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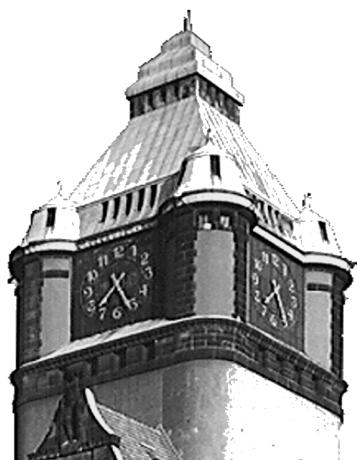
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**Decision-Oriented Implementation of Sustainable Development
Empirical Analysis of the Public Water Supply and Waste Water Disposal in the Free State of Saxony.**

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Edeltraud Günther, Heiko Schuh

Decision-Oriented Implementation of Sustainable Development¹

Empirical Analysis of the Public Water Supply and Waste Water Disposal in the Free State of Saxony.

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¹ We would like to thank Ms Katrin Pönisch-Pörschke and Mr Jeremy Berg from the Language Centre of Dresden University of Technology, who committed herself greatly to the English translation of this paper.

1 Research Design

Against the background of natural resources which are decreasing in quantity and quality, growing social tensions nationally and internationally, as well as increasing competitive and cost pressure, discussions concerning the long-term maintenance of bases of existence have intensified over the last few years. The discussions focused on the need to take into account various goals, among which there exists interaction, as well as to convert the need to act resulting from the interaction into political and entrepreneurial decisions. The simultaneous pursuit of various goals that can be assigned ecological, social, and economic dimensions is discussed in political and economic circles using the term “Sustainable Development” (“Nachhaltige Entwicklung”). This term has been used primarily since the Brundtland Report of the World Commission on Environment and Development of 1987, which was named after its chairman. The Report defines “sustainable development” as “development that meets the needs of present generations without compromising the ability of future generations to meet their own needs.”² To establish environmental goals and basic economic and social conditions, and to develop measures for implementing the goals of sustainable development, the German Federal Parliament introduced, among others, a symposium-commission called “Protection of Man and the Environment”. That is where the triad of ecological, social, and economic goals crystallized themselves as tightly interwoven system components of sustainable development that should be regarded equally.³ Furthermore, four fundamental rules concerning the treatment of renewable and non-renewable resources, substances emitted into the environment, and the tempo of anthropogenic interventions or emissions into nature for the implementation of “sustainable development” have been established for ecological goals.⁴ Later, a fifth rule concerning the handling of dangers and unwarranted risks for human health was added upon the advice of those in charge of environmental issues.⁵ After this, rules that were even less concrete and less systematic than those for ecological goals were formulated for economic and social goals.⁶

The public water supply and waste water disposal also pertain directly to the need for “sustainable development,” due to their significance as long-term safeguards of water, one of the bases of existence. The problems intensify due to increasing quality demands, decreasing consumption, fundamental structural changes, contamination problems, and the resulting increasing costs and compensation in conjunction with a tense job market. Against this background, the Saxony Department of Science and Art (SMWK) initiated a research project in which the study of “sustainable development,” on account of water’s vital significance, was supposed to be made more precise with a clear system border in

² Hauff, V. (Ed.) (1987), p. 46; <http://www.mtnforum.org/mtnforum/archives/reportspubs/library/bhatx98a.htm> (June 15, 2000, 3:15 p.m.)

³ Cf. Enquete-Kommission „Schutz des Menschen und der Umwelt“ des Deutschen Bundestages (Ed.) (1994), p. 54.

⁴ Cf. Enquete-Kommission „Schutz des Menschen und der Umwelt“ des Deutschen Bundestages (Ed.) (1994), p. 45 ff.

⁵ Cf. Der Rat von Sachverständigen für Umweltfragen (Ed.) (1994), p. 84.

⁶ Cf. Enquete-Kommission „Schutz des Menschen und der Umwelt“ des Deutschen Bundestages (Ed.) (1998), p. 48 ff.

the form of this medium, as well as a political spatial system border in the form of the Free State of Saxony. The empirical study in question was also carried out as part of this research project.

However, the discussion concerning “sustainable development” is often conducted on the one hand on the level of a model without having an exact plan for implementation. On the other hand, against the background of the regional specificity of water resources, frequently not enough attention is paid to the exact initial and determining conditions. This is absolutely necessary if the efforts to implement the model are to be successful, however, since implementation by the decision makers is influenced and directed on site.

One of the basic concerns of the research project which forms the basis of this study is therefore answering the question, to what degree public water supply, waste water disposal, and, therefore, also water pollution prevention in the Free State of Saxony meet the demands of “sustainable development” under the present ecological, social, and economic conditions and which factors oppose such development. Furthermore, an appropriate decision-making instrument is supposed to be developed to support the implementation of “sustainable development.”

The development of such a model for implementing “sustainable development” will be based on an ideal type control cycle for planning, managing, and controlling the decision-making process that allows for a comprehensive analysis of decision-making situations (see Figure 1).⁷

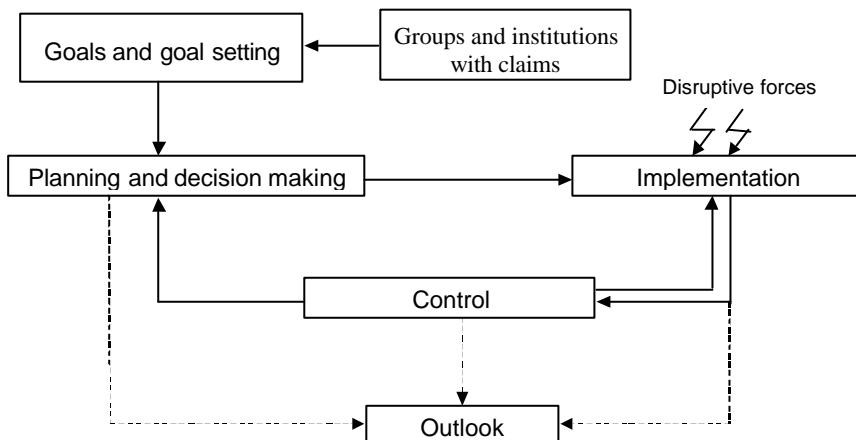


Figure 1: *Ideal type course of decision-making processes as a cybernetic process*
(with reference to: Adam, D. (1996), p. 32; Günther, T. (1991), p. 53)

There is a direct reciprocal relationship between the theoretical conception of a model for implementing “sustainable development” by means of decisions that need to be made in the scope of usual business activity and the practical implementation of such a model:

- On the one hand, the development and implementation of an appropriate decision-making instrument can lead to the removal of recognizable deficits in the practical implementation of “sustainable development”.

⁷ Cf. Günther, T. (1991), p. 51 ff.

- On the other hand, practical problems of various types limit the ability to implement such a decision-making instrument or place demands on it.

For this reason, the addition of an empirical foundation is required in addition to a theoretically sound analysis of the problem. This allows for a precise description of the status quo of the practical individual requirements on site, as well as of the basic conditions and goals, and therefore of deficits and starting points for problem solving. Therefore, this part of the research project *does not* focus on the development of a decision-making instrument. Instead, it focuses much more on the investigation of the practical deficits and basic conditions.

2 Organizational Structure of the Public Water Supply and Waste Water Disposal in the Free State of Saxony

Since the interpretation of the following representations presumes knowledge of the object under investigation, a fundamental, simplified overview of the organizational structure of the study field in question in the Free State of Saxony will first be given.⁸

Responsibility

Both the public water supply as well as waste water disposal count as areas of services for the public and, in Saxony, have been assigned to the local authorities as tasks in the scope of local self-government.⁹ The goal of this explicit assignment of responsibility in the Saxony Water Act is to supply the public with safe, i.e., sufficient and permanent high-quality drinking water and to dispose correspondingly of waste water. The local authorities can use third parties to fulfill these tasks. The responsibility for the public water supply can be passed on to legal persons under private law and the responsibility for waste water disposal to persons under private law.¹⁰ In the future, these persons can also reside outside of Saxony. Thus, the political responsibility and the actual economic completion of the tasks can lie in one place or in separate organizational areas. According to Section 59 of the Saxony Water Act (SächsWG), facilities for the supplemental supply of water from remote sources are also permitted. A great number of relevant independent organizational units results from this division of responsibilities, such as local authorities, special purpose associations, public utilities, public-sector enterprises, and private businesses.

Within the framework of the activities according to Section 1a (2) of the Water Act (WHG), water pollution prevention is an additional task of each of the named facilities.

⁸ Cf. also Sächsisches Staatsministerium für Umwelt und Landesentwicklung (Ed.) (1998), p. 14 ff.

⁹ Cf. for water supply Section 57 (1) of the Saxony Water Act (SächsWG) and for waste water disposal Section 63 (2) of the Saxony Water Act (SächsWG) in conjunction with Section 18 a (2) of the Water Act (WHG) respectively in accordance with Section 2 (2) of the Local Statute of the Free State of Saxony (SächsGemO).

¹⁰ Cf. Section 57 (3) of the Saxony Water Act (SächsWG) and Section 63 (3) and (4) of the Saxony Water Act (SächsWG).

Autonomy for local self-government

In general, Art. 28 (2) of the Federal Constitution together with Section 2 (1) of the Local Statute of the Free State of Saxony (SächsGemO) grant the individual local authorities autonomy for local self-government. Therefore, fulfillment of tasks occurs independently and is their own responsibility. Besides fulfilling the absolute obligations and absolute obligations as per instructions, the responsible parties can, therefore, pursue additional goals, i.e., their own goals in the form of voluntary tasks.

