INCREASING EFFICIENCY OF FRESHWATER UTILIZATION THROUGH TRANSBOUNDARY ENVIRONMENTAL IMPACT ASSESSMENT

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Abstract

On a national level environmental impact assessment (**EIA**) has become a well-established procedure to identify, regulate and mitigate environmental impacts of industrial and other measures. In the context of utilization of natural resources – and freshwater in particular – EIA may, in addition, serve as a tool for increasing efficiency of utilization. Certain application of freshwater such as irrigation and drinking water are highly dependent on water quality. Thus by mitigating adverse environmental impacts on freshwater its quality and thereby its application for specific purposes may be preserved. However, few domestic EIA regulations consider the impact a proposed measure may have on the environment of a neighbour state. Where the utilization of cross boarder freshwater resources is concerned transboundary environmental impacts are, however, particularly relevant, as for instance water pollution upstream of a river system will affect water quality downstream. Hence, in order to optimize freshwater utilization EIA should be comprehensive and consider the impact of a proposed measure on the freshwater system as a whole. This issue is addressed by transboundary EIA requirements provided for by public international law. While such requirements are still somewhat rudimentary, they serve – where properly implemented – to increase the efficiency of utilization of international freshwater resources.

1. Introduction

Environmental Impact Assessment (**EIA**) first developed as a procedure under domestic law to monitor as well as prevent or mitigate environmental impacts on potentially invasive measures proposed under the jurisdiction of the concerned state. Still, these early EIA procedures did not consider the impact a proposed measure may have in the territory of other states. Such transboundary impacts are, however, relevant in particular where the proposed measures may affect an interconnected ecosystem such as cross-boarder freshwater resources such as lakes stretching over state boarders or international river systems. Adverse environmental impacts posed by the development of a cross-boarder freshwater resource are transported through the system by the flow of water. Thus, in order to make an educated decision on the environmental viability of a proposed measure implemented in respect to a cross boarder water resource or its utilization, decision makers will need to understand the

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effects the proposed measure has on the resource as a whole, including impacts that spread to or materialize in the territory of neighbouring states.

This issue is addressed by public international law provisions obliging states to conduct transboundary EIA where a proposed measure is likely to have considerable impact on the environment of other states. However, the development of public international law in respect to transboundary EIA is still rather resent and concerns remain that it may, at this stage, be too rudimentary to be truly beneficial in terms of preventing or mitigating adverse environmental impacts on cross-boarder freshwater resources. Nonetheless, transboundary EIA remains a crucial regulatory tool, in particular in respect to international freshwater resources. Since certain applications of freshwater such as its use for drinking water and irrigation are dependent on its water quality (WHO 2011, at 228). Thus, transboundary EIA, by having positive effects on the environmental viability of a proposed measure, may serve to raise efficiency of freshwater utilization.

This paper analyses the current state of the development of public international law in respect to transboundary EIA procedure and its benefits in respect to the environmental impacts of developments. It will show that despite some ambiguity as to the positive effects of transboundary EIA the procedure offers actual benefits and serve to raise efficiency of freshwater utilization.

2. Transboundary Environmental Impact Assessment

No universally binding international treaty requires transboundary EIA. Thus, such a requirement may only derive from international customary law. International customary law has two constitutive elements: general state practice and the belief that such practice is required by international law (so-called '*opinio iuris*').

Practice in this sense means any active or passive state conduct. To be regarded as general a practice has to be of a certain duration, unity and extent. (Crawford, 2012, at 7 et seq.). In addition the states have to partake in this practice because they believe to be obligated to do so by public international law. Both general practice and *opinio iuris* do not have to be unanimous. It is sufficient that the vast majority of states partakes in the general practices and *opinio iuris* (so-called 'quasi-universality') (Shaw, 2008, at 76, 84 et seq.).

2.1. Requirement of Transboundary Environmental Impact Assessment under International Law

With the exception of transboundary EIA provisions in respect to maritime environments, transboundary EIA procedures first developed in Europe. When commenting on the International Law Commission's (**ILC**) Draft Articles on International Watercourses in 1993 European states in particular spoke out in favour of transboundary EIA requirements. For instance the Netherlands declared that they perceived '[t]he absence from the draft articles of specific provisions on environmental impact assessment […] as a shortcoming' (ILC 1993, at 163). Furthermore, Hungary described transboundary EIA as a 'theory, which is gaining ground', a position that Denmark, Finland, Iceland, Norway, Sweden, Poland as well as the United Kingdom and Northern Ireland share (ILC 1993, at 158, 164, 165, 168).

