

# Organisation and Financing of Area-Oriented Approach







## Foreword

AgencyNL/Soil+ is a partner in the CityChlor project, co-funded by INTERREG IVB North-West Europe (NWE), a financial instrument of the European Union's Cohesion Policy which supports transnational cooperation. CityChlor works on sustainable inner-city redevelopment by means of an integrated approach to tackling the threats caused by contamination with chlorinated solvents.

Soil pollution is often an obstacle for spatial planning and urban (re)development. All too often, project developers only realise in a final stage of their project that the presence of a soil pollution crosses their plans. In other situations, urban planners are deterred by a pollution from starting a redevelopment project. Cost-effective remediation and re-development in urban areas requires a collaboration between all actors, such as remediation experts, spatial planners and project developers.

Given the larger scale in the area-oriented approach, the collaboration between these actors is even a 'sine qua non' condition for success. Therefore the key-factor for success is to create an integrated approach. An approach that combines all aspects that are relevant to tackle the problems that pollution in urban environment causes. The results of this report will provide tools for CityChlor partners to work on the Organisation and Financing of Area Oriented Approach.

This report has been developed in cooperation with the Implementation Programme of the Agreement on Soil Development Policy and Emergency Sites (Uitvoeringsprogramma van het Convenant bodemontwikkelingsbeleid en spoedlocaties).

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## Background

The Implementation Programme of the Agreement on Soil Development Policy and Emergency Sites. The Implementation Programme is a joint responsibility of the authorities involved and intends to stimulate the transition of the soil policy towards 2015. The Implementation Programme counts various projects, including the area-oriented groundwater management project.

The area-oriented approach revolves around the active promotion of setting up and structuring area-oriented approach (Ggb) in areas that have been designated for that purpose. The primary responsibility for the setup and execution of Ggb resides with the competent authorities and the regional and local authorities involved. The project's actions are focused on providing information and support, while creating the proper preconditions.

Position of the product within the Area-Oriented Approach and the CityChlor projects

The products that are being developed target parties in the Netherlands that are in the initial phase as well as parties that are transitioning from the planning phase to the implementation phase. The fact that a distinction can be made between these target groups during the development of the products does not mean that the product can only be applied by that specific target group in a specific phase. Within the CityChlor project we are developing an integrated approach. An approach that combines all aspects that are relevant to tackle the problems that VOC in urban environment causes. In many cases, it will become manifest that the products developed are used by multiple target groups in the North West Europe region in multiple phases of the development of Area-Oriented Groundwater Management, a part of the integrated approach.

The product of "organisation and financing" of area-oriented approach is primarily focused on providing support for embedding an area-oriented groundwater management plan in the municipal organisation, and in some cases also in the provincial organisation. Timely documenting costs and benefits ensures a substantively proper groundwater management plan that financially covers a long development and management period. Mapping the organisation and financing in the initiative phase, even though not yet exhaustively, can moreover help to make the step from the initiative to the preparation of a plan for area-oriented approach and to also securing the commission for that purpose from the administration.

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# 1 Why is this report necessary?

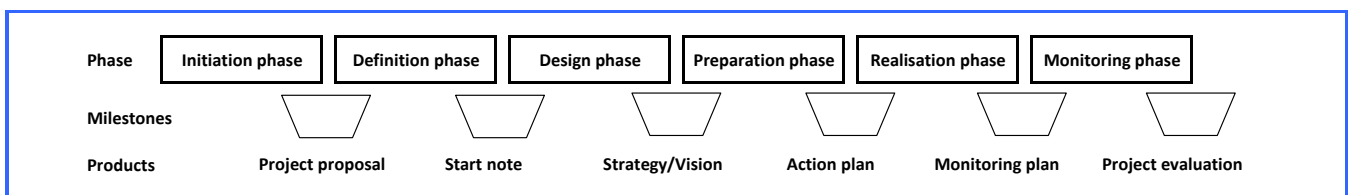
A number of municipalities are on the threshold of transitioning ideas regarding area-oriented approach from the vision-forming phase to the implementation phase. A study of the LBOW Approach Committee (Commissie Grondwaterbeheer), Report of administrative pilots [1] (verslag van bestuurlijke pilots [1]), reveals that this is not always simple in reality. The initiators are looking for organisational and financial knowledge to create an area-oriented collaboration tailored to approach. There is namely a need for examples and practical elaborations, so that parties who have an interest in area-oriented approach become convinced of the need for cooperation.

## For whom is this report intended?

The present report is primarily intended as a support for the parties (these are in general municipalities and provinces) that have already recognised that an area-oriented remediation can offer a good solution to their groundwater issues. The emphasis of the report is therefore also on the organisation and financing of an area-oriented remediation. However, parties in areas where area-oriented approach is still in its infancy can also derive inspiration from this report. Mainly, many elements that are important to the execution of area-oriented approach must already be taken into account when forming the vision and during the further preparation.

The position of the report in the planning process

The planning process from idea to implementation of area-oriented approach can be divided into a number of phases. The following figure shows these phases.



In the first three phases, you investigate whether area-oriented approach can offer a solution for better use, improvement or protection of the groundwater. In doing so, you perform research and record the desired directions for solutions in a vision.

### Guideline for area-oriented approach in the municipality of Tilburg

In 2010, the municipality of Tilburg, together with the Dommel water board and the province of Noord Brabant, developed a guideline for area-oriented approach, which provides a step-by-step description of how to complete the first phases of the planning process. Due to its accessible structure, this guideline constitutes a useful tool for those who are at the beginning of the planning process [2].

The present report namely focuses on the preparation phase. Yet, the preceding phases are not ignored. Careful setup and execution of these phases is after all essential in preventing stagnation in the preparation phase.

**What can you expect from this report?**

This report is based on experiences with aboveground area developments, among other things. Area-oriented approach is a form of subterranean area development. From a process point of view, aboveground and subterranean area developments are comparable in many respects. Each area has its own specific issues and dynamic. It is therefore impossible to provide ready-made solutions. This present guideline offers suggestions and examples that can lead to a successful execution of the preparation phase. In doing so, it constitutes more of a source of inspiration than a blueprint for the implementation of area-oriented approach.

**Reading tips**

The report successively deals with the essence of operating in an area-oriented manner, organisational forms, and the five criteria that must be fulfilled in order to move approach into the implementation phase. Appendix 1 contains a list of relevant literature. References [] to that bibliography have been included in the text of the report.



## 2 The essence of operating in an area-oriented manner

### 2.1 No problem without urgency

Area-oriented approach has especially a good chance of succeeding if its urgency is abundantly clear to primary stakeholders. They must have a clear insight into what is going wrong in the absence of area-oriented approach, which parties are negatively affected, and to what degree are they affected. Providing this insight also clarifies who must be financially responsible for this management.

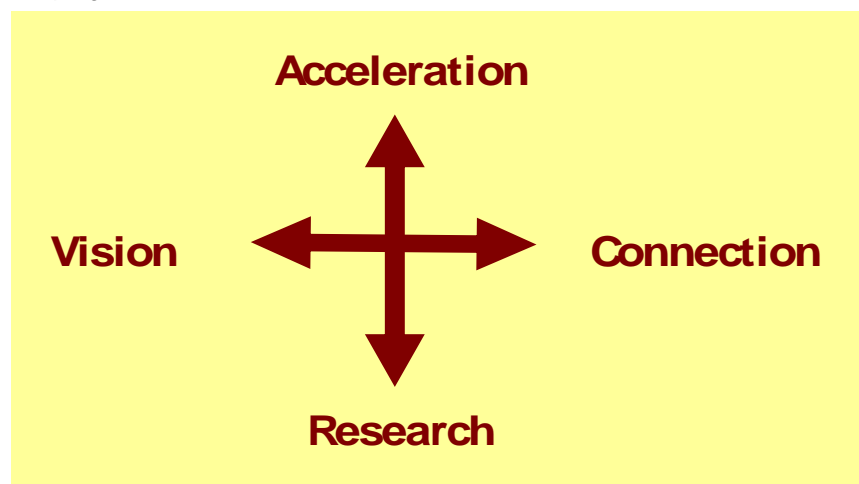
#### **Use, protect, and improve**

The urgency of area-oriented approach generally ensues from the perspectives of using, protecting, and improving the groundwater. 'Using' is namely relevant in the case of stagnation of spatial developments to which a better use of the groundwater could offer a solution, e.g. in the form of thermal energy storage. In case of a threat to vulnerable objects, e.g. drinking water extraction, then 'protecting' is addressed. 'Improving' can refer to the chemical groundwater quality, but also to aspects of quantity, such as preventing excess groundwater and reducing desiccation.

The first step towards the implementation of area-oriented approach consists of a thorough environment analysis in which the stakeholders (internal and external) are mapped. This is elaborated in the chapter 'Organisation'. The party that should take the initiative in that respect can differ from project to project. In many cases, it will be the municipalities or provinces. Not just because of their role as competent authority, but also in view of the social interests served by area-oriented approach.

### 2.2 The right balance

In area-oriented projects, one is always looking for a balance between the speed with which decisions must be made ('acceleration') and the information that this requires ('research'). When substantive choices or administrative decisions are made too quickly, there is a risk of 'steamrolling' and overlooking crucial information. On the other hand, when taking too long in gathering information, neither decisions nor progress will be made.



Another balance that should be achieved is the one between the vision(s) of the authorities involved and the connection necessary to achieve a supported manner of approach together with stakeholders. When authorities focus too much on their own vision, there is a considerable chance that stakeholders will object to the plans for area-oriented approach. Consequence: a long legal battle, with uncertain outcome, loss of support, and a dent in the confidence between authority and stakeholders. On the other hand, spending too much effort on looking for a connection can lead to few sustainable compromises.

Both balances are schematically represented in the previous figure. Unfortunately, it often still happens that the proper balance is not achieved and that plans for area-oriented approach are shelved and not implemented despite of all good intentions. An important pitfall is excessively focusing on the vision and on the research it requires. However, a creative vision based on detailed geo-hydrological modelling and sound soil surveys does not yet guarantee success. In order to make the step towards implementation, a connection will also have to be sought with primary stakeholders and decisions will have to be made, not just by competent authorities (about granting licenses and exemptions), but also by initiators and primary stakeholders (on the financing of the plan).

## 2.3 Five criteria for a proper balance

The question is of course: How can you find the proper balance and how can you avoid becoming stuck in a creative plan and extensive research? In order to reach implementation, five criteria are essential, notably:

1. Is there a suitable organisational form?
2. Is there commitment to the plan or project (in writing)?
3. What are the costs and is there a financial cover in the form of a contribution from the government, its partners, and possible co-financiers?
4. Have the planning and licensing procedures been completed?
5. Have the existing interests and acquired rights been weighed?

