

9

Addressing environmental information efforts: the impact-of- information chain

*Nickolai Denisov, Ieva Rucevska, Brian Lucas,
Otto Simonett, Claudia Heberlein and
Hugo Ahlenius*

9.1 INTRODUCTION

This paper discusses common practices and failures of public environmental information services and suggests as an alternative a shift towards supply- rather than demand-driven environmental communication.

The discussion is put into a framework of the impact-of-information chain which is described in much more detail, with numerous examples and arguments, in UNEP/GRID-Arendal (2001a).

© IWA Publishing. *Environmental Information in European Transboundary Water Management*. Edited by Jos G. Timmerman and Sindre Langaas. ISBN: 1 84339 038 8

The paper draws in particular from the authors' long-term capacity-building experience in Central and Eastern Europe and the Newly Independent States (<http://www.grida.no/enrin/>) as well as their work in the context of Baltic environmental cooperation. To better relate the issues to a water basin management context, references are made to transboundary water management of the international water basins of the Baltic, Caspian and Aral Seas.

All authors work at GRID-Arendal, a Norwegian non-profit foundation supporting the United Nations Environmental Programme in the areas of environmental information and assessment.

9.2 IMPACT-OF-INFORMATION CHAIN

An 'impact chain' is a simplified graphical model of how information propagates through different stages of interaction between the producers of information, the audience of its users, and the environment.

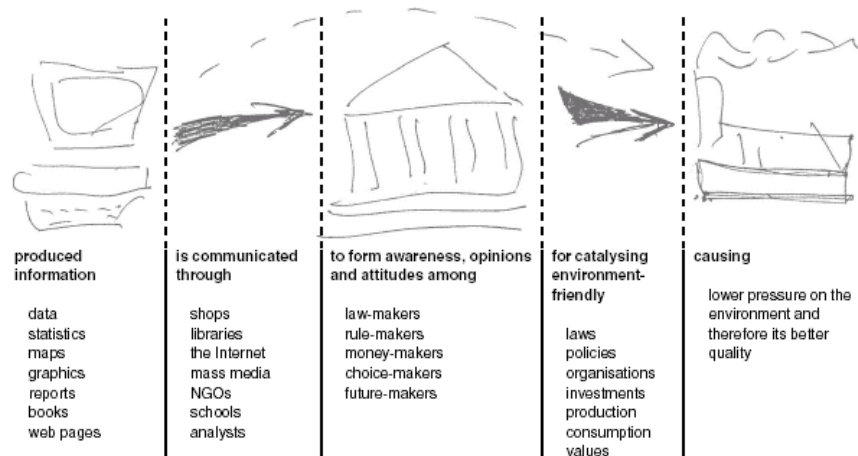


Figure 9.1 Impact-of-information chain (UNEP/GRID-Arendal 2001)

The left part of the chain represents the supply of information, while the right part represents the demand for information determined by its users and the context of use. The 'impact chain' represents only a linear part of the process, there are also feedback loops. The different stages of the 'impact chain' are described in Box 9.1.

Box 9.1 Elements of the impact chain

Production of information includes everything from data collection to interpretation to the publication of an 'information product' in the form of a report, a book, a graphic, a map, etc. At this stage, the producer of information can choose the content and the format of the product to be released.

Communication is the stage where information leaves its place of origin and is communicated to the outside world. Information may reach its target audience directly: people buy a report in a bookstore, borrow a book at a library, receive a briefing note in mail, or download a map from the Internet. The same information can also reach its audience through such intermediaries or 'brokers' as the media, special interest groups (NGOs, clubs, parties), analysts, schools. These channels of communication are able to 'filter' and refocus information according to the specific needs and interests of their own target audiences.

Awareness, opinions, attitudes: groups such as the media or NGOs are sometimes perceived as end users of environmental information. Instead, they should be considered effective intermediaries of environmental knowledge to those in a position to make decisions. What actually happens when people become aware of an issue is however difficult to understand fully, sociological and psychological studies suggest that relations are not at all simple between private opinions of individuals, public opinion that often relates to that of private individuals only indirectly, and the build-up of an attitude.

Decisions: information can either directly encourage actions if a solution is already within practical reach (to buy or not to buy; to vote or not to vote; to drive or not to drive), or it can help promote, develop and establish more comprehensive and effective frameworks (e.g. legal, institutional, fiscal etc.) intended to modify the behaviour of people or organisations in the desired direction. In the latter case information plays a role both before a framework is introduced (to raise awareness about its importance and provide supporting arguments) and after it has been implemented (to maintain awareness about the issue, to explain a new mechanism, opportunities it offers and practicalities of implementation).