To date the most comprehensive treaty on EIA is the Espoo Convention. This convention provides that a state 'under whose jurisdiction a proposed activity is envisaged' (so-called 'party of origin') (Article 1(ii)) shall, 'ensure that […] an environmental impact assessment is undertaken prior to a decision to authorize or undertake a proposed activity listed in Appendix I that is likely to cause a significant adverse transboundary impact' (Article 2(3)). According to Appendix I No 11 such activities include for example '[l]arge dams and reservoirs'. However, the Espoo Convention is only binding *inter partes* between the states party to it,

and although it was adopted by some non-European states, it still has to be considered a regional, European treaty.

Still, in recent years transboundary EIA requirements have been accepted by states on a global level as illustrated in a case concerning a dispute between Argentina and Uruguay over pulp mills constructed on the river Uruguay brought before the International Court of Justice (**ICJ**). In this case the ICJ found that there is a practice, 'which in recent years has gained so much acceptance among States that it may now be considered a requirement under general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context' (ICJ 2010, at para. 204). This view is widely recognised by commentators (McIntyre 2006, at 199 et seq.).

Furthermore, states outside of Europe have passed EIA legislation that requires consideration of transboundary impacts. Syrian law for instance requires transboundary effects to be considered in EIA where such effects are likely to be significant (Article 14 Decree 225/2008). A similar provisions can be found in Section 47 of the Canadian Environmental Assessment Act SC 1997 c 37. And U.S. domestic EIA legislation, while not explicitly requiring the consideration of transboundary impacts, is to be applied to transboundary issues due to existing customary commitments such as the duty to prevent harm and the duty to notify (CEQ 1997).

While transboundary EIA is generally accepted as a requirement under international customary law, its content and procedure are still subject to discussion.

2.2. Content of Environmental Impact Assessment

Appendix II Espoo Convention provides a comprehensive catalogue of content to be covered in transboundary EIA. Furthermore, international organisations, such as the United Nations Environment Programme (**UNEP**) have produced guidelines for transboundary EIA, which include lists of content to be covered (UNEP 1987). Yet, none of these catalogues are universally binding. Instead international customary law appears to largely leave it up to the states to define the specific contents of transboundary EIA through domestic legislation (ICJ 2010, at para. 205). Nonetheless, there appears to be general consent that transboundary EIA has to consider the interests of other states and (less invasive) alternatives to the measure proposed.

The Espoo Convention, while in principle leaving the states party to it considerable freedoms when defining the scope of EIA, in Article 2(2) requires them to 'take the necessary legal, administrative or other measures to implement […] with respect to proposed activities […] that are likely to cause significant adverse transboundary impact, the establishment of an environmental impact assessment procedure'. Annex II(b) Espoo Convention provides that the EIA documentation produced shall include '[a] description, where appropriate, of reasonable alternatives (for example, locational or technological) to the proposed activity'. Furthermore, the interest of affected states shall be considered when making a decision on the environmental viability of a proposed measure (Article 2(2) Epsoo Convention).

In the Pulp Mill Case the ICJ also found that states are generally free in determining the scope of transboundary EIA through domestic legislation, the court noted that in doing so, a state has to have 'regard to the nature and magnitude of the proposed development and its likely adverse impact on the environment as well as to the need to exercise due diligence in conducting such an assessment' (ICJ 2010, at para. 205).

2.3. Procedure of Environmental Impact Assessment

It appears that international customary law does not provide for a comprehensive definition of EIA procedures. Similar to the content of EIA, its procedure is – in principle – subject to domestic law (ILC 2001, at 158). However, there are some procedural requirements that have developed into binding international customary law. The most widely considered aspects insofar are: post-assessment monitoring, participation of affected states and their notification in regard to the EIA's findings as well as public participation in the EIA.

i. Notification and Participation of Affected States in Respect to Environmental Impact Assessment

The Espoo Convention for instance provides for notification and consultation of affected states in regard to transboundary EIA. Its Article 3(1) provides that the state, under whose jurisdiction a measure requiring EIA is proposed, is to 'notify any Party which it considers may be an affected Party as early as possible […] about that proposed activity'. After considering the information provided pursuant to Article 3(1) the possibly affected states are to decide and indicate to the party of origin, whether they wish to participate in the EIA process (Article 3(3)). In addition the affected parties are to be provided with the final EIA report (Article 4(2) Espoo Convention). Based on the notification and the documentation supplied the party of origin shall consult with the affected parties (Article 5).