As long as one of these questions is answered with a 'no', area-oriented approach will not get off the ground.

For each criterion, the present report indicates which aspects are important. Fulfilling the criteria is not a consecutive process. The various steps can be initiated simultaneously as from the initiative phase and must be concluded in the preparation phase. Each criterion is further elaborated in the following chapters.



## 3 Is there a suitable organisational form?

In order to achieve area-oriented approach, multiple parties must collaborate. These can be organisations, but also various departments within an organisation. In order to have these parties collaborate in an effective and efficient manner, it is recommended to make agreements about that collaboration. This chapter elucidates the organisational side of collaboration.

### Environment analysis

An environment analysis is a tool for gaining better insight in the various stakeholders and influencers relating to area-oriented approach, in which the key question is which interests, roles, and competencies have they encountered in the course of time and by which views, preferences, and criteria are they are guided. In general, the environment analysis is performed in the definition phase.

Through this analysis, the interaction and connection between stakeholder and influencing parties can be mapped. The analysis forms the input for the strategy to be determined for the involvement of parties. Based on this analysis, an organisational form can be selected with which the objectives of the project can be most effectively achieved.

The environment analysis also takes a look at the so-called free riders (the dilemma of parties being able to use a good or service without having to pay for it or having to contribute to its maintenance). The analysis assesses how these parties can be made to contribute.

### Questions for an environment analysis

In the municipality of Tilburg, the environment analysis was performed by answering the following questions:

1. Name and sort the parties involved in the project on:
  - a) Who decides on the project?
  - b) Who uses its results or experiences its consequences?
  - c) Who makes people, resources, and expertise available to the project?
  - d) Who executes the project?
2. How critical are the parties involved in the project?
  - a) Has considerable/little interest in the project
  - b) Has much/little influence on the project
3. How can the relationship between the parties involved be typified?
  - a) There is considerable/little agreement on the content
  - b) There is considerable/little confidence in the relationship
4. At which level are the parties involved in the project?
  - a) At the level of participating in knowledge
  - b) At the level of participating in ideas
  - c) At the level of participating in the work
  - d) At the level of participating in decision-making

### 3.1 Possible options for area organisation

Habiforum has developed a methodology for identifying a suitable organisational form for an area-oriented collaboration. Even though this methodology was created for aboveground area development, it is also very useful for subterranean area processes.

**What is Habiforum?**

A knowledge network of and for professionals in spatial planning and area development, Habiforum has been active since 1999 and has worked on innovative and sustainable solutions to complex spatial issues. All the results of the knowledge network can be consulted at [www.habiforum.nl](http://www.habiforum.nl).

It can be difficult to connect parties and to select a role, certainly in the case where tasks and interests seem to be mutually opposed. For instance, think about the dilemma between protecting the groundwater for drinking water extraction and the stagnation of urban development as a consequence of a prohibition of dispersion of contaminated groundwater. In order to successfully complete area developments in such a force field, it is important to recognise each other's dilemmas and to strive towards a common objective.

Collaboration can focus on the execution, the organisation, and the financing of projects, but also on exploiting opportunities to create employment through work while streamlining procedures. There are several conceivable organisational forms for facilitating such collaboration.

Roughly speaking, we can distinguish four organisational forms for area development [3], notably:

1. an official project group;
2. a collaboration on the basis of a management agreement;
3. a project management office
4. a joint venture.

|                          | 1.<br>Official project group                        | 2.<br>Collaboration based on a management agreement   | 3.<br>Project management office                                   | 4.<br>Joint venture  |   |
|--------------------------|---|---|---|--|---|
|                          |   |   |   | under private law  | under public law  |
| Goal                     | Coordinate administrative decisions                 | Share control, costs, revenues and risks  | Share control, costs, revenues and risks                          | Share control, costs, revenues and risks and optimisation of private tasks | Share control, costs, revenues and risks and optimisation of public authority |
| Partners                 | Public and private parties                          | Public and private parties  | Public and private parties  | Public and private parties   | Public parties  |
| Administrative decisions | Separately by partners                              | Separately by partners after mutual administrative consultation or approval of a steering group | By a parent organization with responsibility towards the partners | By the joint venture with responsibility towards the partners              | By the joint venture with responsibility towards the partners                 |
| Mutual impact            | Reduced due to separate decision making of partners | Moderate due to mutual coordination and harmonization of decision making                        | Good due to the transformation of private tasks                   | Good due to the transfer of private tasks                                  | Excellent due to the transfer of both private and public tasks                |

Figure 1: Overview of organisational forms<sup>1</sup>.

<sup>1</sup> Nederland Boven Water, Programma gebiedsontwikkeling 2007 2009, Habiforum

In order to select a suitable organisational form, the following questions can successively be asked [3]:

1. Are the parties compelled and (administratively) prepared to transfer public powers to an area organisation to perform sub-projects in an area-oriented manner?  
If yes, examine the possibilities for creating a joint venture under public law.  
If no, proceed with question 2.
2. Are the parties compelled and (administratively) prepared to transfer private tasks to an area organisation to perform sub-projects in an area-oriented manner?  
If yes, examine the possibilities for creating a joint venture under private law.  
If no, proceed with question 3.
3. Are the parties compelled and (administratively) prepared to authorise investments to an area organisation to perform sub-projects in an area-oriented manner?  
If yes, examine the possibilities for creating a project management office.  
If no, proceed with question 4.
4. Are the parties compelled and (administratively) prepared to mutually harmonise administrative decisions to perform the approach in an area-oriented manner?  
If yes, examine the possibilities for collaboration on the basis of a management agreement.  
If no, proceed with question 5.
5. Are the parties compelled and (administratively) prepared to mutually coordinate their activities in the area for which area-oriented approach has been or will be developed?  
If yes, examine the possibilities for creating an official project group.  
If no, opt for a sectoral execution of the projects.

The most common forms in area development are the official project group, the management agreement, and the project management office. The joint venture can be a foundation, for instance. However, this is not a customary form for the creation of an organisation for area processes. The options are explained in more detail in the following sections.

The organisational form can change in the course of the process. This depends on the number of parties involved and the complexity of the issue, among other things. In each project phase, new insights can arise that give cause to change the organisational form.

#### **Research of LBOW Approach Committee**

The LBOW Approach Committee (National Water Consultation Board) was created at the end of 2007 and charged with making proposals for administrative arrangements for approach as a part of the spatial development task. For that purpose, the committee has performed six administrative pilots. According to the committee, the key administrative issue is that there is no overall groundwater administrator. As a result, various authorities have become owners of a sizable and complex groundwater problem (qualitatively as well as quantitatively) and they do not possess the competencies and tools at all levels to resolve the entire problem on their own.

A solution to this problem could be the transfer of powers between authorities, but the committee does not deem this to be opportune. The solution should rather be found in administrative arrangements. These administrative arrangements can only succeed if there is an administrative commitment of all authorities involved [1].

### 3.2 Option 1: official project group

This is the most commitment-free organisational form. The parties involved participate in a regularly-recurring administrative consultation. This form is interesting when parties can realise their objectives and ambitions independently from each other, while remaining aware that coordination is needed to avoid missing opportunities to jointly execute projects in a more integrated, advantageous, and effective manner. There is also a potential need for streamlining (decision-making and/or legal) procedures. In that form, there is no structural administrative consultation. Decisions on the execution of projects are made independently by the parties. The parties remain responsible for the execution, organisation, and financing of their projects.

#### Application

This organisational form is often applied during the initiative phase of area developments. In that case, parties orient themselves without obligation via an official project group, led by an area driver or area manager, on substantive common grounds and common interests. As soon as the collaboration between parties acquires a more formal nature and parties have to jointly make decisions to achieve the realisation of the intended measures, this organisational form is often abandoned in favour of an organisational form with a somewhat greater commitment. There are however also various municipalities, e.g. Enschede, that use this organisational form throughout the entire process. This is only feasible if there are few stakeholders or financial supporters.

#### Enschede- Roombeek area

In the area of Roombeek, there is a combination of multiple large-scale groundwater contaminations without culpable owner, structural flooding, and industrial groundwater extractors that are afraid of threats to their groundwater. The stakeholders are the municipality, the water board, and the industrial extractors. Together with the industrial extractors in an official project group, the municipality and the water board have prepared a plan of measures that has been integrated in the Municipal Sewerage Plan (*Gemeentelijk Rioleringsplan*, GRP+). The GRP+ also constitutes the basis for the financing (see also Chapter 5).

### 3.3 Option 2: Collaboration on the basis of a management agreement

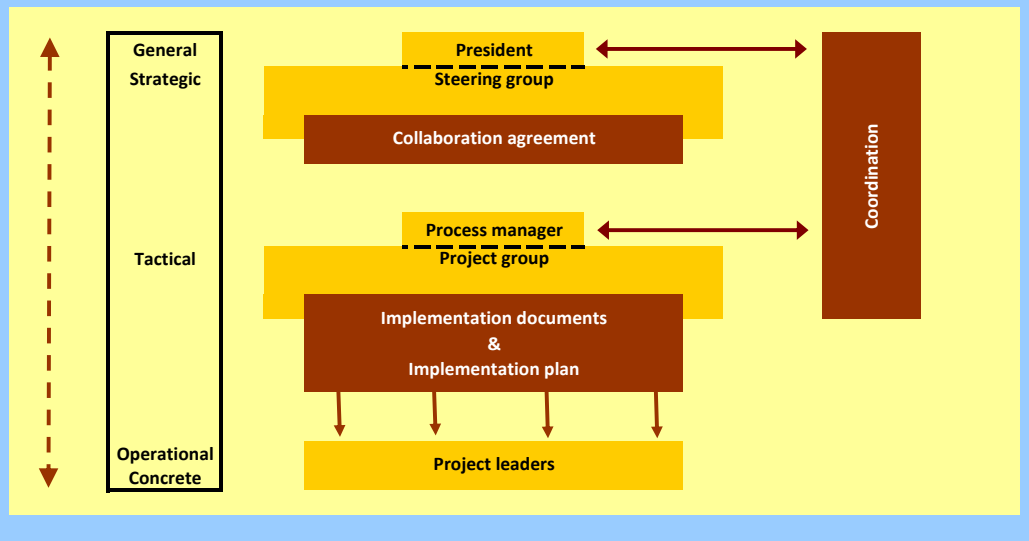
Collaboration on the basis of a management agreement is an organisational form that is well suited for area-oriented approach. This form is namely suitable when multiple parties recognise the urgency of area-oriented approach in the definition phase and jointly want to assume the responsibility for its execution, organisation, and financing.

