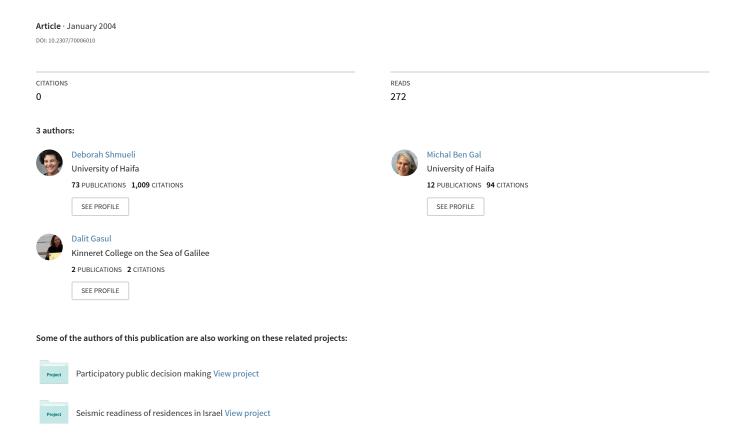
Conflict Assessment as a Tool in Environmental Dispute Management and Resolution



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Conflict assessment is a relatively new technique for Israel, having been introduced into environmental policy negotiations only since the late 1990's. Most environmental conflicts revolve around such issues as air and water pollution abatement, and preservation of open spaces – issues that are particularly salient within the country's population and economic core area, extending along the coastal plain from Haifa through Ashdod.

Utilizing a conflict assessment model developed in the United States, this writer and colleagues applied the technique to the Israeli scene. The cases presented in this chapter are derived from two separate studies. The first was based upon four major environmental conflicts in Israel¹. While national in scope, these cases have their most profound impact at the metropolitan and district levels. Three of them, the Dudaim national waste disposal facility (Gasul and Shmueli, 1999), the Israel Trans-Israel Highway (Danieli and Shmueli, 1999) and expansion of Ben Gurion national airport (Rimon and Feitelson, 1999), involve conflicts over siting. The fourth case was a resource management issue centering on the Tel Aviv coast (Lipson et al., 1999). The second study, a six-month conflict assessment commissioned by the Israeli Ministry of Environment in December 2000, concerns the pollution of the Lower Kishon River in the Haifa metropolitan area (Shmueli and Ben-Gal, 2001). This applied framing tools, or the analysis of how disputes are perpetuated by the ways in which they are interpreted by stakeholders, to the broader conflict assessment process (Shmueli and Ben-Gal, 2004).

¹ Four conflict assessments were prepared for a conflict management workshop in the areas of planning, development and the environment, sponsored by the Israel Center for Negotiation and Conflict Resolution, Ne'eman Institute, and the Israel's Ministry of the Environment in January 1999.

The general framework of the methodology follows the conflict assessment model developed by the Consensus Building Institute (Susskind and Thomas-Larmer, 1999; Carpenter and Kennedy, 1988). It includes the following phases: 1) introductions (mandate from convener, identifying stakeholders, preparing interview protocols); 2) information gathering (personal interviews, recording techniques); 3) analysis (summarize findings, mapping areas of agreement/disagreement and the application of framing techniques in the Kishon case); 4) process design for consensus building (goals, agenda, stakeholder selection, time-frame); and 5) report writing, feedback, distribution.

In these cases, the convener was the Ministry of Environment, one of the stakeholders - a situation that puts both limitations upon and influences the process, but also serves as a learning opportunity for the Ministry. The Ministry initially identified 20-30 stakeholders in each dispute, introducing the assessment teams and describing the goals and format of the assessment by mail. The assessors were academicians, well versed in environmental policy. The interviews followed an open question format.

In the analysis phase, findings from the individual interviews were categorized into stakeholder groups, usually by interests. These findings reflected the range of opinions and statements drawn from the interviews, or expressed by additional stakeholders in affidavits and objections submitted to the courts. The topics were:

- Development of the conflict from the viewpoint of stakeholders in that category, including the historical chain of events that have led to the conflict.
- Key issues
- Basic interests
- Proposed solutions
- Stakeholder amenability to compromise, or non-compromise
- Important issues for future discussion
- Perceptions and reactions to the decision-making process

Barriers to negotiation, mediation and consensus decision-making approaches

The two cases presented here are the Dudaim waste disposal site, and the Kishon River pollution abatement dispute. The Dudaim assessment was conducted only in its narrowest sense (Phases 1-3). The Kishon case also focused on the consensus-building and process design stages, with stakeholder feedback and revisions throughout the assessment development.