Control function

Public administration in general and accordingly also local self-government must act according to statutory provisions and are subject to state supervision in the form of legal supervision and supervisory power. The supervision is carried out by institutions of the state administration.¹¹ Legal supervision serves to control legality and takes place specifically in Saxony via the district administrator's offices, the government boards, as well as the Department of the Interior, which is the highest supervisory authority on points of law. Supervisory power serves to link communities to the general state administration using institutions of the state administration (in the Free State of Saxony in the form of the counties and autonomous cities), the government boards, and the Department of the Environment and Agriculture according to Section 123 of the Local Statute of the Free State of Saxony (SächsGemO) and Section 118 of the Saxony Water Act (SächsWG). Economic as well as ecological aspects are to be taken into account when carrying out these controls.

3 Study Design

As already explained above, the goal of this empirical study is to analyze the current real situation for the implementation of “sustainable development.” Therefore, the following points have been focused on:

- Knowledge and understanding of the term “sustainable development” among the many relevant individual decision makers;
- Their goals;
- The current connection between, or the possibility of connecting, goals and the building blocks of “sustainable development” in decision-making processes and structures; and
- An assessment of the current implementation and of the problems of implementation.

The organizational structure of the public water supply and waste water disposal in the Free State of Saxony determined the type of institution in question. In order to obtain representative study results, a complete census was carried out in the Free State of Saxony. The census covered:

¹¹ Cf. Sächsisches Staatsministerium für Umwelt und Landesentwicklung (Ed.) (1998), p. 16.

- All responsible parties and all institutions that are entrusted with the actual completion of the tasks of public water supply and remote water supply, waste water disposal, and therefore also water pollution prevention;¹²
- The Saxony Department of the Environment and Agriculture as the highest water authorities in the Free State of Saxony;
- The government boards of the Free State of Saxony as the higher water authorities;
- The state authority State Office for Environment and Geology;
- The lower special authorities in the form of the Departments of the Environment; and
- Because of the significance of the reservoirs in the Free State of Saxony for the above-named tasks, the publicly-owned State Reservoir Administration.

We would again like to thank the State Statistical Office of the Free State of Saxony in particular, as well as other various offices for providing us with the addresses of the above-named authorities. Despite the support given to us, diverse inconsistencies arose with regard to the number of responsible institutions and the exact contact partners. For this reason, at the preliminary stages of the study we conducted a telephone questionnaire of all possible institutions concerning areas of responsibility, contact persons, and addresses. In this way, most inconsistencies could be clarified. For example, communities had in the meantime united to form a special purpose association. The responses received from the institutions that were contacted over the course of the successive actual empirical study produced further such information, so that the number of people questioned could be increased or the groups to be questioned could be selected more specifically. Besides communication problems which may exist between the various institutions or various criteria or moments of the establishment of the figures, these inconsistencies especially allow the dynamics of the organizational design in the areas being studied in the present phase to be inferred.

In June, 1999, 416 institutions (= population) were thus eventually asked to participate in a written survey in the form of a standardized questionnaire (see Attachment). As already noted, the concentration on Saxony is a result of the exact goal-setting of the project that is the basis of this study. However, as regards the intended formulation of the questions, one can assume comparable results especially in the other new Federal States, due to similar structures and problems there.

Data was collected until the beginning of September, 1999. Of the 416 institutions that were asked to participate in the survey, 226 institutions, or 54.3 %, responded. Of those, 202 institutions returned questionnaires that had been answered and could be analyzed. This corresponds to a return ratio of 48.5 %. It must be noted, however, that not every

¹² About 97.6% are connected to the public water supply (as of 1995), about 80% to public sewers, and about 70% to public water treatment plants (as of 1996), cf. Sächsisches Staatsministerium für Umwelt und Landesentwicklung (Ed.) (1998), p. 71 and p. 73. Therefore, individual supply facilities (e.g., domestic wells and small domestic sewage treatment works) do not have great significance and were not included in the study because of their secondary status. However, this does *not* mean that these facilities do not need to be taken into account at all when implementing the goal of "sustainable development."

question was answered in each questionnaire. For this reason, the number of actual random samplings that are considered when evaluating individual questions is often smaller than the number of the overall questionnaires that could be analyzed. Therefore, the exact number of responses included in an individual evaluation is explicitly given for each evaluation.

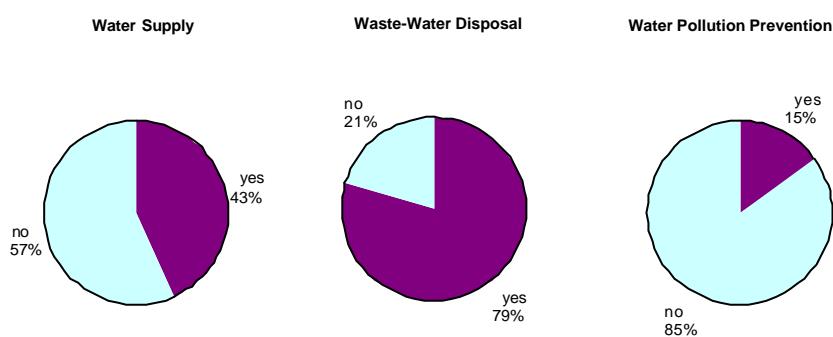
The institutions had the opportunity to return the questionnaire anonymously, but only 11.5 % of the institutions chose to do so.

In the following section, results of the study evaluation that are especially interesting will be presented. The order of the evaluation steps is organized according to the course of decision-making processes presented in Figure 1.

4 Selected Study Results

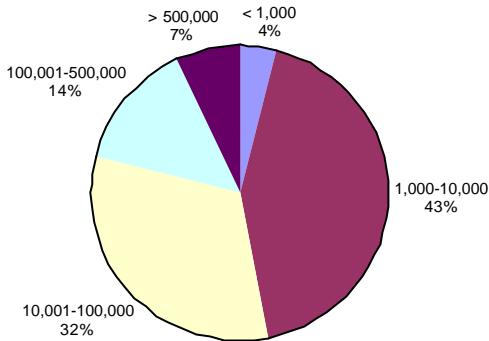
4.1 Fields of Activity of the Institutions That Were Studied

The analysis of the activity and size pattern of the institutions that were questioned reflects the complex structure of the area under study on the basis of a large amount of individual institutions as decision makers. The formation of the random sampling is very heterogeneous (see Figure 2 and 3) with regard to the area of responsibility under study, which is why possible structural distortions of the evaluation results can be excluded.



*Figure 2: How do you categorize your institution's main field of activity?
(Random sampling: 197 institutions, multiple answers possible)*

97 % of the institutions whose main field of activity is water pollution prevention are also active in the field of water supply and/or waste water disposal.



*Figure 3: How many residents is your institution responsible for?
(Random sampling: 201 institutions, only one answer given)*

4.2 Groups and Institutions with Claims

The institutions studied here are connected in a network of activity that is composed of general environmental situations (i.e., economic development and statutory provisions) and concrete claims of various groups and institutions with claims (stakeholders, see Figure 4).¹³ However, when making decisions, the claims of the various groups and institutions are only taken into consideration if they are asserted and a concern is thus determined. Whereas private-sector businesses focus on individual-oriented goals especially of owners who are active in the capital market (Shareholder Value Concept), public institutions, comprising the very high proportion of nearly 87 % of the institutions studied (see Figure 15), have to satisfy the needs of many institutions and persons, who as individual citizens can articulate their influence on democratic voting behavior with equal rights.¹⁴

It must be emphasized that the different groups and institutions with claims are attributed various importance (see Figure 4). The State of Saxony is entitled to especially strong influence. This is certainly due to the design possibilities of the statutory provisions and the existing organizational structure with control functions by the State of Saxony and its institutions for state administration. Furthermore, the owners of the respective institutions can exercise great influence on the decisions.

It is worth noting that the clients, i.e., the groups and institutions with claims that have the most direct contact with what the institutions produce, can only exercise moderate influence. However, the ranges¹⁵ indicate that all criteria characteristics have been named. Some institutions listed as “other groups and institutions with claims,” whose importance must be considered significantly lower than that of the other groups due to fact that they

¹³ For more details, cf. Günther, E. (1994), p. 24 ff. Stakeholders of an institution are considered those individuals or groups that can influence the goals of the respectively affected institution or are affected by the realization of the goals, cf. Freeman, R. E. (1984), p. 25; Günther, E. (1994), p. 53.

¹⁴ However, a tendency towards managing public institutions and private-sector businesses similarly has become apparent over the last several years, cf. Günther, T. (1999), p. 93 f.

¹⁵ The range shows the breadth of responses, i.e., the difference between the biggest and smallest observed value or the correspondingly assigned ordinal scale. The standard deviation gives the positive root from the mean quadratic deviation from the mean of all observed values that is given in Figure 4. That means that it can be interpreted as the mean deviation.

were only mentioned 18 times, were the district administrator's office, other infrastructure institutions, communities and local councils, administrative councils, members of associations, the Chamber of Industry and Commerce (IHK) and plant managers.