In a collaboration on the basis of a management agreement, the parties involved form a strategic steering group or another structure for administrative consultation, in addition to an (official) project group. In a management agreement, parties will then make agreements on control, the distribution of tasks and roles, costs, revenues and risks, the planning, the project organisation, etc. Administrative decisions are nevertheless still made separately by the parties, but they do so on the basis of proposals prepared by a project group and approved by a steering group. The collaboration is focused on the meaningful joint execution, where necessary, of projects in a defined area. If so desired, agreements can be made per activity or project within the area-oriented approach on which party, possibly with co-financing from the other parties, will take care of the preparation and execution.

The area of 't Gooi is an example of a management agreement. This has been further elaborated in section 4.2. Management agreements are often also used in the world of aboveground area development. One example is the Wormerwater and Jisperwater project.

**Collaboration on the basis of a management agreement**

The Wormerwater and Jisperwater project in Noord-Holland is an example of an area project, in which parties collaborate on the basis of a management agreement. Administrators from the municipality of Wormerland, the Dutch association for nature conservation (*Vereniging Natuurmonumenten*), Hollands Noorderkwartier District Water Control Board (*Hoogheemraadschap Hollands Noorderkwartier*), the province of Noord-Holland, and the Over Water, Land en Dijken agricultural nature management association are participating in a steering group. The members of the steering group fulfil the role of ambassador of the project and are expected to defend the project internally (within their organisation) and externally while promoting it. The municipality of Wormerland, the Dutch Association for Nature Conservation, and the Hollands Noorderkwartier District Water Control Board participate in an official project group. This project group is responsible for the realisation of a jointly adopted implementation programme. Proposals for decision-making are also prepared in the project group. Furthermore, there is a process manager, and various project leaders have been appointed to direct the individual projects of the implementation program. Consultative meetings are organised frequently, where entrepreneurs and residents from the area can make their contribution. For more information, visit [www.wormerenjisperwater.nl](http://www.wormerenjisperwater.nl).



### 3.4 Option 3: Project management office

As the scale and complexity of area development increases, it can become difficult for municipal councils, administrations and/or Provincial Executives to maintain oversight of each decision to be made independently. In that case, the creation of a project management office offers a solution. A project management office is created within one of the parties. This party will then function as the parent organisation. In order to enhance the effectiveness of the project management office, parties can agree that they will transfer private tasks to the parent organisation and/or that they will supply personnel for the staffing of the project management office. The parent organisation will then assume the responsibility for the preparation and implementation of the area measures. Everyone operates on the basis of a jointly signed management agreement, in which agreements about control, tasks and roles, costs, revenues and risks, the planning, and the project organisation are laid down.

On the basis of proposals of the project management office, the parent organisation independently makes decisions and does not always have to fall back on the participating parties for that purpose. However, it does frequently render account to the participating parties.

#### **De Kempen Active Soil Management**

De Kempen Active Soil Management (*Actief Bodembeheer de Kempen*, ABdK) is the environmental program in south-eastern Brabant and central Limburg that is tackling the adverse effects of past soil contamination with heavy metals in and around the Kempen. This contamination is a consequence of the former zinc industry in the region.

The programme was created at the initiative of the provinces of Noord-Brabant and Limburg, the Ministry of Housing, Spatial Planning and the Environment, and municipalities and water boards in the project area. After a few years of preparation, the daily implementation of the programme has resided with the ABdK Project Management Office since 2001. The project management office is elaborating a approach plan for dealing with the severe groundwater contamination in the area.

The project management office is an ideal organisational form for the situation in the Kempen. At the beginning, all parties made a commitment from an official as well as an administrative perspective. This also included guaranteeing the finances. As a result, the project management office was able to focus its full potential on finding solutions to the contamination issue.

Around 2015, the project management office will be terminated. At that moment, the management will be transferred to the individual authorities. The approach plan must ensure that this transfer is seamless.

### 3.5 Option 4: joint venture

The joint venture is not a customary form for the creation of an organisation for area processes. An example of a joint venture used in a few cases is the foundation. In a joint venture, authorities transfer powers, allowing decisions to be made more efficiently. As described in the 'LBOW committee' frame, administrative arrangements in which administrative powers are transferred are deemed not to be opportune.

#### **Blauwe Stad**

In the Blauwe Stad (Blue City) area development in Groningen, public parties (province and municipalities) took the initiative. Together with the public parties, multiple private parties contributed ideas towards the planning.

The organisational form selected at the beginning was a management agreement with an administrative steering group that organised the social debate on the plans for housing construction in combination with a new lake.

Once the decision in principle was made, a foundation was created to make the plan feasible by lobbying the government and private parties and by continuing the social debate. An alderman and a member of the Provincial Executive on the board of the foundation monitored the long-term interests, and the foundation had a mandate to make decisions in the interest of the combined municipalities and the province.

After the signing of the development agreement, the foundation was liquidated and a project management office was created where the public and private parties meet and collaborate. The public parties are the owners of the land and the private parties take responsibility for the project development [4].

### 3.6 Who's in charge?

The party taking the initiative for area-oriented approach will do so because there is an awareness of urgency at the party. As outlined in section 2.1, the urgency arises from the desire to better use or protect the groundwater or to improve its quality. The party that has the primary interest in this is the most appropriate party to assume the leadership. These are in general municipalities or provinces, but private parties can sometimes also act as the initiators of the process. The initiative for area-oriented approach almost always comes from the soil corner, but not always. For instance, the process in Enschede was initiated from the water corner. A list of parties that could assume the leadership is provided below.



### **Municipality**

In most areas, the municipality acts as an area administrator and consequently as the initiator of the process. The municipality is the most appropriate party, if:

- the groundwater issue remains confined within the boundaries of the municipality;
- there is large-scale groundwater contamination;
- there is stagnation of spatial developments.

### **Province**

In a number of areas, the province assumed the leadership. This concerns areas with a groundwater issue that transcends the municipality. Examples are the province of Noord-Holland in 't Gooi and the provinces of Limburg and Noord-Brabant in the Kempen. The province is the most appropriate party, if:

- the groundwater issue affects multiple municipalities;
- there is large-scale groundwater contamination;
- protected areas are being threatened, e.g. drinking water extractions or valuable exfiltration areas.

### **Water board**

There is at present no area in which the water board is the initiator of the process. However, there are situations in which the water board could have fulfilled this role. The water board takes care of the management of the water system, namely where it concerns quantity aspects. If the urgency of area-oriented approach is determined by these quantity aspects, then the water board could be the best positioned party for leadership. Examples are areas in which there is a structural flooding as a result of inflowing groundwater, such as Roombeek in Enschede.

### **Private parties**

Private parties are initiating the area process in one single area. This concerns in any case the Strijp S area in Eindhoven where Philips and the developer seized the initiative.

#### **Strijp S Eindhoven**

Strijp S is a former inner-city business estate of Philips where historical activities contaminated the groundwater. The municipality of Eindhoven has concluded an agreement with Philips on the transfer and redevelopment of the 26 hectares-large business estate. An important element of the agreement is that Philips remains responsible for the remediation of soil and groundwater contamination in the area, but that the municipality contributes ideas to Philips in order to have the remediation performed as efficiently as possible and to combine the remediation with the redevelopment as optimally as possible.

A system has been developed that, on the one hand, makes contribution to controlling the groundwater contamination (and that also has a remediating effect) and, on the other hand, generates a return in the form of sustainable energy. The latter was an important objective for the project development.

Philips and the developer (Park Strijp Beheer, in which the municipality also participates) have taken the lead. The collaboration between the party experiencing the problem, the developer, and the municipality (from the perspective of development as well as from its role as a competent authority) in the Strijp S Milieu working group was crucial to the success. All parties had a stake in the system and all parties were committed to the success [5].

Strijp S could be the model for the approach to area-oriented approach on other businesses estates on which developments take place. Companies that are owners of large-scale groundwater contaminations are aware of the urgency of area-oriented approach. Following the case-oriented path, they have to make considerable costs for remediation and control of the groundwater contaminations and they are bound by long-term aftercare obligations. Situations with multiple problem locations require a director who pulls the process. Due to the opportunities for soil energy, the developer also has a stake in area-oriented approach and is therefore suited to fulfil the role of initiator.

Water extraction companies also qualify for assuming the leadership if there is a threat to water collection areas. They can play an important role in the implementation of area-oriented approach. This also applies to making financial arrangements or taking over remediation obligations.

### 3.7 Do's and don'ts

#### **Do's**

- Properly prepare the launch of area-oriented approach. Well begun is half done. This also applies to the structure of a project organisation. Focusing on this structure when forming the vision considerably decreases the risk of delays after the launch of the process.
- Show your results. Small successes soon become commonplace and can then easily become overlooked. Remain attentive in that respect and showcase successes. No matter how small, successes have in general a positive impact on the operation of the project organisation as a whole.
- Consider the organisation to be a project team. Make sure that there is clarity about mission, objectives, mutual relationships, tasks and responsibilities, and the working procedures.
- As a project organisation, make clear to the community what the organisation represents and what can be expected from it. The chairman has a special role. This person is the face of the organisation and can play a crucial role as a figurehead in mediation, strategies, and decision-making processes.
- Work together with the area.
- An organisation cannot be isolated from the region in which it is active.
- Take the time to learn the history and backgrounds.
- Be open and honest and create trust in doing so.
- Where possible, seek association with existing initiatives.
- Dare to share responsibility with relevant players.

#### **Don'ts**

- Do not assume that other parties take care of everything. From the beginning, make clear agreements and mark subjects still under discussion on the agenda.
- Area-oriented approach is specialised. The organisation and finances are also specialisms. Consequently, do not do this on your own.

## 4 Administrative commitment in writing?

The need to make administrative agreements in that respect will grow as wider-ranging forms of collaboration are selected. Parties who invest in the area-oriented approach do so with risk. What happens when the costs of the management turn out to be higher than expected? What happens when one of the parties withdraws from the collaboration? What happens when the policy (and, in doing so, the vision on area-oriented approach) changes? These are all relevant questions regarding which administrators will want to make clear agreements. This chapter indicates the topics on which administrative agreements can be made. In doing so, the emphasis is on 'can', because that what will effectively be agreed upon between parties depends on the parties themselves and on the phase in which the project is situated.

In the following sections, the manner in which these agreements can be made during the planning process has been further elaborated and illustrated with a number of examples. However, we will first review the motives of administrators for making a contribution to area-oriented approach. These namely apply to all phases of the planning process.

