

Transboundary Hazards and Cross-Border Cooperation in Land-Use Planning: Some Data From the Italian-Slovenian Border**

Introduction

In this paper I deal with the problem of the transboundary industrial hazards and the possibilities of cooperation between bordering countries.

Starting point: the regulations introduced by the "Seveso" directive (82/501/EEC) and their forthcoming amendments, aiming at introducing land-use planning controls on new major hazard installations and on settlements around already existing installations.¹

Talking of land-use planning controls, the transboundary aspects of hazards cannot be forgotten: a policy of cooperation between bordering countries has thus to be developed, concerning not only consultations between governments but also information exchange and participation of the public in the decision-making.

The paper briefly discusses this issue and presents some data on the Italian-Slovenian border drawn from a research carried out in 1993.²

Seveso directive and land-use planning

On October 16, 1989, the Council of Ministers of the European Community adopted a resolution (89/C 273/01) which recognized the importance of land-use planning controls when new hazardous installations are authorized and when urban settlements are developing around already existing plants. The resolution showed the need of including this problem into the Seveso directive.

Successively, the Commission of the EC began proceedings for amending the directive which, in its new version, will contain the member states' request to adopt a siting and land-use policy for major hazard installations.

The reason for the amendment is that, in order to reduce the hazards, the emergency planning and the information to the population living in the area surrounding a major hazard installation can be usefully integrated at the level of land-use planning. The decisions on the siting of major hazard installations and on the development of the surrounding areas can thus take into account the likelihood of accident hazards and their consequences.

The problem naturally arises when it is not possible to place a major hazard installation at a distance which is totally safe for the population. This happens frequently because the Community member states, and the European countries in

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¹ For information on the EC directives on major hazards see Amendola 1992.

² The complete results of the research are reported in Pellizzoni and Montina 1993.

general, are densely populated, because industry had often developed together with a town and other activities, and also because the less developed areas often present high aesthetic or naturalistic values that prevent them from sheltering industrial installations, which, as a consequence, tend to concentrate in some areas.

A compromise has thus to be found among economic needs, productive and occupational development, environmental and security needs. Such compromise has to take into account not only the different characteristics of the industrial installations (dimensions, hazard levels, etc.) but also that different portions of territory may be more or less sensitive with regard to the natural environment, the social categories forming the resident community and the activities carried out.

A series of problems arise here. A first concerns the criteria to be used to evaluate the acceptability of a major hazard installation and the discretionality to be left to the decision-maker. Other problems relate to the way in which information is transmitted to the public and to people's participation.³ A further question is the coordination between land-use planning controls and the existing discipline on environmental protection, emissions control and the Environmental Impact Assessment (EIA). An additional problem is how controls on major hazard installations are to be included in land-use planning, and which authority has to carry them out.

The research

The aim of the research of which some results are given here was to analyse the relation between land-use planning and industrial installations subject to major accident hazard, with particular reference to the Italian case and to such crucial aspects as people information and participation in land-use decision-making. The objective was to single out problems, suggest possible solutions, verify their affinities among different member states of the European Community. A particular but not at all marginal issue was that of the transboundary hazards.

The on-field part of the research was based on in-depth interviews to key informants, selected among professionals, officials and scholars in environmental issues, Italians (mainly) and Slovenians. The industrial area chosen as reference point for the research was that of Trieste, as the principal one near the border. However, not all the interviewees were resident in this area: for example, some of the interviews were carried out in Ljubljana.

As regards the problem of the transboundary hazards, the interviews and the review of existing literature aimed at focusing on:

- i) the existing level of sensibility among experts and officials, on both sides of the border, in relation to such problem;
- ii) the existence of formal or draft agreements at national level and/or between bordering local administrations;
- iii) the existence of informal contacts at a political-administrative and scientific level;
- iv) the solutions which could be put forward for facing transboundary hazards, with particular reference to information and participation.

³ A considerable literature is available on these issues: see for example De Marchi and Rota 1990; Gow and Otway 1990; Kasperson and Stallen 1991; Pellizzoni 1992; Cvetkovich and Earle 1992.

Obviously, the results of the interviews cannot be properly considered representative, but rather indicative of the opinions widespread among experts and officials in the environmental field.

