

A wastewater chain network with municipalities, a waterboard and water companies using the Mutual Gains Approach (MGA) to realize lower costs and less vulnerability.

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Abstract

The distribution and treatment of wastewater faces major challenges in the near future. Climatic change, long-term infrastructure investments and new types of pollution pose major challenges to its management, likely resulting in a significant increase in costs. Given the complexity of these challenges and stimulated through the Administrative Agreement on Water (2011), the water boards in The Netherlands, municipalities, provinces and water companies decided to join efforts and to cooperate in wastewater management. In this particular case in the Delfland region (between The Hague and Rotterdam) twelve municipalities, the Water Board of Delfland and two water companies decided to work together. Initial cooperation results made clear that a MGA (Mutual Gains Approach) process with an external, independent facilitator was needed to come to an agreement. Through the MGA process the focus shifted from forced cooperation towards sharing interest, improving water quality at reduced costs, identifying system and human vulnerabilities and possible solutions. The newly established organization 'Wastewater Network Delfland' (NAD in Dutch) is in this regard a result of the MGA process. The Mutual Gains Approach shifted people's mindsets and proved to be of great value to the stakeholders involved in the NAD. The time taken by the parties to invest in relationship and a genuine analysis of each other's interest increased trust between them.

In the first paragraph the five steps of MGA will be explained in the context of the success of the founding of the NAD. In the second paragraph representatives from the NAD will explain the current organizational structure and highlight the progress made in four years since establishment.

Keywords

Collaboration method, cooperation methods, interests and positions, lower waste water costs, Mutual Gains Approach (MGA), Network Wastewater Chain Delfland, stakeholders' interests, stakeholder management, vulnerability, Water chain network,

THE FIVE STEPS OF MGA AND HOW TO BUILD CONSENSUS TO CREATE A SUSTAINABLE SOLUTION FOR THE (WASTE) WATER SYSTEM

In the next paragraphs the 5 steps of the MGA process will be explained. Each step is divided in two sections. In the first section the theory of MGA is explained. The second section clarifies the practise of the theory and let to the newly established organization.

Step 1 Initiative and preparing

Theory

A MGA-process starts with a problem or issue experienced by a group of stakeholders. The process

facilitator will then initiate a stakeholder assessment in order to identify the people/organisations who are part of the issue. The interests of each stakeholder will be identified. The interests can be identified by asking and not guessing or assuming for the stakeholder. The questions asked the most in these conversations is “Why?” The question why helps to find the interests instead of positions. Thinking in positions makes it hard to find different solutions for issues. After conversations with the stakeholders the participants in the MGA process are determined together. Besides the issue that caused the start of the MGA process other issues will be identified. Issues have to be clear and not suggestable for other interpretations. Stakeholders are not only searching for multiple shared issues. It is a possibility there are some shared issues.

Practice

The waterboard Delfland initiated a MGA process after failing a previous attempt. An independent facilitator with MGA experience (Mr. F. Evers) was asked to facilitate the process. The facilitator spoke with the responsible employee and manager of each of the stakeholders. He requested to rely on the decision to join a MGA process. If the stakeholder responded positive towards the option for a MGA process the facilitator asked for full commitment. The first event was a meeting attended both by the employee and manager of every stakeholder. Together the stakeholders made mutual agreements on communication to the media, respect, commitment etcetera.

Every stakeholder communicated his interests and the other stakeholders helped to sharpen the interests until the interests were not suggestable for other interpretations.

Now the interests were clear stakeholders had to agree on the issues to be solved. The issues listed could only be solved in cooperation. For example, one of the issues was the vulnerability in the maintenance of sewer pumping stations. Why? A shortage of good qualified personnel, level of knowledge and the age of the employees makes the maintenance service instable and the risk of failure of sewage pumping stations will increase.

At the end of the first event the stakeholders agreed on homework: they would check if the interests and issues for their own organization were indeed shared and recognised in their organizations. They also had to do some research for their Best Alternative To a Negotiated Agreement (BATNA). If they could reach their goals on their own, why would they cooperate? The purpose of the next event was finding consensus over the issues. And to check if all interests were formulated well and there were no further questions about the issues and interests.