### 4.1 Motives of administrators

Why would an administrator support the initiative for area-oriented approach? In general, governmental parties act on the basis of public interest and solidarity. Questions an administrator will ask in that respect are:

- What will go wrong without area-oriented approach or why is it urgent? The urgency can be approached from the perspectives of using, protecting or improving the groundwater. Examples are: stagnation of urban development and sewerage system management, threats to the surface water quality in nature reserves, etc.
- What are the benefits of area-oriented approach? Examples are: an efficient use of resources, more control of the use of groundwater for soil energy, insight in contamination situation in the longer term.
- which parties play a role and what are their interests, responsibilities, and mutual dependencies? Examples are: interests of private parties such as owners of source parcels with groundwater contamination, industrial groundwater extractors, and drinking water companies.
- What is the legal position of these parties and how can they become involved in the implementation and financing? Examples are: licence holders for groundwater extraction or Soil Protection Act (*Wet Bodembescherming, Wbb*) decrees for groundwater remediation.
- What are the (financial) risks? These risks namely play a role when taking over groundwater plumes subject to remediation.

In short, administrators have the need for insights in urgency, the key forces, the legal definition, and the (financial) risks.

## 4.2 The menu for laying down the administrative basis

In view of the crucial importance of public parties in area-orientation approach, it is essential that the administrators of these parties are involved in all phases of the planning process. The manner in which this can be organisationally structured has been discussed in the previous chapter. In order to guarantee that the nature of the administrative involvement is not too noncommittal, the agreements must also be recorded on paper.

There are three benchmark moments when administrative agreements can be necessary, notably after the conclusion of the initiative phase, after the conclusion of the vision-forming phase, and after the conclusion of the preparation phase. The corresponding administrative agreement is often designated as initial statement, letter of intent, and a collaboration agreement, respectively. There are also other designations, e.g. in Tilburg where an administrative instruction was drafted after the initiative phase [2]. Hence, the naming of the agreement is actually not important. What matters is what is agreed upon. The essence is that administrators, at a number of moments in the planning process, make agreements with each other that are more or less far-reaching depending on the phase in which the project is situated.

But on which topics should the administration make agreements? The following menu can be used for the preparation of an administrative agreement. The administrators decide whether they want to take the full menu, or limit themselves to an appetizer or maybe include a desert, after all. In other words, formal agreements in the initiative phase are in general less far-reaching. In that case, some components can be omitted. After the preparation phase, the agreements do become far-reaching, certainly when opting for a joint venture.

The menu for an administrative agreement:

| Menu                    |   |
|-------------------------|---|
| <b>Component:</b>       | <b><u>Explanation:</u></b>  |
| Signatories             | the parties involved in the management agreement; the signatories                                     |
| Preamble                | what is taken into consideration by the parties   |
| Purpose                 | what is the purpose of the agreement  |
| Organisation            | steering group, project group, project management office  |
| Consultation structure  | manner and frequency of consultation between steering and project group and project management office |
| Responsibilities        | responsibilities of the various parts of the organisation   |
| Powers                  | powers of the various parts of the organisation   |
| Financing               | sources of financing  |
| Subsidies               | sources of possible subsidies   |
| Term                    | term of the agreement   |
| Joining                 | possibility for parties to join   |
| Termination             | arrangement for (early) termination of the agreement  |
| Communication           | which body is authorised to communicate about which components  |
| Confidentiality         | information that has been designated as confidential by parties involved                              |
| Applicable law          | which law applies (in general, the law of the Netherlands)  |
| Disputes                | agreed dispute settlement scheme, or competent court  |
| Final provisions        | miscellaneous   |
| Declaration and signing |   |
| Schedules               | applicable schedules  |

The administrators, each in their own circle of influence, have the agreement adopted administratively. If one remains within the lines of the policy, then this can be done at the level of the administrators (executive committee, Municipal Executive, and Provincial Executive). If one is creating one's own policy, the adoption is done by the people's representation (general administrative board, municipal council, and the Provincial Council).

An example of an administrative collaboration agreement is the Agreement on area-oriented management for 't Gooi (*Convenant gebiedsgericht beheer 't Gooi*)

#### **'t Gooi**

In 't Gooi, the province, municipalities, water extraction companies, and the Dutch Government have prepared an administrative agreement in the preparation phase of the realisation and management, in which they commit to the measures of the area management plan for the next 10 years. The agreement contains the following clauses:

- Clause 1: Definitions and abbreviations
- Clause 2: Survey and remediation in conformity with the Collaboration Agreement and the Soil Agreement
- Clause 3: Area-oriented management in 't Gooi
- Clause 4: Groundwater
- Clause 5: Soil knowledge
- Clause 6: Thermal energy storage
- Clause 7: Financial contributions
- Clause 8: Contributions in kind
- Clause 9: Financial management
- Clause 10: The Steering Group
- Clause 11: The implementing body
- Clause 12: The official project group
- Clause 13: The independent process manager
- Clause 14: Communication
- Clause 15: Relationship with the Collaboration Agreement
- Clause 16: Duration
- Clause 17: Possible conflict with laws and/or regulations
- Clause 18: Unforeseen circumstances
- Clause 19: Competent court and applicable law
- Clause 20: Final provisions

## 4.3 The administrative anchoring of area-oriented approach

The elaboration of area-oriented approach results in an area plan. It is important that this area plan be anchored in a statutory process. The (municipal or provincial) strategic plan and the zoning plan are designated tools for anchoring the area plan in the cases where there is namely a relationship between the area-oriented approach and the spatial policy. If the emphasis is more on providing further substance to the water policy, then the water plan (no legal status), the municipal sewerage plan, and the catchment area management plan are more appropriate. By using these forms of planning and tools, one also exploits the corresponding procedural options, such as public participation. The following frame contains a few examples.

### Examples of recording an area vision in plan figures

#### *Zwolle - strategic plan*

Zwolle has prepared a vision on the subsoil. This vision is based on the spatial planning and use of space as laid down in the spatial structure plan. The vision contains an overall zoning with designated uses of the subsoil and the groundwater. Based on the vision, a strategic plan is prepared in conformity with the Spatial Planning Act (*Wet ruimtelijk ordening*). The further elaboration of the measures takes place in a soil policy plan and area management plans.

#### *Apeldoorn - water plan*

In the municipality of Apeldoorn, there is a combination of groundwater flooding, large-scale groundwater contamination, and the use of groundwater for thermal energy storage and (industrial) extractions. The municipality has laid down an integrated vision on the approach to this issue in the water plan prepared jointly with the Veluwe water board and the water utility. Note: the municipal water plan does not have legal status, but it is an instrument for self-regulation and can serve as a basis for a combined approach.

#### *Enschede - municipal sewerage plan (GRP+)*

In Enschede, the pilot area of Roombeek is confronted with a combination of structural flooding and large-scale groundwater contamination. The water system and management turned out to be the guiding line along which the area-oriented approach was elaborated. The prepared plan of measures was integrated into the Municipal Sewerage Plan (GRP+). The GRP+ also offers the option of including qualitative approach if there is a relationship with quantity management. The benefit of GRP+ compared to the water plan is that the GRP+ also offers a basis for financing (see 'Finances' chapter).

It should be noted that, for the quality management of groundwater contaminations present, the area plan should contain a management plan governed by the procedure of the Soil Protection Act.

## 4.4 Do's and don'ts

### Do's

- Create administrative support from the beginning of the project. By involving administrators at an early stage, agreements on an intent of a collaboration agreement can be made increasingly specific.
- Ensure clarity and transparency in the communication.
- On a board, assign the role of joint figurehead to a single person, knowing that the area measures are integrated and the portfolios are sectoral.

### Don'ts

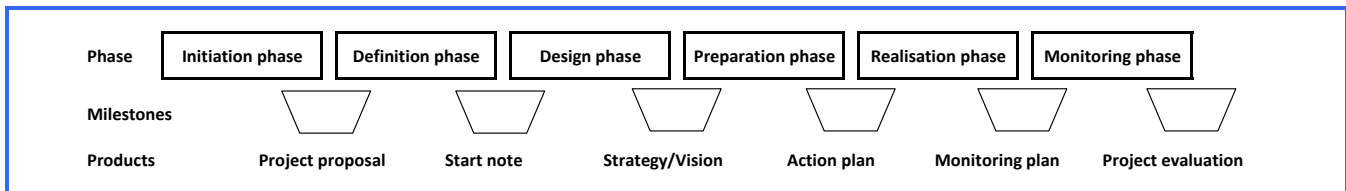
- Counting yourself lucky with the positive responses from one or a few administrators and implicitly assume that you will figure it out together.
- Increasing efforts to obtain commitment as an excuse for inertia in the progress.
- Continuing discussions about the portfolio in which a, by definition, dynamic and integrated area project best fits.
- Continuing to coordinate and consult when the other parties will not participate in taking action.



## 5 Is the financing of the plan covered?

In many cases, area-oriented approach involves a contribution of multiple parties to the financing. This increases the complexity in comparison with financing by one single authority. Having the financial affairs of the project in order might be the most important criterion. In order means financially feasible in a manner that convinces all parties. Joint financing requires an arrangement that takes into account the requirements of various parties.

Finances must be on the agenda of the steering group from the beginning of a project, in the initiative phase. Ultimately, the success of the project depends on sound financial coordination.



### 5.1 Business case

There is no standard financial arrangement for area-oriented approach. A precondition for a proper financial arrangement is that it is in concord with the instructions, ambitions, interests, risks, and intended returns of the investing parties.

The business case is a relatively new form for the financing of area-oriented approach. The basis for the business case is sustainability and the business case encompasses a long period. Hence, the investments are not recovered exclusively through the development and the construction, but also in the exploitation. The business case is a generic term for the creation of an arrangement focused on value creation on the basis of healthy economic principles. Such an approach contributes to the quality of decision-making of the public sector, due to the specification of social and economic revenues and costs. Key questions are [8]:

- Which social challenge are we actually tackling and what are we willing to do for that?
- What are the figures and assumptions behind the project? What will happen if we fail to act?
- What are the anticipated social and economic costs and revenues? How do we ensure a healthy return on invested capital?
- How does this project contribute to the strategic objectives of the public and private parties involved?
- Which risks do we incur in this project and how can we manage them?
- What do the costs, revenues, and risks depend on and which parties have influence in that respect?