Seveso directive and risk assessment: the situation in Europe

Europe presents us, at the moment, with a rather complex situation: different land-use planning systems, more or less extended and detailed regulations on industrial hazards, different criteria of risk assessment (RA) and of distribution of assessment and decision-making responsibility.⁴

A recent study (Health and Safety Executive 1993), although recognizing the difficulty in making comparisons due to the different national legislations, points to some well defined criteria in analysing the European situation.⁵ Some important conclusions can be drawn from the study.

a) Control mechanisms differ considerably in the specific planning or licensing procedures for major hazard installations, in the people who carry out the controls – who can be local authorities (Municipality, Province etc.), central government authorities (Prefects etc.) or specific bodies (as the Health and Safety Executive) – and in the links existing with other control procedures, as the EIA.

b) RA varies in the development reached by specific methodologies – aiming at reducing subjectivity and increasing the coherence and uniformity of decisions – and in the criteria being followed – leaning either towards a deterministic or a probabilistic approach.⁶

c) As regards the controls over land-use in the vicinity of major hazard installa-

⁴ As regards the reasons of these differences, two kinds of interpretation can be put forward. The first is based on the "theory of epistemic community" (Haas 1990, 1992). This community consists of a transnational network of specialists whose members share common views on the causes of environmental problems and the policies to solve or reduce them: according to this theory, the role of knowledge-based experts is important in shaping the environmental policy of a country. Therefore, if the policy-makers of a country turn to experts for advice, then this country will probably become a supporter of stringent international controls.

The second is the "interest-based explanation" (Sprinz and Vaahtoranta 1994). According to this theory, the environmental foreign policy of the states is shaped by two main factors: a country's ecological vulnerability and its abatement costs (of pollution, of industrial risk etc.). Four different cases can be outlined. There are countries where both ecological vulnerability and abatement costs are low: these are the "bystanders". Others have low ecological vulnerability and high abatement costs: they are the "draggers". Some countries have high ecological vulnerability and low abatement costs: they are the "pushers"; some others have high ecological vulnerability and abatement costs: they are the "intermediates". Therefore, some countries strive for stringent international regulations, others oppose them, and others can favor environmental protection more often than those belonging to the second group.

⁵ These criteria are: a) how major hazard installations are identified; b) how the siting of new major hazard installations is controlled; c) how the hazard from the installations is assessed; d) how control is exercised over the use of land within their vicinity; e) how decisions are reached.

⁶ The first one assesses the consequences of the worst credible scenarios, the other assesses the probability of specific accidental events or levels of harm. The main difference between the two approaches – which are not completely opposite (a probabilistic aspect exists in the deterministic approach in the choice of possible scenarios, and a deterministic aspect exists in the probabilistic approach in the need to establish a typology of events and consequences, generally on a statistical basis) – is to be found in the type of information offered. The deterministic approach shows the areas in which the consequences of the worst possible accident will occur, the probabilistic one, instead, shows the areas in which there is a probability for certain damages to occur following various accidental typologies. The result is that in both cases distances are defined, in relation to which different levels of harm may occur (deriving from over-pressure, thermal radiation or dispersion of toxic substances) to objects or persons, expressed in terms of consequences or accident probability. However, the first one is somehow more restrictive: by analysing particularly grave events it is foreseeable that major restraints will be placed on land-use than with the probabilistic approach, which instead looks at the probability, usually very low, of catastrophic events to take place. In fact, it is not a case that "the probabilistic approach has been developed by member states with high population densities and pressures on land-use" (Health and Safety Executive 1993, point 4.5): among Community members – although there

tions, there is a variety of solutions. Only some countries have specific planning tools for taking account of hazards. In national, regional or local planning specific areas of industrial development may be pointed out, sometimes with restrictions on the development of the areas surrounding the hazard installations. Only some states, among which France, the United Kingdom and the Netherlands, use a system of zoning – the size of the zones depending on deterministic or probabilistic assessments – with the aim of identifying areas where specific controls are to be applied. Generally, two or three kinds of zones are provided, enabling different levels of development and use according to the distance from the installation. Sometimes a system of economic compensation for the restrictions imposed to land-use is provided for.

d) Decision-making systems also vary considerably. If control is carried out by planning, the decisions are mainly made by local authorities, sometimes supported by expert bodies, whereas in case of a licensing regime they are generally made by an independent authority.

In conclusion, the different approaches followed by the member states result in differences in the legislative and administrative tools used, and in the participation possibilities for the public. This, however, does not exclude the possibility of adopting a common policy on this subject-matter which will probably need to be sufficiently flexible (Health and Safety Executive 1993; Walker 1991) to allow different solutions in the various member states. Anyway, making sure that controls on hazard installations reach similar results everywhere means avoiding undesirable consequences, both in the economy (“export” of dangerous activities to more permissive countries, effects on competition among businesses located in different member states, etc.) and in the health of citizens living in those countries.

