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CRITERIA FOR ADMISSIBILITY OF CLAIMS FOR COMPENSATION FOR ENVIRONMENTAL DAMAGE

Note by the French delegation

Statement of the Problem

1 In accordance with item 3 of the terms of reference established by the Assembly of the IOPC Fund at its 16th session, the Intersessional Working Group is to consider problems relating to the admissibility of claims for compensation for environmental damage within the scope of the definition of "pollution damage".

2 As a result of the IOPC Fund's now well-established practice, there are several categories of claims with a definite link with environmental damage that involve no special problems with respect to criteria for admissibility.

These include all clean-up operations at sea and particularly on the shore, whose aim is to restore polluted sites, and certain preventive measures that contribute directly to the preservation of flora and fauna (for instance, the costs of cleaning polluted birds were allowed as a preventive measure in the BRAER incident).

3 At the same time, compensation for pure economic loss relating to the loss of income by fishermen and even professionals in the seaside tourist industry was also compensation for loss of use of natural resources that belong to everyone.

4 Much of the compensation now being paid by the IOPC Fund under other designations could, therefore, be included in the category of environmental damage.

The question at this stage is whether this IOPC Fund practice has reached the limits laid down in the instruments or whether there is still a possibility of taking into account new claims for

environmental damage.

This question lies behind part of the debate on the HAVEN case and should therefore be considered in the light of the texts currently in force (1969 Convention, Assembly Resolution N°3 and decisions of the Executive Committee).

But it is likely to come up again, although in more limited form, when the 1992 Protocols enter into force. Criteria for admissibility must be available then so that the new provisions can be applied in practice.

The Treaty Texts

5 The 1969 Civil Liability Convention defines pollution damage thus:

> **"Loss or damage caused outside the ship carrying oil by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, and includes the costs of preventive measures and further loss or damage caused by preventive measures.**
>
> (Article I(6) of the Brussels Convention of 29 November 1969).

The 1971 Fund Convention refers for the definition of pollution damage to the 1969 Civil Liability Convention.

Consequently, there is no explicit rule in the basic instruments relating to environmental damage, which must therefore be compensated in the same way as the other heads of damage, i.e. according to the same criteria established by the Assembly and the Executive Committee in the context of various incidents.

Since 1979, two questions have arisen that are still at the heart of current debate: should compensation for environmental damage go beyond compensation for the measures to restore the environment affected, and if so, how should the amount of the compensation be assessed?

6 The IOPC Fund received a claim by the USSR in the ANTONIO GRAMSCI case (February 1979) and in 1980 the Assembly adopted a resolution under which:

> **"The assessment of compensation to be paid by the IOPC Fund is not to be made on the basis of an abstract quantification of damage calculated in accordance with theoretical models".**
>
> (Assembly Resolution N°3, October 1980, document FUND/A/ES.1/13, paragraph 11(a) and Annex I).

In defining a new general principle that would apply to all claims for damage submitted to the IOPC Fund, the Assembly solved the second question regarding environmental damage (the assessment) without answering the first (the limits of compensation).

The requirement of an economic basis for reference limited de facto the compensation to the measures that could be taken in the state of ecological science at the time (scientists are still not in agreement on the matter today).

In 1981, the Assembly refined this principle by endorsing the conclusions of a Working Group that it had set up to determine the conditions for compensation of ecological damage:

> **"Compensation can be granted only if a claimant who has a legal right to claim under**

national law has suffered quantifiable economic loss" (document FUND/A.4/16, paragraph 13).

7 The matter was considered again in the preparatory phase and at the diplomatic conference that concluded with the signature of the Protocols of 1984.

The new wording of the definition of "pollution damage" that was adopted at that time refers explicitly to the impairment of the environment and limits of compensation to the cost of the measures of reinstatement.

It is these provisions that will apply when the 1992 Protocol to the 1969 Convention enters into force. Under that Protocol, **pollution damage** means:

> **"(a) loss or damage caused outside the ship by contamination resulting from the escape or discharge of oil from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than loss of profit from such impairment shall be limited to costs of reasonable measures of reinstatement actually undertaken or to be undertaken;**
>
> **(b) the costs of preventive measures and further loss or damage caused by preventive measures."**

(Article 2(3) of the Protocol of 27 November 1992 to amend the 1969 Convention).

The Protocol of 1992, amending the 1971 Fund Convention, refers to the Civil Liability Convention for the definition of pollution damage.

Grounds for French claims against the IOPC Fund

8 In France, there is no specific regime in respect of compensation for ecological damage. The general civil liability rules are applicable. In order to qualify for compensation, the ecological damage, therefore, has to be personal, direct and certain.

In the jurisprudence, the environment cannot be appropriated, and only the State can claim compensation for damage, which does not preclude individuals from claiming compensation for personal economic loss stemming from the use of the natural environment, subject to such economic loss being established.

As far as the certain nature of the damage is concerned, ecological damage, which will often be future damage, must meet two conditions: it must not be hypothetical and it must be assessable at the time when the claim for compensation is made.

In marine pollution cases in France, the principle of compensation for environmental damage has been accepted by the courts. Assessment of the compensation due has, however, sometimes caused problems.

9 Since the AMOCO CADIZ case, the French State has adopted a constant course of action, corresponding both to national jurisprudence in matters of civil liability and to the principles identified by the IOPC Fund in 1980, and which are contained in the Protocol of 1992 to the 1969 Civil Liability Convention:

"A claim for ecological damage is admissible if the ecological damage is certain and can be assessed in monetary terms, which excludes compensation on a lump-sum basis or which would not tend effectively and reasonably to repair the environmental damage. The

restoration, which may have taken place or will be undertaken, generally consists of campaigns either to restore a well-defined ecosystem or for ecological monitoring (as in the case of work on the Breton estuaries following the pollution caused by the AMOCO CADIZ)".