### Preparing a business case

The business case is structure that can be adapted to the needs of the situation. It can be a light and concise working method or a rigidly formalised and extensive research approach. Such an approach demands an entrepreneurial attitude from the parties involved, be they administrative, official or external (private) parties, which is focused on exploiting opportunities and on distinctive added value for the parties involved. Thinking in broader value concepts is necessary, certainly in these financially and economically challenging times. This is all the more the case because far from all costs and revenues can be expressed in a financial format [8].

The business case is further elaborated in each phase of the planning process, from the definition phase to the development phase:

- In the definition phase, an approximate cost estimate is prepared on the basis of indices and possible cost units are defined. This is done by means of the environment analysis, as described in Chapter 3. Examples include culpable owners of groundwater contamination, extractors, water utilities, municipalities, and provinces. Ensuing from the environment analysis, an approximate distribution of costs in percentages is prepared on the basis of interests and financial strength.
- In the vision-forming phase, a budget is prepared on the basis of standard costs.
- In the preparation phase, the costs are accurately budgeted and distributed. Next, contracts are concluded with all stakeholders.

An example of a distribution of costs is included below.

| Cost item                                       | Objective | Cost estimate | Cost units | Distribution (in %) |
|---|-----------|---------------|------------|---------------------|
| Process and preparation                         |           |               |            |                     |
| ▪ Project leadership                            |           |               |            |                     |
| ▪ Preliminary memorandum and communication plan |           |               |            |                     |
| ▪ Communication                                 |           |               |            |                     |
| Research  |           |               |            |                     |
| ▪ Assumptions                                   |           |               |            |                     |
| ▪ Estimate                                      |           |               |            |                     |
| Execution                                       |           |               |            |                     |
| ▪ Assumptions                                   |           |               |            |                     |
| ▪ Estimate                                      |           |               |            |                     |
| <b>Total</b>                                    |           |               |            |                     |

### Tools for a financial arrangement

Tools that can be used when preparing a financial arrangement are:

- smart use of capital (equity capital, subordinated loans, and borrowed capital);
- use of financing structures in which a minimum of (expensive) own capital and a maximum of (inexpensive) borrowed capital is used;
- shifting revenues and expenses in time;
- splitting or merging the project in sub-projects;
- assessing risks as accurately as possible and including (financial) operating buffers (see also section 5.4);
- transferring risks to parties that can optimally influence them and that are for reasons satisfied with a lower risk premium;
- taking out insurance policies against risks that are outside sphere of influence of the organisation executing the business case. For example, interests-risk reducing instruments.

## 5.2 Value creation

In the business case, we are therefore not looking for cost units but for value units. Value can be expressed in the tangible sense, e.g. because area-oriented approach can reduce the costs of subterranean work, but also in the intangible sense. With the latter, authorities and companies can shape their social responsibility.

A number of examples of tangible and intangible benefits are provided below.

| <b>Tangible benefits</b>  | <b>Stakeholder(s)</b>                     |
|---|---|
| <ul style="list-style-type: none"> <li>▪ Lower costs for control/aftercare of groundwater plumes than in case-oriented approach.</li> </ul>   | Company, municipality, province           |
| <ul style="list-style-type: none"> <li>▪ By buying off the remediation obligation, future land transactions are made easier and it enhances the value of the land.</li> </ul>                                       | Company                                   |
| <ul style="list-style-type: none"> <li>▪ No costs or lower costs for protective provisions for excavation drainage and open ATEs systems to prevent dispersion of groundwater contamination.</li> </ul>             | Municipality, project developer           |
| <ul style="list-style-type: none"> <li>▪ Costs of quantity control in the case of structural flooding are lower due to the systems approach.</li> </ul>   | Municipality, water board                 |
| <b>Intangible benefits</b>  | <b>Stakeholder(s)</b>                     |
| <ul style="list-style-type: none"> <li>▪ Reduction of stagnation in spatial developments because clear agreements are made about responsibilities and the administrative burden is reduced.</li> </ul>              | Municipality, project developer, company  |
| <ul style="list-style-type: none"> <li>▪ Sustainable remediation result due to combination of source and plume remediation.</li> </ul>  | Municipality, province, company           |
| <ul style="list-style-type: none"> <li>▪ Improved protection of citizens by means of integrated risk assessment of groundwater contamination and area-encompassing package of measures to prevent risks.</li> </ul> | Municipality, province                    |
| <ul style="list-style-type: none"> <li>▪ Improved protection of vulnerable areas or capture zones for the extraction of drinking and process water.</li> </ul>  | Province, drinking water company, company |
| <ul style="list-style-type: none"> <li>▪ Strengthening of image due to socially responsible remediation of groundwater issue.</li> </ul>  | Municipality, province, company           |

The parties that recognise the benefits of area-oriented approach for their organisation, qualify to act as a financier. In the next section, we will explore the manner in which this financing can be structured.

## 5.3 Who can finance?

### 5.3.1 Culpable owners/leaseholders of groundwater contamination

This concerns owners and leaseholders of the parcels on which large-scale groundwater contamination subject to remediation has arisen (the so-called source parcels). In most cases, these are owners/leaseholders of business estates. In the case of a case-oriented approach, these problem owners are confronted with lengthy and costly remediation, control, and aftercare processes. A complicating factor in that respect can be that there are multiple overlapping contamination plumes and that it is not clear where the responsibility for the contamination ends. The problem owners experience the lengthy processes as a considerable burden.

In the case of the area-oriented approach, one looks for buying-off schemes in which the problem owner transfers the responsibility for the remediation of the plume to the area administrator against a buyout payment. The benefit for the problem owner is that this discharges him from the long drawn-out control and aftercare measures. In addition, collaborating on an area-oriented solution has a positive impact on the image of the party experiencing the problem and obstacles to the sale of the estate are removed.

#### Five preconditions for a solid buying-off scheme

Various companies, industrial organisations, and authorities have been interviewed in the context of this report and have been asked for the preconditions for a proper buying-off scheme. The following five preconditions constitute the basis for a proper buying-off scheme:

1. *Source remediation is a must!*  
The problem owner remains responsible for the remediation of the source of the contamination. Buying off the plume forms an integral part of the remediation of the source. The source remediation must therefore be properly laid down in a contract.
2. *Final release.*  
The solution offered to the problem owner must be a final solution with final release by the area administrator. Hence, the area administrator must be prepared to assume risks. An open-ended scheme with a fallback scenario is not desirable.
3. *Guarantee.*  
In the case of a buy-off, a fund must be created that cannot go into involuntary liquidation. Most of the time, this means that a guarantee must be offered by an authority.
4. *Everyone takes part!*  
If there are overlapping plumes, then all parties experiencing the problem must participate. Otherwise, an area-oriented solution is not feasible.
5. *Lump sum or periodic deposit?*  
The parties experiencing the problem do not have a preference for a buy-off via a lump sum structure or via periodic deposits. If one opts for a form of contract in which the parties experiencing the problem periodically pay an amount, then there is the risk that the company will no longer fulfil its obligations after an involuntary liquidation.

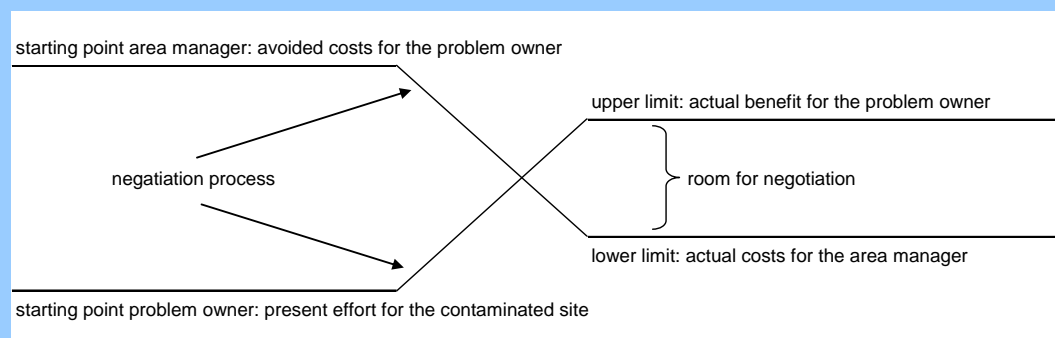
Apeldoorn, Zwolle, and Hengelo, among other locations, have already acquired experience in setting up a buying-off scheme. A system has been developed for calculating the buyout payments.

### Buying-off schemes in Apeldoorn, Zwolle, and Hengelo

#### Apeldoorn

For the negotiations on the buy-off, the municipality of Apeldoorn uses the calculation method based in part on the Bosatex scheme [11]. This method has been created for contaminations with chlorinated hydrocarbons and assumes an inverse relationship between the m<sup>3</sup> price and the size of the contamination plume. On the other hand, experience has shown that buyouts payments are also determined on the basis of the determination of the price of land.

A rough categorisation can be made of plume size and costs to be linked. In the case of an area-oriented approach, the model assumes an advantage in costs. In the negotiations, the municipality uses the following figure [13] to determine the amount of room for negotiation:



The buying-off scheme has not yet been officially adopted.

#### Hengelo

The buying-off scheme in Hengelo is comparable to that of Apeldoorn and has been officially adopted. The Bosatex method is used generically in this case. Various categories are distinguished depending on the quantity of soil survey data. If there are ample soil survey data, then the remediation costs and consequently the buyout payments can be calculated accurately. If there are few survey data, the remediation costs are calculated on the basis of indices that depend on the size of the plume. Additional surveys are avoided as much as possible. The remediation of the source zone is always at the expense of the problem owner.

#### Zwolle

Zwolle is working on the preparation of area management plans. A part thereof is the financial management or buy-off of remediation obligations. To determine the buyout payments, Zwolle uses weighing factors. The weighing factors used in a negotiation process with the program owner are:

- estimated remediation costs for a functional case-oriented remediation, including aftercare;
- moment of purchase;
- degree of culpability;
- position in relation to the boundary of the management area (horizontal and vertical);
- interest of the municipality.

### Can parties be compelled to participate?

If, despite careful preparation procedures, parties with remediation obligations nevertheless abandon participation, then the parties cannot be compelled to that effect by the area administrator. There is however the possibility for the Competent Soil Protection Act Authority to use the set of legal instruments of the Soil Protection Act (remediation order). This can/will be used if it is necessary in the interest of achieving the goals of the area remediation.

This set of instruments is rarely applied in practice, but should be used more often in the setup of an area-oriented remediation. The culpable owners are important parties in area-oriented approach and a considerable non-performance risk arises when these parties do not participate.

### 5.3.2 Municipality

There are multiple ways in which municipalities can be confronted with area-oriented approach.