Information and participation

As to the activities having environmental relevance, the public has three main rights (Scovazzi 1989) sanctioned at international level by the EC and by such organisations as the OECD⁷ and the United Nations. They are:

- the right to be informed;
- the right to be consulted;
- the right to be taken into account.

Inside the Community, the first right is guaranteed by the regulations on major industrial hazards, by those on land-use planning in the different member states and by those on the EIA. The second right is only guaranteed by the second and third group of norms. The third right is also considered by the second and third group of norms, but it is the less protected: warrants that people is really (and not only formally) taken into account are often weak.

As regards land-use planning at major hazard installations, public participation in the different countries takes place by public inquiries or mechanisms of appeal of various kinds. They may concern the preparation of the plans or single requests of installation or alteration of the plants.

are differences which are not to be disregarded – France and Germany follow the deterministic approach, while Belgium, Denmark and the United Kingdom follow the probabilistic one. On this subject see Baldizzone 1992.

⁷ See Recommendation C(79)116, 8 May 1979 (Assessment of Projects with Significant Impact on the Environment), and Decision-Recommendation C(88)85, 8 July 1988 (Provision of Information to the Public and Public Participation in Decision-Making Processes Related to the Prevention of, and Response to, Accidents Involving Hazardous Substances).

Looking at the transboundary aspects of environmental protection, we shall see in the next section that the first of the above mentioned rights is within certain limits guaranteed, but has to be strengthened. The main problems regard the second and third right. If EC and national environmental regulations are here generally weak, it is obvious that the principle of national sovereignty does nothing to make things easier when a border divides those who would have to be consulted and taken into account.

Transboundary hazards and international regulations

So far, the transboundary aspects of industrial hazards have been considered relatively little, both at scientific and at normative level.

It has been observed that an amendment to the Seveso directive will necessarily have to provide the planners of a town "with information on relevant hazards in an adjoining territory, so that land-use protection zones can be established on a consistent basis" (Walker 1991, 239).

Looking at the present international situation, we can say that:

a) the EC considers environmental problems also as international problems. Both the EIA and the Seveso directives talk about duties of information among member states when a localized activity in the territory of one state may impact on the territory of another state as regards the environment or the hazards connected with accidents;

b) outside the Community there are some conventions or bilateral or multilateral agreements which are relevant to the transboundary aspects of industrial hazards deriving from activities which fall within the sphere of the Seveso directive. Among these we can mention:

– the United Nations ECE (Economic Commission for Europe) Code of Conduct on Accidental Pollution of Transboundary Inland Waters;

– the United Nations Convention on EIA in Transboundary Context;

– the recent (17 March 1992) United Nations Convention on the Transboundary effects of industrial accidents;

– the International Labour Organization Code of Practice on the Prevention of Major Industrial Accidents;

– the Decision of the Council of the Organization for Economic Cooperation and Development (OECD) on the Exchange of Information Concerning Accidents Capable of Causing Transfrontalier Damage;

– the Agreement Protocol on civil protection among the countries adhering to the Alpe-Adria Working Community.⁸

There is no space here for considering these documents in detail. Some observations can, however, be made on the important United Nations Convention.

This Convention deals with many aspects already considered by the Seveso directive, but it is important at least for the following reasons:

a) a connection is established between RA and EIA, linking the effects of this Convention to those of the Convention on EIA in a transboundary context;

b) as for the decision-making on sitting, a principle of coordination is introduced: the countries must coordinate their policies of development of bordering areas so as to reduce the hazards deriving from industrial activities;

⁸ The Protocol instituted a Documentation Centre on Resources (located in Italy, and precisely in Palmanova, near Udine) which can be mobilized following grave calamities or overhanging hazards.

c) several aspects are defined on emergency systems, notification of accidents, mutual assistance, exchange of technologies and information;

d) as for information and participation, the convention established (art. 9) that:

"The Parties (the contracting countries) shall ensure that adequate information is given to the public... This information shall be transmitted through such channels as the Parties deem appropriate...

The Party of origin (that is, the country in which the hazardous installation is located) shall... give the public in the areas capable of being affected an opportunity to participate in relevant procedures with the aim of making known its views and concerns... and shall ensure that the opportunity given to the public of the affected Party is equivalent to that given to the public of the Party of origin.

The Parties shall... provide natural or legal persons who are being or are capable of being adversely affected by the transboundary effects of an industrial accident... with access to and treatment in the relevant administrative and judicial proceedings... equivalent to those available to persons within their own jurisdiction."