Step 2 Roles and responsibilities

Theory

This step forces to think about the roles and responsibilities of each stakeholder in the process. Who are the representors during this process? What to do if a representor sends another person? What effort is expected both in time and finances? For example: is the person at the table allowed to speak on behalf of its constituency? When and how will the constituency be informed? All stakeholders have to commit with the agreements they make. This does not mean the roles and responsibilities cannot change during the process. The roles and responsibilities can change but only if all participants of the MGA process agree.

Practice

During the process for the NAD the stakeholders made several rules about roles and responsibilities. For example, the finances for the independent facilitator, meeting rooms and others costs were split between all stakeholders. The quota of each stakeholder was determined by the number of residents. A large municipality means a bigger contribution than a municipality with a small number of residents. One municipality was responsible for the finances (collecting money and paying bills). The stakeholders made uniform news messages so that all organizations got the same information at the same time. The stakeholders formed a solid group of representatives and agreed not to replace representatives during the process.

Step 3 Joint fact finding and solutions for issues

Theory

In a joint fact finding, all stakeholders gather and share information necessary to make decisions about solutions. Some facts are not complete and information is missing but essential for the issues. The stakeholders make agreements about how to search and add new information. After this step all issues are based on facts and all stakeholders agree on these facts. The solutions for the issues will also be based on these facts.

Practice

In a previous attempt for cooperation, the stakeholders made a document. This document included facts such as total length of sewer pipes, number of sewage pumping stations, quantities of wastewater. This document also encloses a strong opinion about the future organization of the waste water system. This document contributed to the failure of the first attempt of cooperation. However, this document was of great value during the following MGA process. All the stakeholders agreed to use the facts in this document for the Joint fact finding. And they all agreed to disagree on the proposal for a new organization for the waste water system. Some information was still missing and the stakeholders agreed on information needed, the deliverance of the new information and how the new information was shared.

After the joint fact finding was completed and accepted by all stakeholders the fourth step could begin.

Step 4 Create value

Theory

With the joint fact finding the solutions can be based on facts. In this process several packages of solutions are possible. Looking for just one common solution for all the issues narrows the quality of the solutions and limits creativity to find new creative solutions. In the search for solutions every solution is possible. In this step the value is created by the number of the solutions, the creativity of the solutions and the cohesion between the solutions. The stakeholders agree on the criteria on which a proper solution is based on. If a solution matches the criteria it is a sustainable solution. This is how a package of solutions arises.

A package of solutions is an important part of the final agreement. The stakeholders determine criteria for the solutions. The stakeholders check if the solutions match with the interests each stakeholder has. There will be no voting over the solutions! Everyone has to agree. If one of the stakeholders does not agree there is no consensus. A good facilitator will ask what is needed for the stakeholder to agree. If a stakeholder does not agree there is a possibility the solution does not fit with the stakeholder's interests. Until this is solved there cannot be consensus and there is no mutual final agreement.

If all stakeholders agree they can compose the final agreement and make sure it is signed, sealed and well known in their own organizations.

Practice

For the stakeholders in this process the best outcome of solutions was a menu of projects (see table 1). Not every stakeholder has to be a part of each project. Each stakeholder chooses a few projects that contribute most to their own interests.

By finalizing the agreement one municipality did not agree with the chosen menu of projects. The trust amongst the stakeholders was gained, so this stakeholder felt comfortable mentioning the disagreement. The interests of this stakeholder were not served well enough. The package of solutions was adjusted and the stakeholder agreed with this adjustment and felt his interests were served now. After the adjustment all the stakeholders reached consensus about this paragraph of the final agreement. Another paragraph in the final agreement was how the new cooperation could be established in an organization.

Based on the common history, a hierarchy controlled organization was not an option. The

stakeholders wanted the new organization to fit with the content. So an organization based on a network philosophy was born. The costs for this network were divided the same as at the start of the MGA process. The stakeholders reached consensus about the form of organization, the name of the organization and the package of solutions for the issues (see table 1). The final agreement was written by the stakeholders themselves and in the end signed by all political representatives.

Step 5 Follow through

Theory

After signing the agreement the work is not done. It is just getting started! After the hard work of getting to an agreement based on consensus, implementing this agreement is a new challenge. How to implement the agreement with the same philosophy, commitment and respect as shown during the MGA process?