When its claim came before the court in Genoa in the HAVEN case, the State entered the following reservation:

"The French State reserves the right to request the court at a later stage for compensation for any damage it might suffer as a result of campaigns for ecological monitoring and the restoration of ecosystems that might be necessary in view of the future consequences of the pollution caused by the HAVEN on its coastline or in its territorial sea".

(Submissions on behalf of the French State dated 29 July 1991).

In the absence of all these criteria, the French State submits no claim for compensation to the courts or the IOPC Fund. This was the position in the TANIO and AMAZZONE cases.

Context of the Working Group's study

10 In accordance with its terms of reference, the Intersessional Working Group has to study problems relating to the admissibility of claims for environmental damage within the scope of the definition of "pollution damage".

The new provisions of Article 2(3) of the Protocol of 1992 to the 1969 Convention, although not yet in force, must serve as the framework for the Working Group's study.

These provisions are the expression of a principle clearly established by Assembly Resolution N°3 and should enter into force, by the will of the States Parties, within a fairly short period of time.

Consequently, the Working Group has no need to discuss major general principles or even to define the concept of "environmental damage" (or "impairment of the environment", in the words of the Protocol of 1992). It can, however, clarify the scope of the general criteria set out in Article 2(3) of the Protocol of 1992 to the 1969 Convention.

11 With this in mind, five points should be considered:

- proof of the existence of the damage and the link of causation between the damage and the pollution;
- the concept of reinstatement;
- the reasonable nature of the measures;
- the effective nature of the measures;
- the beneficiary of the compensation.

11.1 Proof of the existence of the damage and the link of causation with the pollution

11.1.1 Existence of the damage:

- In general, the existence of damage must rest on an observation of the change in and deterioration of the environment affected by the pollution.

- The question as to who should prove the existence of environmental damage is not a simple one.

In principle, the burden of proof lies with the victim (generally a State) who alleges damage to the marine environment.

However, this rule may raise difficulties for a number of States Parties that do not have the necessary expertise to provide such proof.

The IOPC Fund has already had to cope with difficulties of this kind when considering claims of quite another kind.

In the BRAER case, following a claim for compensation for a publicity campaign planned but not yet undertaken by the victim, the IOPC Fund had decided to bear the cost of an audit to assess the losses suffered by the tourist industry and the existence of a loss in the years to come.

Similarly, in the AEGEAN SEA case, the IOPC Fund agreed to pay for the studies necessary to find indirect methods of calculating the damage suffered by fishermen who were unable to prove their losses.

- The second question is how to prove whether the damage actually exists.

The first point that should be considered is a knowledge of the environment before the incident took place. It is hard to assess damage to an environment without knowing what its previous condition was.

For the confirmed damage, expert surveys based on pre-established scientific tests acceptable to all should be used.

For damage to come (grave risks of damage), the "strong probability" criterion might be used, in the light of the environment that is affected and the scientific knowledge of the behaviour of oil in that environment.

11.1.2 Link of causation with the pollution

This point does not involve any major difficulties with respect to oil pollution because scientists have now gained experience in the matter.

In addition to the classical criteria identified for all kinds of pollution damage (which were recalled at the 16th Assembly in the context of a claim by the Government of Portugal (document FUND/A.16/21), a further criterion might be identified for claims for environmental damage covering non-apparent damage.

This might be the criterion of foreseeability (the damage must be the foreseeable result of the incident) which allows the time factor between the incident and the environmental damage to be taken into account.

Here again, the basis of the criterion will be the state of scientific knowledge at the time of the claim.

11.2 The concept of "reinstatement"

The concept of "reinstatement" is probably worth clarifying since in practice it may cover measures of several kinds.

In addition to the physical cleaning of the polluted site (removal of oil), reinstatement may mean all the further measures to restore the site to its original state.

11.2.1 Measures of restoration

In French law, when the public domain of the sea is damaged by a ship, the owner and the captain in a contravention de grande voirie procedure are obliged to take all necessary measures to reinstate the site to its "identical" previous condition. This particularly strict form of liability, from which there is no exemption save for reasons of force majeure and negligence by the administration, sets no limit to the restoration, the sole criterion being "identical" restoration to the previous condition.

Because of the nature of environmental damage, it is probably impossible to go as far as this (the contravention de grande voirie being more appropriate in cases when harbour constructions are destroyed).

Clearly, however, reinstatement of the polluted site must go beyond the mere removal of the oil and must also include measures in respect of flora and fauna when affected.

In this connection, the CMI gives a definition of compensation for environmental damage that is worthy of note:

> **"Compensation for impairment of the environment is payable not only for costs incurred in removing spilt oil, but also for any costs reasonably incurred in restoring the environment to its condition prior to the incident, such as the reasonable cost of re-seeding".**
>
> (Annex II-A-3 of the draft Guidelines on assessment of claims for pollution damage).

11.2.2 Measures of replacement

These would be necessary when restoration of the site cannot be considered, either because of the specific features of the site or because of excessive cost.

The Intersessional Working Group might consider whether this concept should be taken into account in the context of the definition of pollution damage in the Protocol of 1992 to the 1969 Convention.

