

Building Bridges to Ecology: the impact of environmental communication programs in German business

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1. Introduction

The "gap" between ecology and economy has been one of the most discussed topics in Germany for more than three decades. Moreover, ecological and economical goals sometimes seem to be in direct conflict. In East Germany after unification, for example, exceptions from the restrictive federal environmental law were frequently demanded to avoid further job cuts and to improve the economic situation. Nevertheless, several efforts to build "bridges" over this gap between ecology and economy had been made both from governmental as well as from non-governmental actors and, without any doubt, significant progress has been achieved. Especially the debate on sustainable development following the World Summit in Rio opened the door for a great variety of new activities to establish environmental topics within business organisations.

This paper is concerned with the impact of two public environmental communication programs in the 90s, which tried to improve the infrastructure in federal associations for offering applicable environmental information and consultation to small and medium-sized enterprises. Both support programs will be outlined in the second chapter of this paper.

One of the main targets of our evaluation studies was to answer the question, whether there had been any change in the communication process in business which could be recognised as a direct outcome of the evaluated public support programs. To answer this question, a generalised communication model has to be developed as a guideline for evaluation and to specify communication problems. Therefore, the main elements of the model of organised information transfer will be shortly described in chapter three, before an overview of the findings will be presented.

As mentioned above, the international sustainability discussion strongly influenced German environmental policy and, of course, both support programs, too. Although it was not a target of our evaluation studies to identify such effects, some indications could be found by comparing projects having clear-cut targets on sustainable development with those, who did not have such targets. In chapter four, the results derived from this comparison will be briefly summarised.

Finally, some suggestions will be offered to answer the question, what should be done to develop effective and efficient communication measures in view of demands for sustainable development. To reach this means, that at least some kind of corporate social responsibility for ecological problems could be implemented in the business organisations. Whether there is some progress to be recognised at this point or not, will be discussed at the end of this paper.

2. Environmental communication and evaluated support programs

For the last two decades, the importance of communication measures for environmental policy have been steadily growing. Due to public recognition of the "attitude-behaviour-split" (cf. Bell 1998: 246f.), the scientifically well-documented inconsistencies between environmental consciousness and behaviour, several political efforts to solve this problem have been initiated. In general, these policies enclose a broad range of communication measures, reaching from information campaigns to university lectures. Especially the implementation of an infrastructure to offer environmental consultations at various profit or non-profit organisations was considered to be a hopeful new way for improving ecological-oriented behaviour among a great number of different target groups. Two of these programs have been evaluated by the Sociological Institute of Saarland University and both studies have been conducted by Prof. Dr. Reinhard Stockmann and Dr. Wolfgang Meyer.

The first program of the Federal Environment Ministry (BMU) and the Federal Environment Agency (UBA) was one of the most important sources from German national government for supporting environmental consulting projects in the 90s. Since 1989, more than 100 projects were financed by BMU, scientifically accompanied by UBA, and run by almost the same number of federal associations. Approximately 0.9 Mio. Euro have been annually invested for a great variety of projects reaching from financing simply new editions of still existing brochures to national competitions with vast public attention. Similar differences can be found by looking on the implementing organisations: very small, newly founded and highly specialised associations were supported as well as huge and financially strong federal organisations with long tradition. Some of the most important environmental NGO's e.g. NABU (the "nature protection alliance") were included just as powerful economic alliances like the building trade co-operation, professional organisations like the architects co-operation or important public organisations like the German districts association or the federal co-operation of the student administrations (for a complete list of projects and organisations see Meyer, Jacoby & Stockmann 2000).

The concepts of environmental consultancy have been extensively interpreted to include such a broad variety of projects within the frame of this program. In a way, it is preferable to speak more generally of environmental communication instead of environmental consulting. The following understanding is suggested (cf. Meyer 2000; 2002; Stockmann, Meyer et al. 2001: 36): environmental consultancy, as a sub-division of environmental communication, is a transfer of environmental information, which is *directly oriented towards concrete problems and needs of the target group*. In difference to other forms of environmental communication like information campaigns or educational measures which strive for *transferring knowledge*, environmental consultancy is distinguished by putting the needs of those who are seeking advice into the focus of its work. Moreover, the development of *appropriate suggestions to solve environmental problems* (which are perceived as such by the client) is the most important target of an environmental consultation process. Therefore, need and action orientation are the reasons why environmental consulting are supposed to achieve better

results by improving ecological oriented behaviour patterns than other forms of environmental communication (cf. Umweltbundesamt 1992: 14; 1994: 301).

In German business, the need for accurate environmental consultation especially for small and medium sized enterprises has been seen for years. The chambers of commerce, for example, have recognised environmental consultancy as an important task and their own activities in offering environmental information to member firms reach back as far as 1963 (cf. Hühwels 2000: 137ff.). An increasing number of commercial consulting enterprises helped to establish a private environmental consultation market, which is supplemented by the actual development of environmental certification (EMAS, ISO) and the rising need for specialised audit firms (cf. Environmental Data Service 1999; Heinelt et al. 2000; Martinuzzi et al. 1994, 1996). The driving force beyond this is, on one hand, the development of environmental law and the expanding threat of sanctions for business and, on the other hand, the opening of new market chances by offering environmental technologies and services which are sometimes state-subsidised and publicly supported.

The second program of German Federal Environmental Foundation (DBU) serves as a good example for the engagement of business organisations for environmental communication in general and environmental consultancy in special. The history of this support program is very special and different from the described one of the BMU/UBA-program. With respect to the environmental reconstruction task in East Germany shortly after unification (and having especially the environmental problems of newly build small and medium-sized firms in mind), the ministry of finance used the proceeds of selling a state-owned enterprise to construct a public foundation, the DBU, for supporting environmental projects not only but especially in the East. Even before the institutional formation of this German Federal Environmental Foundation (DBU) was finished in 1991, it launched this still most expensive single program (in total approximately 26 Mio Euro).