Finally, when making a decision on the proposed measure, the party of origin – pursuant to Article 6 – 'ensure that […] due account is taken of the outcome of the environmental impact assessment, including […] the comments thereon received pursuant to […] Article 4, paragraph 2, and the outcome of the consultations as referred to in Article 5'.

Notably the Epsoo Convention not only requires that possibly affected states are notified, but also grants them the right to participate in the EIA procedure and obligates the party of origin to consult the affected states and consider their comments made to the EIA findings. Still, only states party to the Espoo Convention are obligated and able in respect to its provisions. Nonetheless, the Espoo Convention, despite originally being drafted as a regional convention for Europe, has been ratified by a number of non-European states, which shows that there is growing support of it provisions worldwide (UN Treaties Series).

Specifically in regard to non-navigational uses of international freshwater systems, Article 12 UN Watercourse Convention provides that notifications made in respect to measures likely to have adverse transboundary effects should include 'the results of any environmental impact assessment'. While this article requires that results shall be made available to affected states if an EIA was conducted, it neither requires transboundary EIA to be conducted nor the participation of possibly affected states.

Despite there being some reference to specific EIA procedures in treaties, there is little explicit recognition among states. Specifically a right of the affected states to participate in the EIA process as provided for by Article 3(1) and (3) Espoo Convention is not widely supported. However, it should be considered that the obligation to prior notification in respect to the utilisation of international freshwater resources is generally considered binding international customary law. In their comments to the ILC Draft Articles on the Law of the Non-navigational Uses of International Watercourses the Netherlands – for example – supports its application to transboundary EIA (ILC 2001, at 158). The ICJ in the Pulp Mill case (ICJ 2010, at para. 112 et seq.) as well as commentators support such a development of the obligation to prior notification (Gillespie 2008, at 230 et seq.).

Thus it is safe to say that while international customary law does not entitle possibly affected states to participate in the EIA procedure, it does require a state under whose jurisdiction the concerned measure is proposed to notify the possibly affected states in respect

to the findings of an EIA prior to making a decision on the measure's environmental viability. Parallel requirements are included in Syrian law (Article 14 Decree 225/2008) as well as Section 47 Canadian Environmental Assessment Act SC 1997 c 37.

ii. Participation of Foreign Public in Environmental Impact Assessment

Various treaties require public participation in EIA. For example the Aarhus Convention, which in Article 6(2) provides that states party it shall provide for the necessary legal and administrative measures to ensure that '[t]he public concerned' is informed 'early in an environmental decision-making procedure'. Article 3(8) Espoo Convention, explicitly requires public participation of both national and foreign populations. However, the Aarhus Convention and the Espoo Convention, despite being ratified by some non-European states, still are largely regional European agreements.

Accordingly the ICJ found in the Pulp Mill Case that participation of foreign populations in EIA was not required under international law. In the case Argentina maintained that international law obligated Uruguay to consult both the Uruguayan and the Argentine population affected in the EIA conducted on the pulp mill in dispute. Notably Argentina referred to the Espoo Convention and the UNEP Goals and Principles of Environmental Impact Assessment in order to establish that such an obligation existed. The ICJ found that 'no legal obligation to consult the affected populations arises from the instruments invoked by Argentina', as neither of the two instruments bound Uruguay (ICJ 2010, at para. 215 et seq.). Moreover, commentators do not consider states to be obligated to allow participation of foreign populations (Marsden 2012, at 255 et seq.).

iii. Post Environmental Impact Assessment Monitoring

There are some treaties that oblige states to continuous monitoring of measures that required EIA. The Espoo Convention, for example, provides for post-EIA monitoring of certain measures during their operation phase. Still, the convention leaves it up to the concerned parties – the party of origin and the parties affected – to decide jointly whether post-EIA is necessary (Article 7(1)). Continuous monitoring for measures that required EIA throughout their operation is, however, obligatory according to Annex I Article 5(1) Madrid Protocol to the Antarctic Treaty. Still, few other treaties provide for a requirement of continuous monitoring and the matter is little discussed among states as an obligation of international law.

Still, a requirement of post-EIA monitoring may derive from the obligation to inform on a regular basis and the due diligence aspect of the obligation not to cause significant transboundary harm. According to the obligation to inform on a regular basis, a state utilising an international freshwater system is required to inform the other riparian states about its developments and their impact on the freshwater system (Schwebel 1982, at 110).