11.2.3 Ecological monitoring

After an incident has occurred there may be a **"grave risk of damage"** whose extent is impossible to estimate. If the IOPC Fund were to adopt the "strong probability" criterion (see 11.1.1), under which it would be for the claimant to prove the damage by scientific studies, it might consider financing an ecological monitoring programme for a set period and with specific objectives.

11.3 The reasonable nature of the measures

The reasonable nature of the measures should be assessed on the basis of two criteria:

11.3.1 The scientific criterion

The measure must be reasonable in relation to the ecological value of the site affected.

In the event of grave risk of damage, the establishment of ecological monitoring would be a

guarantee of the reasonable nature of the restoration measures if they proved to be necessary.

Lastly, the possible adverse effects of the measures on the environment must be taken into account.

11.3.2 Financial criteria

The reasonable nature must also be assessed in terms of the cost of the measures taken or to be taken.

This makes it necessary to identify some concrete elements of evaluation: any theoretical assessment of an intrinsic value of the marine environment must be set aside.

As an example, the following indications might be used:

- the rareness of the site from an ecological standpoint;
- tourist use by reason of this rareness;
- the presence of large-scale fishing or breeding activities;
- scientific use, etc.

In the document mentioned previously, CMI uses two criteria for determining whether the restoration measures are reasonable:

"In determining whether measures or costs of restoration are reasonable, account is to be taken of the following:

(a) the question whether the cost of an exact and meticulous reinstatement of the environment is excessive or disproportionate in comparison with the cost of an alternative mode of restoring the damaged site, provided always that the alternative mode of restoration does not significantly diminish the appearance, life or utility of the site; and

(b) the question whether the cost of fully restoring or reinstating the damaged site is excessive or disproportionate in comparison with the cost of creating a similar environment or amenity at an alternative site."

11.4 Effective nature of the measures

In view of the definition of pollution damage contained in the Protocol of 1992 to the 1969 Convention, the IOPC Fund cannot limit compensation for environmental damage solely to measures of reinstatement actually carried out.

The measures to be taken in the future also have to be taken into account, subject to the establishment of certain criteria, so as not to open the door to unverifiable claims.

- The first criterion that might be adopted is simple, corresponding to a requirement of form for the claim (this is in fact a question of procedure).

The IOPC Fund does not consider claims unless substantiated by the production of a specific scientific study and a quotation with an estimate of costs (these two documents should be based on the criteria adopted previously).

Whether for measures of reinstatement already decided upon but not yet undertaken, or for an ecological monitoring campaign to be established, the claimant is obliged to meet this formal requirement, and in general the IOPC Fund does not have to get involved in financing the studies needed to establish the claim file.

- The Intersessional Working Group might, however, examine the difficulties that this criterion could cause some States Parties.

In this connection, it may be noted that in the past the IOPC Fund has agreed to make direct payment to the undertaking that took part in cleaning up polluted sites, even though their participation was on the basis of a contract between them and the public authorities (HAVEN - AEGEAN SEA).

This solution would enable the IOPC Fund to carry out a kind of monitoring to see whether the measures were actually taken, when the principle of compensation for the measures had been agreed but the measures not yet taken.

- Another possibility would be for the IOPC Fund **to give a guarantee of payment to the bodies appointed by the public authorities.**

For information, it may be recalled that in the BREA case (the loss of barrels containing toxic substances off the French coast in January 1988), a court in the Netherlands allowed the P & I Club of the ship to give the French Government a letter of guarantee covering the cost of the intervention measures, as well as the further costs of any new measures that might be required by the development of the situation.

- Future measures are the subject of the following definition in the CMI draft Guidelines mentioned previously:

  "A claimant may recover the amount of a reasonable estimate of such costs before they have actually been incurred, provided always that an undertaking is given, or other satisfactory evidence is provided, that the proposed measures of reinstatement will actually be carried out."

The Intersessional Working Group should pay special attention to the question of the **actual destination** of the compensation.

The effective nature of the reinstatement measures poses the question of the supervision and monitoring of the operations.

This matter is closely connected with the prior identification of the person qualified to receive compensation of this kind.

11.5 The beneficiary of the compensation

The last criterion is a sensitive one, since it involves the sovereignty of States.

However, it is possible that the States Parties to the Fund Convention will agree to identify guiding principles so that the beneficiary of compensation for environmental damage may be identified beforehand at the national level. A list would have to be communicated to the IOPC Fund.

These guiding principles should include the credibility of the beneficiary and his capacity to take action in environmental matters.

12 The proposals in this document are submitted as points for reflection by the Intersessional Working Group.

If the Group feels that some of these proposals are worth considering, they should be made more explicit and the solutions chosen should be submitted to the Secretariat of the IOPC Fund to test their feasibility.

* * *

ANNEX I

LINK OF CAUSATION - ENVIRONMENTAL DAMAGE

In all the Civil Code texts on delictual or quasi-delictual liability (Arts 1382 to 1386), and in most of the special statutes on this subject, it is expressly stipulated that there must be a link of causation. The fact imputed to the defendant must have contributed to causing the damage.

The link of causation is therefore perceived as the direct cause - effect relationship between the fact which caused the damage and the damage itself.

The idea of causation, once hotly debated between the protagonists of the sufficient cause and those who favoured an equivalency of circumstances, or again, the "causa proxima", is no longer a topic of controversy among lawyers.

The theory now used to define the concept is the theory of sufficient causation. A distinction is drawn between the antecedents to the damage, the causes or occurrences which in the normal course of events would be bound to result in the damage, and the occasions of damage, ie events of which the impact was felt only because of an exceptional and unforeseen chain of circumstances.