No doubt, this program would have never been realised without the initiative of the federal organisations of both chambers of trade and commerce (DIHT and ZDH), which wanted to expand a pilot project (financed by BMU and UBA) to East Germany. The original program contained two different parts: an institutional support for the durable implementation of an environmental consulting infrastructure within the 15 regional chambers (which had also been under construction at this time, for details on the chambers of commerce see Diedrich, Haag & Cadel 2000) and a so-called “orientation consulting program” which uses this infrastructure to act as a broker for bringing together small and medium sized enterprises and commercial environmental consulting by partly financing these consultations. The targets of this program were, from the view of the chambers, to help East German enterprises to reduce uncertainty about environmental laws and to calculate the costs for successful adaptation to these regulations.

By planning the program, the foundation added comparable components for other target groups (farms, local authorities and factory committee members), including the German Institute for Urbanistic (Difu), the Chamber of Agriculture in Mecklenburg-

Vorpommern/Schleswig-Holstein (LMS), the German Federation of Trade Unions (DGB) and five single trade unions (HBV, IG Bau, IG CPK, NGG and ÖTV), as project-carrying organisations. The reasons for program enlargement were mainly of political nature: the DBU wanted to avoid discussions about preferring some societal groups and tried to achieve as many groups (and environmental impacts) as possible. Because the foundation did not have any guidelines or experiences at this time, political judgements like this had been of great importance.

One common aspect of both programs is the support of environmental consultancy in an extensive understanding (with almost the same targets of DBU and BMU/UBA) and the implementation of an appropriate infrastructure within federal organisations. Although the DBU-Program was limited to East Germany, it was a clearly formulated target of the Foundation to support an expansion of environmental consultancy infrastructure within the implementing organisations to West Germany. With the exception of Difu and LMS, all other project-carrying organisations tried to do so in a more or less successful way. And with the exception of LMS, all organisations are nation-wide oriented and not limited to East Germany or other territorial parts.

Another shared element in both programs was the inclusion of a great variety of social groups within the program concept. Among these groups, several business organisations representing almost every branch of industry, trade and craft in Germany could be found. Only due to award restrictions, associations with merely large concerns as its members were underrepresented. Although both programs were by no means “representative” selections of German federal associations, the business sector is at least in its spectrum well-represented.

Therefore, the material of both evaluation studies can offer us deep insights not only in the practice of public support for environmental communication in the business sector of the Federal Republic of Germany, but also in the environmental communication processes within non-governmental organisations in general and especially within federal business associations. For the following analytical target, the diffusion of environmental information within the members of business organisations and the problems by realising suggestions of environmental consulting firms is of top priority. Other aspects of program evaluation (e.g. the institutionalisation of an environmental consulting infrastructure within the implementing organisation) will only be slightly mentioned. Full descriptions of the results can be found in the final reports of both evaluation studies, which have already been published in German language (cf. Meyer, Jacoby & Stockmann 2000; Meyer & Jacoby 2001; Urbahn & Gaus 2001); Stockmann, Meyer et al. 2001).

3. Communication processes and the impact of state programs

In literature, a great number of more or less equal definitions of 'communication' can be found which in almost every case emphasise communication as a process. For example, from a sociological viewpoint communication "refers to the process through which a set of meanings embodied in a message is converged in such a way that the meanings received are equivalent to those which the initiator of the message included" (Larsen 1964: 349). Four key elements of social communication processes can be identified: the initiator as the source and transmitter of messages, the message as the carrier of meanings, the medium as communication channel (not mentioned in the definition above), and, finally, the recipient of information and encoder of meanings. Usually, the communication process itself is analytically divided into three different stages: encoding, transmission, and decoding (cf. Pool & Schramm 1973; Knapp 1997). However, this commonly used interpretation of communication processes lacks one of the most important aspects of mass communication. Let us use an example to explain this:

An author (information producer) as a well-known expert for one particular scientific field (information topic) is going to write an introducing book (information media). To get his manuscript edited, the author has to meet a publisher (information transmitter), who will produce the book and sell it by using its marketing strategies (information network). Publishers distribution policy reaches people directly or indirectly (e.g. corresponding with verbal propaganda and the authors own activities to popularise the book), who are more or less interested in this publication (information arena). Hopefully, among this will be some members of the target group (information addressee) who will buy and read this book (information perception) and finally discuss its topic or use the contents to develop their own research work (information reaction).

This example shows, that within such a process of information transfer a couple of persons and institutions with different tasks are involved. However, in this example, the producer of information (here the author) is still the active part of the entire information process. With a slight change we come to what I call the "organised information transfer" (cf. Meyer 2000: 93ff.), which is the most common way of transferring information to a very large group. If one assumes that the publisher *engaged the author* for bringing out a book on this specific topic, the main actor is not the producer, but the transmitter of the information transfer. The publisher is not only remaining in the role of a "transmitter" of information, but becomes the manager of the complete transfer. According to this active role, the person (or group), who initiated the information process and therefore decides who is getting involved in the information transfer and which information should be transferred in which way, should be called the "*organiser*" of an information transfer.

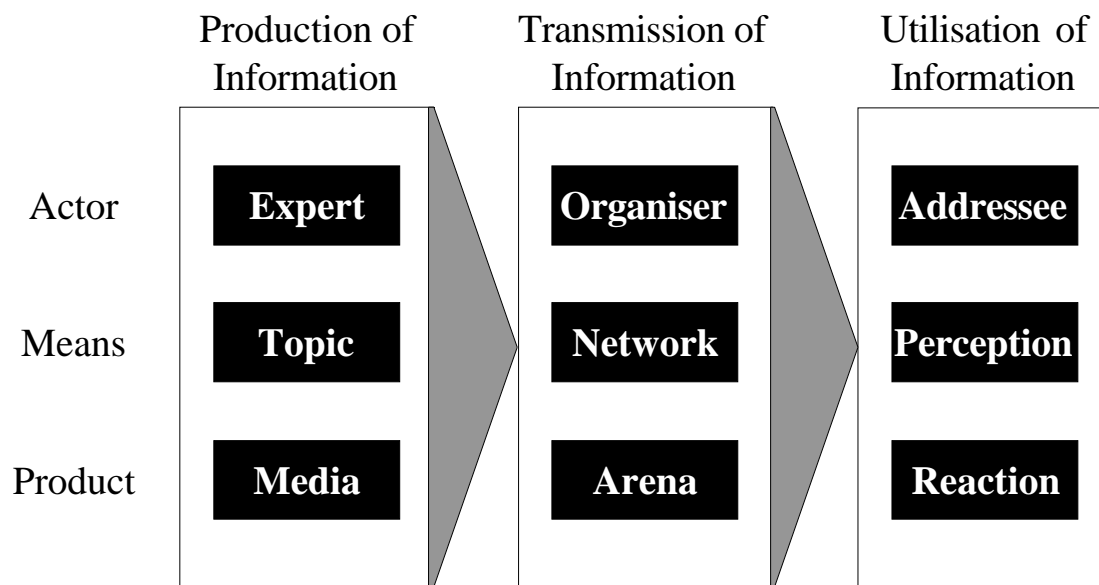
In the case of mass communication, this way of acting is supposed to be standard. Of course, sometimes a single journalist or film team offers its work to a newspaper, journal, radio or television station. However, regularly they have been engaged by the transmitter of mass communication, who at least decides what will be published and what not. In other words, what we know about the world is not mainly the view of journalists and their opinion, but the decision of broadcasting organisations and their editors-in-chief. For example, they spend a lot of money to analyse our ways of watching TV and they use this information to produce