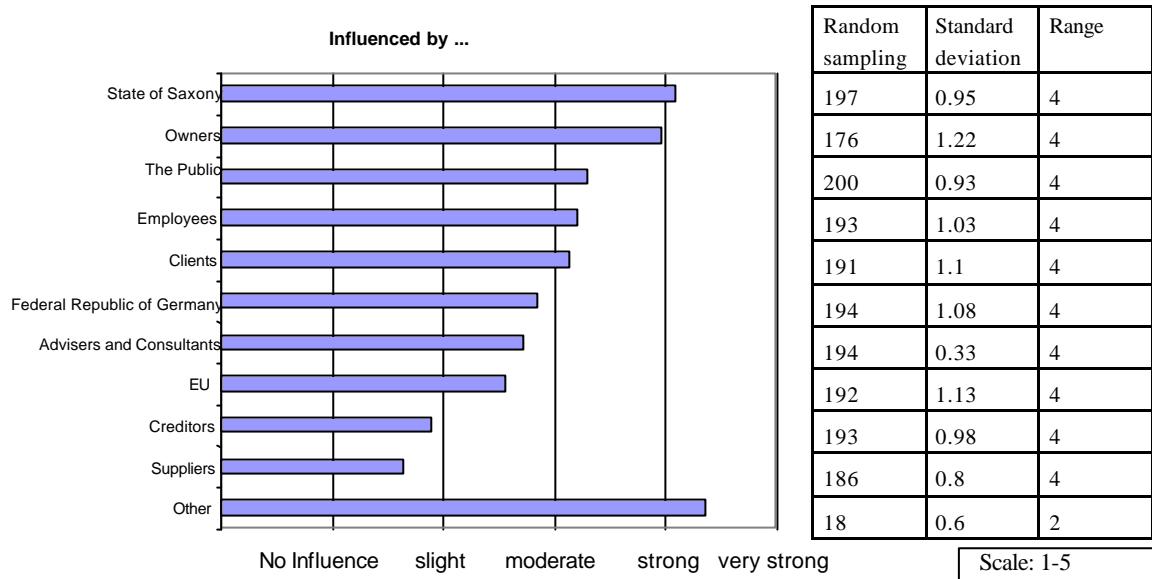


Figure 4: How great do you consider the influence of the different groups and institutions with claims on decisions made by your institution?

Structured and particularly comprehensible decisions are necessary in order to justify the decisions made with respect to these various groups and institutions with claims.

4.3 Understanding “Sustainable Development”

Term

In order to be able to implement primarily social and political notions of value such as, for example, “sustainable development,” these have to leave their mark on the decision-making thoughts of the individual decision makers and thereby be transformed into their goals. For implementation to proceed, it is first necessary to understand the problem of the social goals of the individual decision makers.¹⁶

Despite the extensive use of the term “sustainable development” particularly in political and scientific discussions and publications, the term alone is *not* familiar to many decision makers who make possible the implementation of social and political goals by their individual decisions (see Figure 5). Those familiar with the term generally gave a brief explanation of their understanding of the term.

¹⁶ Cf. Kirchgeorg, M. (1999), p. 213.

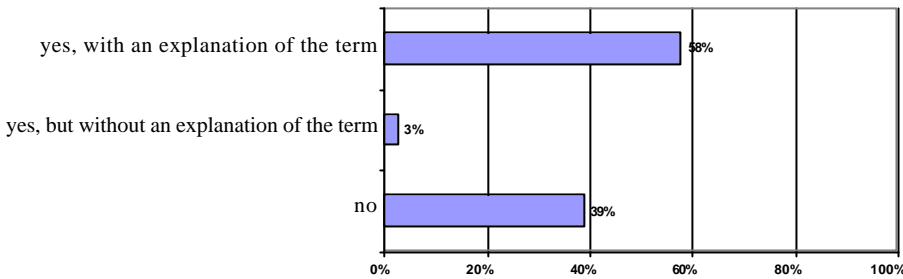


Figure 5: Are you familiar with the term “sustainable development”?
(Random sampling: 193 institutions, only one answer given)

This allowed these explanations as term definitions to be structured for the subject of study “water” especially according to the following aspects. A summary of the empirical results is given in Figure 6.

1. Value dimensions of “sustainable development” regarding content. Explanations were given here that can be attributed to the ecological, economic, and social value dimensions.
2. Understanding resources in the form of the relevant functions of the natural environment, i.e., the supply function with regard to the provision of drinking water, the carrier function with regard to waste water disposal, and the regulatory function with regard to water pollution prevention.
3. Temporal division, i.e., above goals and how they relate explicitly to the present and future.

Empirical Results			
Named value dimensions	Naming of three value dimensions (ecological, economic, and social) 7.1 %	Naming of one or two value dimensions 54.8 %	No explicit naming of a value dimension 38.1 %
Resource understanding of the natural environment	Naming of all three functions (supply, carrier, and regulatory functions) 3.5 %	Naming of one or two functions 67.3 %	No explicit naming of a function 29.2 %
Temporal division	Naming of present and future as a component of “sustainable development” 46.0 %	Only naming the present 54.0 %	Only naming the future 0 %

Figure 6. Structure of the meanings of “sustainable development” with the number of empirical responses

As part of the evaluation, statistical significance tests for explaining the relationship between certain values were carried out in the form of contingency tests in order to determine whether certain characteristics A and B in the population are dependent on each other. This can represent the starting point for further studies with regard to the type of relationship and management mechanisms for reaching the respective target figures that are based on this. A null hypothesis will first be formulated, in which the independence

of the values will be assumed. A counter hypothesis that assumes the dependence of the values being studied will be contrasted with it. If the null hypothesis can be dismissed with a lower error probability than the purported significance level α because of the statistical test method, the α -error that results from this refusal is accepted and the confirmation of the counter hypothesis, i.e., the dependence of the values being studied, is implied.

From it, various test results concerning knowledge of the term “sustainable development” could be derived:

- *Test Result:* With regard to the relationship of the institutions’ main branches of activity and the knowledge of the term “sustainable development,” the null hypotheses of the independence of both values could be refused for the fields water supply and water pollution prevention (α -error for water supply = 0.035 and for water pollution prevention = 0.075), but not, however, for waste water disposal. Thus, a relationship between an institution’s main branch of activity and the knowledge of the term “sustainable development” exists. Knowledge of the term is greater when the activity is primarily in the field of water supply and water pollution prevention.
- *Test Result:* When differentiating according to responsible parties (usually communities) and who completes the tasks, the null hypothesis, on the other hand, could not reject the independence between type of responsibility and the knowledge of the term “sustainable development.” These values are thus independent.
- *Test Result:* The study of the relationship between the size of the institution with regard to the number of residents who need to be supplied and the knowledge of the term “sustainable development” led to rejection of the null hypothesis of the independence of the values (α -error < 0.001). As the size of the institutions increase, familiarity with the term “sustainable development” also increases. This relationship is also confirmed when considering the number of employees that the overall institution has, as well as the number of employees involved with the resource “water.” This result could be interpreted so that for the goal of “sustainable development” a structure with large organizational units is appropriate, since corresponding knowledge is more likely to be available there and can be correspondingly implemented. This, however, may also prompt one to work out the differentiating characteristics between “small” and “large” organizational units as control variables that can be influenced with the goal of evening out the differences. An example of this could be training sessions for the employees.

Responsibility

Since the term is relatively unknown and therefore there appears to be no connection to the direct areas of responsibility of the institutions, the responsibility for implementing “sustainable development” is thus primarily not seen to be in the hands of the own institution, but rather, especially for public institutions, in the hands of the State of Saxony, the Federal Republic of Germany, and the European Union (EU) (see Figure 7).

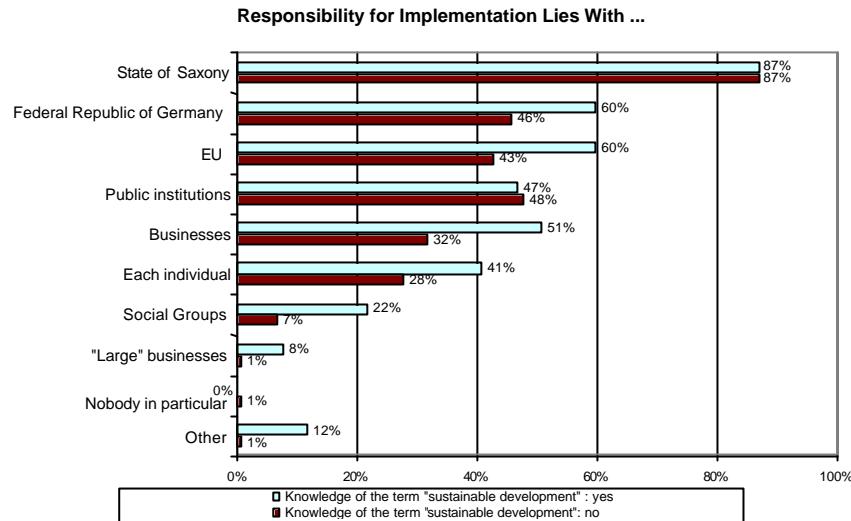


Figure 7: Who is responsible for implementing “sustainable development” in the water sector?
(Random sampling: 192 institutions, multiple answers possible)

This does, however, contradict the goals of “Local Agenda 21,” according to which absolutely everyone should participate on site in the implementation of “sustainable development.”

4.4 Effects of “Sustainable Development” on Goals

“Sustainable Development” as a goal

The goals of the respective decision makers form the starting point for justifiable and comprehensible decisions and actions by persons and institutions resulting from them.¹⁷ On the basis of known goals and goals which have been put in concrete terms, concepts for the implementation of the decisions that have been made can then be developed (see Figure 1). Finally, the control as a comparison of the planning premise derived from the goals (desired value) and the actual results achieved (actual value) serves to measure the success of the decisions.

In general, the implementation of “sustainable development” is considered desirable on the one hand, and, on the other hand, strived for by the majority of the institutions (see Figure 8).

¹⁷ Cf. Bamberg, G.; Coenenberg, A. G. (1996), p. 25.

