execution of the programme. The just mentioned cluster also dominates among the respondents who are not landowners, but to a less extent than in the case of initiation and planning. Ekologgruppen was instead viewed as a more important actor.

The programme core

In Fig. 4, the programme core is identified as the consultant firm Ekologgruppen and the municipalities, in particular Lund and Eslöv. It should be clear from the sections ‘The Kävlinge River Programme: an introductory description’ and ‘Identification of main actors’, and the references to the formal programme structure included in Fig. 4 that these two municipalities also have a somewhat stronger formal position in the programme. The interviews also made it apparent that Lund and Eslöv are the two municipalities that have been most active in realising the programme, and this was due to both local politicians and municipality officials. It seems to be an important local policy issue in Lund and Eslöv to meet existing nutrient reduction objectives, including the objectives of Agenda 21, but also to accomplish a more diversified landscape in order to favour recreation and to increase the biological diversity (Q). Both Lund and Eslöv are characterised by intensive agriculture and relatively few recreational areas. Experience was also available through these municipalities' involvement in wetland creation programmes in neighbouring drainage basins; Höje River in the case of Lund and Saxån-Braån in the case of Eslöv (I). The municipality of Sjöbo is important from a drainage basin perspective, but as indicated in Fig. 4, the already diverse landscape in Sjöbo implies a relatively small need for more nature areas (IT). The other six municipalities account



ENVIRONMENT II

Fishing Associations^{RC}

Concern for consequences on fish populations

Skånes Naturvårdsförbund^{RC}

Regional Nature Conservation Society

Conservation projects, e.g., reintroduction of storks in the Scanian fauna

Local Nature Conservation Societies

Swedish Federation of Farmers (LRF)^{RC}

Regional and local branches
Concern for farmers' situation

Sydvatten^{RC} (drinking water supplier), **The Military^{RC}** (landowner), **Kävlingeåns Vattenavlednings-förening^{RC}** (water drainage association)

Wetland creation programmes in other drainage basins in Scania
Experience

ENVIRONMENT III

The general public/voters/consumers of agricultural products/hunters/anglers/recreationists/ conservationists
Rarely manifested, but probably increasing environmental awareness

Fig. 4

A comprehensive picture of The Kävlinge River Programme
 PB: represented in the Programme Board
 EC: represented in the Executive Committee
 RC: represented in the Reference Committee

only for minor parts of the drainage basin. Despite these differences between the municipalities, negotiations between them proved to be successful; a willingness to make compromises concerning the distribution of costs between the municipalities paved the way to a signed cooperative agreement (LJ, IT).

An agreement would hardly have been reached without the existence of personal devotion of some local politicians and municipality officials, particularly in Lund and Eslöv (Q). The perceived motivation of the officials seems almost unambiguously be responsibility for the environment and also considerable personal interest in nature (Q). Also local politicians are to some extent associated with responsibility for the environment, but also to opportunism; to gain politically by making use of green trends in society (Q). Ekologgruppen is a joint-stock limited liability consulting company focusing on nature conservation and

environmental protection since its inception in Lund in 1981. Since 1985, it is based in Landskrona, a city situated 40 km NW of Lund. Its staff is quite small: 14 employees, ten of whom are biologists (Ekologgruppen 2001).

Ekologgruppen is generally perceived as a green actor with knowledge of the local situation and whose motives are environmental improvements rather than maximising profits (Q). Also Ekologgruppen's knowledge of wetlands as a nutrient abatement measure is locally based in the sense that knowledge is transferred from and exchanged with limnologists/ecologists at the University of Lund; in fact, all employees at Ekologgruppen have achieved academic degrees from the University of Lund (Ekologgruppen 2001). One important channel of exchange was established in the end of the 1980s, when Ekologgruppen and limnologists at the University of Lund were appointed to be part of an official commission concerning the environment in Western Scania (SOU 1990:93) (TA).