Practice

The agreement was signed by all political representatives. That was an exciting milestone where all stakeholders worked really hard for. Not all of the stakeholders realized the work had just began. Projects had to start, new people were added to the network and a small group had to be formed to be the engine of the network. This small team was and is responsible for organizing network events, newsletters, hiring an independent process manager with MGA experience, communications and PR and the progress reports for the government. The stakeholders (and not this lead team) are responsible for the content of the projects. The network exists for over three years now and welcomed two water companies as new partners to the network (see explanation below). The network reaches goals, but also faces challenges. The next paragraph gives an insight on the evolving of the network and why MGA is still the base of all the decisions.

HOW THE NAD STARTED AND HAS EVOLVED FROM FOUNDING TILL NOW

Program manager and the lead team

After the forming phase, the NAD was ready for the performing phase. To perform as a network organization an independent program manager was needed. The NAD was looking for a program manager with management-skills, as well as MGA-skills. The MGA skills are important to help the NAD to preserve the MGA approach during both good and tense times. The program manager is chairman of the NAD lead team. This lead team can be seen as ‘outboard motor’ for the network to help to deal with daily based affairs. The lead team consists of a few representatives of all the stakeholders. The members do not represent their own organization, but they take care of the continuity and progress of the program. This core team is responsible for:

- Organizing network meetings, to reflect on the interests;
- Organizing meetings to increase and share knowledge;
Sharing knowledge for example about new legislation, good practices, new challenges, innovations etc.
- Finances and budget;
Only for maintaining the network, not for the projects as this is allocated to the stakeholders
- Regular evaluation of the cooperation (with the Public Mediation Program, University of Amsterdam);
- Reporting the progress to the government;
- Guard the MGA philosophy.

Managers and governors

In order to maintain the NAD, support from managers and governors (aldermen and board members) is necessary. From the start of the process both governors and managers were involved in all steps. After signing the agreement, the lead team of the NAD organised several meetings where the

managers and governors were informed about the progress. Whenever a decision is necessary, all the governors from the different organisations are informed at the same time with the same tuned information beforehand. Every semester there's a meeting, called the government water table (already existed before the NAD), where decisions concerning the NAD are officially announced and taken. To act conform the MGA principals there is no voting about the decisions, the decisions are made with full consensus. An example of such a decision, is when two fresh water companies joint the NAD (see stakeholders below). All decisions are prepared by the lead team and beforehand tuned with all stakeholders.

Stakeholders

In The Netherlands responsibility for water is divided over several governments. The municipality has to provide systems to collect the sewage and the surplus of rainwater or groundwater and has to bring it to an assembly point. The Waterboard is responsible for transporting and cleaning waste water (the waterboard is also responsible for water quality and water quantity). Drinking water is supplied by water companies, active in different areas. In the region of the NAD two water companies are active, so the NAD invited these two companies to join the NAD. The companies shared their interests with the other stakeholders and searched for projects in the menu that contribute to their interests. With the accession of these two companies all the aldermen signed a new agreement, to endorse the expansion of the network and to increase the scope. The scope of less vulnerability and lower costs is still the same, but the scope of the water system is increased. The NAD now contains all influencers able to decide about the future water cycle.

The projects

The main reason for funding the NAD was to reduce costs and vulnerability, while maintaining or even increasing the quality of the wastewater system. The agreement contains a table with all projects the NAD identified, better known as the 'menu'. Each stakeholder decided on which project they would participate in order to contribute to their own interests. In the next paragraphs three projects will be further explained. These project are chosen because they show the NAD is active on strategic, tactic and operational level.