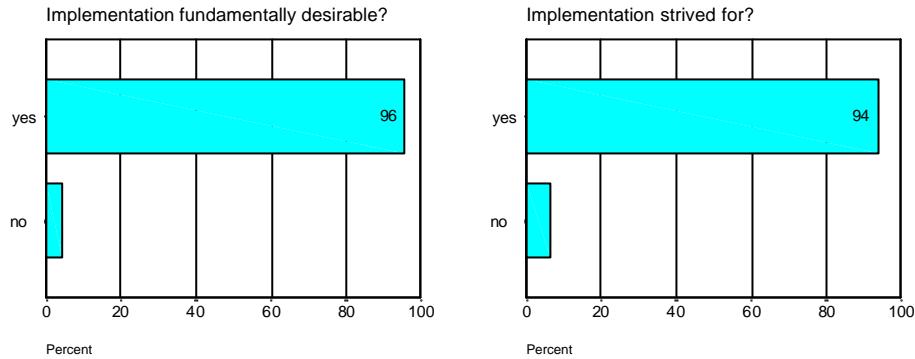


Figure 8: Does your institution consider the implementation of “sustainable development” to be fundamentally desirable and do you strive for such implementation?
(Random sampling: 174 institutions 180 institutions, only one answer given respectively)

The meaning of various goals

Whereas from the theoretical point of view the economic, ecological, and social dimensions of “sustainable development” should be considered relatively equally important,¹⁸ economic goals are given a special, practical significance, due to their limiting effects with regard to the ability to implement the goals (see Figure 9 and Figure 14). In doing so, however, not only short-term but also long-term effects have to be taken into account, in line with the intergenerative, i.e., generation-overlapping thoughts of “sustainable development.” The significance of “other goals” is clearly lower than those of the other goals to be assessed, however, due to the number of times it was named (35).

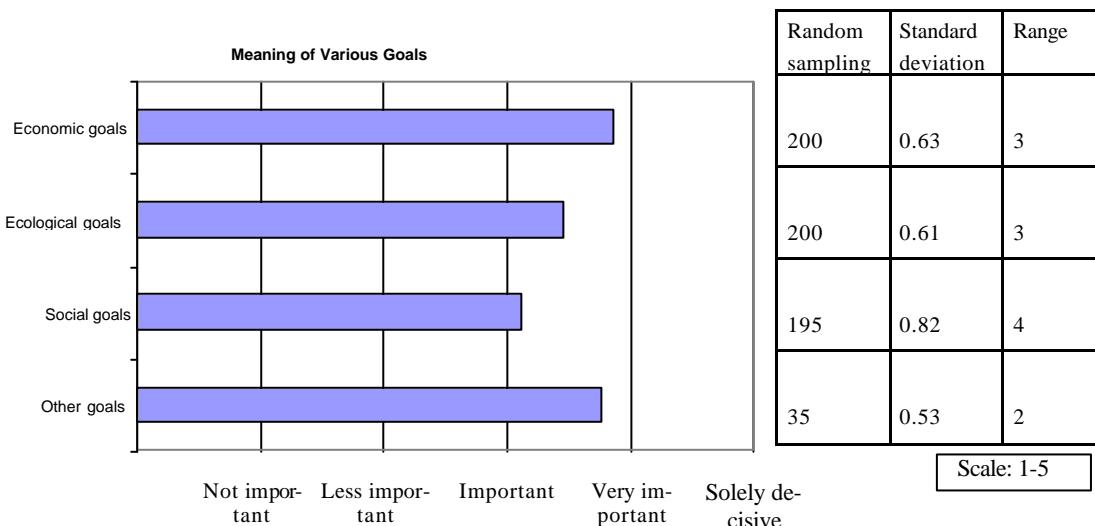


Figure 9: How important are different goals for your institution?

“Other goals” could be named at will and include, for example, political and technical goals, improving the infrastructure, and achieving the level of technology, as well as health care and reducing the price of water.

¹⁸ Cf. Enquete-Kommission „Schutz des Menschen und der Umwelt“ des Deutschen Bundestages (Ed.) (1998), p. 32.

Out of this, the following test results for the significance of the goal of “sustainable development” could be derived:

- *Test Result:* If the relationship between the significance of goals and the type of institution is studied, only economic goals prove to be dependent. Economic goals tend to be very important to private-sector and public businesses, very important to important to local governments and special purpose associations, and less important to state administrations. No such dependence exists for all other goals.
- *Test Result:* When ecological and social goals are given significance and are kept in mind during decision-making, the economic influence of their integration in decisions can be calculated. Dependence of the significance of the different goals and such a calculation could not, however, be determined.
- *Test Result:* However, dependence of the size of the institution and the calculation of the economic influence of the integration of ecological and social goals when making decisions did result (α -error = 0.011). The bigger an institution is, the sooner the economic consequences of the inclusion of ecological and social aspects in decision making will be calculated.

The significance of economic goals is equally expressed when planning the focus of future decisions (see Figure 10). The heterogeneousness of the course of action planned for the future also becomes clear in Figure 10, however.

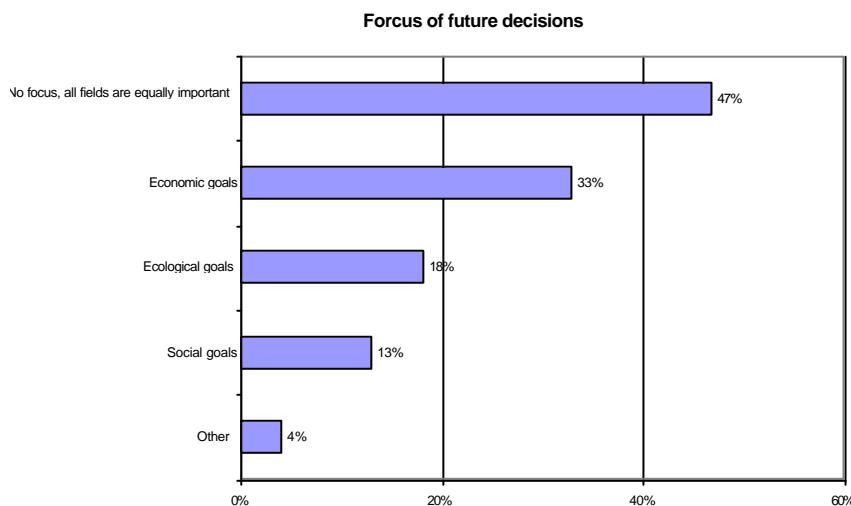


Figure 10: Do you want the future decisions of your institution to have a focus?

(Random sampling: 192 institutions, multiple answers possible. Whenever “No focus, all fields are equally important” was given, there was also only one answer given.)

Only taking a look at chosen aspects would not meet either the theoretical or the practical requirements of decisions and especially “sustainable development”.

Multiple criteria for decision-making situations

Almost all institutions and decision-making bodies have several goals for optimal “sustainable development” (see Figure 11).

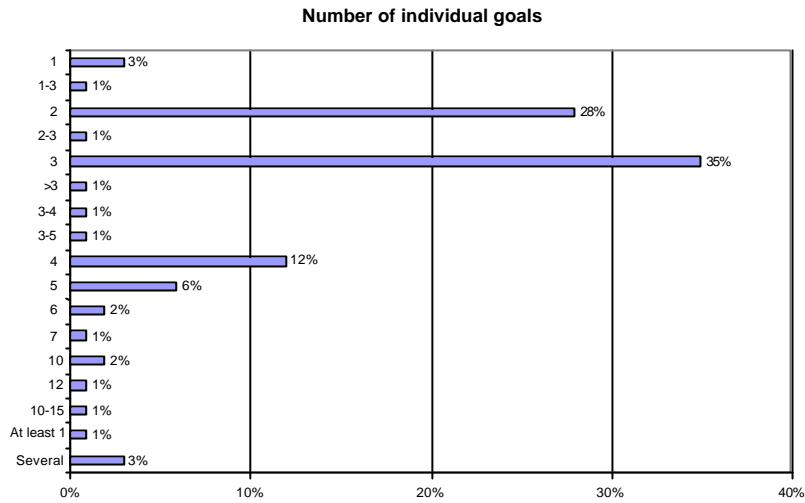


Figure 11: How many individual goals do you estimate your institution should take into account when making decisions in order to achieve optimal “sustainable development”?
 (Random sampling: 98 institutions, only one answer given, no specific choices given to respondents)

Therefore, classic decision-making rules with only *one* decision criterion such as, for example, profit maximization, will not be effective enough to fulfill all goals in decision-making situations. Instruments for *multiple-criteria* decision-making support are required a priori.

Type and amount of the individually strived-for goals as a measure of what action to take appear to not always be exactly known. On the one hand, this can be concluded from the fact that there were only 98 responses to the question concerning the number of goals (see Figure 11), and on the other hand, this can be concluded from the lack of agreement between the given number of goals and the number of individual goals explicitly named when answering a different question. In only 40 cases do both answers agree. The mean of the deviations between both answers is 3.1 with a standard deviation of 2.3.

4.5 Implementation of “Sustainable Development”

The degree to which the actual conditions can be influenced

To manage with goals in mind, the relationships and situations that are to be managed must be able to be designed and they must not represent basic conditions that are given, i.e., not capable of being influenced. Figure 12 shows that it is entirely possible to create actual conditions for “sustainable development” and that they have generally been used with regard to the present situation. Consequently, responsibility for the present situation can also be assigned.