Impact: the final stage in the chain is where we may be lucky to observe a positive change in the environment. Examples exist where such a change has been quite clear and where information has obviously played a decisive role (UNEP/GRID-Arendal 2001a). On the other hand difficulties with systematically collecting such evidence are also quite apparent (Frank Thevissen in UNEP/GRID-Arendal 2001b).

The concept of the chain, obviously based on a good deal of common sense, is not new. A similar model 'Who - Says What - In Which Channel - To Whom - To What Effect' was already outlined by Harold Lasswell in 1948 (Lasswell 1948). This model was then developed further by a number of media and communications researchers who added extra dimensions, feedback mechanisms and other complementary elements. Thus the impact-of-information chain as presented here can be seen as a specific variation of Lasswell's model (although it was originally developed independently of it). Its pragmatic value is that it provides a framework specifically applied as a coherent analysis of development, communication and use of environmental information processes, which are otherwise often seen as separate and unrelated in the practice of public environmental management.

3 LIFE IN A PUBLIC ENVIRONMENTAL ADMINISTRATION OFFICE

In the everyday life of public environmental management, activities related to environmental information are often under-prioritised. This has to do with the fact that neither environmental administrators nor providers of public environmental information see the entire chain as one process which should be managed as such. This results in environmental monitoring and data processing being quite detached from, for example, media and public relations of environmental administrations and, furthermore, the everyday life of those who should be the final consumers of public environmental data (politicians, general administrators, consumers, citizens). Such users of environmental information, too, have only limited understanding of what information they would need and what is feasible to expect, and limited possibilities to influence the whole process.

Some common faults of public environmental administrations in addressing the environmental information delivery process in its entirety are summarised, in a somewhat exaggerated manner, in Box 9.2.

These statements are characteristic of many environmental administrations and institutions on various levels, from the local to the regional and even global. To better relate this to the context of water basin management, Box 9.3 illustrates the authors' impression of how these statements apply to the management of three transboundary marine basins in Eurasia, namely the Baltic, the Caspian and the Aral Sea.

Box 9.2 Common faults in managing public environmental information

PRODUCTION

A Monitoring is self-centred and self-driven. Data holders do not want to be understood and have no appreciation of end users of information (particularly outside administrations). Maintenance of data cemeteries rather than user-targeted production wastes energy of public environmental information offices.

B Competition rather than cooperation prevails among data providers, there is little appreciation of common goals not related to securing funding for sustaining on-going activities.

COMMUNICATION

C When public environmental communication does happen, it is often not based on data, or at least data available within the same administration are grossly under-utilised by public relations offices.

D Power of attractive user-targeted formats of information products and user-specific channels for their dissemination is under-appreciated; publications are supply and expert-driven (what is commonplace in the world of commerce, high politics and NGOs is yet to be understood by public environmental offices).

E The most efficient communications channels such as mass media and NGOs are often not considered allies by public administrations (and vice versa).

DECISIONS – IMPACT

F Data are never really used or understood by administrators and policy-makers. Hence there is no systematic 'social order' to information providers and disseminators from the policy-making side (rather ad-hoc requests).

G The general public, being an equally major user of information (cf. the Aarhus Convention), is altogether not part of decision-making when it comes to establishing and maintaining public environmental information systems.

H Environmental administrations entertain no overall concept/idea and vision/management of environmental information and communication activities, different bits and pieces are managed separately in an unrelated way. External target audiences are unknown and not taken seriously. Nobody really cares about the end impact of public environmental information, no assessment of efficiency and effectiveness of public environmental information is carried out.