Table 1: projects of the NAD Legend: X = participate o = follow

Table "menu"			Delft	Den Haag	Lansingerland	Leidschendam-Voorburg	Maassluis	Midden-Delfland	Pijnacker-Nootdorp	Rijswijk	Schiedam	Vlaardingen	Westland	Zoetermeer	Waterboard Delfland	
1	Strategy	A	Joint Vision	X	X	X	X	X	X	X	o	X	X	X	X	
		B	Strategical Plan	X	X	X	X	X	X	X	X	X	X	X	X	
		C	Joint format Sewage plans	X	X	o	o	X	X	X	X	o	X	X	X	X
		D	Optimalisation programs	X	X	X	X	X	X	X	X	X	X	X	o	X
2	Innovation		X	X	o	X	o	X	X	X	o	X	o	X	X	
3	Sharing knowledge		X	X	o	X	X	X	X	X	o	X	X	X	X	
4	Work forces		o	o	X	o	o	o	X	X		o		X	X	
5	Maintenance sewer systems	A	Cleaning	X		o	X	o	X	X	X			o	X	o
		B	Inspecting	X		o	X	o	X	X	X			o	X	o
		C	Maintenance drains	X		o	X	o	X	X	o			o	o	o
		D	Eliminate malfunctions	o			o	o	o	X	o	X			X	o
		E	Controlling calamities	o			X	o	o	X	o				X	o
6	Maintenance wastewater	A	Pumping stations	X		o	X	o	o	X	o	X	X		X	X
		B	Minor maintenance	o		o		o	o	X	o				X	X

	transport systems	C	Major overhauls	o	o	o	o	X	o			X	X	
		D	primary malfunctions	o		o	o	X	o			X	X	
7	Real time Control	A	Joint Measuring and monitoring			o	X			X	X	X	o	X
		B	Pilot Real Time Control Delft	X	X	o	X		X		o	o	o	X
8	Joint management system			o	o	o	X		X		o		X	o

Strategic level; The strategy, vision and implementation program

The strategy, vision and implementation program for the NAD contains a strategy about the goals the NAD wants to achieve and how to achieve it. The goals are based on a sustainable waste water system, where re-use of the fresh water, raw materials and energy will be recollected (in 2050).

There are some milestones set for several goals, for example the reclamation of raw materials, circularity of water, revenue models, but also the way the separate organizations can be organized in the future. In order to reach the goals, jointly formulated in a vision, the NAD has founded a Transition team. This team helps to discover the challenges and develops a roadmap on how to reach the goals in 2050. See the drawing in figure 1 for more information.