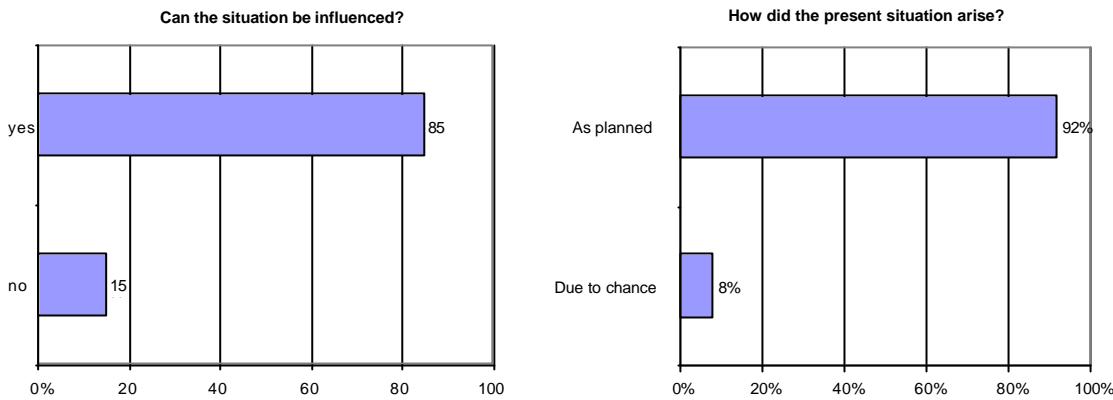


Figure 12 Is there an obvious relationship between measures that have been carried out and the actual situation? If yes: Was the present situation in your area of responsibility influenced as planned or did it occur more due to chance?
(Random sampling: 192 institutions 162 institutions, only one answer given, respectively)

Degree to which decision consequences can be corrected

For “sustainable development” to occur, it is particularly necessary to make decisions which can be corrected according to the principle of precaution, in order to allow future generations to make their own decisions. That means that conditions should be consciously influenced with regard to the future, but future developments should not be established by decisions that have irreversible consequences. This is especially the case in fields in which risk estimation of possible consequences resulting from action can lead to negative assessment.¹⁹ Only 2 % of the institutions see fundamental problems with stepping in and making corrections after decisions have been made (random sampling: 134 institutions, only one answer given). Such steps can, however, be associated with very high costs in the form of time and money (see Figure 13).

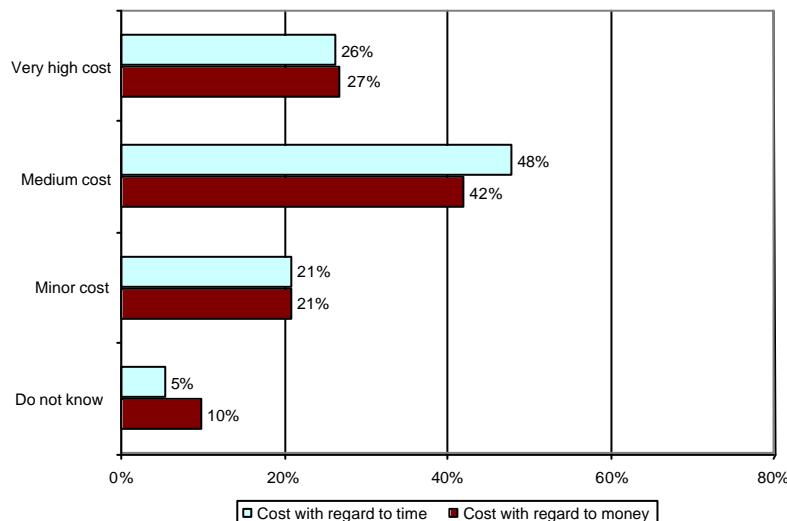


Figure 13: How expensive do the costs involved with making corrections after decisions have been made tend to be?
(Random sampling: 130 institutions, only one answer given)

¹⁹ Cf. Enquete-Kommission „Schutz des Menschen und der Umwelt“ des Deutschen Bundestages (Ed.) (1998), p. 53.

Implementation of “sustainable development” in the water sector in the Free State of Saxony

In Saxony, 38 % of the institutions assume that “sustainable development” will be realized in the present, whereas 62 % do not. 71 % of the institutions say financial problems present the greatest obstacle towards implementation (see Figure 14).

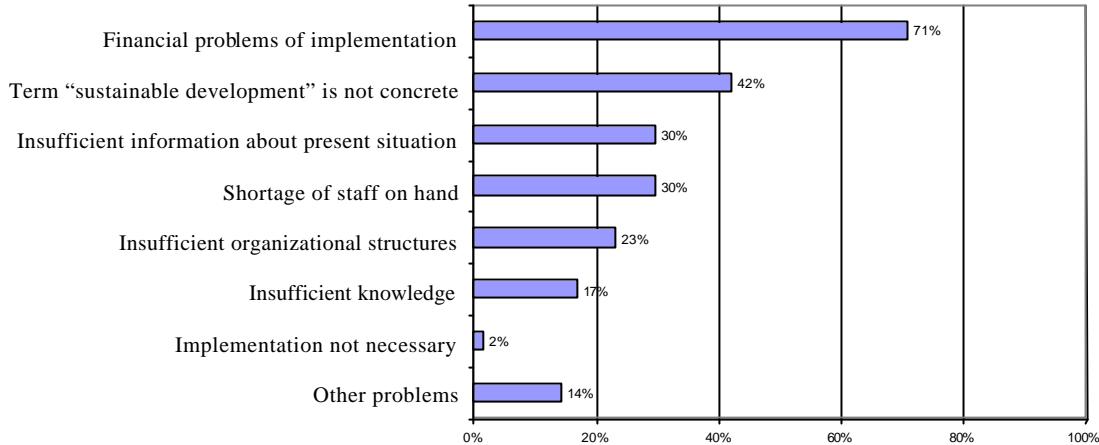


Figure 14: Why is the present practical implementation of “sustainable development” not working?
(Random sampling: 113 institutions, multiple answers possible)

This again shows the extreme significance of considering economic aspects, since the realization of the goals and decisions is dependent upon the financial resources of the respective institution. Another significant reason for the absence of implementation is seen in the fact that the term is not concrete.

Here, the following test result about problems of making the model of “sustainable development” materialize could also be derived:

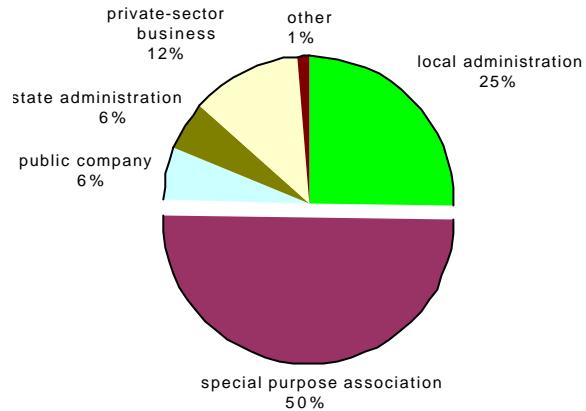
- *Test Result:* When studying the relationship between the greatest problems of making “sustainable development” materialize and the type of institution, the null hypothesis of the independence of both values can be rejected (α -error = 0.009). The perceived greatest problems in making “sustainable development” materialize therefore depend on the type of institution. Of course, economic goals are listed first by all institutions. However, communities list ecological *and* social goals just barely behind in second place, while special purpose associations list social goals next. For other types of institutions, e.g., public companies, private-sector businesses, and state administrations, the problems of making “sustainable development” materialize play a secondary role for ecological and social goals.

4.6 Organizational Structures

Organizational form

The implementation of the specific demands of “sustainable development” also requires suitable organizational structures in order to have appropriate capacities, resources, and

knowledge, as well as regional problem understanding with regard to the goals being pursued on the one hand, and, on the other hand, to show corresponding size and meaning for the ability to fulfill the strived-for goals during their implementation.



*Figure 15: Which organizational form does your institution have?
(Random sampling: 200 institutions, only one answer given)*

The organizational form chosen by far above all others is the special purpose association, which was named 50 % of the time (see Figure 15). This illustrates the efforts being made to create larger institutions as opposed to self-governing communities that are already expressed from the political viewpoint in Section 57 (2) of the Saxony Water Act (SächsWG).

Privatization

Contrarily, the tendency towards privatization of institutions with different characteristics will be discussed. Before the questions “How?” and “When?” privatization is to take place can be asked, however, first the fundamental question “Whether?” needs to be answered. For that, the efficiency of all of the organizational forms needs to be judged. Furthermore, to answer this fundamental question, the following criteria for judging the possibilities and effects that are connected with the respective organizational form can be used.²⁰

- Taxation, i.e., particular consideration of corporate income tax, trade tax, and sales tax for state activities or commercial operations;

²⁰ For more details concerning various approaches of studying the differences in efficiency between the public and the private sector cf. Wagner, J. (2000), p. 162 ff., and, for details concerning the advantages and disadvantages of privatization as an integrative analysis with due regard to the dependence of basic conditions and organizational decisions using the criteria indicated, p. 235 ff. When comparing organizational forms in the same way, special attention must be paid to an identical border system of the objects being compared, cf. Wagner, J. (2000), p. 331 ff. Furthermore, it is possible to study whether privatization means that the decision makers of the respective organizations *can* act strategically. In this case, strategically means long-term behavior that is oriented beyond the strict standards in public structures given by budgetary law with, as a rule, consideration for a single-period and the requirement to cover deposits and disbursements within one period, as well as determined by the cycle of democratic elections held every four years. Since in politics goals can change more often as a result of the election cycles, the money market *can* offer a more stable framework in the long run than politics can. This is, however, true for the formation of the goal, which has to be separated from the question of achieving the goal and its evaluation using the given criteria, cf. Wagner, J. M. (2000), p. 141.

- Financing, i.e., especially similarities and differences with regard to the need for financing, as well as the possibilities and conditions of such;
- Accounting, i.e., especially differentiating between cameralistic and commercial accounting (double-entry bookkeeping);
- Personnel management, i.e., especially remuneration and employee involvement;
- Contract management, i.e., especially consideration of legal regulations for awarding contracts for procurement transactions, as well as for setting the price especially of public contracts in view of transaction costs of the call for bids;
- Decision paths, i.e., priority given to make-or-buy decisions.

Here, the relatively clear statements concerning privatization of the statutory duties and the institutions' owners must be stressed, since 64 % of the institutions consider both to be disadvantageous for the implementation of "sustainable development" (see Figure 16).