The assessment of causation may however differ from case to case, especially depending on the various types of damage.

If we confine ourselves to the main heads of damage, which may be held to include ecological damage and economic damage, namely present loss, future loss and loss of opportunity, we find that the link of causation is appraised in a variety of different ways.

However, in spite of everything we find that no satisfactory answer seems ever to have been found for the question of the link of causation, and indeed it is apparently impossible to find one. As P. ESMEIN writes (D 1964 - ch 205, on Cleopatra's nose and the singular problems of causation) *"courts make a subjective judgement in deciding whether the damage is too unpredictable a consequence of an act for the perpetrator of the act to be held liable for it".*

We also consider below the difficulties inherent in proving the existence of a link of causation, no less a problem than the link of causation itself.

A THE LINK OF CAUSATION

1 Present Loss and the Link of Causation

There are two schools of thought in jurisprudence, a majority and a minority view.

a) The Majority View

This approach tends to an extensive, or traditional, appraisal of the link of causation:

Cass. Civ 2, 17 October 1990

"*Holding that the fact which caused a river to dry up was the collapse of mining galleries which were used and controlled by an undertaking, and that a link of causation existed between the existence of objects for which the undertaking in question was responsible, and the damage suffered by the fish-breeder...*".

This is a traditional interpretation of the link of causation. The drying up of the river, for which the undertaking is responsible, is the direct and immediate cause of the damage suffered by the fish-breeder. There were no intervening circumstances.

Cass, 7 November 1990

"*The judgement fails to draw the legal consequences of its findings, in so far as it dismisses the action brought by the driver of a car which hit a pedestrian walking in the road against the owner of a vehicle parked on the pavement, finding that the vehicle was illegally parked but that the pedestrian could have retreated into the available space between the front of the vehicle and the back of another vehicle, since if was the unlawful parking of the vehicle on the pavement which had forced the pedestrian to walk in the road, and as a result there was a definite link of causation between the illegal act and the damage*".

CA Rennes, 7th ch, 23 October 1990.

"*In the case of a victim of a traffic accident who said he had never injected drugs and had never had homosexual relations, it is highly likely that the AIDS virus was transmitted by transfusion, since the manifestation of the disease three years after the transfusion matches the established clinical pattern. The person responsible for the accident should therefore be ordered to pay compensation for the specific and exceptionally grave loss suffered by the victim*".

This latter case is an example of an extensive interpretation of the link of causation, in that the contraction of the AIDS virus is not usually the consequence of a traffic accident, and is not what Pothier called "the direct and inevitable consequence" of a particular fact.

In the same line of cases, we may cite:

Cass, 22 December 1987:

"*No legal grounds are advanced for the decision in a judgement which refuses to compensate the victim for partial permanent invalidity resulting from an accident for which the perpetrator was found to be wholly responsible, on the ground that the invalidity was a consequence of a complication following upon the surgery undergone by the victim because of the said accident*".

b) **The Minority View**

In this line of cases, the link of causation is interpreted restrictively.

Cass. Civ 2, 4 February 1987:

"*The judgement fails to draw the legal consequences from its findings, and violates Article 1382 of the Civil Code, in ordering the person responsible for an accident to provide compensation not only for the damage arising from the injuries suffered in the accident, but also for the damage which can be attributed to the cardiac arrest which took place during the surgical operation carried out following the accident, having found that the technical circumstances of the anaesthesia, in which no respiration gauge was used, made it impossible to detect the pulmonary insufficiency and to remedy it in sufficient time, and concluding that the consequences of the cardiac arrest were attributable to the accident*".

Cass. Civ 2, 8 February 1989:

"*The Court of Appeal did not advance any legal justification for its decision in ordering the person responsible for a traffic accident to compensate the loss suffered by the widow of the victim, who died several years afterwards from the consequences of burns caused by his bed catching fire, stating merely that the victim's handicap, which was due to the initial accident, was the only reason why he was prevented from leaving the place where the fire occurred, whereas the immediate cause of death was the fact that his bed caught fire, and it was alleged that the person who caused the accident had paid insurance cover for a third party which included the prevention of risks inherent in such a person's invalidity*".

In this case, the fact that a fairly long time interval elapsed between the fact which was causative of damage and the loss incurred may have played a role. Moreover, a new fact external to the situation came into the picture, namely the fire. It is striking, however, that both in this judgement and in the judgement handed down by the Rennes Court of Appeal on 23 October 1990 (cited above), the damage caused was not a predictable consequence of the accident. In the judgement of 8 February 1989, the completely unforeseeable nature of the damage must also have played a part in determining whether there was any link of causation.

The predictable character of the loss incurred plays a definite role in the field of civil liability. Although the predictable character of a loss is among the conditions for contractual liability (Art 1150 of the Civil Code), some writers, including Pothier, take the view that this condition should also apply to delictual responsibility. This view is based on the fact that the principle of liability has a preventive role. If the range of liability becomes so wide that the heads of damage for which one may be held liable cannot be reasonably predicted, it ceases to have such a role.

For the sake of protecting the victims, the majority view and jurisprudence both nowadays reject the idea that delictual liability should be conditional upon the predictability of the loss.

However, in the context of compensation for ecological damage, if the concept of the predictability of the damage is brought in this may make it possible to limit the liability of the polluter, and therefore the sums payable by way of compensation.

This idea of predictability also crops up in the form of another concept used in connection with the contractual liability of medical practitioners. A doctor is bound to treat his patient "in conformity with the existing state of scientific knowledge".