TV shows with optimised audience ratings. Actors, directors and producers of this shows were engaged with clear, market oriented instructions and if they fail to succeed the demands of the TV station, they will be thrown out without bothering whether the realised film is an important work of art or not.

Within a generalised model, some implications of this kind of organised information transfer (figure 1) can be identified:

- Not the producer, but the transmitter of information organises the information transfer and holds the main decisions about the communication procedure (who is going to say what to whom through which media at which time)
- The control of transfer for the organiser is limited on the production and transmitting process. Under certain circumstances he or she might be able to pass the information to all members of the target group, but neither the concrete constitution of the communication arena nor the individual perception and reaction to this information within the target control can be determined
- According to the stages of the general communication model, three different phases of the organised information transfer can be distinguished: information production, information transmission and information utilisation. In each of these phases, which follow each other in the presented order, different actors use different means for different results. The result of information production is some kind of media (e.g. printed material, video tapes, digitalized photos), which uses the specific knowledge of the information producer on the selected topic with respect to the demands of the organiser of the information transfer. Within the second phase, this media is distributed through the available networks of the transmission organiser. By using these means, a “communication arena” is build with its possibilities for a deliberated and in many parts also non-deliberated selection (e.g. due to the self-selection processes of information users) of people who might be interested in the offered information. Finally, if addressees recognise information, they have to judge about its importance and adequate reactions, which is even on the individual level a very complicated process and difficult to understand (cf. on this topic the scientific literature of cognitive social psychologists e.g. Hastie et al. 1980; Kahneman, Slovic & Tversky 1982).
- Although different phases of an organised information transfer can be analytically distinguished, they are inseparably connected and linked as a unit in a historical “life course” (for life-course theory see Kohli 1978; Mayer 1987). Therefore, a successful transmission is only possible if the specific tasks in each of the three phases are fulfilled. On the contrary, the transfer can fail in every phase and this is independent of the quality of the other phases. Successful managing of an organised information transfer means to have the whole process in view, to recognise weak points in each of the three phases and to develop adequate strategies to improve transfer quality.

Figure 1: Model of organized Information transfer



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According to the theoretical considerations presented here, it should be analysed, whether these demands of an effective organised information transfer can be realised in the daily work of the organisations involved in environmental communication processes and to which degree the support programs of BMU/UBA and DBU enhanced their performances. Generally, the target of all evaluated projects had been the *implementation of innovations for improving the transfer of environmental information*. These innovations aimed at one or more of the following four aspects of information transfer, which could be directly influenced by the transfer organiser:

- *New Topics*: during the life-course of the project new topics, themes or results should be introduced into the communication process.
- *New Media*: during the life-course of the project new (in sense of not used within the implementing organisation) forms of information carriers should be tested.
- *New Transmission Networks*: project resources should be spend on the development or reconstruction of communication networks and transmission structures.
- *New Target Groups*: finally, in some projects new target groups should be opened up for the implementing organisations and included in their existing communication networks.

In general, to estimate the diffusion effects of the measures implemented during the project-assistance phase proved to be very difficult. This can be ascribed to the fact, that the federal associations and their contractors collected almost no information about the utilisation and the impact of their communication offers within their target groups. None of the investigated associations implemented an appropriate monitoring system for data collection. Only unsystematic assembled indications like for instance the request of material had been taken for references about the project's success. However, although some examples for positive

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impacts could be found in nearly every project, serious conclusions on diffusion effects and their sustainability could not be drawn from this weak data base.

Amazingly, this is also true for huge business organisations, which possess enough knowledge about modern management methods and the needed financial resources for running such a system. Contrarily, some interesting approaches to develop effective information systems for project management could be found within some smaller non-profit organisations. Nevertheless, one has to conclude that German Federal Associations do not use recall systems for collecting information to improve the transfer of information within their members (not only but also for spreading environmental information). Therefore, a continuous progress of information policy is not possible.

One reason for this lag of information on communication impacts is the internal division of labour which results from the strictly decentralised organisation structure of almost all federal associations under investigation. Regional or country divisions are to a high degree independent from the federal department and they are not committed to report on distribution of information material, which is always their duty. Moreover, depending on the strength of the part division of an association (measurable by number of members, finance and the engagement of executives), there are significant differences in the distribution performance within the associations. In most cases, federal departments of associations are offices with a strongly limited number of staff and their main tasks are to do political lobbying on the federal level and to co-ordinate the national activities of regional divisions. Therefore, federal departments often do not have the capacities for implementing a suitable impact controlling, while regional departments sometimes mistrust regulations for continuous reporting to a national headquarter as a measure of control and a significant limitation of their freedom for decisions. As a result, regular feedback systems are poorly developed within the associations structures and nobody really knows something about the impact of implemented measures. While, on one hand, the decentralised structure of associations is an advantage because of the nearness to members and the contact possibilities, it is, on the other hand, a great disadvantage because of the unsolved co-ordination problems for implementing a professional communication to improve target group oriented services.