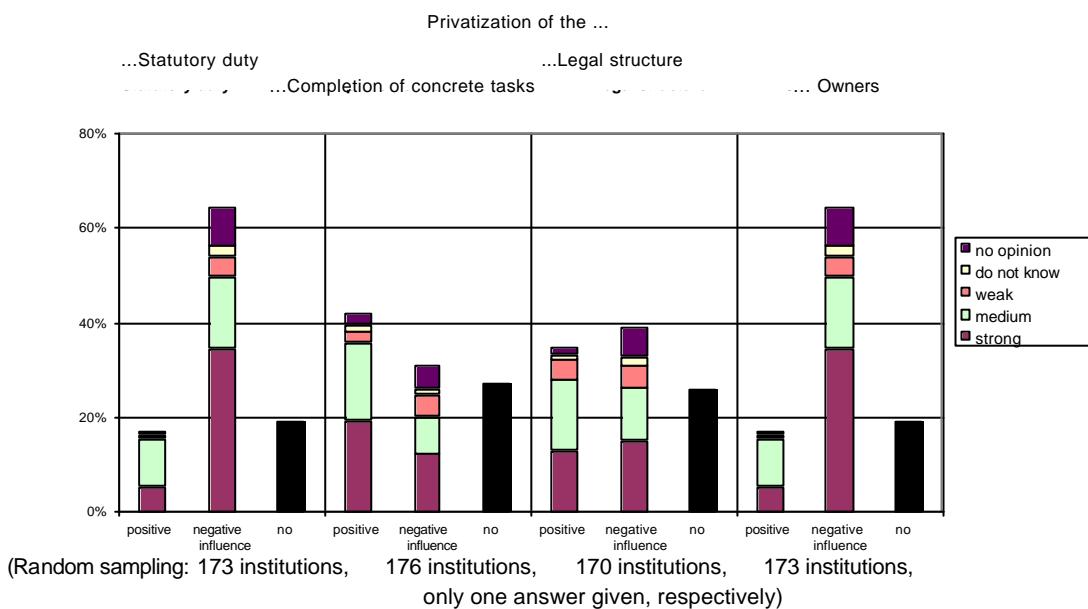


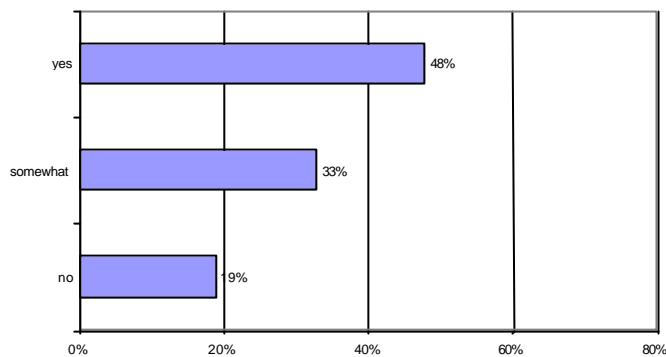
Figure 16: Which influence do possible forms of privatization tend to have on "sustainable development" in the water sector?

Here it must be kept in mind that decisions about privatization must constantly be looked at on an individual basis. It is not only the above-named criteria for choosing the organizational form and legal structure that can determine success with regard to the goals strived-for by private enterprises and society, but also the legal structure itself or the type of institution that has received the task. The persons involved, the establishment of goals, and the instruments used are much more significant for success. A demand for uniform organizational structure and unconditional transfer into private-sector structures without exact profit considerations in each case therefore appears not to be conducive to achieving goals at the moment, due to the structures and basic conditions currently in place.

4.7 Instruments for Management

Formulating goals

Through goals formulated in such a way that they can be measured with regard to content orientation, extent of the goals, the temporal and spatial reference for achieving the goals, and the means-purpose relationship for fulfilling the goals, it is possible to make comprehensible statements concerning goal achievement.²¹ 70 % of the institutions stated all or some of the goals formulated in such a way that they could be measured (see Figure 17). Regulation of the goals occurred in 93 % of the institutions (random sampling: 146 institutions, only one answer given).



*Figure 17: Are goals of your institution formulated in such a way that they can be measured?
(Random sampling: 196 institutions, only one answer given)*

Judgment criteria of “sustainable development”

For 79 % of the institutions, management of sustainment-oriented goals refers to ensuring the fulfillment of legal standards (see Figure 18). In contrast to this, formulating their own environmental goals or their own sustainment goals that surpass those is not very important. To achieve “sustainable development,” 74 % of all institutions strive to improve the overall situation.

²¹ Cf. Adam, D. (1996), p. 542; Kirchgeorg, M. (1999), p. 112.

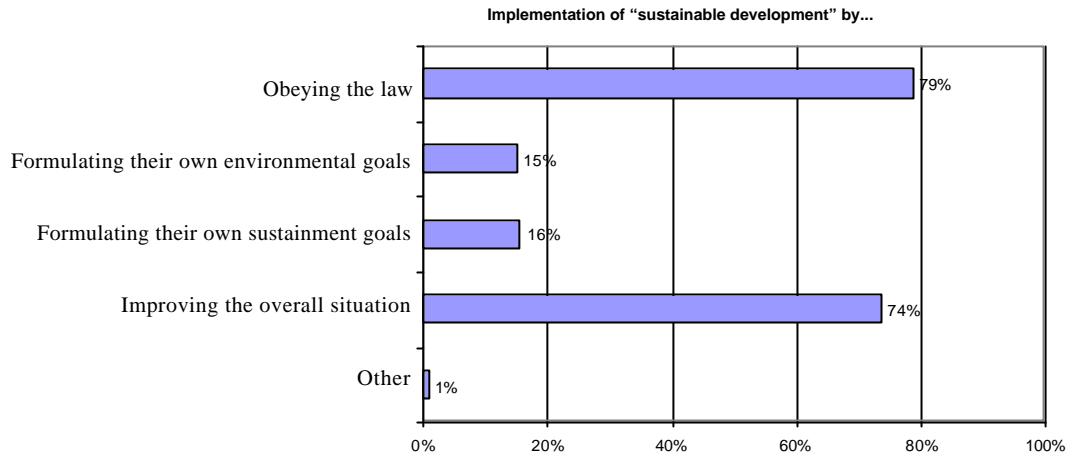


Figure 18: Which factors does your institution associate with “sustainable development”?
(Random sampling: 192 institutions, multiple answers possible)

Because of the relatively comprehensive basic statutory provisions in the relevant fields, the parties involved appear to be greatly convinced that obeying the law will satisfy the demands of “sustainable development.” This again corresponds to assigning responsibility for implementation to the public institutions in the form of the State of Saxony, the Federal Republic of Germany, and the EU (also see Figure 7).

5 Summary and Outlook

In the empirical study in question, the current situation concerning the public water supply, waste water disposal, and water pollution prevention in Saxony with regard to the decision makers’ knowledge of and approach towards “sustainable development” and its implementation is dealt with. Important results of the study are:

- A comprehensive and uniform familiarity with the term and the contents of “sustainable development” is not present on all relevant decision-making levels.
- The main area of activity of an institution influences its familiarity with the term “sustainable development.” If the main area of activity of an institution lies in the field of water supply or water pollution prevention, familiarity with the term is greater.
- Familiarity with the term “sustainable development” depends on the size of the respective institution with regard to the number of residents that it is responsible for supplying and the number of employees working for it. In larger institutions, familiarity with the term is more widespread.
- The fact that many institutions are more committed ecologically and socially shows the fundamental possibility of incorporating these goals. Nevertheless, economic goals are given the highest practical importance, because of their limiting effects with regard to implementation of goals and decisions.

- The significance of economic goals depends on the type of institution. In private-sector and public businesses they tend to have the greatest significance. For ecological and social goals, such dependence cannot be proved.
- The greatest problems perceived in making “sustainable development” materialize depend on the type of institution. Whereas communities see such problems equally for all goals, economic and social goals are what cause problems for special purpose associations. In all other types of institutions such problems exist primarily for economic goals.
- The organizational form influences the effects with regard to sustainable development. Possible privatization in various forms therefore should always be judged by the resulting effects on “sustainable development.”

In the current development of basic statutory provisions of the public water supply and waste water disposal, two tendencies are especially prevalent:

On the one hand, the result is increased integration of free market economy approaches in the Saxony Water Act of July 21, 1998, as opposed to the earlier version of the Act, which allowed third-parties to be hired to complete the duties: “Those parties responsible for the public water supply ... can transfer their duty to supply water to legal persons under private law.”²² “A ... corporation responsible for waste water disposal can ... revocably transfer either some or all of its duty of waste water disposal for a fixed time to persons under private law.”²³

On the other hand, comprehensive decision-making preparation receives additional significance because of the tendencies to pay attention to the three goals of sustainable development in the Water Directive of the European Union.²⁴ In the framework of a strived-for uniform comprehensive procedure for all countries within the EU, it is supposed to guarantee that decisions will not be made without consideration of social, ecological, and economic effects. The European Union can substantially influence German Water Law with it. This guideline is scheduled to take effect at the end of the year 2000.²⁵

As the project continues, the focus will be on developing an appropriate decision-making instrument for the implementation of “sustainable development.” For this, the results at hand will be taken into account accordingly.

²² For original German see Section 57 (3) of the Saxony Water Act (SächsWG).

²³ For original German see Section 63 (4) of the Saxony Water Act (SächsWG).

²⁴ Cf. Art. 12 (1) of the Water Directive of the European Union in the version of June 26, 1998. However, the European Union guidelines, as opposed to its ordinances, must be incorporated into domestic law.

²⁵ Cf. Umweltbundesamt (Ed.) (2000).

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- WHG: Gesetz zur Ordnung des Wasserhaushalts (Wasserhaushaltsgesetz) vom 12.11.1996

Attachment: Questionnaire Concerning the Study

The questionnaire that was sent out is shown on the following pages.

**Questionnaire Concerning Sustainable Development
of Water Supply and Water Pollution Prevention
in the Free State of Saxony**

The project is being sponsored by the Saxony Department of Science and Art.