The contents of the information shown in the annexes to the convention are rather similar to those stated by the Seveso directive.⁹

Transboundary hazards between Italy and Slovenia

The present situation

Let me say something on the transboundary hazards along the border between Italy and Slovenia, and on the relations in the environmental field between the two countries.

As an EC member state, Italy has implemented the Seveso directive and other important regulations (such as that on EIA), even if in a partially unsatisfying manner. The problems concern above all the distribution of competences between central and local government and authorities, with several norms creating a somehow confusing system, and the information and participation tools and practices. Written tools are dominant: public inquiries or public hearings are virtually non-existent, even if consultative referendums may be called by local authorities. While EIAs and major hazard installations notifications and declarations are well established, people often lacks detailed and effective information, and only few external emergency plans for major hazard installations are working at present (but there are internal emergency plans and civil protection plans).

Land-use planning is a quite hierarchical system, well developed only in some regions, such as Friuli-Venezia Giulia, where the norms for example require EIAs at planning level. There are many norms regulating industrial settlements, but not a proper zoning system. Final authorization on installations is given to the Municipal authorities.

Several bills amending or developing the regulations on environmental issues are waiting for discussion, therefore a substantial improvement in the situation can be expected in the following years.

⁹ The mentioned OECD Decision on the exchange of information on transfrontalier damage - C(88)84, 8 July 1988 - deals in a similar way with the information contents and the possible procedures of consultation between bordering states.

Friuli-Venezia Giulia, the region facing Slovenia, has various industrial areas inside its territory, but the only significant one along the border is that of Trieste, where a certain number of "Seveso" installations are located in a highly populated urban context. The region has one of the best set of environmental regulations in the country, and the Trieste industrial area has been recently submitted to a quite detailed RA (including an analysis of transports and harbour risks), that however did not take into account the transboundary aspects of industrial hazards. The RA suggestions for reducing hazard levels have not yet been implemented.

Slovenia¹⁰ renewed its adhesion to all international agreements previously signed by Yugoslavia, concerning the environment and the managing of hazardous activities, in the nuclear and chemical fields. The Slovenian government is rather intensively engaged in the environmental sector. The Ministry of Environmental Protection and Land-use Planning presented in 1991 a bill on the environment, largely based on Community regulations (De Marco 1992): it contains norms which set up the study on environmental vulnerability at the level of land-use planning, the EIA (also extended to land-use planning). The objective of the Slovenian environmental policy, including the management of industrial hazards, is thus to progressively conform with EC and international norms, also in view of joining the Community.

On the Slovenian territory there are not many sources of industrial hazard; the main one is the Krsko nuclear plant and there also are some "Seveso" industries, but they are not located near the borders. Therefore, as for the Italian-Slovenian border, the hazards mainly derive from Italy, and particularly from the industrial area of Trieste.

There exist rather detailed emergency plans: in particular there are civil protection plans at a municipal and national level, whereas factories have their own internal emergency plans. Municipal plans are based on RAs which take into account the different sources of risk; information to the population makes a wide use of the massmedia. Land-use planning is managed at a statal and municipal level; the plans, revised every four years, include norms on the buildings and the protection of the environment. Land-use is publicly controlled: whoever wants to build has to publicize the project and obtain the assent of the people living in the surrounding area. Special permits are necessary for industrial installations and the final authorization is given by the municipal authority. Sometimes public participation takes place by public inquiries and consultative referendums. Public hearings are sometimes organized.

At present there is no law in Slovenia like the Seveso directive, although some of its aspects are to be found in the law on the environment and although an imminent law on civil protection will require forms of RA. As for international relations, there are common research projects and bilateral agreements in preparation: with Italy (monitoring of Isonzo river), Austria (monitoring of the Gulica dam), Croatia, Hungary, etc. As a member of the Alpe-Adria Community, Slovenia also adheres to the mentioned Agreement Protocol in the field of civil protection, and will adhere to the United Nations Convention on the transboundary effects of industrial accidents. Instead, up to this moment, there are no specific agreements on industrial hazards between Italy and Slovenia.

¹⁰ The research's updating on Slovenian environmental regulations stops at 1993.

The problem of the transboundary hazards deriving from industrial activities was dealt with all the key informants, and it was at the centre of the interviews with the Slovenians. In general, all the interviewees are aware of the existence of the problem and consider the question of the transboundary extension of the possible effects of industrial accidents to be important. However, they hold different opinions as to its relevance in the Trieste border area: for some it is an important problem, for others it has a secondary relevance. In any case, the majority of people reveal that they know little or nothing on the matter.