Box 9.3 Information management issues in some transboundary water basins as encountered by UNEP/GRID-Arendal's experience

	Baltic Sea Basin http://www.helcom.fi/ http://www.ee/baltic21/	Caspian Sea Basin http://www.caspianenvironment.org/	Aral Sea Basin
A	HELCOM monitoring programme is rather technical with a long time-frame, Baltic Agenda 21 sectoral monitoring is driven by policy goals	Transboundary Diagnostic Analysis (TDA) made as a technical exercise, Topic Centres are not user-focused	Monitoring and databases are technically driven, severe problems with access to existing data
B	Strong competition at least in the Eastern part, and high resistance to change	Poor coordination of national and thematic data holdings	Insufficient capacities, thus little real competition
C	Currently very good combination at HELCOM, good but not frequent at Baltic Agenda 21	Little communication of assessment data	
D	Improving, good examples exist, ongoing process of creating more targeted reporting	Some ongoing work	May be improving under the revised Aral Sea Basin Programme
E	Good, active media approach at HELCOM	Little work with NGOs and media	
F	Data generally reach political agendas	No obvious own drive, though TDA is part of a policy process	No own drive, weak linkages to agenda-setting although formal links exist, low capacities
G	Unclear/no public influence on design of information flow	Marginal, at best ad hoc consultations with end users and NGOs	
H	Improving, good examples exist	No systematic approach, CaspSIS is data-driven	Largely data driven although the need is recognised

10.4 INVERTING THE CHAIN

Probably the most important element that will increase the potential impact of information is trivial: to always think about it when designing and implementing the information process. Amazingly many information systems and publications, at least in the public domain, seem to be designed with no usage perspective in mind, on a completely supply-driven basis. If information is released not just because it is incidentally available and in whatever form turned out convenient for publication, but

because its producer has at least a slight idea of who can use the information, and how and why it is useful, then there is a better chance of success. An objective-driven approach to developing, disseminating and using information has for a long time been widely accepted in the world of commercial marketing and advertising, public relations and similar fields. It has been also successfully used by major environmental NGOs.

Two examples below illustrate how ‘reverse-engineering’ thinking can be applied to gain a holistic and objective-driven perspective of environmental information flow. Box 9.4 shows a hypothetical case study from Communication of Environmental Information workshop in Arendal, Norway in 2001 (UNEP/GRID-Arendal 2001b) aimed at developing a top-down communication strategy for protecting biodiversity in South-East Asia, taking into account different needs and roles of various ‘players’. (In real life, UNEP’s and ICRI’s 2002 global communication campaign for protecting coral reefs did include many similar elements, see UNEP 2002). The other example (Figure 9.2) is a conceptual framework supporting the development of an overall communication strategy for UNEP/GRID-Arendal. Details of this and other GRID-Arendal’s activities related to the impact of environmental information can be seen at <http://www.grida.no/impact/>. Yet, apart from the overall philosophical value, the practical application of such techniques for a specific life situation always remains a challenge: a matter of art rather than hard science.

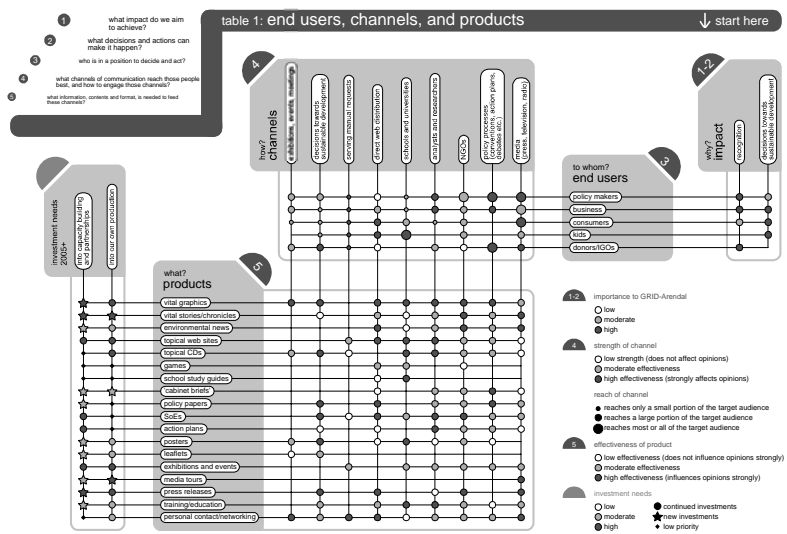


Figure 9.2 Conceptual framework for GRID-Arendal communications strategy.