- If no party can be designated as responsible for large-scale groundwater contamination, then municipalities are responsible in that respect and must take care of a suitable remediation.
- As an initiator for area development or competent Spatial Planning Act authority, municipalities can benefit from the development of areas with large-scale groundwater contamination. This stagnation can be resolved with an area-oriented approach.

In addition to the tangible benefits, there are also many intangible benefits for municipalities (see frame in section 5.2).

Municipalities can use the following resources for the financing of area-oriented approach:

- Soil Protection Act funds (up to and including 2014)
- Local grant for urban renewal ISV3 (up to and including 2014)
- Resources of the municipal Development Corporation
- Municipal Sewerage Plan (GRP+), in case of structural flooding

#### **Enschede- Roombeek area**

Due to structural flooding, the water system and management in the area of Roombeek turned out to be the dominant line along which the area-oriented approach has been elaborated. Together with the industrial extractors, the municipality and the water board have prepared a plan of measures that has been integrated in the Municipal Sewerage Plan (Gemeentelijk Rioleringsplan, GRP+).

Since the main objective of area-oriented approach is to prevent structural flooding, its financial cover also originates from the GRP+. The GRP+ was approved by the administration and already contained a financial estimate of the implementation and management costs. As a result, barriers of an administrative and financial nature were prevented, enabling a flexible transition into the implementation and management phases. The municipality anticipates that the area-oriented management will yield a financial benefit, because the management costs turn out to be lower than those for the management of individual cases.

### 5.3.3 Province

Since the provinces are the competent authority for the Soil Protection Act, they are responsible for the remediation of large-scale groundwater contamination for which no culpable owner can be designated. For the financing, the province can use the Soil Protection Act and Investment Budget for Rural Areas (*Investeringsbudget Landelijke Gebied*, ILG) funds (up to and including 2014). For instance, the provinces of Noord-Holland and Limburg/Noord-Brabant have invested in the preparation of area-oriented approach in 't Gooi and the Kempen, respectively.

Province is also responsible for the objectives of the Water Framework Directive and the Ground Water Directive. This includes the protection of Natura 2000 areas and the abstraction areas of drinking water and industrial groundwater, among other aspects. Based on this responsibility, the province of Utrecht has granted a subsidy to the drinking water company in Zeist for the control of the groundwater contamination present (see practical example below).

#### **Zeist- groundwater protection area**

The Zeist groundwater protection area is located in the built-up area of Zeist. In this area, there are 10 cases of severe soil contaminations with VOCs originating from (mainly former) business estates. These contaminations have been found in the extraction wells of the concerned drinking water company (depth of 58 to 76 m below ground level) since the end of the 70s of the previous century. In the middle of the 90s, the province of Utrecht was able to convince the parties that caused the contamination/former owners of four source locations to remedy their source zone down to the first aquifer or to pay a buyout payment. Pursuant to the responsibilities on the basis of the Soil Protection Act/Water Framework Directive/Ground Water Directive, the province has had a remediation plan elaborated for the integrated screen remediation of the contaminations in the first and second aquifer. The selected remediation variant fits in with the already existing treatment techniques of the drinking water company, which has been designated as the remediator in the remediation decision.

For the financing, the province investigated the possibility to grant a subsidy to the drinking water company pursuant to the Industrial Sites Soil Remediation Scheme (*Bedrijvenregeling bodemsanering*). For that purpose, the province consulted the drinking water company and the Ministry about the (im-) possibilities of granting a subsidy to a drinking water company. At that occasion, the following questions were discussed: (1) Can a water utility qualify in any event for a subsidy pursuant to the Industrial Sites Scheme if it has attracted VOC contaminations from elsewhere and is treating these contaminants on the basis of an approved remediation plan? (2) To what extent is there overlap between soil remediation and normal drinking water protection in this case? (3) Can the land registry parcels on which the abstraction and treatment system is located be designated as a business estate as referred to in Article 55a of the Soil Protection Act and (4) how should the amount of the subsidy be calculated?

In the end, the ministry approved this subsidy grant on the basis of a positive advice from the State Advocate's office. All elements of the overlap with the drinking water production, such as the costs of the abstraction of groundwater, of making the raw water suitable for drinking water, etc. have been left out to the subsidy grant.

### 5.3.4 The Dutch National Government

In a number of areas, including the Utrecht station area and the port area of Rotterdam and 't Gooi, the Ministry of Infrastructure and the Environment has financed the preparation and implementation of area-oriented approach. However, these were exceptional situations. It is not known under which heading the ministry will make financial resources available for soil remediation and management after 2015. It is possible that the national government can at that time still contribute to area-oriented approach via the Multi-Year Programme for Infrastructure, Spatial Planning and Transport (*Meerjarenprogramma Infrastructuur, Ruimte en Transport*, MIRT). The MIRT is an instrument that combines existing financial sources and the related parties in order to be able to be used more efficiently.

After 2015, the market and the local authorities will be responsible for the management and aftercare of the residual soil contamination. Hence, it is important for initiators to claim resources before 2015 in order to get area-oriented approach off the ground.

### 5.3.5 Other parties

In addition to the national government, provinces, and municipalities, other parties can also invest in area-oriented approach. Examples of these parties are:

- Developers/builders who are confronted with uncertainties about responsibilities for groundwater contaminations and high costs for taking protective measures in the case of excavation drainages.
- Water boards and district water control boards that can improve the structure of their quantity management by means of an area and water system-oriented approach.
- Energy companies that are interested in local and sustainable initiatives, such as thermal energy storage.
- Financiers/investors who need certainty, stability, and sustainable solutions.
- (Future) consumers with an interest in a long-term guarantee of the quality of the groundwater, e.g. industrial extractors of groundwater and drinking water companies.

Municipalities have various options for charging the cost of public amenities to spatial development. These options are based on the Land Development Act (*Grondexploitatiewet*). The criteria of 'causality', 'benefit', and 'proportionality' apply in that regard. The cost recovery is linked to the building permit. This means that this form of cost recovery only works if construction has to take place [13].

In Arnhem, project developers who want to built underground are making an important contribution to the financing of area-oriented approach.

#### Arnhem - Presikhaaf

Presikhaaf is an old town district east of the town centre of Arnhem. Groundwater contaminations are present in the district as a consequence of historical activities. Many activities will take place in the district in the next years, which will involve excavation drainage due to the high groundwater level. The contaminations in the groundwater require additional measures and consequently increase the cost of the developments. The municipality has had an area-oriented approach plan prepared that has the status of a (framework) remediation plan within the Soil Protection Act.

Parties that want to apply excavation drainage are called upon for the financing. For them, participating in the area-oriented remediation entails a significant reduction of the costs that they would otherwise have had to make for protective measures to prevent dispersion of the contaminated groundwater. To determine the financial contribution, the municipality has elaborated a model on the basis of the situation of the contamination and the hydrology in the area. With this method, the municipality generates a continuous source of income that covers an important part of the costs of area-oriented approach.

From the perspective of water, there is the option to introduce the concession. This allows for organising the exploitation of groundwater on a more commercial basis, e.g. via a Water Bank. This is based on a water plan in which quantitative and qualitative management of groundwater includes objectives of sustainable energy supply and spatial development. A good example is the Ugchelen Agreement in the municipality of Apeldoorn [13].

Many financing structures have also been created for aboveground area development, in which private parties act as (co-)financiers. These are namely PPP structures (PPP: public-private partnership) for area projects with new construction in which project developers participate. Many current examples of this can be found on the website of 'Nederland boven water (www.nbw.net)' (*The Netherlands above water*) and in the area development manual [3]. In the case of landscape development, financing is also provided by private parties, albeit more limited. An example of this is detailed in the frame below.

#### **Financing structures for landscape development**

A landscape is a collective good that can be used by everyone free of charge. The realisation of a desired landscape requires a compensation for the user of the land that cannot be obtained in the market. In 2010, Alterra performed a study of financing structures in which private parties contribute to the quality of the landscape [12]. Fund formation is key in that regard. In many financing structures, there are no direct payments from landscape users to users of land. Instead, a fund is created out of which land users are paid. If the fund is properly managed, payments to the users of land are guaranteed for a longer period. The report describes three functioning financing structures, namely the scenic camping ground in Zeeland, the regional account (*streekrekening*) in the Groene Woud National Landscape, and the provincial landscape fund in Overijssel. The example that is closest to area-oriented approach, is the provincial landscape fund. This is a mixed public-private structure in which municipalities creates a local landscape fund. The fund is financed for 50% by the province and the other 50% consists of area contributions from the municipalities and private parties.

### **5.3.6 Subsidy schemes**

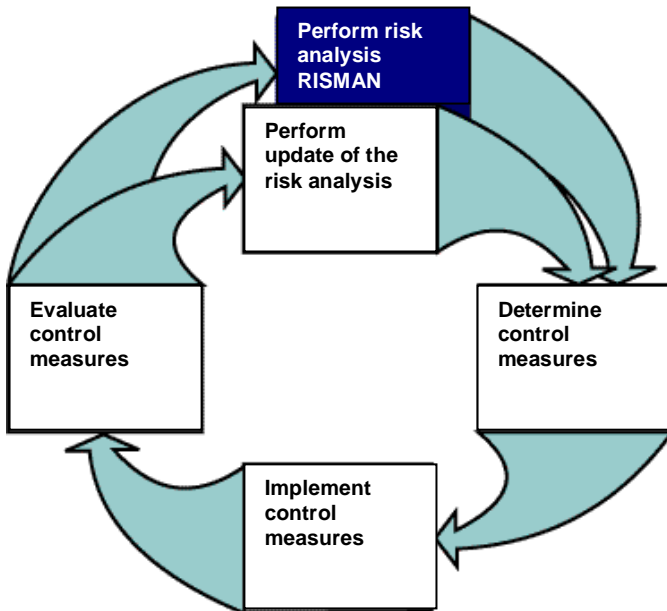
It is anticipated that municipalities and provinces will no longer be able to use the Investment Budget for Urban Renewal and Soil Protection Act funds after 2015. The Industrial Sites Scheme will then be the only subsidy scheme available to soil remediation. In its current case-oriented form, the Industrial Sites Scheme does not fit in with an area-oriented remediation. Many companies find this an undesirable situation and would like to use the scheme for area-oriented remediation. In that case, the buying-off structure consists of the transfer of the subsidy to the area administrator with a contribution from the company and assumption of the remediation obligation by the area administrator.