Civ, 20 May 1936:

"*Between the doctor and his client there is a genuine contract which, for the doctor, involves an undertaking if not actually to cure the patient, at least to give him treatment which should not be of a random or inferior kind, but conscientious, attentive and, subject to exceptional circumstances, in conformity with the existing state of scientific knowledge*".

CA Paris, 1st Ch, 8 February 1991:

"*In the light of the expert opinion that the treatment given to the patient was attentive, diligent and in conformity with the existing state of scientific knowledge, it is found that the pattern of the disorders and injuries which have been described bears no direct and obvious connection with the intervention of the dental surgeon*".

The existing state of scientific knowledge limits the scope of doctors' liability to consequences which are foreseeable in the light of present-day science.

Although limited in scope, since it does not apply to the liability regime for public hospitals, this concept warrants closer scrutiny.

The concept could perhaps be transposed to the party responsible for pollution: he would be held liable for the damage which his activities are likely to cause according to "the existing state of scientific knowledge", thus eliminating any damage which cannot be foreseen at the present stage of scientific knowledge.

Here it must be emphasised that in this case the concept would apply to the specific features of the damage, and not to the actions of the party responsible. However, the likely result would be much the same, the only difference being in the legal approach.

As for the concept of foreseeability, one aspect of a judgement cited above (Cass, civ 2, 8 February 1989) deserves study. We have already pointed out that in this case there was a considerable time interval between the fact which is causative of the damage and the damage itself. But the link of causation is not recognised. Coincidence or not, it seems that in the judge's mind time may act against the link of causation. It is therefore crucial to ascertain how long the effects of a chemical substance may last, if one is seeking to lay the damage at its door.

We may cite, by way of example:

Cass, civ, 7 July 1971:

"*The Court of Appeal, reproducing without distortion the findings of experts, states that although an infra-red ray treatment practised by a kinetotherapist caused a temporary incapacity on the part of the plaintiff for a certain length of time, the harmful effects of the treatment were now over and it could no longer be regarded, even partially, as having caused the present permanent incapacity of the plaintiff, and, having defined the consequences which arose from the negligence of the kinetotherapist and which were limited in time, finds that the latter's contractual liability" was not incurred beyond the limits for all other disorders suffered by the plaintiff*".

2 Future Loss and the Link of Causation

Future loss is "the certain and direct prolongation of an existing state of affairs", (Req, 1st June 1932), as it can be assessed on the date of the claim. Hence the loss in question is not hypothetical.

The certainty of the loss is closely linked to the existing state of science, a concept which is relevant in this instance.

It presupposes a very low likelihood of loss, and the link of causation is usually one of high probability. Where it is a matter of anticipating the future consequences of a fact, the foreseeable nature of the consequences of an act plays a crucial role in the appraisal of causation.

3 Loss of Opportunity and the Link of Causation

What this involves is the certain disappearance of a favourable outcome. This presupposes two conditions; the existence of a real opportunity, and the certain disappearance of that opportunity by reason of the fact which was causative of the damage. Unlike future loss, the role of chance is closely examined.

Cass, Civ 1, 15 November 89:

"that having found that an early diagnosis of the disease would have given Mme OGEZ a real opportunity to escape the surgical mutilation which she ultimately had to undergo, the Court of Appeal came to the conclusion that the omission of which Mr Janvier was found to be guilty resulted in her losing that opportunity".

The link of causation is seen in the light of the probability of the expected result materialising if a particular act had or had not taken place. For example, in the medical field, if the expert view is that statistically speaking, a certain form of treatment will cure 500 out of every 1 000 patients, the Court has sufficient scientific certainty to state that a patient treated that way would have a one in two chance of being cured. Consequently, the likelihood that withholding such treatment contributed to the eventual damage is only one in two.

The concept of loss of opportunity has already been used once in connection with ecological damage in the case of Zoe Colocotroni. The Court found that the losses caused in a mangrove area in the State of Porto Rico by oil pollution *"was not merely the loss of certain animals of plants, but doubtless and more fundamentally, the loss of capacity in the polluted elements of the environment to regenerate themselves and to sustain these forms of life for a certain period of time"* (Commonwealth of Porto Rico V SS Zoe Colocotroni, 1 st – Civ, Auq 12, 80).

Here, the lost opportunity is the opportunity for the environment to regenerate itself. The loss of this opportunity is attributable to the oil pollution, to the extent that one can be certain of the effects it can have on the ability of the environment to regenerate itself.

If damage is treated as a loss of opportunity, this means that the link of causation will be regarded as a matter only of probability. At first sight, this approach opens up the possibility of compensation. It should be remembered, however, that the loss which is compensated then becomes only a foregone opportunity, and the right to compensation to which it gives rise is much more restricted than a right based on the loss of something actually gained. The loss of opportunity also opens up a route to compensation in cases where a presumed actual future loss is nevertheless too uncertain to give rise by itself to any right of compensation.

Many writers, including G MARTIN, hold the view that the concept of loss of opportunity could be applied to compensation for ecological damage. In the light of jurisprudence, it is certain that it can be applied to economic loss. It has in fact been applied in the case of the "red mud" of the Montedison company, where the fishermen obtained compensation for losing fishing opportunities (TGI, Bastia, 4 July 1985).

The following may also be mentioned:

On the loss of opportunity to develop a business.