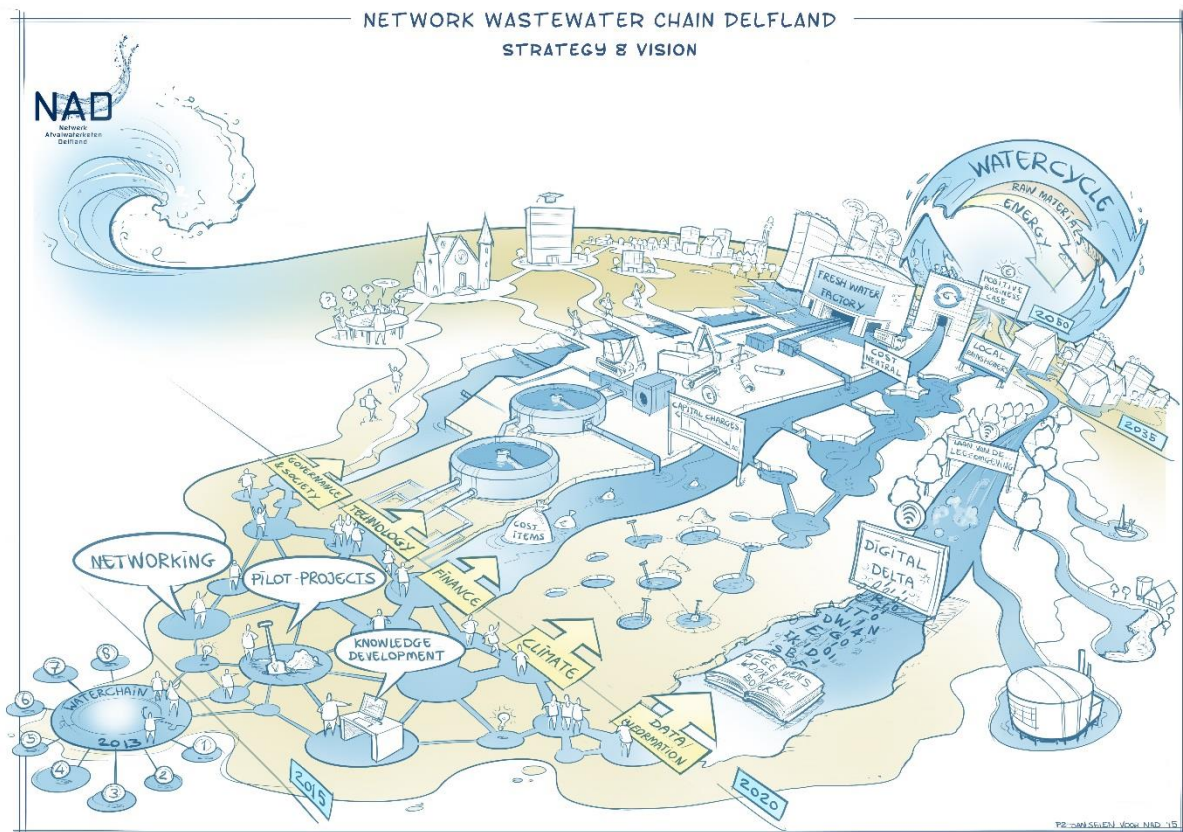


Figure 1 The important subjects in the vision are visualised including some of the milestones.

Tactical level: Mutual policymaking by using a joint format for sewer planning

In the Netherlands there are several levels of policymaking. All stakeholders in the NAD have their own policy concerning for example the tax rates for sewer maintenance or for treating the waste water. Because every stakeholder uses different values and assumptions to compute their costs, comparison is almost impossible. In order to reduce costs, mutual comparison is necessary. In this project all stakeholders decided in what way comparison is possible and which values are needed to make the comparison.

Because of the large mutual dependence, measurement taken by one may influence the effectiveness of another partner in the chain. Therefore all plans usually are made bilateral, where every municipality compose its own policy plan together with the waterboard. By using a joint standard format, the

efficiency of these processes increases. This way the interests of all partners are taken into account in a very early stage.

Operational level: Maintenance waste water transport systems, pumping systems

Because the waste water chain is divided over several stakeholders, there is not one stakeholder fully responsible for transporting the waste water from residents to the waste water treatment plant. The municipalities use large pipes to collect the wastewater using gravity. To transport the wastewater from the several assembly points they use sewage pumps to transport the wastewater to the limits of the municipality. From these municipal limits to the wastewater treatment plant, the transport is the responsibility of the waterboard. In The Netherlands operation and maintenance of the sewage pumps gets more and more problematic, due to increased technology of the sewage pumps and a shortage of good qualified personnel. Because stakeholders shared their interest during the initial MGA-process, it became clear how vulnerable this part of the chain already is nowadays. This was and is a big interest for the municipalities. For the waterboard it was and still is important to control the incoming wastewater as much as possible, to improve the purification efficiency and prevent overload. To join operations and maintenance from several organizations the rentability of the waste water treatment plant will increase. In order to solve the vulnerability two solutions are implemented.

1. The waterboard takes on of the operations and maintenance of the system from several municipalities
2. Several municipalities will combine their operations and maintenance and perhaps start a new organization.

In this project both solutions were elaborated and will be practiced. This is a good example of different solutions that are possible for one issue. This way all interests of the stakeholders are being served. Before the NAD was started, talking about shifting authorizations was not possible. Because of the MGA and the importance of thinking in interests instead of positions this project was made possible.

Challenges and added value

The NAD also faces challenges. At the start of the NAD every participant was trained in the MGA principles. After a few years some participants change and are replaced. The NAD tries to help the new participants in thinking in interests instead of positions. Not only for new participants this is difficult. The value added by cooperation in the NAD is that the trust in each other is good enough to address difficulties in a constructive way. Within the NAD everyone stays on speaking terms and the question “Why?” is still the question asked the most. The why question helps to find interests but also helps to check if the participants really understand each other instead of assuming the wrong conclusions.

The Public Mediation Program of the University of Amsterdam evaluated the NAD on cooperation. Is the NAD really that cooperative as participants think? The answer is yes. Especially on the soft skills of the cooperation the NAD scores are high. The NAD is also yearly evaluated by the Dutch government on progress in reducing costs. The NAD has made an excellent progress and is right on schedule.

CONCLUSION

In the future the NAD will probably still exist. Maybe in a different form or organization and expanded with topics such as climate adaptation. The NAD built a platform where participants speak the same language and find each other not only in waste water but in many other topics.

Working conform the MGA principles is now widely accepted and understood. What once started as a way for the government of the Netherlands to reduce costs and vulnerability is now a good example of a sustainable solution and a long lasting cooperation. The NAD has added value in all the organizations participating in the NAD.

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