## **5.4 Risk management**

The financing of area-oriented projects often involves the necessary uncertainties. Before parties make a contribution to the project, they want to have a grasp of the risks. A good system of risk management can offer the required certainty and convince financiers. The purpose of risk management is timely identifying and controlling risks. By properly structuring risk management in the (project) organisation, risks are dealt with in a managed manner and control can be timely exercised. This prevents so-called 'fighting fires' and provides for a better handle on the project, allowing for more transparent decision-making. The Risman method offers a framework for risk management that is frequently used in aboveground area development.



The Risman method consists of five steps, as shown in the figure below [10].



**Step 1: Perform comprehensive risk analysis**

The first step is to clearly set out the state of affairs at a specific moment. This is achieved by performing a comprehensive risk analysis. In order to obtain a comprehensive picture, the Risman methods assesses the project from the following perspectives: political/administrative, financial/economic, legal/statutory, technical, organisational, geographical/spatial, and social. The result of the risk analysis is a list with risks sorted on the size of the threat to the project, with the mention of the possible measures on the one hand to reduce the chance of the risk occurring or on the other hand to reduce the consequences of the risk. The risk analysis constitutes the basis of risk management and must be repeated at certain moments, notably:

- at the moment that considerable changes occur in the environment during the project
- at the beginning of each new project phase.

**Step 2: Determine control measures**

The risk analysis has revealed a number of possible control measures for the most important risks. A decision is made as to which of these measures will be effectively taken. This is done on the basis of an assessment of, on the one hand, the anticipated effect of the control measure and, on the other hand, the cost or effort required for that control measure. Moreover, the person who will effectively perform the control measures or who will be responsible for the implementation will also be determined. The result is a list which successively includes:

- the risk
- the adopted control measure
- the responsible person (owner)

**Step 3: Implement control measures**

Next, the risk owners ensure that the measures are also effectively taken.

**Step 4: Evaluate control measures**

A regular assessment must be performed of whether the control measures have been executed and whether they have the desired effect.

**Step 5: Perform update of the risk analysis**

Following the evaluation of the control measures, the list with risks, as originally produced by the risk analysis, must be updated. This involves assessing which of the risks can be removed because they are no longer relevant (due to the measures taken or lapse of time). In addition, new risks are catalogued and added to the list. The risks can be identified on the basis of the planning, estimates, and adopted quality requirements. Moreover, control measures for the new risks are also catalogued.

## 5.5 Do's and don'ts

**Do's**

- Ensure that the topic of finances is already on the agenda from the beginning of the project and that it remains there.
- Organise financial knowledge focused on the various issues.
- From the beginning, take into account the procedural costs in addition to the costs intrinsic to the plan (investment and management costs).
- Prepare a financial planning with revenues and expenses.
- Prepare a realistic assessment and take into account fluctuation margins and financial setbacks. For that purpose, include a contingency item. Identify the items that cannot yet be estimated, but that will surface and make joint agreements on how to deal with financial windfalls and setbacks.
- Maintain a risk file of all risks that can have an impact on the costs of area-oriented approach. Formulate control measures, risk owners, parties responsible for taking action, etc.

**Don'ts**

- Launching a project without immediately working on the required finances.
- Considering possible subsidies to be a certainty before investigating whether subsidies are even possible.
- In long-term project, not taking into account indexations, price developments.

## 6 Have the planning and licensing procedures been completed?

In the vision-forming phase, the contours of the area-oriented approach are recorded on paper and a related plan of measures is devised. As the measures are connected to legal frameworks, timely coordination with concerned competent authorities is important. The area-oriented measures namely require support from the licensing authority for the Soil Protection Act. But coordination with the water board and province is also desired due to their role in licensing for groundwater extractions in the context of the Water Act. The link with the Soil Energy Decree (*AMvB Bodemenergie*) plays a role in that respect for the province and the municipality.

In the following sections, an explanation is provided for each legal framework.

Note: The laws below are currently considerably evolving. You can follow the current state of affairs via the website of Soil+: <http://www.agentschapnl.nl/en/node/106152>.

### 6.1 Soil Protection Act (*Wet bodembescherming, Wbb*)

In most cases, area-oriented approach is initiated from the soil perspective. This approach has limitations due to the case-oriented basis of the current Soil Protection Act, the considerable juridification, and the emphasis on the buying-off of residual obligations. Decoupling the source approach in the topsoil from the management of the groundwater contamination in the subsoil creates more flexibility. The Soil Protection Act is currently being amended to enable an area-oriented approach.

### 6.2 Water Framework Directive (*Kaderrichtlijn Water, KRW*) and Ground Water Directive (*Grondwaterrichtlijn, GWR*)

For decisions in the context of the Soil Protection Act, the competent authority must take into account the provisions of the Water Framework Directive/Ground Water Directive. For existing historical contaminations, further dispersion must be prevented in the context of the Water Framework Directive/Ground Water Directive. The Dutch implementation of the Water Framework Directive/Ground Water Directive does however offer the possibility of applying area-oriented approach in which dispersion is permitted within the boundaries of the determined management area. The preconditions are a sound underpinning on the basis of risks, environmental return and costs, and the monitoring of the groundwater body.

In order to fulfil the requirements of the Water Framework Directive/Ground Water Directive, it will almost always be necessary to decouple the remediation of the source and plume. Management can suffice for the plume, provided that the source is actively remedied. This prevents continuing contamination of the groundwater and can achieve a reversal in the trend.

#### **Rotterdam port area**

The Rotterdam port area experiences large-scale soil and groundwater contaminations caused by large (more specifically, petrochemical) companies. The contaminations have a stagnating effect on business transactions, new businesses, etc. They also create a possible risk in the context of the Water Framework Directive, as groundwater contaminations can spread outside the area.

The area-oriented remediation in the Rotterdam port area fits in with the Provincial Water Plan, which was adopted at the end of 2009 and which translates the Water Framework Directive/Ground Water Directive into practice. This plan indicates that "the large-scale groundwater contamination underneath the Rotterdam port area will be controlled within the determined area boundaries by means of area-oriented management."

This is further explained in the Provincial Water Plan as follows: "There is large-scale groundwater contamination underneath the Rotterdam port area, which as a whole could possibly worsen the state of the groundwater body in the long run. In order to tackle this issue, the municipality of Rotterdam is developing a plan for monitoring and controlling the groundwater contamination at the level of the area. The monitoring is included as a Water Framework Directive measure on the basis of Article 5.5 of the Ground Water Directive. Complete removal of the contaminations requires disproportional costly measures. On the basis of the exception to full removal in the Article 6, subsection 3, under e, of the Ground Water Directive, the area-oriented approach will be included in the Inventory as referred to in Article 6, subsection 4, of the mentioned directive and the motivation, the objective, management, responsibilities, financing, and monitoring will have to be dealt with in detail, among other aspects."

### 6.3 Water Act (*Waterwet*)

The licensing for groundwater extractions is governed by the Water Act. Competent authorities in that respect are:

- the province: for groundwater extraction for soil energy, drinking water, and industrial extractions > 150,000 m<sup>3</sup>/year;
- the water board for all other groundwater extractions (excavation drainages, groundwater remediation, etc.).

In its assessment, the licensing authority must take into account groundwater contamination located within the sphere of influence of the extraction.

Without area-oriented approach, the principle is that such groundwater contamination should not be displaced as a consequence of the extraction. If it is displaced after all, the extracting party must take suitable measures, e.g. screened drainage.

With area-oriented approach, room can be provided for displacement as a consequence of extractions. However, this means that the licensing authority must translate the agreements made in the context of area-oriented approach into the license. Hence, this requires close coordination with the area administrator.

## 6.4 Soil Energy Decree (*Wijzigingsbesluit Bodemenergie*)

In the new Soil Energy Decree, the province is assigned the task of supervising the construction of open aquifer thermal energy storage (ATES). In doing so, the province must pay attention to interference between systems, the energy balance, and energy efficiency. The groundwater extraction needed for the open system will be tested in the context of the Water Act (see previous section). When preparing the area management plan, attention must be devoted to the construction of future ATES systems. Aspects that can come up for discussion in that regard are mutual interference, interference with groundwater contamination, and the opportunities offered by ATES for controlling contamination plumes.

## 6.5 How to obtain the support from all licensing and enforcing authorities?

Various competent authorities are involved in the approval of an area plan and/or the underlying management plans. Both the Water Act and the amended Soil Protection Act are in favour of a system-oriented and area-oriented approach. The National Soil Agreement (2009) (Nationale Bodemconvenant) offers an important basis in that respect.

A few passages from the Soil Agreement (2009):

- Parties will promote an area-oriented approach to soil contamination with large-scale groundwater contamination. In this area-oriented approach, the focus is on the connection with approach. Where necessary, the parties will design regional administrative arrangements to achieve the desired area-oriented approach.
- The Ministry of Housing, Spatial Planning and the Environment will ensure that a bill regarding the legal foundation of an area-oriented remediation of soil contamination with large-scale groundwater contamination is sent to the Council of Ministers, at the latest on 1 January 2010. In anticipation of the amendment of laws and regulations, the Ministry of Housing, Spatial Planning and the Environment will provide for a guideline for area-oriented remediation of soil contamination with large-scale groundwater contamination.
- The parties will make an effort to realise an option for buying off liability for the remediation of the contamination in the deeper groundwater, in combination with a local, regional or national specific financial facility that manages the buyout payments and assumes the responsibility for the remediation of the deeper groundwater. This effort will also concern the prevention of private damage to third parties and the conditional provision of an indemnity in that respect.

The licensing authorities will have to take into account each other's requirements and preferences, and the licensing process therefore requires mutual coordination.

In addition to the licensing authorities, the enforcing authorities must also be on the same wavelength. It frequently happens that the licensing authorities approve the proposed measures, but that the enforcing authorities create a delay during the implementation. Such delays can be prevented by timely including the enforcing authorities in the process.

## 6.6 Coordination of roles and tasks between area administrator and licensing authorities

### **Licensing for the measures of the area administrator**

The authorities competent for the Soil Protection Act and Water Act will grant their approval to the measures described by the area administrator in the management plan in a decision. In the case of the Soil Protection Act, this pertains to measures concerning the plumes of the groundwater contamination. For the remediation of the source zone, the party with a remediation obligation must apply for a separate decision.

For parties with a remediation obligation that cooperate with the area-oriented remediation of their contamination plumes, the inclusion in the management plan provides public indemnity for future remediation obligations.

### **Licensing for activities of third parties**

Once the management plan has taken effect, the licensing authorities must ensure the coordination in licensing applications of third parties between the sectoral policy frameworks and the measures of the management plan. This refers to e.g. applications of project developers for the construction of ATES systems or a remediation plan for the remediation of a soil contamination within the management area.