The target group

The target group consists of landowners in the drainage basin, i.e., mostly farmers, and the programme is implemented in a way that is appreciated by farmers and their

Table 1

Respondents divided into stakeholder groups

Group	Number of cases	Proportion of all respondents (%)	Within-group response rate (%)
Landowners/farmers	32	52	47
Municipality and County Board officials	12	19	80
Hunting and fishing societies	6	10	100
Local politicians	5	8	56
Local nature conservation societies	3	5	38
Local LRF sections	2	3	22
Others	2	3	33
Total	62	100	

Source: Söderqvist and Lewan (1998:16)

Table 2

Persons/organisations perceived as the most driving ones

Actor	Initiating and planning the Programme (% of all actors stated by the respondents)	Executing the Programme (% of all actors stated by the respondents)
Local politicians	20.3	9.7
Municipality officials	14.1	11.3
Municipalities	12.5	9.7
The Programme Board or the Executive Committee	6.2	9.7
Authorities	6.2	1.6
The County Board Administration		1.6
County Board Administration officials		1.6
Ekologgruppen	18.8	27.4
The Kävlinge River Water Protection Association	3.1	
Landowners	9.4	17.7
Non-profit making associations	4.7	1.6
LRF	1.6	1.6
Potato cultivators' association		1.6
Solanum	1.6	
Researchers, biologists		1.6
Companies		1.6
No driving actor	1.6	1.6
Total	100.1	99.9

Source: Söderqvist and Lewan (1998:19–20)

federation (HR). Two key characteristics in this respect are voluntary (no dictates) but long-term participation without affecting property rights (leasing agreements), and presence of carrots (cost coverage). Farmers' preferences for long-term participation were manifested by their complaints about an increasingly unstable and unpredictable general agricultural policy (M). It should also be noted that, as indicated in Fig. 4, farmers show a diversity of motives for participating in the programme; public environmental benefits (e.g., a generally improved environment), private environmental benefits (e.g., game preservation) as well as private agricultural benefits (e.g., irrigation opportunities) (Q and Söderqvist 2003). In addition, the programme has introduced a cooperative atmosphere, where farmers are treated in negotiations as an equal party (LJ, LL, HR). The programme seems to have placed considerably more emphasis on landowners' opinions, motives and voluntary participation than is usual in conventional Swedish agri-environmental policy (M). One main reason for this new atmosphere is probably the fact that the main channel of communication between the programme and the target group is not handled by authorities, but by Ekologgruppen (HR). The importance and existence of a successful communication link between Ekologgruppen and farmers was emphasised repeatedly by various actors.

Three actors tied to the programme core

Negotiations with the *County Board Administration of Scania* about each proposed wetland are mandatory. While this implies a troublesome administrative bottleneck, it has also been emphasised that officials at the County Board Administration have promoted the establishment of the programme (TA, HR, LJ, M).

The knowledge transfer link between Ekologgruppen and the *scientific community* was mentioned already in the section 'The programme core'. Researchers at the University of Lund have had a considerable interest in the historical development of the agricultural landscape in Scania, including the wetland loss process and traditional ways in agriculture to re-circulate nutrients (Emanuelsson et al. 1985). While the wetland creation activities have gained considerable support from the local scientific community, there is also some concern for that the activities in programme may be too small-scale. If the wetlands that are in fact created do not show satisfying results just because the programme is not enough large-scale taken as a whole, wetlands could get an undeservedly bad reputation (LL).

In a sense, the *Kävlinge River Water Protection Association* initiated the whole programme by ordering a proposal for a water and nature conservation programme for the drainage basin, cf. the section 'The Kävlinge River Programme: an introductory description'. However, the membership structure of the association—municipalities and some industrial companies—reflects the earlier significance of point source pollution in the Kävlinge River and the need for monitoring of such pollution. Lack of interest from the industrial companies in the association, and the fact that farmers are not represented in the

association, implied that the already existing catchment-based organisation did not turn out to be a suitable body for the implementation of a programme focusing on non-point source pollution (IT, AA). The process in establishing a water and nature conservation programme could however continue due to a cooperative effort by the municipalities of Lund and Eslöv (LJ).