The Dudaim Case Assessment²

For decades, processing waste was the exclusive mandate of local authorities. Hundreds of local refuse disposal sites were established across Israel, usually in a disorderly manner; a good number are still in existence. Due to lack of awareness of the risks inherent in the improper location of such sites and unsound methods of waste disposal, many became environmental, safety and health hazards. Owing to population growth, the rising standard of living and changes in consumption patterns, the quantities of waste increased significantly, exacerbating the damage associated with waste disposal. In 1974, on the initiative of the Ministries of Health and the Interior, the National Board for Planning and Building (NBPB) ordered the preparation of a **National Outline Scheme for Waste Disposal – NOS 16**. Negotiations over this plan and various amendments extended over a fourteen year period, final approval being given by the government only on March 2, 1989.

The planning principles in this version of NOS 16 were: reducing the number of disposal sites; formalizing methodologies for waste treatment and processing; allocating areas for waste processing and disposal; defining collection areas for waste; and creating geographical affinity between collection areas and disposal sites – a principle established as obligatory. The plan allocated areas for 28 processing and disposal sites, and assumed that landfilling, including its compaction and covering soil, was an appropriate method that would continue to be the main form of waste disposal. The

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² The interviews were conducted by D. Gasul, supervised by D. Shmueli

importance of promoting integrated methods of waste processing, including incineration, recycling, re-use and energy recovery was recognized – however, these alternatives were considered economically non-viable.

Soon after the plan's approval it became apparent that its implementation would entail such difficulties as to make execution impossible. NOS 16 called for detailed planning prior to preparation of a waste site and granting of an operating permit. The plan required precise borders, building restrictions around the site, transport arrangements, guidelines for preparation of an Environmental Impact Statement (EIS), and provisions for the prevention of hazards and nuisances. Attempts to complete detailed planning for various sites encountered fierce opposition from local authorities.

Background of the Conflict

The Duda'im Waste Disposal Site is located within the municipal boundaries of the Bnai Shimon Regional Authority, and within the local planning area of the Shimonim Local Planning and Building Committee. Currently, the site is situated some 5-6 km from the built-up outskirts of Beersheva, and some 1.8 km from the boundaries of Dudaim's proposed and approved future sites (through the year 2020). An Israel Defense Forces ammunition base, a gas tank facility and a planned forest belt are situated between the present border of the City and the Dudaim. The site is also some 4 km from Kibbutz Mishmar Hanegev and 3 km from the Eshel Hanassi Regional School.

The chronology in Table 1 is an abbreviated version of the salient events that have marked the conflict over a period of seventeen years (Gasul and Shmueli, 1999).³

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³ Detailed chronology can be found in Gasul and Shmueli, 1999, Table 2, pages 18-25.

Table 1: Duda'im Chronology (up to time of assessment in 1999)

Date	Event
1986	First environmental impact survey (EIS) for Duda'im A, commissioned by the Ministry of Interior as part of NOS 16.
Aug. 2. 1998	Duda'im (A) approved as a local site as part of Local Master Plan 339.
March 2, 1989	Government approves NOS 16.
1990	Duda'im established and operated by Bnai Shimon Regional Authority. Objections to the site relate to the high refuse burial levy.
1993	EIS commissioned by Bnai Shimon Regional Authority: 25 years at 500 tons per day, in the existing area, and 1,500 tons in the extension area are recommended.
June 6, 1993	Government Decision #1349: Plan approved in principle; forwarded to Ministerial Committee for Internal Affairs and Services for transitional period, existing landfill sites at Modi'in, Ashdod and Evron to be prepared as regional sites. Duda'im and Talya sites to be expanded within one year as national sites for waste intake, excluding toxic waste, from throughout Israel. Hiriya site, serving Greater Tel Aviv, to be closed by end of 1995 and rehabilitated.
Jan. 24, 1994	District Planning Committee asked by NBPB to forward recommendations on choice of Duda'im and Oron as national sites and Ashdod as an exceptional (temporary) national site for 3 years. All members of the Committee oppose approval of Duda'im as a national site, with the exception of the representative of the Ministry of the Environment. Beersheva Mayor voices "vigorous protest" against the selection of the Negev as the main refuse receiving region.
Aug. 1, 1994	Beersheva and others appeal to Supreme Court (4325/94), requesting that NBPB be required to order the preparation of an environmental impact survey, and to prevent conversion of Duda'im into a national site.
Aug. 28, 1994	Hearing held before Judge Z. Segal. Compromise reached: EIS will be prepared by winner of the tender and submitted to the Ministry of the Environment for approval. EIS must address all possible alternatives.
Nov. 20, 1996	Ministerial Committee for Internal Affairs and Services decides to approve NOS 16A - Duda'im Site, and to adopt NBPB's decision dated June 4, 1996 relating to initiating planning for Oron site
Dec. 14, 1997	Heavy winter rains lead to collapse of margins of Hiriya site, intensifying dangers of continued operation of the site. Urgent need arises to close Hiriya.
March 19, 1998	Supreme Court ruling permits transfer of refuse from Hiriya to old Duda'im site, but restricts waste to 1,500 tons per day.
Aug. 17, 1998	Upgrade of Duda'im A completed.
Oct. 15, 1998	Official closure of Hiriya.
Nov. 12, 1998	Infrastructure work begins at Duda'im B site. Local Committee issues conditional permit, since no lease contract has as yet been signed with the Israel Lands Administration (ILA).
Dec. 8, 1998	Lease contract signed with the ILA for only 190 dunams. Request submitted for additional area of 350 dunams.