Regarding the model of organised information transfer, it has to be the goal of environmental communication to implement an organisational infrastructure which is able to manage information transfer processes and to optimise the quality of transmission. As shown before, at least in Germany reality still differs partly from these theoretical demands. However, this does not mean, that information transfers within association networks principally fail or support programs do not have any significant impact on improving environmental communication. From our evaluation of about thirty environmental communication projects sponsored by the German Federal Environmental Ministry and supported by the German Federal Environmental Agency, which hat been managed by nearly the same amount of federal associations, we finally came to the following conclusions concerning the information transfer (cf. Meyer & Jacoby 2001: 166f.):

- *Information production:* With nearly none exception, all people involved in the projects (external experts, associations staff, members of BMU and UBA, responses from members of the target group) praised the high quality of the *media* (brochures, leaflets, books, guides, training courses et cetera) produced during the project-assistance phase.

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The treated environmental *topics* were in many cases new for the implementing associations and had been important innovations at least in the sense of size and completeness of the offered facts. Moreover, the technical realisation and presentation forms satisfied in general high professional standards. The aptitude of the *experts* engaged in information production had not been questioned by anyone of the interviewed people. To sum it up: by using several measures of quality control for information production, an extraordinary high quality of the results could be realised.

- *Information transmission*: Compared to information production, information transmission had been paid less attention to. From the viewpoint of the Federal Environmental Agency, associations had been selected as co-operation partners because of their better ability to reach certain target groups. The assumption, that one association was a preferable *organiser* of information transfer and therefore had an appropriate *network* for spreading environmental information at its proposal, was never put into question by BMU or UBA. As a result, big differences in capacities for this task could be found among the associations included in the program. In some projects, it was a project goal to build up communication structures and in these cases, huge progress could be managed. However, in the other projects the target of information transmission had been neglected, especially with respect to the transmission process itself, which had been merely organised by regional divisions of the association as mentioned before. No efforts to systematically investigate the produced information *arena* (e.g. by measuring the degree of perception within the target groups) had been undertaken.
- *Information utilisation*: Caused by the missing respect for the task of information transmission the recognition of information utilisation among the target groups was very poor in nearly every project. Even the knowledge about the needs of the *addressee*, mostly the members of the organisation, was weakly developed within the mainly political working federal departments of the associations. Before running a project need analyses had not been carried out and feasibility studies were merely confined only to technical aspects of the planned measures. No information about the (self-)selection processes within target group concerning the *perception* of information is available in any of the project-carrying organisations. Nevertheless, some associations could present some indications for positive project impacts initiating environmental oriented *reaction* within their target groups.

These results from BMU/UBA-program evaluation could be largely verified by the findings derived from the DBU-program. In difference to the BMU/UBA-program, we were able to survey the target groups of the DBU-program by using a cross-sectional design and telephone interviews (cf. Stockmann, Meyer et al. 2001: 86ff.; a short description of research designs, including the pros and cons of cross-sectional design, can be found in de Vaus 1991: 40ff.). Therefore, focus of analysis was more strongly put on the practical use of environmental consultation and less on the communication process. As mentioned above, the target of environmental consultancy is not only to transfer information but to initiate changes in environmental oriented behaviour of the advised people or organisations

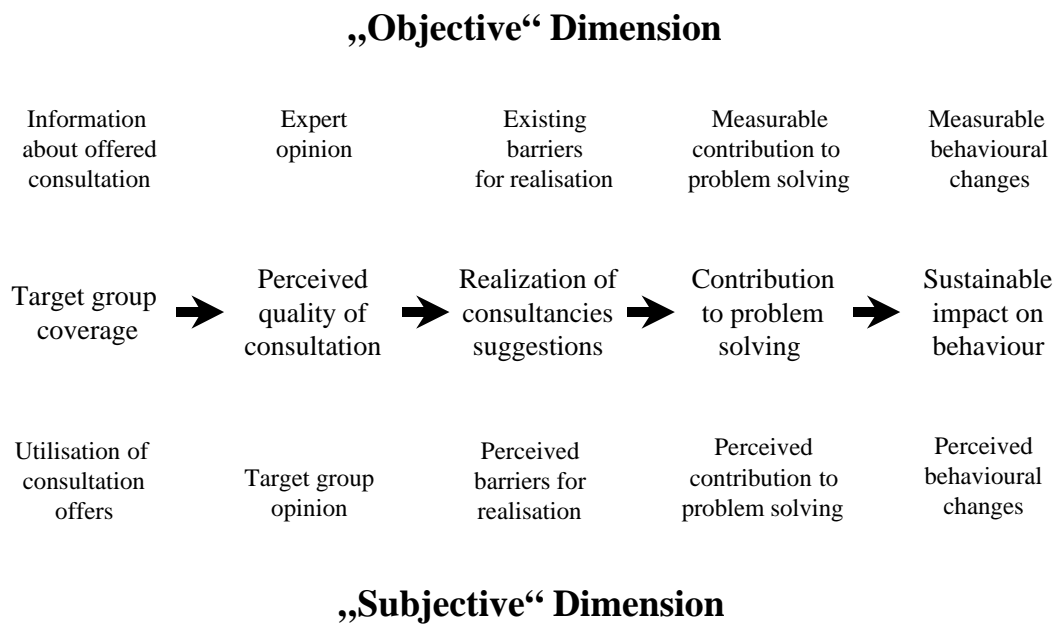
In addition to the model of organised information transfer we used a five step model for the investigation of the utilisation process within the target groups (figure 2). On the first step, the coverage of the target group has to be questioned: Was it possible to remit knowledge about

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consultation offers to all persons or groups which should recognise it? Hence, this step is identical with the information transmission process, but it is limited to one single information - the existence of consultation offer. The second step, judgement on consultation quality, refers to the information production process. The "media" produced in the DBU-program is an individual consultation report including suggestions for problem solving, which had been written by commercial consultants as a result of personal contact and intensive problem analysis within the advised firms. The positive evaluation of consultation quality from both target group members and independent ecological experts is one important requirement for the next two steps and main elements of information utilisation within environmental consultancy, the realisation of consultancies suggestions and its contribution to problem solving. Furthermore, the differentiation between client and expert judgement indicates two different dimensions, which can also be found at each of the other steps: A "subjective" dimension strongly connected with the personal perception, attitude, and behaviour of the client and an "objective" dimension, recurring to the most important goal of environmental policy, ecological betterment, as it could be judged by scientific methods from experts. Finally, as the main target of environmental consultancy, sustainable changes of client behaviours towards environmental problems should be reached.