Three environments of the programme

In Fig. 4, three different environments of the programme are identified, each with a particular type of influence on the programme. The *international and national policy agenda* constitutes one important environment, and especially the 50% nutrient load reduction target has been very influential at the local level (I). When it became apparent that earlier measures were likely to show insufficient results, the need for additional measures such as wetland creation became even more obvious. While the national 50% target has served as a lodestar, the initiation of the programme did not receive any significant support or involvement by national bodies (I). In fact, when various Swedish authorities were given the opportunity to comment on the proposal of establishing the programme, the Swedish Environmental Protection Agency was the only authority that recommended a postponement of wetland creation measures in favour of measures taken at the source of emissions (Ekologgruppen 1994b).

The second environment comprises various *stakeholder organisations*, most of them represented in the programme's Reference Committee. The Swedish Federation of Farmers has already been mentioned. Fishing associations have showed concern for the programme's potential negative consequences on fish populations; they fear in particular an increase of pike populations at the expense of sea trout populations (M, I, Q). The regional nature conservation society carries out own wetland restoration projects, not least in order to facilitate the reintroduction of storks, once a common bird in Scania. Storks are still perceived as a kind of Scanian symbol, and their reappearance is likely to make people aware of that storks need wetlands (HR). As mentioned in 'The programme core' section, experience from other wetland creation activities in Scania has also been influential. Some other stakeholder organisations that have been mentioned by some actors but whose influence seems to have been of less importance are included in Fig. 4 with small-size fonts.

The third environment included in Fig. 4 is the *general public and various groups of individuals*, not necessarily formalised into organisations and societies. It seems to be a fact that the environmental awareness of the general public of the catchment area has increased during the last 15 years (TA, HR, LJ). On a general level, this is manifested by the relatively strong position of the Swedish Green Party in Lund; it received 8–12% of the votes in the municipal elections in 1988, 1991 and 1994 (Söderqvist and Lewan 1998). Moreover, the meetings with representatives of the general public showed that at least some citizens in the catchment area think it is fair to let taxpayers incur the costs of the programme. This opinion seemed to be derived from a notion that taxpayers have a responsibility

since they are consumers of agricultural products and since they eventually enjoy environmental benefits from the programme (M, Söderqvist and Lewan 1998). More concrete manifestations of environmental awareness among the general public are however rare (TA, HR, LJ).

Discussion

In this final section, we discuss the programme and make conclusions from our analysis by associating the components of the policy-making process mentioned in the section 'Stakeholders in the policy-making process', the main questions posed in the Introduction and some distinctive and vital characteristics of the programme. Let us begin by identifying some characteristics that contribute to make the programme unusual in comparison with conventional Swedish agri-environmental policy:

- While influenced by international and national environmental targets, the programme is a *local* initiative, funded to a large extent by the municipalities.
- The Kävlinge River drainage basin as a whole is considered by the cooperative municipal agreement. The programme is thus *catchment-based* and may be viewed as a forerunner to the kind of catchment-based environmental administration suggested to be implemented in Sweden in response to the EU Water Framework Directive, cf. SOU 1997:99 and SOU 1997:155. The programme also includes a strategy for *dissemination of information* about the drainage basin and wetland creation. This is consistent with a key feature in the EU directive, and the EU/Life funds to the programme were conditional on such a strategy (LJ).
- The programme hinges upon landowners' *voluntary participation*. Participation is encouraged by communicating information and by offering economic compensation, in some cases full cost coverage. Real negotiations take place in the execution process, and individual contracts between the landowner and the municipality are drawn up.
- The actual wetland construction is carried out by an independent, professional firm (Ekologgruppen), and *not* by the landowners.
- Ekologgruppen serves as a *mediating agent* between the authorities and the farmers; it handles the contacts with the farmers, including the negotiations that precede signing of a contracts.