Cass Crim, 3 April 1979:

"it is not open to the Court of Appeal to reject the application for compensation of the loss suffered by the husband of the victim of a fatal traffic accident, who maintains that for the purpose of improving his situation as a small farmer, he took steps to cultivate a vineyard, and to rent a piece of land for that purpose, and that these ongoing projects were totally destroyed because of the accident, since he was himself too infirm to run the planned operation on his own, without his wife's help, the claim being dismissed on the sole ground that the circumstances relied upon by the claimant are not necessarily bound to occur, but without commenting on whether, because of the degree of probability of the anticipated event, the person concerned did or did not actually lose a genuine opportunity of extending his family business and improving his resources".

On the loss of an opportunity to conclude contracts.

Cass Civ 2, 12 June 1987:

"Where a company, following an accident which prevented its chairman and managing director from carrying out his functions, sought compensation for the loss which it claimed had arisen from the non-completion of contracts which were under negotiation at the time of the accident, the judgement in which compensation was refused cannot be impugned on the ground that there was not attempt to consider whether the company lost a genuine opportunity to conclude contracts owing to the unavailability of its Chairman, since the Court of Appeal has found that the non-conclusion of these contracts cannot be regarded as a certain loss".

On the loss of an opportunity to pursue research.

Cass crim 13 October 1987:

"There are grounds for quashing a judgement which rejects the victim's claim, based on the loss of opportunity because of his having been compelled to suspend some laboratory work, and calls this a hypothetical application, although the victim had pointed out that his microbiological studies called for the use of binoculars, and that he could no longer use them because he had lost almost the entire sight of one eye".

Although "future loss" and "loss of opportunity" are different concepts, in jurisprudence a future loss is sometimes redefined as a loss of opportunity if evidence is difficult to provide.

In this respect, it is worth noting that proving the existence of the link of causation is as problematic as the actual notion of such link.

B EVIDENCE OF THE LINK OF CAUSATION

Proof of the link may be furnished by a variety of methods, and one of these merits attention: determining causation by elimination, to form the basis of a presumption for the court.

This method consists of establishing that there is no other possible cause of the damage than the fact with which it is associated, instead of proving that the damage does in fact spring from that fact. There is a well-established line of cases, which is still relevant, on the damage arising from the supersonic "bang".

Cass Civ 2, 13 October 1971:

"Once it had been found that the collapse of a wall occurred immediately after several "bangs" had been heard attributable to a device for which the French State was responsible, and that there had been nothing in the way of a seismic shock, a storm or a hurricane, that weather conditions were normal, that in the immediate surroundings there were neither quarries nor mines, nor major building works, nor site clearances, nor underground workshops; that the ground had not caved in, nor had there been any significant road traffic, explosion, or power-driven machinery used against the wall, and finally that the age of the building could not be a factor in attributing liability, it is correct to find that no likely cause of the collapse had been identified, and that there were weighty, specific and corroborative indications from which it could be inferred that the damage was directly related to the "bangs", and therefore to conclude that there was a link of causation between the acts of the aircraft and the damage, and to attribute liability to the French State".

Cass, 12 October 1972, same reasoning.

There is a similar line of cases of more recent origin, relating to infection from transfusions of contaminated blood.

CA Paris, 28 November 1991.

"*Since the experts found no cause of infection, in the patient suffering from AIDS, apart from the single transfusion which he received, the Court, in the light of the objective factors in the case, must share the unanimous persuasion of the experts that there is a direct relationship between the transfusion and the disease*".

TGI Paris ord ref 5 February 1992:

"*Every risk factor associated with the character of the victim of a traffic accident who underwent blood transfusions and was infected with AIDS having been eliminated by the expert investigation which, conducted in depth and in the utmost detail, found no other explanation for the positive diagnosis of the plaintiff, it must be regarded as certain that the transfusion of blood products is the cause of the infection*".

Montpellier, 13 February 1992:

"*Once it is established that HIV1 antibodies were found to be present in the blood of a victim (aged 2 months) a few months after a transfusion of blood supplied by the CRTS of Montpellier, and that no other transfusion had been carried out from other sources, it follows that the connection of cause and effect between the transfusion and the existence of the human immunodeficiency virus is indisputable*".

CA Rennes, 7th Ch, 23 October 1990 (cited above).

"*Although there is no novelty in drawing presumptions, since the court is simply making a strict application of Article 1353 of the Civil Code, the method used by the court to establish these presumptions has a distinct relevance, because it dispenses with any direct evidence of the link of causation between the damage and the fact which produced it. It may therefore be decisive, if not in the case of pollution by hydrocarbons, at least in the case of chemical pollution*".

This is however some way off the presumption of causation contained in the German law of 10 December 1990:

"*Damage is the result of environmental degradation if it is caused by substances, vibrations, sound, pressure, light rays, gases, steam, heat or other phenomena which are distributed through the soil, air or water*".

It also differs from the presumption admitted in the jurisprudence for accidents at work:

"Every injury which occurs during working time and at the workplace must be regarded as the result of an accident at work" (Soc, 31 January 1973).

Lastly, it is certain that where a presumption of liability is established, as in French law (Article 1384.1 of the Civil Code), this will make it much easier to prove the link of causation.

To conclude this study, we point out that the difficulties inherent in proving the link of causation should not be under-estimated. These difficulties are among the most frequent reasons for the dismissal of claims relating to civil liability. This is why they should take their proper place in the debate concerning compensation for ecological damage.

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ANNEX II

TAKING INTO THE ENVIRONMENT'S OWN RESTORATIVE POWERS IN COMPENSATION FOR ENVIRONMENTAL DAMAGE

Ecological damage has a salient characteristic: it evolves. It attacks the natural environment, which is essentially a living one, with the power to regulate and even restore itself.

Pollution damage can therefore evolve with the circumstances and the specific characteristics of the environment concerned.