<p>1. Overall objective: create awareness on the issue in South-East Asia and improve status of biodiversity in region. Time frame for tangible effects is 3–5 years</p> <p>2. Specific objectives: Public awareness, species and area protection should go up, biodiversity-unfriendly development down</p>			
3. Who are our audiences?	4. What are their needs?	5. What should we tell them?	6. ... and how?
National Government	Stay in office National prosperity Attract foreign investment	Biodiversity is a 'Hot Topic', popular, good national image, resource	HARD FACTS: business opportunities are associated with bio-friendliness (also see Industry) MEDIA: plant a story to illustrate popularity of the issue, demand for biodiversity LOBBYING: alliance with environment groups – support by feeding info.
National Parliament			
Local Politicians			
Farmers	Good life Income Continue farming	It is possible to sustain your lifestyle without devastating your local environment Alternative economic uses for protected areas (e.g. medicinal plants)	Teach alternative farming techniques Demonstration farms Community leaders (political, religious)
Tourists	Fun, exotic experience	Eco-tourism = fun, exotic experience Exclusive Be friend of nature and your host	PROMOTION: video, print materials (newspapers, magazines) to show how wonderful nature tourism is. Practical information: how to go there, what to do. Media (e.g. National Geographic), travel agents IN-COUNTRY: instruction how to behave eco-friendly, airlines, hotels
Land developers	Business as usual (or better!)	Economic opportunities Invest in eco-tourism and protection or lose competitive advantage Competitive advantage for 'eco-friendly' resources	HARD FACTS STRATEGY: Future development of the markets MEDIA STRATEGY: You're bad and we are better! You will lose! Publicise biodiversity 'hot spots' Changing markets best business practices (tours, direct interaction with other companies) ECO-LABELS (Western market sensitivity)
Other industries			
Resource extraction Industries	More money		
Tourism industry	More tourists, better image Attractive destinations		
Children	Do something good Natural spaces Kids love animals	Take care of animals Talk to your parent about it	MEDIA/TOYS/BOOKS/SONGS: What fun it is to have lots of animals ORGANISATIONS (scouts/guides/schools): field trips, camps, events, educational support materials for school
Consumers	Status symbols Price/quality	There are high-quality, inexpensive, and environment-friendly alternatives – choose green! Endangered species products are not sexy	MEDIA: celebrity anti-endorsements Horror-campaigns (Activist groups in the West) Show companies' activities, good and bad

Box 9.4. Communication strategy for protecting biodiversity in South-East Asia (a workshop case study, UNEP/GRID-Arendal 2001b).

9.5 CONCLUSIONS

Environmental information is an indispensable resource readily at the disposal of usually under-funded and under-appreciated public environmental administration. It has high value for direct assistance to environmental decision-making, mobilisation of public support to public environmental policies, and supporting environmental arguments in resolving inter-sectoral conflicts. Its power, however, as well as ways to effectively release it, are often not adequately understood by public environmental management bodies who also have little capacity to work beyond their traditional information fields (monitoring, publications, serving explicit requests).

On the other hand, the impact-of-information chain model being a representation of the flow of environmental information as a continuous process from its origin to a real-life impact clearly demonstrates that information is best managed in a holistic manner. This means that all essential elements of the chain, from monitoring to packaging and disseminating information to its interaction with decision-making processes need to be taken into account. Successful long-term planning should be objective- rather than supply-driven, starting on the side of communication strategies rather than production. Unfortunately this is more often not the case than it is.

To improve the use of environmental information in public environmental management, there is an apparent need for awareness raising and capacity building among environmental administrators (information as a policy instrument), public/media relations professionals within environmental administrations, and data/information producers and providers. Relations should also be strengthened with both the end users of environmental information (decision-makers of all kinds) and intermediaries such as mass media and the NGOs, who may also be in a position to provide support with some tasks for which public administrations lack experience, capacities or a mandate (e.g. re-packaging of environmental information into popular formats, active campaigning and involving broad civil society).

9.6 REFERENCES

- Lasswell, Harold 1948 *The Structure and Function of Communication in Society*. In Bryson, Lyman (ed.), *The Communication of Ideas*. Harper and Row (quoted after <http://web.utk.edu/~gwynne/commtheory.html>).
- UNEP 2002 *Coral or no Coral? It's My Choice*. Press release 2002/01 <http://www.unep.org/Documents/Default.asp?DocumentID=233&ArticleID=2993/>.

- UNEP/GRID-Arendal 2001a Denisov, Nickolai et al. *Impact of Environmental Information on Decision-making Processes and the Environment*. GRID-Arendal occasional paper 01 2001, <http://www.grida.no/impact/papers/fullimpact.pdf/>
- UNEP/GRID-Arendal 2001b. Yemelin, Valentin (ed.) *Workshop on Communication of Environmental Information*. October 22-23, 2001, Arendal, Norway. On-line proceedings: <http://www.grida.no/impact/commworkshop/>.