We now take a closer look at the phases of initiating and implementing the programme, and thereby approach the question why it turned out to have the characteristics listed above. Our main findings are summarised in Fig. 5. While our study has not focussed on the first stage of the policy-making process—the policy objective formulation—it is clear that the 50% target, formulated on an international and national level, has been highly influential at the local level. It provided a rationale for taking locally coordinated action. In order to be able to actually meet the target, especially the municipalities of Lund and Eslöv

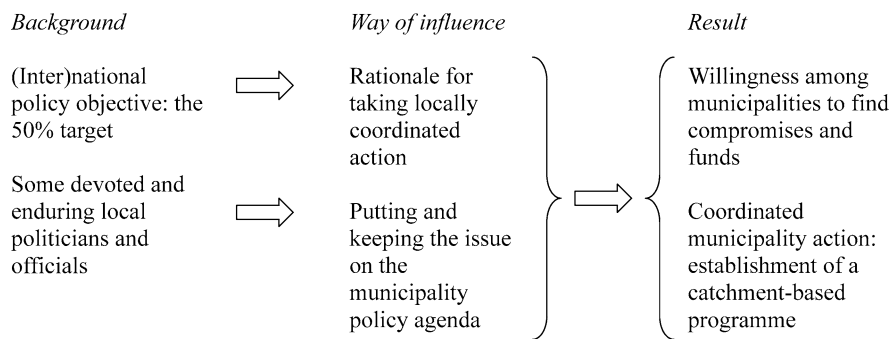
viewed it as necessary to find complements to conventional nutrient abatement measures. Ekologgruppen and the local scientific community at the University of Lund seem to have been important in bringing up the idea of choosing wetland creation as a complementary measure. Once attention was brought to nutrient transportation issues and wetland creation, discussions on the need for a catchment-based organisation for implementation followed. Given the obsolete structure of the Kävlinge River Water Protection Association, the municipalities of Lund and Eslöv took the initiative in trying to create a new organisation involving all municipalities in the catchment area.

At least three obstacles had to be overcome in order to succeed in establishing the new catchment-based organisation. Firstly, agricultural land use has not traditionally been considered as a municipal policy issue. Secondly, setting up a wetland creation programme would require funding in a period of time when other municipal activities experienced budget cuts. Thirdly, there were considerable differences among municipalities with respect to needs for wetlands and benefits received. However, negotiations eventually resulted in a cooperative agreement involving all the municipalities in the drainage basin. In general, this result indicates that the municipalities judge the programme to result in a social gain. Nutrient reduction and biological diversity dominates as arguments for the programme, while improved recreational opportunities do not tend to be emphasised, probably due to the fact that an increased risk of public intrusion worries some landowners.

However, more than just a general perception of a social gain is needed for actually succeeding in initiating a policy. Our findings indicate that the successful outcome to a large extent can be attributed to considerable and durable efforts made by local politicians and municipality officials. They seem to have been driven by a genuine interest in the environment. They also seem to have taken the 50% target seriously and showed devotion in finding ways to realise it. Broadly speaking, they adhered to the Agenda 21 phrase "think globally, act locally".

The implementation framework was created through the cooperative agreement. Politicians and officials did not only decide upon this framework, they are very much part of the implementation process through, for example, their responsibilities as members of the Programme Board and the Executive Committee. The framework includes a number of components that have facilitated the implementation of the programme by being consistent with some dominating attitudes among the target group. This tendency towards satisfying farmers' preferences for certain policy implementation instruments is indicated by the two two-way arrows in Fig. 5.