This means that there are two risks involved in estimating ecological damage:

- under-estimating the compensation paid for damage which may evolve through the effect of the environment;

- over-estimating the compensation because the damage is absorbed naturally.

Civil liability is based on the principle of full compensation for damage, which means compensation for all the damage but limited to that damage.

In itself, under-estimation involves no real difficulty, since it is always possible to put in a further claim based on aggravation of damage. Over-estimation, however, is a more difficult matter.

In respect of compensation for pollution damage, there is a definite risk that when the amount of compensation for ecological damage is settled, the damage estimated will be greater than the final damage because of the action of the environment. To achieve fair compensation, it would therefore be natural to take account, in the initial estimation of the damage, of the environment's ability to restore itself.

A similar approach has been adopted in other areas, including compensation for physical injury suffered by minors. The physical development of children always affects any personal injury they may have received, which makes evaluating the injury a difficult matter.

Judges are aware that as a child grows, some injuries will either heal or become more severe, as nature does its work. The injury will develop regardless of any human action, according to the "ground" that it finds.

In a desire to take this reality into account, legal practice, both administrative and judicial, has found a solution that allows compensation to be adjusted to the injury. Thus they system provides for the granting of provisional and interim compensation, the amounts being reconsidered when the child reaches the age of 18. In other words, before a final assessment of the injury is made, nature is left to do its work.

CA Paris, 11 January 1980
CE 5 January 1966

The idea behind this approach should be adopted for pollution damage. It has the advantage of recognising that damage exists but that its extent may be altered by the environment.

Adopting this approach would make it possible to limit compensation for oil pollution damage, for nature undoubtedly has its own powers of restoration.

Although such reasoning cannot be transposed precisely, consideration should at least be given to the argument that the natural evolution of environmental damage should not be left out of an estimate of ecological damage.

There are two possible approaches.

- First, the time needed for the regenerative process of a given environment could be determined, after which a final estimate of the damage could be made, the damage taken into account being the damage remaining after the action of the environment has taken place.

This approach is not without its difficulties. It assumes the possibility of establishing, approximately at least, the time needed for the environment effectively to absorb the pollution. This is a matter that can be solved fairly easily as regards oil pollution but not, apparently, as regards chemical pollution.

- The other approach would be to establish tables of compensation on the basis of the environment's estimated restorative capacities. This would have an advantage and a disadvantage: compensation for the damage would be settled *a priori* and at a stroke, but at a flat rate.

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ANNEX III

NATURE'S GUARDIAN - THE BENEFICIARY OF COMPENSATION FOR ENVIRONMENTAL DAMAGE

The desire to see that compensation for ecological damage is allotted to environmental protection will inevitably involve the question of choosing the person who would have the capacity to take legal action for the defence of the environment.

This leads to an examination of the solutions adopted in France and elsewhere.

A FRENCH SOLUTIONS

1 The Right of Ownership

Some authors consider that ownership is still the best guardian of the environment. This is only partially true. Although the owner of the environmental property (forest, lake etc) is indeed best placed to be responsible for conserving and defending it, this does not necessarily mean that he has the desire to do so. In the event of damage to property in ownership, there is no guarantee that the compensation will be used for the purpose of restoring the ecological heritage.

Moreover, the right of ownership does not provide a solution for the defence of all the environmental property that is not in ownership.

Furthermore, in the event of damage to environmental property jointly owned by several persons (eg a forest divided into several private woods), even assuming a waiver of the traditional principle of the free disposal of compensation, it is unlikely that parcelling out the compensation would result in the effective restoration of the environment concerned.

2 Associations

Under environmental law it is now recognised that associations are entitled to exercise the rights of a party to a civil action, including defence of the indirect interests which it is the associations' aim to defend. Their action is admissible subject to various conditions, in particular to the approval requirement in the decree of 7 July 1977, which filters the group action and rules out individual claims in disguise. There are numerous authorizations, but only for the special cases set out in the legislation, where they are frequently enumerated.

It should be pointed out that, in another field, approved consumer associations have general capacity in respect of "acts that directly or indirectly undermine the collective interest of consumers" (Article I, Act of 5 January 1988).

Moreover, such associations have the capacity to take action on behalf of consumers in all courts, not only criminal courts, but they must be mandated to do so by the consumers.

The creation of such associations by the legislator is the result of a deliberate policy of protecting certain interests. Were the legislator to decide to take account of the defence of the environment and its "*users*", resorting to approved "*environment user*" associations to achieve that end would be perfectly possible. The use of associations like consumer associations, and with the same powers, might therefore solve the problem of who should be nature's guardian.

But an association is only as good as its members and the pureness of the interests they pursue. A lack of resources or ability can ruin any effort, however sincere.

Lastly, like any subject of law, an association is subject to the principle of the free disposal of compensation, which again provides no safeguard as to the future use to which the funds obtained by its action will be put.

Although nowadays our legislation tends to encourage the right of associations to defend collective interests that are fairly general and go well beyond those of the members, in jurisprudence the interpretation of these legal authorizations is still severe, at least in the chambre criminelle of the Cour de Cassation, which exercises strict supervision to ensure that the liability of action falls within the limits of the statutory aims and does in fact correspond to the defence of an interest which the association is legally authorised to defend.

3 The State

In French law there is no single rule in legislation or jurisprudence that affirms the exclusive competence of the State in matters of defence of the environment, but there are many provisions that do seem to confirm that competence. These include special provisions that impose on the State authorities the duty to take action to protect the environment in the event of failure to do so by the persons in charge of such protection, which seem to confirm that the State is responsible in the last resort for the environment and would thus be competent in the matter.