The Slovenian key informants state that there is no exchange of information with the people responsible for the industrial and harbour area of Trieste (Municipalities, Regional government, Harbour Authority, Industrial Authority, etc.), thing which is confirmed by the Italian key informants. Some talk of informal contacts and forms of collaborations among bordering municipalities on topics of civil protection – which as said have been the object of formal agreements, in particular within the Alpe-Adria Community –, whereas the aspects relative to controls on major hazard installations at planning level have not been, so far, considered.

The interviews confirm that Seveso industrial hazards in this area derive mainly from Trieste, as near the border Slovenia, has no areas with such industrial hazard installations (a different matter is, of course, the nuclear plant at Krsko).

The advisability of making agreements on land-use planning controls is stressed by everybody, although with a different emphasis: in this sense the ratification of the United Nations Convention could play an important role as it will find, at least in this particular border area, a favourable field for its application among experts and officials.

The opportunity of intensifying an exchange of information which, up to now-days, has been very poor, is shared by everybody. Instead, the opinions are rather divided as regards the realization of forms of integration on land-use planning in bordering areas – under the form of consultations or agreements between central or local governments – and as regards the possibility of creating forms of consultation and participation of the citizens of a bordering state in the decisions of another country on land-use planning and major hazard installations. Some are optimistic and think it possible to arrive to similar results in not too long, by exploiting the progressive moving closer together of regulations and forms of cooperation which already exist in neighbouring fields (emergencies and environmental monitoring). Others, instead, think that the principle of national sovereignty has to prevail, except in cases of emergency and international solidarity interventions, and that it is not possible to go beyond a policy of exchange of information and government consultation. The majority of interviewees, anyway, sees national sovereignty as an obstacle to the realization of forms of integration and reciprocal participation on the decisions on land-use. Among the problems raised there is, for example, that of the difficult balance between power of central governments – obviously involved in relations between states – and power of local administrations, who carry out tasks of planning and authorizations of hazard installations and carry on their own relations with the local communities of the bordering country.

Another problem derives from the existence of opposing political and economic interests on the use of the territory, which exercise pressure on the central and local governments. These are already difficult to mediate within one

state and they are probably even more problematic to manage in international relations. Moreover, many key informants think it very unlikely that future bilateral or plurilateral agreements provide for a real participation of foreign citizens to matters such as land-use planning or authorizations. The possible consultations would thus remain at a symbolic level or would take on an exclusively political value (whereas what is here important is to guarantee a participation in the actual, day-to-day administration of the bordering areas). Anyway, apart from all the difficulties, many still think that the participation of citizens belonging to bordering states is a goal to be pursued.

Conclusions

In conclusion, on both sides of the border there undoubtedly is a good sensibility to the problem of transboundary hazards. However, even among experts and officials in environmental issues information on this problem is generally poor. The majority of interviewees see as immediately useful and feasible a policy of transbordering information, which has to concern at least the aspects dealt by the Seveso directive (information on the characteristics of the plants, seriousness and extension of all connected hazards, emergency plans etc.), but possibly also the aspects linked with land-use planning and the development of industrial settlements.

The present situation along the border between Italy and Slovenia shows that cooperation on civil protection is at a more advanced stage than that on EIA or on industrial hazards. However, everybody emphasizes the importance of reaching agreements in these fields, so as to coordinate intervention in border areas. The ratification of the Convention of the United Nations will represent a significant step forward in this sector.

The main problem here is to realistically establish how much transboundary cooperation can be pushed forward. It is certainly easier to make agreements for information exchange between states – so as to take into account the needs and problems existing beyond one's border – particularly in emergency planning and in an adequate zoning of bordering areas. What seems more difficult is extending the participation possibilities offered to the citizens of one country to the citizens of another country, especially if participation is not understood as a process having a purely consultative function, but as having a direct impact on decision-making. Is it conceivable to carry out a referendum on both sides of the border? And is it conceivable that foreign citizens participate in a public inquiry? Several political and juridical problems would emerge from these questions. An opening, at least in the relations among EC member states, is offered by the fact that the principle of national sovereignty already meets specific limitations within the EC. Other good news come from the fact that the majority of the key informants sees the possibility of a transboundary participation as desirable.

The road towards an integrated participation in land-use planning on border areas is thus considered by most key informants difficult but not impossible. What is important, and that is what strongly emerges from the research, is to work in this direction and start to introduce the principles and rules most easily applicable. It is therefore necessary to start from information exchange and from the reciprocal consultation of governments and local administrations, that are already operative

in sectors which are neighbouring to those of land-use planning and major hazard controls, such as EIA and civil protection.

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