Carried out by:

Prof. Dr. E. Günther, Professor of Business Administration, especially Environmental Management, of the Dresden University of Technology, in cooperation with the

Dresden University of Technology Center for Interdisciplinary Technology Research and the Working Group for Estimating Technological Consequences of the Saxony Academy of Science in Leipzig

Feel free to call the following number if you have any **questions**:

Tel.: (0351) 463-6575

We will gladly send you a **written analysis of the questionnaire results**. If you would like one, please fill in your address below:

.....
.....
.....
.....

If you would like to tell us something else about the questionnaire, please do so below:

.....
.....
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.....

Der Fragebogen ist in Blöcke zu verschiedenen Themenbereichen unterteilt. Bitte kreuzen Sie jeweils die **aus Sicht Ihrer Einrichtung** zutreffende Antwort an oder tragen Sie Ihre Antwort im dafür vorgesehenen Bereich ein! Wenn mehrere Antworten möglich sind, ist dies bei jeder Frage extra angegeben.

Rahmenbedingungen

1. Wie groß schätzen Sie den **Einfluß** der folgenden Gruppen auf Entscheidungen Ihrer Einrichtung ein? (Bitte **ein Kreuz je Zeile**.)

	sehr stark	stark	mittel	gering	kein Einfluß
Land Sachsen	<input type="checkbox"/>				
Staat (BRD)	<input type="checkbox"/>				
EU	<input type="checkbox"/>				
Eigentümer Ihrer Einrichtung	<input type="checkbox"/>				
Öffentlichkeit	<input type="checkbox"/>				
Berater/Gutachter	<input type="checkbox"/>				
Ihre Kunden	<input type="checkbox"/>				
Fremdkapitalgeber, z. B. Banken	<input type="checkbox"/>				
Ihre Lieferanten	<input type="checkbox"/>				
Mitarbeiter Ihrer Einrichtung	<input type="checkbox"/>				
sonstige:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Wie schätzen Sie die derzeitigen bzw. konkret geplanten folgenden Aktivitäten des **Staates** (BRD und Land Sachsen) im Bereich von Wasserversorgung, Abwasserbeseitigung und Gewässerschutz ein? (Bitte **zwei Kreuze je Zeile**.)

Aktivität im Bereich	a) allgemein			b) speziell für eine „nachhaltige Entwicklung“		
	zu viel	genau richtig	zu wenig	zu viel	genau richtig	zu wenig
Umweltrecht	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kommunalrecht	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vergabe von Finanzhilfen/Fördermitteln	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Ziele

In den Wassergesetzen (WHG, SächsWG) sind Ihrer Einrichtung bereits Ziele vorgegeben. Innerhalb dieses vorgegebenen Rahmens verbleiben aber noch Spielräume:

3. Welchen Stellenwert haben bei Entscheidungen **Ihrer Einrichtung** die folgenden Ziele und welche Unterziele beinhalten diese in **Ihrer Einrichtung** konkret? (Bitte in der mittleren Spalte **ein Kreuz je Zeile**, in der rechten Spalte sind **mehrere** Nennungen möglich.)

	einzig entscheidend	sehr wichtig	wichtig	weniger wichtig	nicht wichtig	Konkrete Unterziele in diesem Zielbereich:
ökonomische Ziele	<input type="checkbox"/>					
ökologische Ziele	<input type="checkbox"/>					
soziale Ziele	<input type="checkbox"/>					
sonstige Ziele:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
sonstige Ziele:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
sonstige Ziele:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
sonstige Ziele:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

4. Wie kommen in Ihrer Einrichtung **Ziele** und deren jeweilige **Bedeutungen** für Ihre Einrichtung zustande?

- durch interne **Diskussionen** und anschließende Festlegungen unter Berücksichtigung der verschiedenen Einflußgruppen
- durch **Festlegungen** der Verbandsvorsitzenden/Bürgermeister/Geschäftsführer
- durch **Übernahme** übergeordneter (gesellschaftlicher, politischer) Ziele
- sonstiges:

Wenn durch interne Diskussionen: Erfolgt eine solche **Diskussion regelmäßig** auf der Basis einer **kontinuierlichen Beobachtung** der relevanten Rahmenbedingungen, der verschiedenen Einflußgruppen sowie der aktuellen technischen Entwicklungen und verschiedener Lösungsmöglichkeiten für Aufgaben Ihrer Einrichtung?

ja nein

5. Wenn es **mehrere** Ziele für Ihre Einrichtung gibt (ansonsten bitte weiter mit Frage 6):

Lassen sich diese immer **alle gleichzeitig** erfüllen?

ja

teilweise

nein } Wenn **teilweise oder nein**:

Wie wird in Ihrer Einrichtung mit den verschiedenen Zielen in Entscheidungssituationen umgegangen?
(Fortsetzung der Frage auf der Rückseite)

- Dominanz von Zielen, die wichtiger sind als alle anderen, und zwar
 Gewichtung der verschiedenen Ziele mit festen Faktoren
 Festlegung flexibler Gewichtungsfaktoren in Abhängigkeit von der konkreten Situation
 situationsabhängig verschiedener Umgang mit verschiedenen Zielen
 sonstiges:
 weiß nicht

6. Wie groß schätzen Sie die Zahl von Unterzielen (vergleiche Frage 3, rechte Spalte), die für eine optimale **nachhaltige Entwicklung** bei Entscheidungen Ihrer Einrichtung zu berücksichtigen wären? Zahl der Ziele:
7. Wollen Sie in Ihren zukünftigen Entscheidungen Ihrer Einrichtung **einen Schwerpunkt** setzen?
 ökologische Ziele
 ökonomische Ziele
 soziale Ziele
 kein Schwerpunkt, alle Bereiche sind gleichermaßen wichtig
 sonstiges:
8. In nahezu allen Erklärungen und Berichten zum Thema „Umwelt“ und auch darüber hinaus erscheint seit geraumer Zeit der Begriff „Sustainable Development“ bzw. die deutsche Übersetzung „Nachhaltige Entwicklung“ bzw. „Nachhaltigkeit“. **Kennen Sie** den Begriff?
 ja nein
Wenn ja: Was **verstehen Sie** in Ihrer Einrichtung unter einer „**nachhaltigen Entwicklung**“ im Wasserbereich? (Bitte kurze Erklärung.)
.....
.....
.....
.....
.....

9. Hält Ihre Einrichtung eine nachhaltige Entwicklung im Wasserbereich **grundsätzlich für wünschenswert**?
 ja nein

Entscheidungen

10. Wer trifft in Ihrem Hause Entscheidungen **mit Bedeutung für die weitere Entwicklung**?
 ein Zentralbereich der oder die jeweils fachlich direkt Betroffene/n
 Stabsstelle wechselnde, interdisziplinär zusammengesetzte Projektteams
 oberste Hierarchieebene sonstige:
11. a) Wieviel Personen sind in diese Entscheidungsfindungen i. d. R. eingebunden?
 eine Person
 mehrere Personen, und zwar etwa Personen.
- b) Wie kommen Übereinstimmungen der Meinungen mehrerer Personen bei der Entscheidungsfindung zustande?
 durch Abstimmungen bzw. Wahlen durch Anweisung hierarchisch Vorgesetzter durch Auslosung
12. a) Mit welchen **Unterstützungen** werden wichtige Entscheidungen in Ihrer Einrichtung getroffen? (Mehrere Nennungen möglich.)
 detaillierte und umfassende Planungen
 Nutzung von Entscheidungsmodellen
 externe Gutachten
 vorwiegend nach Erfahrung bzw. persönlichem Empfinden
 weitgehend ohne detaillierte Analysen
 sonstiges:
 weiß nicht
- b) Wie stellen sich Ihnen Ihre **derzeitigen Unterstützungen** für bedeutende und komplexe Entscheidungen dar?
 unzureichend und erweiterungsbedürftig genau richtig zu umfangreich und zu genau
- c) Gibt es von Seiten Ihrer Einrichtung eine **Zusammenarbeit mit Forschungseinrichtungen**?
 ja nein
Wenn ja, worauf bezieht sich diese?

Umsetzung

13. Wer ist nach Meinung Ihrer Einrichtung für die **Umsetzung** einer nachhaltigen Entwicklung **bzw. deren Unterstützung** im Wasserbereich zuständig? (Mehrere Nennungen möglich.)
 jeder Einzelne/jede Privatperson
 jedes Unternehmen/jede Organisation
 „große“ Unternehmen/Organisationen
 öffentliche Einrichtungen
 niemand spezielles
- das Land Sachsen durch Festlegung von entsprechenden
 der Staat (BRD) } Rahmenbedingungen und
 die EU Vergabe von Fördermitteln/Finanzhilfen
 gesellschaftliche Gruppen (z. B. Lokale Agenda 21, politische Parteien)
 sonstige:

14. a) **Streben** Sie die **Umsetzung** einer nachhaltigen Entwicklung **an**?

ja nein

b) In welchem Zielbereich sehen Sie die **größten Probleme** für die **Konkretisierung** des Leitbildes bzw. Oberziels

- „nachhaltige Entwicklung“?
 - ökologischer Zielbereich
 - ökonomischer Zielbereich
 - sozialer Zielbereich
 - sonstiges:

c) Wird Ihrer Meinung nach derzeit im Wasserbereich in Sachsen eine **umfassende** nachhaltige Entwicklung umgesetzt?

ja nein

Wenn nein (ansonsten bitte weiter mit Frage 15):

Woran **scheitert** Ihrer Meinung nach eine **gegenwärtige** Umsetzung vorwiegend? (Mehrere Nennungen möglich.)