Figure 2 Utilisation of environmental consultancy



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1. Target group coverage

Basic requirement for any kind of consultation is the *knowledge of the target group about the consultation offer* and the possibility to use it for their purposes. The distribution of this

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information was very important for nearly all evaluated environmental consultancy projects because the project's output was the first offer on this topic for the vast majority of implementing organisations. As mentioned before, federal associations as organiser of environmental information transfer did not take enough care on this aspect and this result can be verified for the chambers, unions, and the other organisations engaged within the DBU-program. Only less valid indicators like for instance sporadic positive feedback from some members of target group gave them little knowledge about coverage and acceptance. However, in many cases it is not quite sure whether the majority of association members even took notice of the environmental consultation offer. Frequently, nobody asked if the used networks and measures to spread information within associations members were effective or efficient and what could be done to improve the information transmission process.

Results from our target group survey show that even the professional public relations work of the chambers made purely a modest contribution to distributing knowledge about the environmental consultancy offer (Stockmann, Meyer et al. 2001: 245ff.). Only personal contact and the activities of appropriate multipliers (e.g. commercial environmental advice centres and their acquisition work) proved to be a successful way to disseminate this information. Hence, as this result is corresponding with the findings from the vast majority of projects, the extensive engagement in public relations work had been yet out of all proportion to its poor impact.

As described before in the model of organised information transfer, for reaching the targets of consultancy projects it is not sufficient if the members of the target group only had the possibility to hear from this offer. In the evaluated projects, already the ways used for spreading the information about the offer led to a selection bias within the target group. Furthermore, self-selection processes within the informed group increased the concentration on the small sub-group, who is highly concerned about environmental topics. For improving environmental action it is important to answer the question, *why people knowing the offer decided to use the services and what are the reasons to refuse the offer*. Obviously, the answers will be very different depending on the target group in focus and might change over time. In business, economical aspects are naturally of great importance and to offer environmental consultation means to have satisfying answers on cost-benefit questions. Nevertheless, business decisions are not only rational and, like in other parts of society, prejudice about environmental topics might hinder the use of consultation, even if they are accompanied with evident economic advantages. For federal associations and other organisations offering environmental communication services it is very important to evaluate target groups reactions on their offers and to develop proper strategies to overcome resistance – although this might be sometimes a very difficult task.

However, the present practice is far from such an ideal of professional information management. Therefore, environmental consultancy's diffusion effects are poor and additionally deepens the gap between some "forerunners" and the vast majority of the target group. In business also competition between firms and therefore missing communication structures hinder diffusion processes. Although this problem is visible and had been seen by

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some of the federal associations, no communicative countermeasures had been developed within the evaluated projects.

2. *Perceived quality of consultation*

The *expected quality of consultation* is an important influence on target group member's decision to use environmental consultation and only positive judgements will lead to utilisation. This opinion of the target group, here in almost every case members of the associations and organisations, had only been surveyed by a very small minority of implementing organisations. Nevertheless, quality control was an essential element of the orientation consulting program sponsored by the German Federal Environmental Foundation (DBU). The federal organisation of both chambers guarded the work of commercial advice agencies who had been engaged by the clients to execute the subsidised environmental consultations. According to this, a high professional quality of the agencies final consultation reports and suggestions had been realised as the firms as well as independent experts confirmed (cf. Stockmann, Meyer et al. 2001: 254ff.).

However, the opinion of target group members on the perceived quality of consultation must not compulsorily be shared by ecological experts which use scientific criteria, supposed to be more "objective", for their judgement. Having the environmental impact of consultations in mind, it is important to produce high quality both from the viewpoint of ecological experts and the users of environmental consultation offers. As far as it could be considered, the used mechanism of quality control in almost every project proved to be adequate and the project output was recognised as very good. During the project-assistance phase, the donor organisations (in particular the Federal Environmental Agency) initiated a lot of activities and offered their own professional skills to guaranty the technical quality of the products. Particularly federal associations without ecological experiences at the project start emphasised this as a very important input (cf. Meyer, Jacoby & Stockmann 2001: 102). In general, the external experts involved in the projects very seldom criticised the quality of consultation from a professional point of view. Nearly everybody agreed with the contents and the produced media. Moreover, prior doubts on the ability of environmental consultation among the target group as well as among associations staff could be overcome because of the quality of consultations. This result from BMU/UBA-program is fully verified by the findings of the DBU-program.

3. *Realisation of consultancy suggestions*

The quality of consultation perceived by its users is not only important for their decision to use the offer, but also for the one to realise the consultants suggestions. Most likely, the *realisation of suggestions* is furthermore influenced by a number of other determinants, e.g. financing, technical competence, legal basis and its changes or internal resistance against the suggested solutions. Once again it is very important for the environmental consulting agency to know as much as possible about the reasons why consultancy suggestions are realised or not. Nearly none of the evaluated federal associations had valid information about the realisation of their suggestions. Inquiries among clients on this topic, with the goal to

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systematically improve the consultation quality, had not been carried out. However, the few information at hand points towards an extraordinary amount of realisations. Especially the results of our target group survey are encouraging: More than 50% of the advised small and medium-sized firms in DBU-program realised the suggestions completely, nearly 95% realised them at least partly. Those who did not realise the suggestions completely mentioned finance problems as the only important reason, which forced them to postpone (not to stop) the full implementation of suggested measures. The main motivation to apply consultancies suggestions were its high quality and good adaptation to the conditions within the advised firms. As reported from both sides, this could mainly be guaranteed by intensive personal contact (cf. Stockmann, Meyer et al. 2001: 256ff.).