Long-term leasing agreements are an implementation component being hand in hand with farmers' wishes to keep their property rights and to have a minimum of surprises. Another key component is the municipalities' willingness to provide funding for the programme to an extent that implies a zero or very small financial burden for the farmers. Such a full cost coverage may be required



INITIATING THE PROGRAMME

IMPLEMENTING THE PROGRAMME

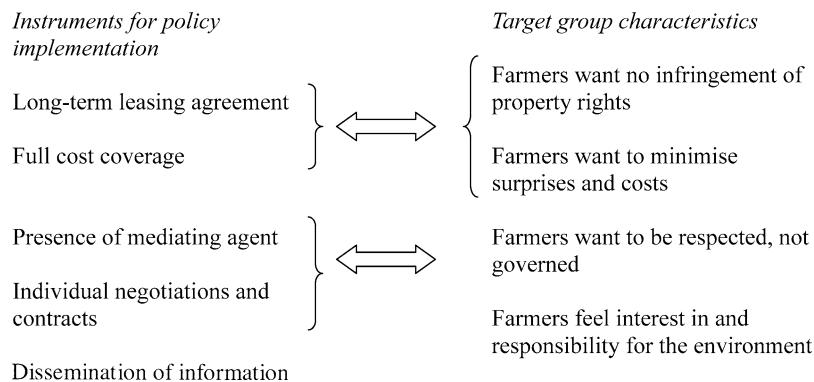


Fig. 5
Some main features of the phases of initiating and implementing of the Kävlinge River Programme

for implementing the programme, since its costs would otherwise be too concentrated to the target group. The costs are instead dispersed among taxpayers, a considerably less well-organised group than farmers. In general, to make the costs of a policy dispersed is likely to increase the probability of its realisation (Winter 1994:32–36). In this particular case, the general public even showed some willingness to incur the costs of the programme by referring to that such a cost distribution would be fair.

A number of distinctive features of the programme in comparison with conventional Swedish agri-environmental policy were noted above. However, the programme's combination of subsidies and communicative policy instruments such as dissemination of information is similar to conventional policy. But it should be emphasised that the programme has also adopted some additional instruments that have contributed to embed this conventional combination of instruments in an unusually trustful atmosphere. A combination of voluntary participation, information and subsidies providing cost coverage may be a necessary condition for causing widespread interest in participation among farmers, but hardly a sufficient one. To achieve trust is an additional key component. However, to develop a trustful atmosphere requires time and considerable efforts. In the case of the Kävlinge River

Programme, the following efforts seem to have been instrumental in achieving trust:

- information to and negotiations with individual farmers, not only with farmer organisations, and
- a non-authoritarian attitude towards farmers' situation and motivation, probably accomplished by placing a mediating agent with considerable knowledge of the local situation (Ekologgruppen) between authorities and the target group.

It seems as if the programme's quite successful establishment and implementation have been very dependent on two factors that easily can vanish: The presence of a few devoted and enduring local politicians and officials, and Ekologgruppen's role as a mediating agent. The existence of a few key persons suggests a considerable sensitivity for losing them. This calls in turn for a need to establish institutions and procedures that preserve their intentions once they leave for new positions, retire, etc. It should also be observed that hiring a consultant firm for the execution of an environmental programme does not necessarily lend the principal higher flexibility. In the case of the Kävlinge River Programme, a change of consultant would probably be very costly due to the loss of an accumulated capital of trust and knowledge.

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Appendix: Interviewed persons

In-person interviews were carried out in early December 1998 with the following persons:

Artur Almestrand (AA), Secretary, The Water Protection Association of the Kävlinge River. Member of the Reference Committee.

Tette Alström (TA), consultant, Ekologgruppen i Landskrona AB. Member of the Executive Committee and the Reference Committee. Present at Programme Board meetings.

Lars Jacobsson (LJ), official, Municipality of Lund. Chairman of the Executive Committee, Executive Secretary (*föredragande*) in the Programme Board and in the Reference Committee.

Lars Leonardson (LL), scientist (ecologist), Lund University. Member of the Reference Committee.

Helén Rosengren (HR), Swedish Federation of Farmers. Member of the Reference Committee.

Ingmar Thorén (IT), official, Municipality of Sjöbo. Member of the Executive Committee.

Eva Tronarp (ET), official, Municipality of Eslöv. Secretary of the Executive Committee, the Programme Board and the Reference Committee.

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