Figure 6.2 illustrates how the decision-making can proceed for license applications of third parties (initiator: blue column, competent authority: yellow column).

Note: The proposed amendment to the Soil Protection Act includes a flowchart for the adoption of a management plan. This is currently still under development.

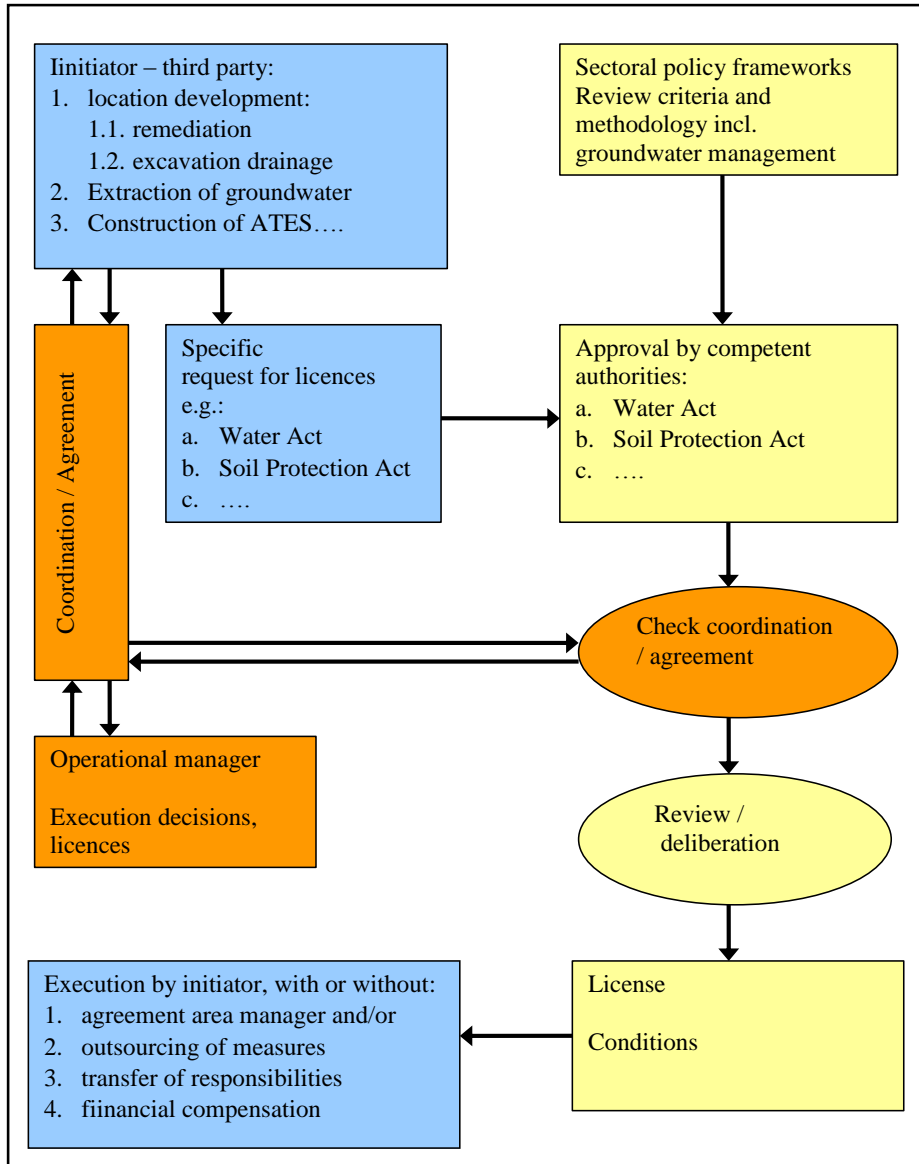


Figure 6.2: Illustration of licensing for the activities of third parties (source: MMG Advies BV)

## 6.7 Do's and don'ts

### **Do's**

- Timely involve licensing authorities in the process, in any case as from the vision-forming phase.
- Make use of the experiences the licensing authorities have in various areas in respect of looking for latitude in the existing regulations.
- Show courage and focus on opportunities instead of threats!
- Coordinate licenses as much as possible. Communicate with stakeholders about possibilities for involvement.

### **Don'ts**

- Do not strive for 100% satisfaction at all licensing authorities. Making compromises is inherent in the area-oriented approach.
- Do not forget the enforcing authorities. These authorities have an important role during the implementation and management phase.



## 7 Have the existing interests and acquired rights been weighed?

In area-oriented approach, area administrators are confronted with parties with interests or parties who have acquired rights on the basis of existing laws or decrees. As existing interests and rights in general prevail over new ones, an area administrator must take into account claims for damages when acquired rights are being reversed. In some situations, it is desirable to let new interests carry more weight. For instance, in the case of an application that is significantly more sustainable or that has a much higher added value for the users. The contribution of the untitled parties in the area measures is essential, certainly when existing licenses have to be modified.

### 7.1 Which interests and acquired rights?

In the case of interests and acquired rights, a distinction can be made between stakeholders with less influence and those with more influence. Which of the parties have more influence depends in part on the strategic objective of area-oriented approach in the concerned management area. These can be:

- Protecting the groundwater that abuts the area and possibly within the area through optimal control and management of the area and protection of the functions;
- Exploiting the subsoil for the desired use and exploiting opportunities for coupling functions that strengthen each other;
- Improving the quality of the groundwater within the defined area, namely at locations where possibilities present themselves from the perspective of the area development.

A combination of objectives is also possible.

Examples of parties with more influence are:

- Problem owners of groundwater contaminations with (and sometimes also without) a remediation obligation;
- Parties that want to apply drainage by well point or ATES in project development;
- Water boards with a quantity problem or quality problem in the surface water.

As described in the chapter 'Organisation', these stakeholders are actively involved in all phases of the planning process. In doing so, their interests and rights will also be covered.

The area administrator will also have to pay adequate attention to third parties in the area that have less influence, but that could experience adverse consequences. It is up to the area administrator to ensure that parties' interests are not harmed by e.g. ensuring that existing and future designated uses of the groundwater will not be disrupted by the area remediation. This chapter focuses on the interests and acquired rights of the parties that are outside the project organisation, but that could possibly experience adverse consequences.

## 7.2 Position of stakeholders with less influence

The parties that could experience the adverse consequences of area-oriented approach are:

- License holders of industrial groundwater and drinking water extractions;
- License holders of open ATES systems;
- License holders for the execution of drainage by well point;
- Decision holders of severe, non-urgent cases of groundwater contamination;
- Decision holders of ongoing groundwater remediations;
- Decision holders of remediations that have already been concluded, in which a (stable) residual contamination remains in the groundwater.

Hence, two interest groups can be distinguished: License holders who extract groundwater for varying purposes and decision holders who have made agreements with the competent authority about the manner in which the groundwater contamination present should be dealt with.

### **Interests and rights of license holders**

Many area visions refer to sizable plumes in the groundwater. The contamination plumes are given room to further disperse within the boundaries of the management area. In the vicinity of groundwater extractions present or planned, the risk of the extraction having an impact on the groundwater plume increases. In the course of time, this could mean that the quality of the extracted water deteriorates and the functionality of the extraction is threatened or that additional costs must be incurred to maintain the quality of the groundwater within the required standards.

Pursuant to the license granted, the holders are entitled to groundwater of acceptable quality. These rights cannot be arbitrarily taken away. Therefore, these aspects can be expected to be included in the vision-forming phase, but this does not yet mean that all license holders would be convinced that their interests are properly taken care of. It is essential that the area administrator actively approach the license holders in order to prevent stagnation as a consequence of objection procedures.

### **Interests and rights of decision holders**

The management area can contain multiple groundwater contaminations for which agreements, in the form of decisions, have already been made between the party experiencing the problem and the competent authority pursuant to the Soil Protection Act. This includes:

- a. decisions concerning severity and urgency;
- b. decisions to approve a remediation plan;
- c. decisions to approve an evaluation report.

In the decisions, the competent authority grants permission to a) not have to perform remediation if the case has been assessed as not urgent, b) to perform the groundwater remediation in conformity with the proposed case-oriented approach, and c) to terminate the groundwater remediation because a stable end state has been achieved.

These decision holders become relevant if room is created in the area vision for parties performing drainage by well point to do extractions without provisions for preventing the attraction of groundwater. In that case, the size of the (residual) contaminations present in the groundwater can increase and result in urgency or dispersion of residual contaminations that were presumed stable.

### 7.3 How can stakeholders be involved in the process?

The environment analysis performed in the vision-forming phase reveals which stakeholders have little influence but could experience adverse consequences of area-oriented approach. At that moment, their interests can be weighed and the area administrator determines whether they are relevant to the selected area solution. The area administrator must actively approach relevant stakeholders and provide them at the least with information about the initiative. In some cases, it will be necessary to make further agreements or buying-off schemes.

Contaminations that have already been remedied but for which aftercare obligations apply can be subject to follow-up within the regime of the area management of contaminated groundwater. Hence, parties subject to aftercare obligations can also be given the opportunity to participate in the area remediation.

Contaminations that are already subject to a (prolonged) ongoing remediation at the moment that the area management for contaminated groundwater is instituted, can also be included in the area remediation.

### 7.4 Do's and don'ts

#### **Do's**

- Put yourself in the shoes of a stakeholder, listen to opportunities and dilemmas, and translate those into tailored perspectives.
- Negotiate on the basis of interests and not on the basis of positions.
- In the case of impending obstructions, inform concerned government bodies of their social responsibility.
- Make a distinction between sectoral interests, area interests, and business interests.
- Translate interests into perspectives for stakeholders.

#### **Don'ts**

- Treating all interests in an egalitarian manner and invite all stakeholders to the table at the same time.
- Assuming to know the interests of the various stakeholders in advance.
- Confusing public assessment of interests with personal representation of interests.

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## Document description

**Title:** Organisation and Financing of Area-Oriented Approach

**Number of Pages:** 46

**Date of publication:** May 27 2011

**Contact:** Gijsbert Schuur, Ester Kroone, Renier Koenraad (Ingenieursbureau Oranjewoud)

**Key words:** area oriented approach, financing, organisation

**Translations:** Organisatie en financiering van gebiedsgericht grondwaterbeheer (original in Dutch)

**Summary:** The area-oriented approach revolves around the active promotion of setting up and structuring area-oriented approach (Ggb) in areas that have been designated for that purpose. The primary responsibility for the setup and execution of Ggb resides with the competent authorities and the regional and local authorities involved. The project's actions are focused on providing information and support, while creating the proper preconditions.