In the Dudaim case, twenty-one individuals, representative of the five key stakeholder groups were interviewed, reflecting the wide range of opinions and

interests involved in the conflict (National Ministries – 4, District Ministries – 6, Beersheva Lobby – 1, Developers – 3, and Regional Waste Disposal Operators' – 4). The local bodies, the Beersheva Lobby and the District (local governmental) Ministries aspire to raising the image of Beersheva, turning it into the southern metropolis of Israel, improving the quality of life for local residents. The National Governmental Authorities, the Developers and to some extent the Regional waste disposal operators basic interests focus on the best and cheapest way for the removal of waste from metropolitan Tel Aviv as an alternative to the Hiriya dump. Their interests also include raising standards for waste treatment and improving public perception of waste disposal sites to promote the companies' chances for economic success. Although the interests of the groups are not necessarily contradictory, the proposed solutions reveal the conflict between and amongst them. The solution of the National Authorities and those allied with them was the siting of the facility in Dudaim, while the local bodies saw the struggle against that specific site as a way to place the Negev's problems on The assessment identified the the public agenda and unite the Negev community. key issues that emerged from these interviews and ranked them (from 1 – low to 3 – high with 0 as ambivalent) - see Table 2 (Gasul and Shmueli, 1999):

Table 2: Dudaim - Ranking the Importance of Key Issues

	Image of Beer- sheva	Damage to quality of life / develop. of Beer- sheva	Promoting Rotem Plain site	Operating Duda'im A site on long-term basis	Closing Duda'im B site ASAP	Operating Duda'im B site on long-term basis	Ensuring strict environ- mental standards	Compensation for Beersheva	Long- term solution for waste problem in Gush Dan	Promoting integrated processing of refuse
National govt. ministries	1	0	2	1	0	2	3	1	3	1
District offices of govt. ministries	2	2	1	1	1	1	3	2	0	1
Beersheva Lobby	3	3	3	0	3	0	3	2	3	2
Promoters and developers	1	0	0	0	0	3	2	1	2	1
Gush Dan (regional operator)	1	0	0	0	0	1	0	0	3	1
Bnai Shimon (regional operator)	1	0	0	3	0	0	1	0	1	0

While certain stakeholder positions offered little opportunity for compromise, others suggested avenues for compromise. National Governmental Ministry representatives appeared willing to promote other sites, in addition to Dudaim B. The District offices seemed amenable to providing (or having the National Ministries provide) financial or in-kind compensation, as well as changing operating protocols to meet local objections. The Beersheva Lobby was prepared to accept Dudaim B and to annex the site to the City in return for financial compensation, at least as a temporary measure. The promoters and developers were willing to accept strict environmental regulations, provided that the tipping charges could reflect these higher costs. The Gush Dan Cities Association was willing to compromise on their demand for a special site dedicated to their own cities' refuse.

The assessment concluded with a three-day workshop in which key issues were targeted for future discussions, including:

- The image of Beersheva
- Solution to the problem of refuse from Gush Dan
- Duration of operation of the Dudaim B site and building permits
- Levels of waste burial levies and methods of collection
- Monitoring and enforcement of the Dudaim B site
- Compensation for Beersheva
- Promotion of alternative sites (Rotem)

The stakeholders also expressed their views on the utility of their participation in the negotiations and consensus-building process. The general conclusion was that the understandings which emerged from the assessment process could help to reconcile the dispute, if outcomes and issues were reframed so as to fulfill the needs of all parties. Given that this was a brief exercise, the project did not provide for such reframing, so that this hypotheses could not be tested.