4. *Contribution to problem solving*

As mentioned before, the main target of environmental consultancy, in difference to other forms of environmental communication, is to make an *important contribution to solve an existing and perceived environmental problem* of the client. Even if consultancies suggestions are completely realised, it is not for sure that this target could also be reached. While reductions of pollution (or other ecological important results) are merely objective measurable facts, the subjective evaluation of these results by the clients themselves depends on expectations, perceptions, and attitudes – and therefore both judgements do not compulsorily have the same consequences. From the perspective of environmental policy, the measurable impacts on the environment might be of greater importance, but the subjective judgement of the clients will probably influence not only their future behaviour but also the success in spreading the consultancy services within the target groups.

Although in both evaluated programs project goals often included some statements on ecological improvement, technical control on objective measurable environmental impacts were rarely implemented. Moreover, a general statement on environmental impact of consultancy is impossible because of the heterogeneity of topics and suggestions. With respect to this, one can only conclude that ecological relief, on one hand, did not even come near to the technical possible outcome, but, on the other hand, probably none of the projects failed to have any positive effect at all. However, the reaction of representatives from small and medium-sized firms which applied suggestions from consultations within the orientation consultancy program of DBU was extremely positive: Many of them were even surprised about the extent of reached effects (cf. Stockmann, Meyer et al. 2001: 264ff.). Comparable reactions – although not representative – were reported from most target groups of the other projects, too. Even having the strongly restricted data basis in mind one can realise that the application of consultancies suggestions did have certain environmental impacts which had also been recognised by the applicants. The main problem is, that this positive result could not be quantified and therefore is questioned by critics of environmental consultancy.

5. *Sustainable impact on behaviour*

On condition that members of target groups noticed the consultancy offer, decided to use this offer because they are convinced by their quality, realised the consultancies suggestions, and

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were pleased by the results, a *sustainable impact on their environmental oriented behaviour* can be assumed. Possible reactions are for example further activities for environmental protection within their organisations, repeated utilisation of environmental consultancies, or recommending the environmental consultancy to other persons or organisations (preferably members of the projects target group). The most extreme form of a positive outcome of environmental consulting projects would be the durable establishing of behavioural patterns like voluntary regular control of ecological compatibility or consequent consumption of environmental preferable goods.

Although none of the organisations involved in the evaluated programs regularly and systematically observed the behaviour of its target group, sporadic feedback from several target group members and even some information about long-term development is available and refers to some positive durable effects. Unfortunately, this data was also not systematically collected and had not been used for steadily improving the measures and adapt communication strategies to target group's needs.

Our target group survey within the DBU-program showed, that small and medium-sized firms who participated with the program had significant more environmental activities than the control group. This corresponds with reports from commercial environmental consulting about follow-up orders from advised firms (cf. Stockmann, Meyer et al. 2001: 273ff.). Although the interpretation is limited because of missing comparable ex-ante data there is some plausibility within the assumption, that positive experience with environmental consultation will improve the probability to use it again. However, having in mind that only those parts of the target group already concerned with environmental topics could be reached, one should not overemphasise this positive result.

To sum it up: environmental consultancy is able to develop appropriate client-oriented solutions for environmental problems and to reach a high degree of applications. Therefore, recognisable ecological effects can be achieved, which at least impress the applicants. As a result, environmental consultancy has the potential to fulfil the expectations on improving the durable impact of ecological communication and the behaviour of a great variety of target groups.

However, this positive outcome requires certain circumstances which need to be carefully established and continuously controlled. Primarily, a professional *information management* for disseminating the knowledge of the environmental consultancy offer among the target groups is indispensable. Without it, target group coverage can not be guaranteed and the risk of limiting the impact on the small subgroup of those who are already concerned about environmental topics is high. Secondly, a professional *quality management* which guarantees a high standard of the consultation process and the suggested solutions is necessary. By doing so, both client satisfaction and significant environmental impact can be assured. Thirdly, an *evaluation system* for ex-post control of the realisation of consultancies suggestions and the achieved contribution to problem solving must be implemented. This is the requirement of a "learning organisation" which succeeds in steadily adapting its performance to clients needs.

Without it, environmental consultancy will not be able to face the demands of sustainable development. And finally, for an on-going observation of target groups needs a *monitoring system* is requested which is not only limited to measure ecological information, but includes social science data as well. For example, to overcome prejudice and acceptance problems new communication and marketing strategies must be tested and improved on the basis of target groups reaction. Therefore, valid data on this reaction is needed. The task is to recognise environmental and social difficulties of target groups as early as possible for developing suitable countermeasures. Even the best technical solution can not reach the client without an appropriate communication system and, vice versa, distributing poor ecological solutions will also fail, at least in the long run.

Implementation of information and quality management as well as the use of monitoring and evaluation systems is not mainly a question of finance, but of the intention to improve environmental communication: We did not find any positive correlation between finance resources and the quality of communication management.

4. Sustainable development – new wine in old bottles?

During the 90s, a significant change in public discussion in Germany on environmental topics has to be noticed. Origin of this change was the World Summit in Rio de Janeiro 1992, which strongly influenced not only nation states policies but also, step by step, the political action of non-governmental organisations. “Sustainable development”, although already on the international agenda since the publication of the “Brundland-report” 1987, has been discovered as a guiding principle (or at least as an useable slogan for political discussions). Especially actors of the environmental movement recognised the possibility to revitalise the ecological debate, which had lost more and more public attention as a result of the economic crisis following the German unification. Moreover, environmental policy was blamed being partly responsible for the economic breakdown in East Germany and, therefore, the old economic-environment-conflict seemed to be restored (cf. SRU 1994: 178).

Maybe even more important was the reaction within federal business organisations. In general, they recognised the chance to avoid regulations and to participate in decision-making in environmental policy. Thus, sustainable development as a guiding principle met general approval and acceptance in German business, at least within federal associations and interest organisations. As it seems, sustainable development as an idea or at least a term could integrate different positions and promote compromise solutions (cf. for further discussion on the impact of sustainability Meyer & Martinuzzi 2000).