Moreover, it is accepted that in the absence of specific laws delegating to local authorities or other public of private persons the obligation to preserve the general interest, this duty falls upon the States.

On the basis of Article I of the Act of 10 July 1979 on the protection of nature, which states that "*the protection of natural species and scenery, the preservation of animal and plant species, the maintaining of biological equilibriums and the protection of natural resources against all the sources of degradation that threaten them are in the general interest*" and Article 1 of Act N°92–3 of 3 February 1992 on water which lays down that "*water is part of the nation's common heritage. Its protection, development and harnessing as a usable resource in respect for natural equilibriums is in the general interest*", it does seem that the State's position as guardian of nature is recognised.

More particularly, since water is part of the national heritage, in the words of Article I of the Act of 3 February 1992, it does seem incumbent upon the State to ensure its protection, especially since, in the event of damage to the public maritime domain (the shore, the sea and the territorial seabed), the exclusive competence of the State is perfectly clear.

Cases like this constitute a contravention de grande voirie, ie an offence against the regulations on the conservation of the public domain, which is governed by the Admiralty order of August 1961 and the Act of 29 Floréal Year X.

These instruments not only give the State exclusive competence but also oblige it to pursue the offenders. This was confirmed by an order of the Conseil d'Etat dated 23 February 1979, Ministère de l'Equipment v Associations des Amis des Chemins de Ronder.

In placing upon the State the obligation to pursue offenders, this order recognises the State's capacity to safeguard the integrity of its public maritime domain. It might therefore provide the basis for an action by the State to obtain compensation for damage to the marine ecology.

However, since under French budget regulations a sum received cannot be earmarked, any compensation for environmental damage would be paid into the budget of the State.

4 Public Persons Other than the State

Resorting to public administrative establishments cannot provide a solution, or only a limited one, since such establishments are specialised. It would therefore mean that every ecological interest deserving protection would have to have its own public administrative establishment, which would be very complicated and would tend to increase the number of such establishments, which is not desirable.

However, is should be pointed out that it is not unrealistic to use this legal procedure to protect the environment, as is shown by Article 243-1 of the code rural establishing the Conservatoire de l'espace littoral et des rivages lacustres whose aim, inter alia, is to protect and develop the coastline.

Likewise, the public administrative establishment for the national parks, whose task is to safeguard the environment, is authorised to bring a civil action in certain limited cases.

It should also be pointed out that there is currently a trend in jurisprudence towards making civil action by national parks admissible when the offence involves damage to the national heritage which the national parks have to defend, even when it occurs just outside the park, not inside. This wider concept of the right of parks to take action extends their field of action while maintaining them within their own speciality, and consideration might therefore be given to their being made the guardian of nature in certain areas.

5 Specialized Agencies

Increasingly, attention is being given to the possibility of establishing a specialized agency to take legal action in the interests of society in all cases of environmental damage.

Professor Remond Gouilloud referred to this possibility as long ago as 1982, in a column on case law, and was echoed by Mr J Littmann-Martin in the Revue de Jurisprudence de l'environnement in 1990.

In support of this approach the example was quoted of the former ANRED, which, in accordance with Article 26 of the Act of 15 July 1975 on the elimination of wastes and the reprocessing of materials, was able to exercise the right to take civil action with respect to acts constituting direct or indirect damage to the interests that it was designed to defend. It was thus authorised to depart from the requirements of article 2 of the Code of Criminal Procedure.

It should be stressed that, since all existing authorisations to act in defence of the environment at present depend on whether a criminal offence exists, the scope of such authorisations is very limited. The action of any guardian of nature authorised to act in matters of oil pollution should not, however, be subject to the existence of a criminal offence in national legislation.

This, therefore, means that the interest of the guardian in acting must be clearly defined so that his right to take legal action is considered admissible by the IOPC Fund and the courts.

B SOLUTIONS IN OTHER COUNTRIES

1 The State

In other countries it is often recognised that on various grounds the State has the capacity to take legal action in environmental matters.

- In Italy, it has been recognised since 1986 that the State or the local authorities have this power.
- In the former Communist countries, where the environment was considered to be in the ownership of the State (Poland, Russia).
- In the United States.
- At Community level, the draft directive on liability of the EEC in matters of waste also tended to take this approach. It reserved the public authorities' right to take legal action for damage to the environment, but the formulation was abandoned and it was finally left to the legislators of Member States to designate the persons who have the capacity to take legal action.

2 Associations

There are very few countries that grant associations the right to take action in the civil or criminal courts. In Europe they include Italy, the Netherlands and Spain, and in the Americas, the United States and Brazil.

3 Individuals

In the United States, under the Oil Pollution Act, persons using natural resources that have been damaged, destroyed or lost may claim compensation for the loss or damage without distinction of title of possession or resource management.

4 Authorised Institutions: Public Corporations

In the United States, genuine "*representatives*" of the environment have been appointed: these are trusts especially authorised to take legal action to claim compensation for ecological damage. Their task is two-fold: to assess the damage, and to prepare and implement a restoration plan. They exist at both Federal and State level.

5 Group Action of the United States Type

The principle is for a group of persons or even an individual to represent the interests of an entire category of persons who share the same cause, without being expressly mandated to do so. To be admissible the action requires four pre-conditions:

- a large number of group members;
- points of fact and law common to all members of the group;
- the typical nature of the proceedings;
- the legal and financial ability of the applicant to defend the group action.

Example: class action taken by the residents and owners of an estate contaminated by dioxin.