The Kishon River Assessment

Whereas Dudaim focused on the first phases of the Conflict Assessment process, the Kishon study extended the assessment to include the process design stage, and continuous feedback interaction with the stakeholders. It's primary methodological innovation was the incorporation of framing typology (Shmueli and Ben-Gal, 2004)⁴

Each party to a conflict has a different perception and understanding of what constitutes the agenda, the relevance of various issues and order of priorities, the chances and risks involved, and other pertinent elements affecting how he or she acts. This assemblage of factors may be viewed as a set of lenses, or filters, through which the conflict is viewed, and is called the 'frame' or 'conceptual frame'. Knowing how the various parties construct their frames provides insight into the basis for the conflict and offers strategies for constructive intervention in resolving or ameliorating the dispute. (Shmueli et al. 2003, Lewicki et al. 2003, Kaufman and Smith 1999)

Background to the Conflict

The Kishon has long been environmentally abused, as the chemical and oil refining industries of Emeq Zevulun, the coastal strip north of Haifa, have dumped their residues into the Kishon. In addition, treated sewage from municipal localities and regional councils have, until recently, added their contaminants to the river. While it is universally acknowledged that steps must be taken to ameliorate this environmental abuse, pollution abatement has been stymied by seemingly unbridgeable differences amongst the different stakeholders over the strategies to be used in solving the problem.

Reconciling these differences has been further complicated by the establishment of a number of Governmental Authorities over the last decade, each with oversight over certain aspects of river basin treatment. This segmentation, leading to failure to agree, led an Inter-Ministerial Committee in 2000 to decree that the river basin should be

⁴ A grant for the study of the Framing of Protracted Disputes was awarded in 1999 and is an on-going research project funded by Israel's Ministry of Environment.

completely restored ecologically, and that all industrial effluents should be sent by pipeline into the Mediterranean Sea at Haifa Bay, rather than being heavily treated and then pumped into the Kishon.

While the level of treatment for such pipeline disposal is lower and less costly, construction of the required two and a half to five-kilometer pipeline is expensive, and monitoring the impact of sea discharge is more difficult. Environmentalist and User groups strongly oppose the pipeline solution. While they want the Kishon to be cleaned up, they consider the Sea too precious a resource to put in jeopardy.

The Chemical and Petrochemical Industries argue that since they were initially sited near the rRiver by the Authorities to use it as an outlet for their sewage, they are entitled to government help in solving the problem. Over the past five years the Industries have invested approximately \$68 million dollars (the Oil refineries alone have invested \$34 million) to reduce their pollution. Although they do not oppose the Sea pipeline, they favor having the Authorities set 'reasonable' (economically viable) standards, and continuing the present process of releasing their effluents into the river. This was the situation through December 2001.

The Sewage Treatment Authority, a public body charged with purifying waters, operates the Haifa Waste Treatment Plant, which processes the sewage and industrial waters of eight municipalities and three regional councils. Until recently, it had poured contaminated effluents into the river as well. It now wishes to avoid being cast with the polluters, opposing the Sea pipeline as an alternative and supporting instead, stricter river discharge standards.

Health risks from the Kishon pollution are the uppermost concerns for the User stakeholder group. Navy Seal⁵ cancer victims who trained in the Kishon brought legal claims against both the polluting companies and the Governmental Authorities, for failure to prevent the pollution or warn of potential health risks.⁶ The Fishermen who operate out of the Kishon fishing port, claim to have a cancer rate 34% higher than

⁵ An elite navy diving unit

⁶ In 2003, after the results of a judicial committee investigation which did not establish the link between cancer and pollution, the Israeli Ministry of Defense nevertheless decided to support the plaintiffs.

fishermen in other Israeli ports. They have recently filed a separate suit against the Industry and Governmental Authorities, as has the Haifa Rowing Club, which has lost its rowing area and membership.

Methodology and Findings

From the four categories' of environmentally relevant frames, a number of sub-frames were identified (Table 1). The frames were created by using text coding (Miles and Huberman, 1994) and Grounded Theory techniques (Glaser and Strauss, 1967; Strauss and Corbin, 1990), as well as Content Analysis methods to a limited extent. (e.g. Bauer, 2000). The text units were drawn from the statements of thirty interviewees drawn from fourteen organizations. They were recorded and coded as follows:

Table 3: Frames by Category Typically Appearing in Environmental Disputes

nd I	Personal (self)	 Fairness, justice and 				
		rights				
		 Social/community 				
		orientation				
		 Economic orientation 				
		 Ecological/environmental 				
		orientation				
		 Complexity and 				
		uncertainty				
		 Scientific/technical 				
		orientation				
		 Comprehensive/policy 				
		based				
(Organizational	 Organizational identity 				
		 Public representation 				
		 Public understanding and 				
		participation				
e		 Aspiration regarding 				
		substance				
		 Outcome 				
		 Issues 				
		 Characterization 				
		 Relationship among 				
		stakeholders				
		 Aspiration regarding process 				
		Win-win				
		Win-lose				
		 Complete story 				
	Organizational	Scientific/technical orientation Comprehensive/policy based Organizational identity Public representation Public understanding and participation Aspiration regarding substance Outcome Issues Characterization Relationship among stakeholders				

Comparing the two categories of frames and their subframes – 'Values/Identity' and 'Substance' - helped to advance the analysis.