One reason for this positive reaction is probably the uncertainty associated with the definition of sustainable development. Following the World Commission, sustainable development is a development ‘that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (World Commission 1987: 8). Besides the problem to find a consensual interpretation of common needs now and forever, new perspectives and several difficulties are directly associated with the term sustainable development:

- One of the main targets of sustainable development is the *integration of ecological, economical, and social goals*. On one hand this offers the chance to legitimate business action from a social and environmental policy view (cf. Minsch 1993:9), but on the other hand bear the risk of rising complexity of problems which hinders any trial to solve them.
- Sustainable development requires cross-sectional co-ordination of policies toward a common goal. Developing such a shared target system needs the continuous participation of numerous different actors not only on national but also on regional and local levels of society. Therefore, new institutions to organise such a comprehensive decision process *including several aggregate levels* have to be developed.
- The *long-term perspective* of sustainable development offers chances for switching viewpoint from repairing environmental damages to avoid future ecological hazards. Thus, environmental protection now as a planning task will become an important element of management in business organisations. However, the lack of appropriate data on long-

term developments will cause incalculable management problems at the moment.

These three aspects – goal-, aggregate- and time-integration – seem to be the common understanding of sustainable development, irrespective of different connotation or main emphasises. Nevertheless, the introduction of “sustainable development” within the public discussion on ecology in Germany led to some important changes:

- In *governance*, the strong division of economic and environmental policy is vanishing and more and more integrated solutions are to be implemented. Moreover, the environmental policy of national government is changing its strategies from regulative to preventive measures and, therefore, it is opening its governance structures for NGO's.
- In *business*, federal associations and other interest groups are more and more changing their behaviour from re-action to action on environmental topics: They use their political influence not only to avoid threatening laws, but started to develop environmental targets and objectives by their own. Business' declarations of self-obligation for environmental prevention are also viewed by political parties and environmental organisations as the most important step to “ecological modernisation”. Therefore, both sides are struggling to overcome the old economic-environmental conflict in Germany.
- Finally, sustainable development also influences *information systems*. While self-responsibility of business actors and local authorities is growing, the demand for decentralised measurement systems, adapted to the regional circumstances and therefore better suited as a realistic foundation of political decisions, is also increasing. The integration of ecological, economical, and social aspects is not only a political, but also a measurement problem. For implementing the principles of sustainable development within complex systems, interventions are needed which should sometimes change these systems fundamentally. To control this risky process, valid data for evaluating the impacts are indispensable.

While running both programs evaluated here, the sustainable development debate in Germany had certain influences on them – both direct and indirect. For example, some of the projects in the BMU/UBA-program develop measures immediately directed to goals, which are formulated with respect of sustainable development. Within the DBU-program, especially the international measures for certification (EMAS, ISO) motivated some of the small and medium sized firms to participate on the program. Although one can hardly decide whether these effects are exclusive results of the sustainability debate or not, some careful conclusions for the development of environmental communication can be drawn by comparing those projects which are directly oriented to sustainability debate and those which are not.

According to the model of organised information transfer, the following results seem to be evident:

- *Information production*: With respect to the three elements of information production, experts, topics, and media, one has to recognise that changes are only belonging to the *topics* which are to be transferred. Stimulated by the sustainability debate, more and more

projects integrating economic and environmental aspects (sometimes also social affairs e.g. fair trade of ecological products) are developed. The *experts* engaged for information production are largely the same because they have already been involved in the thematically changes and therefore continued to educate themselves in the new topics. However, sometimes experts from various disciplines have been included in the production process and there is a slight tendency to build more interdisciplinary teams. Whether this innovation is due to the influence of the sustainability debate or not is hard to judge. Compared to other projects, the finally produced *media* within sustainability projects differ not very much – especially internet platforms and homepages are new forms of information offer and this does not depend on the topics. To sum it up: The impact of sustainable development on information production is by far reduced to new topics associated with sustainability. There are no significant changes in the information production process nor in the expert or media used for it.

- *Information transmission*: The main innovation of the sustainability debate within the information transmission process is the introduction of new actors to organise such a process. Some federal associations are motivated by the sustainability debate and by the new chances supposed to be offered by sustainable development which are to create an own project on this topic and to act as an *organiser* of information transfer. Moreover, co-operation projects with several associations engaged on one common topic are definitively supported by the new international discussion. Sometimes the sponsor organisations (especially UBA) initiated such an alliance – with different results. Absolutely no change has to be recognised by comparing the used communication *networks*: As far as the implementation of new communication structures is not the main goal of the project, none of the organisers recognised the necessity to improve their information transfer system with respect to the new demands of sustainable development. Due to the lack of information, it can hardly be decided, whether, by using sustainable developmental instead of environmental topics, new communication *arenas* can be build or not. According to the missing innovations in using networks, one might suppose no change at all. As a conclusion, the sustainability debate's contribution to information transmission is concentrated on the inclusion of new actors (and therefore new networks and arenas) and the rising number of co-operation projects, especially projects including both business and environmental organisations.
- *Information utilisation*: As mentioned before, judgements about information utilisation processes are difficult because of the poor data available. Our target group survey within the DBU-program seems to be the only usable source to answer the question whether the sustainability debate had some influence on the behaviour of target groups within the evaluated programs. Certainly, some impacts of the sustainability debate (especially EMAS and ISO-certification) on the interests of small and medium sized firms as one *target group* of the program could be recognised. However, according to the expectations of environmental activists, these impacts are very week: nearly no firm seems to be motivated by the new topic to participate in the program – most firms did not even

recognise the sustainable development topic! Due to the poor public attention of sustainable development, this disappointing result on information *perception* could probably be generalised. Therefore, no special *reaction* of target group members has to be supposed - the impact of the sustainability debate on information utilisation processes among small and medium sized firms seems to be very poor.

For a sustainable development of consultations, a professional information and quality management is needed, not mentioning the contents at all. Moreover, environmental topics are hard to pass on in Germany nowadays, due to the decline of public interest in the last decade. Thus, the implementation of professional marketing strategies is absolutely necessary for some progress. The switch from environment to sustainable development as keynote of public discussion does not solve the communication problems, but, instead, even complicates these targets (cf. OECD 1999). The requirement of goal-, aggregate-, and time-integration within the concept of sustainable development improves the complexity of information to be transferred. It is more hope than real experience (or empirical evidence) that members of target groups have more positive attitudes toward sustainable development than towards environmental topics. However, methods used for information transfer and, moreover, for managing this process have not been changed with respect to the new requirements of sustainable development and to the experiences with environmental consultancy.