- Umsetzung nicht notwendig
- Unkonkretheit des Begriffs „Nachhaltige Entwicklung“
- unzureichendes Wissen
- unzureichende Informationen über den realen gegenwärtigen Zustand
- zu geringe Mitarbeiterkapazitäten, d. h. fehlende Zeit aufgrund unzureichender personeller Ausstattung
- unzureichende organisatorische Strukturen
- finanzielle Probleme durch eine entsprechende Umsetzung
- sonstiges, und zwar

15. An welchen **Faktoren** macht Ihre Einrichtung eine nachhaltige Entwicklung fest? (Mehrere Nennungen möglich.)

- Einhaltung der **gesetzlichen Rahmenbedingungen**, z. B. Grenzwerte
- Formulierung und Einhaltung **eigener Umweltziele** ihrer Einrichtung
- Formulierung und Einhaltung **eigener Nachhaltigkeitsziele** ihrer Einrichtung
- Verbesserung** oder mindestens keine Verschlechterung der **Gesamtsituation** (die umfassend betrachtet wird, d. h. in Verbindung mindestens hinsichtlich ökonomischer, ökologischer und sozialer Aspekte) durch **jede** anstehende Entscheidung
- sonstige:

Kontrolle

16. Werden in Ihrer Einrichtung **meßbare Ziele** angegeben, d. h. für die angestrebten Ziele **konkrete Zahlenangaben** bezüglich des **Umfangs** gesetzt und **mit Zeitvorgaben** für die angestrebte Umsetzung der Ziele versehen?

ja teilweise nein

↳ Wenn ja oder teilweise (ansonsten bitte weiter mit Frage 17):

Erfolgt eine spätere **Kontrolle** der Verwirklichung **anhand dieser meßbaren Ziele**?

ja weiß nicht nein

↳ Wenn ja (ansonsten bitte weiter mit Frage 17):

a) Wie oft?

- gelegentlich
- bei Bedarf
- regelmäßig, und zwar jährlich, quartalsweise, monatlich, sonstiges:

b) Wie erfolgt eine Kontrolle der erreichten Ergebnisse? (Mehrere Nennungen möglich.)

- durch Zeitvergleich durch Branchenvergleich (d. h. Vergleich einzelner Aufgabenträger, Behörden, Durchführender)
- durch Soll-Ist-Vergleich sonstiges:

c) Gibt es Eingriffs- bzw. Korrekturmöglichkeiten **nach** Ihren Entscheidungen, wenn durch Kontrollen festgestellt wird, daß das Ergebnis der Entscheidung nicht mehr optimal dem Ziel Ihrer Einrichtung entspricht?

(Z. B. durch modulare bzw. stufenweise Bauweise von Anlagen.)

prinzipiell ja manchmal selten nie weiß nicht

d) Wie aufwendig sind solche Korrekturmöglichkeiten **tendenziell**? (Bitte **ein** Kreuz **je Zeile**.)

sehr aufwendig mittel geringer Aufwand weiß nicht

- | | | | | |
|-------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1) hinsichtlich Zeit : | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) hinsichtlich Geld : | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

17. Wird in Ihrer Einrichtung der **wirtschaftliche Einfluß** der Integration ökologischer und sozialer Aspekte in die Entscheidungen **errechnet**?

ja nein, zu aufwendig nein, nicht nötig nicht errechnet, aber beachtet weiß nicht

18. Gibt es einen eindeutigen **Zusammenhang** zwischen den von Ihnen durchgeführten **Maßnahmen**, die der Umsetzung einer nachhaltigen Entwicklung dienen können, und dem tatsächlichen **Zustand** im betroffenen Bereich, d. h. ist der tatsächliche Zustand **beeinflußbar**?

ja nein

Wenn ja: Ist der **gegenwärtige Zustand** in Ihrem Zuständigkeitsbereich im Hinblick auf eine nachhaltige Entwicklung

- im Wesentlichen auf die Ziele und Aktivitäten Ihrer Einrichtung zurückzuführen, d. h. Sie haben den Zustand **zielgerichtet beeinflußt** oder
- hat er sich eher unbeabsichtigt ergeben?

Ausblick

19. Welchen Einfluß haben nach **Ihrer Meinung** mögliche Formen der **Privatisierung** **tendenziell** auf eine nachhaltige Entwicklung im Wasserbereich? (Bitte in der Spalte „Art des Einflusses“ **ein Kreuz je Zeile** und **zusätzlich ggf. ein Kreuz** in der Spalte „Stärke des Einflusses“.)

Privatisierungsform	Art des Einflusses			Wenn positiver oder negativer Einfluß, wie ist die Stärke des Einflusses?			
	positiv	negativ	kein Einfluß	stark	mittel	schwach	weiß nicht
Übertragung der Pflichtaufgabe (= rechtliche Pflicht) an private Dritte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Übertragung der Ausführung der Aufgaben an private Dritte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Umwandlung der Rechtsform in eine privatrechtliche Form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wechsel der Eigentümer von öffentlichen zu privaten Eigentümern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. Auch die EU wird in Zukunft einen starken Einfluß auf die Ausgestaltung der Vorgaben für den Wasserbereich haben.

Wo sieht Ihre Einrichtung die **Prioritäten bei der Umsetzung** von EG-Richtlinien und EG-Verordnungen? In einer

- schnellen Umsetzung
- stufenweisen Umsetzung unter besonderer Berücksichtigung der Zumutbarkeit der entstehenden Kosten und Gebühren für die Bürger
- unbedingten Kostenreduzierung und damit möglichst der Übernahme der entstehenden Kosten durch die EU als Verursacher der Kosten
- sonstiges:

21. Auch **über den Wasserbereich hinaus** ist es erforderlich, den Inhalt einer „nachhaltigen Entwicklung“ für deren Umsetzbarkeit weiter zu konkretisieren. Was verstehen **Sie allgemein** unter einer „nachhaltigen Entwicklung“? (Mehrere Nennungen möglich.)

- Bedürfnisbefriedigung der gegenwärtigen Generation steht im Mittelpunkt
- weitestgehende Einschränkung der gegenwärtigen Bedürfnisbefriedigung zugunsten zukünftiger Generationen
- Kombination der beiden ersten Punkte, d. h. Bedürfnisbefriedigung der gegenwärtigen Generation mit Beachtung zukünftiger Bedürfnisse, damit die Möglichkeit besteht, daß auch zukünftige Generationen ihre Bedürfnisse befriedigen können
- schwerpunktmaßig sind ökonomische Ziele anzustreben
- weiteres wirtschaftliches Wachstum, wenn dadurch ausreichende finanzielle Reserven und damit Aktionsmöglichkeiten geschaffen werden können
- Verzicht auf unternehmerische Gewinne
- Berücksichtigung ökologischer Aspekte und somit der Schutz der natürlichen Umwelt steht im Vordergrund
- Ressourcenschutz durch starke Einschränkung der Nutzung bestimmter natürlicher Ressourcen
- soziale Ziele, z. B. Bekämpfung der Arbeitslosigkeit, stehen im Zentrum der Bemühungen
- gleichmäßige Berücksichtigung ökonomischer, ökologischer und sozialer Aspekte
- sonstiges:

Allgemeines

Zum Schluß bitten wir Sie um einige kurze **Informationen zu Ihrer Einrichtung**: (ggf. Schätzung der Angaben)

22. a) Wie hoch ist die derzeitige Anzahl der Mitarbeiter in Ihrer **Gesamteinrichtung**?

Wie hoch ist **davon** die derzeitige Anzahl der Mitarbeiter, die direkt mit dem **Medium Wasser** zu tun haben?

- b) Wie ordnen Sie das **Haupttätigkeitsgebiet Ihrer Einrichtung** ein? (Mehrere Nennungen möglich.)

- | | |
|---|--|
| <input type="checkbox"/> Wasserversorgung | <input type="checkbox"/> Abwasserbeseitigung |
| <input type="checkbox"/> Gewässerschutz | <input type="checkbox"/> sonstiges: |

- c) Für wieviele **Einwohner** ist Ihre Einrichtung zuständig?

- < 1.000 1.001-10.000 10.001-100.000 100.001-500.000 > 500.000

- d) Als was ordnen Sie Ihre Einrichtung ein?

- | | |
|---|---|
| <input type="checkbox"/> Gemeindeverwaltung | <input type="checkbox"/> Landesverwaltung |
| <input type="checkbox"/> Zweckverband | <input type="checkbox"/> privatwirtschaftliches Unternehmen |
| <input type="checkbox"/> öffentlicher Betrieb | <input type="checkbox"/> sonstiges: |

- e) Wenn Ihre Einrichtung **keine Behörde** ist:

Was ist Ihre Einrichtung in Bezug auf die **öffentlichen Aufgaben** der Wasserversorgung und Abwasserbeseitigung? (Mehrere Nennungen möglich.)

- Aufgabenträger (rechtliche Pflicht) Durchführender der Aufgaben

- f) Wenn Ihre Einrichtung ein **öffentlicher Betrieb** ist, welche Organisationsform hat Ihr Betrieb?

- | | |
|--|---|
| <input type="checkbox"/> Regiebetrieb | <input type="checkbox"/> Betreibermodell |
| <input type="checkbox"/> Eigenbetrieb | <input type="checkbox"/> Kooperationsmodell |
| <input type="checkbox"/> Eigengesellschaft | <input type="checkbox"/> sonstiges: |

- g) Wenn Ihre Einrichtung ein **Zweckverband** ist, um welche Form handelt es sich?

- Vollverband, d. h. Erfüllung **aller** relevanten Aufgaben der Mitglieder Teilverband, d. h. Erfüllung von **Teilaufgaben**

Wieviele **Mitglieder** hat Ihr Verband? Mitglieder.

Wenn Teilverband, welche Aufgaben nimmt er wahr?

- h) Was ist/sind **Ihre Funktion/en** als Ausfüllende/r des Fragebogens? (Mehrere Nennungen möglich.)

- | | |
|---|--|
| <input type="checkbox"/> Bürgermeister | <input type="checkbox"/> Verbandsvorsitzende/r |
| <input type="checkbox"/> Geschäftsführer/in | <input type="checkbox"/> sonstiges: |

Der Fragebogen ist nun beendet. Herzlichen Dank für Ihre Teilnahme!

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