Table 4: Values/Identity Versus Substance Frames

Stakeholder	Values/Identity	Substance:			
		Aspiration	Outcome		
Industry	Economic orientation	Continued economic viability and	Agreement with the Authorities on emission standards and programs		
Sewage Treatment Authority	Economic orientationPublic representation	Uninterrupted operation			
Environmental Groups and Users	Ecological/ environmental orientationJustice and rights	Protection/preservation of the SeaCleanup of the River	Strong enforcement		
Governmental Authorities	Scientific/ technical orientation	Full restoration of the River, as evidence of governmental ability to take decisive action	Pact with the Industries on standards and programs		

The Industries' 'economic' frame, leads them to seek continued economic viability, by arriving at a practical agreement with the Authorities. The 'ecological' frame expresses the broader perspectives of the Environmentalists whose concerns embrace both the marine environment and the river. The strong 'enforcement' outcome frame of the Environmental and User groups which also includes the Town Association⁷, can be traced to their 'justice and rights' frame, whereby clean water is viewed as a right.

While the absence a strong enforcement outcome frame on the part of the Authorities (in this case, mainly the National Ministry of Environment) may be surprising, their 'scientific/technical' value frame helps to understand it. Lacking the

⁷ One outcome of the examination of the stakeholders' perceptions of the value and substance frames, was the grouping of the Haifa Regional Town Association for Environmental Protection, a Governmental Authority, with the Environmental Groups and Users.

funds available to the Industries for hiring leading consultants, the Authorities tend to defer to the suggestions of the Industry 'experts' for standards and programs.

Substance Frames – Issues

The key issues that emerged for all stakeholders, although priorities differ, may be grouped into three focal issues:

- Effluent discharge destination pipeline to Sea or directly to the Kishon
- Emission standards to be imposed on each discharging industry; and
- Industry programs to meet the specific standards for each industry (including time tables)

The conflict assessment process is itself a form of intervention; during its six months-conduct, a modest amount of reframing took place within both the Values/Identity and Substance frames. One such illustration was a significant position change by the Ministry of Environment whereby it dropped BAT (Best Available Technology) as its starting point (the position held by Industry) in favor of Environmental Quality (the focus of the Environmental and User Groups) which led to their choice of Best Available Technology.

In reframing its position, the Ministry added an 'ecological' to its previously-held 'scientific/technical' frame, thus leading to its espousal of highest river quality standards. However, in contrast to the Environmentalists who also embrace the 'ecology' frame and oppose the pipeline because of heightened risk of sea pollution, the Ministry continues to embrace the pipeline. The potential value of this reframing for future dialogue between the Ministry and the Environmentalists is that both now can build upon their common commitment to environmental quality.

A major advance stemming from the Kishon assessment was that the different stakeholders gained heightened respect for one another's views and interests.

Regrettably, only minor changes took place in the process frames because the framing technique was limited to the assessment, rather then being carried forward to a formal mediation stage. The decision not to advance to this stage was made by the Ministry of

Environment which preferred to maintain the status quo, despite the desire of other stakeholders for continued intervention. Thus, the Kishon assessment was unable to make the most effective use to which framing can be put – environmental conflict resolution. It also emphasizes the downside of the convener being a stakeholder as well.

Conclusions

The two Israeli cases cited represent stages in the use of assessment tools in conflict management and resolution. Such tools are vital for strengthening the planning process and environmental regulation. Dudaim and the first study's three other cases were narrowly-bound assessments that provided guidelines for better understanding conflict dynamics through mapping, and clarifying the diversity of needs, interests and goals of the concerned stakeholders. The Kishon case added framing to the assessment process, but stopped short of the stage where framing and reframing could be pursued to help mediate the dispute.

These efforts have laid the ground work for this mediating stage. The fact that key governmental agencies at the national and local levels, as well as major NGO's have participated in the work to date, and gained some appreciation of the links between assessment and consensus-building will hopefully pave the way for the integration of formal conflict assessment in its broadest sense, into the Israeli environmental policy scene.

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