Yet, even within huge business associations and organisations like for instance the chambers of commerce and the chambers of crafts, management structure for transferring information is poor. The result is not depending on the kind of messages to be transferred - environmental topics are not transmitted in different forms than other subjects. There is no evidence for any change in communication methods accompanied with the new subject "sustainable development".

According to this, the diffusion effect of environmental communication and consultation offers is very poor and the spreading of knowledge about sustainable development seems to be even worse. At the moment, only sub-groups who are already interested in environmental topics could be reached and, as a result of consultation, their activities improve. In the business sector, an endogenous diffusion process is hindered by missing communication structures between firms, caused by the competition situation. Therefore, nowadays environmental consultancy is only able to deepen the "ecological niche". To change the subject to sustainable development will not solve this problem, but might even intensify it.

Finally, to answer the question asked in the headline of this chapter: Yes, indeed – sustainable development is yet not more than "new wine in old bottles" (resp. "new information in old transfer channels"), but the number of bottle sellers has been slightly increased (resp. new actors contributed their networks for promoting information on sustainable development). For the ambitious targets of sustainable development this is by far not enough – betterment of information and quality management is needed more than ever!

5. Conclusion

The results of our evaluation studies showed that public support programs have significant effects on environmental communication processes in business. Above all (but not mentioned in this paper), public support was (at least in the beginning of the 90s) of great importance to establish an infrastructure for environmental information and consultation offers within federal associations in Germany. Especially for several non-profit (and therefore low-budget) organisations the financial support from federal sponsors is still necessary to ensure their possibilities for offering environmental information. Moreover, the ecological and technical knowledge of the Federal Environmental Agency had been a strong input for communication projects and guaranteed high quality of the produced media.

In sum, especially during the process of *information production*, public support programs have been able to unfold strong positive effects. Both experts involved within the evaluated projects and members of various target groups emphasised the high quality of information and consultancy. Due to this positive reaction, nearly every suggestion of the consultation reports within the DBU-program has been recognised as applicable and the great majority of small and medium-sized enterprises, although their financial situation was poor at this time, realised these suggestions completely.

Different to the process of information production, in almost all projects the actors did not pay enough attention to *information transmission*. Sponsor organisations decided to co-operate with federal associations because of their better possibilities to reach special target groups, but they never examined this presumption nor demanded scientific evaluation of transmission processes. With the exception of some projects, which had the target to build up or to improve communication networks, no significant change in communication patterns could be reached. Furthermore, the federal departments of associations were in general not responsible for the transmission process and they did not get any valid information on the diffusion process from regional or local departments. Therefore, efficacy and efficiency of information transmission within federal associations is very poor, independent of economic resources general available for the association, the meanings embodied in the messages, or the kind of target groups aspired.

The reasons for deficits in information transmission are obviously associated with the lack of information on the process of *information utilisation*. Although each of the evaluated federal associations and organisations is publishing, distributing, and offering a great amount of information on various topics, none had already established a regular monitoring system for observing changing needs of their target groups and for measuring impacts of distributed information material. However, this does not mean, that environmental communication in general and environmental consultancy in special is ineffective. The results of our evaluation of the DBU-program verified the feasibility of environmental consultancy for small and medium-sized enterprises and the success of this strategy, both measurable on subjective satisfaction of the advised firms and on objective environmental and durable behavioural effects. Obviously, this is the most important success for environmental consultancy, which would not be achieved without public support.

Unfortunately, the effects are concentrated on a very small sub-group, which had been

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interested (and sometimes even engaged) in environmental topics already before the start of the program. Moreover, the success of environmental consultancy motivates the advised enterprises to increase their environmental activities and therefore deepens the gap between a very small group of "early adopters" (to use the term from diffusion theory, cf. Rogers 1995:252ff.) and the huge majority instead of initiating an endogenous diffusion process. Especially the economic competition hinders the development of frequently used communication networks which are one requirement for self-driven diffusions. Without a professional information management to improve the distribution of environmental information and consultation further progress is not to expect.

To change the subject of transmission (from "environment" to "sustainable development") will not help anyway. As far as our results show, the sustainability debate did not effect the organisation of information transfer by the federal associations involved in both public support programs. There are some indications on a negligible enlargement of actors interested in participating on environmental communication support. Furthermore, more projects with the target to integrate different interest groups or scientific disciplines were initiated. However, this is not enough to realise the ambitious goals of sustainable development.

Four recommendations improving the organised transfer of environmental information were made in this paper. Primarily, a professional *information management* should be implemented. This information management has to be accompanied by a practicable *monitoring system*, frequently measuring target group needs and its development over time. The third key element should be an *evaluation system* for ex-post control of environmental, economical, and social impacts of transferred information. Finally, a professional *quality management system* should guarantee high standards of information, especially if applicable suggestions as a result of consultancy were made. Only this aspect has been partly (and successfully) implemented during some of the evaluated projects

With the global target of sustainable development, at least three new tasks were formulated as central elements of governance: *goal-, aggregate-, and time-integration*. From the perspective of the communication processes, information should be transferred to even more people and groups than before, the complexity of messages will increase, and rising problems to guarantee the practicability of applicable suggestions will occur. Therefore, the above mentioned tools for improving information transfer are even more important than before.

However, this will not be enough: A corporate social responsibility for ecological problems in business is needed for improving these performances. Although some changes could be recognised, a fundamental reconstruction of the system of federal associations is not visible. At the moment, federal associations in Germany (especially business organisations) act as pressure groups (directed toward national government) for the particular interests of their members. Networks, which are able to integrate different interests, are still seldom and weak, because of mistrust between the representatives - and trust is the main driving force behind networks (cf. Weyer 2000). Currently, there must be serious doubts about the possibilities to build up corporate social responsibility for environmental problems within the existing federal business associations in Germany or to implement an institution suitable for co-operate governance including both governmental and non-governmental organisations.

Within a few years, there was obviously a great success in building some small foot-bridges

from economy to ecology. What we need for sustainable development is an "information highway" (including ecological, economical, and social information) which must be professionally implemented and maintained. However, even this will be only a first, small step towards governance for sustainability.

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