Indeed the obligation to inform does not explicitly refer to how information is to be obtained, but it logically requires assessment of data, as information has to be assessed to be transferred. Still, the obligation is generally considered to require states only to transfer readily available information, thus information the concerned state has assessed on its own initiative (McCaffrey 2007, at 464 et seq.).

However, considering the purpose of the obligation to inform – information is i.a. to be shared in order to enable the lower riparian states of an international freshwater system to adjust and react to artificial and natural changes in the system's flow or water quality (McCaffrey 2007, at 464 et seq.) – it could be argued that the obligation to inform requires riparian states to inform co-riparian states to an extent and in such detail that would allow them to adequately adjust and react to changes in the system's flow and water quality (Schwebel 1982, at 110). Based on this assumption, the obligation to inform may (indirectly)

require states to continuously monitor particularly invasive measures, to ensure they provide co-riparian states with the necessary information.

A state may also be required to assess the impact the operation of certain measures has pursuant to the obligation not to cause significant transboundary harm. It is generally accepted that the obligation not to cause significant transboundary harm includes a due diligence element, which obligates states to take all appropriate measures to prevent transboundary harm from being caused by dispositions on or over their territory (Beyerlin/Marauhn 2001, at 42). Thus the obligation not to cause significant transboundary harm may require states to continuously monitor specifically invasive measures in order to ensure that they do not cause significant transboundary harm.

Yet, some states include requirements of post-EIA monitoring. Both Syrian and Turkish law provide for post-EIA monitoring. Article 11 Decree 225/2008 authorises the Syrian General Commission for Environmental Affairs to continuously monitor invasive measures during all the phases [*sic*]' to ensure 'compliance with the EIA and its conditions and granted approvals'. Article 2(a) of the Turkish By-law on Environmental Impact Assessment provides for '[m]onitoring and inspection of the projects which are within the scope of Environmental Impact Assessment before, during, and after operational period'. These provisions, however, generally do not apply to transboundary impacts.

3. Benefits of Transboundary Environmental Impact Assessment

Few studies address the environmental benefits of domestic and transboundary EIA procedures in terms of their quantified or monetized environmental benefits. This is in large due to methodical difficulties for quantifying such benefits (Oosterhuis 2007, at 11) Nevertheless, there is wide spread consensus among commentators that EIA procedures contribute by improving environmental impacts and mitigating or even preventing environmental damages (Makarenko 2012, at 446).

Though many studies on EIA benefits differ in detail, a benefit commonly identified is EIA providing a more extensive information base and framework for decision makers when making decision on the environmental viability of a proposed measure. By offering decision makers a better bases for assessing a proposed measure EIA can affect the design of projects and lead to the modification of the measure proposed or the consideration of less invasive alternatives. Thus EIA can be used as a measure to prevent or mitigate the environmental impact of a proposed measure or lead to the implementation of a more environmentally viable alternative and, thereby, improve environmental impacts (Oosterhuis 2007, at 12).

These benefits could be increased where follow-up procedures such as post-assessment monitoring are implemented (Oosterhuis 2007, at 13). While post-assessment monitoring is not required under customary international law, such requirements may be included in bilateral or regional treaties. For instance the Epsoo Convention (Article 7(1)) as well as the Madrid Protocoll (Article 5(1)) provide for post-assessment monitoring in respect to measures that require transboundary EIA.

Furthermore, EIA offer benefits through involvement and participation of affected persons and stakeholders in the decision-making processes. Involvement and participation lead to better co-operation between stakeholders and increases acceptance of proposed measures. However, some commentators also observed positive effects in respect to environmental impacts. By providing a better understanding of local needs and experiences participation and involvement can enhance the environmental awareness of developers and decision makers and thereby generate positive environmental effects. In domestic EIA procedures participation of the affected public is a common procedure (Oosterhuis 2007, at 14). However,

participation of foreign public is not a requirement of transboundary EIA under international law. Still, participation of possibly affected states in transboundary EIA as required under customary international law may have similar effects as participation of the public (Makarenko 2012, at 448).

By mitigating or preventing environmental impacts EIA can serve to increase efficiency of the utilization of natural resources and freshwater in particular. A variety of applications for freshwater such as use for drinking water and irrigation require a certain level of water quality. Hence by reducing adverse environmental impacts EIA can help to preserve water quality and, thereby, maintain its application. In doing so EIA can help to increase efficiency of freshwater utilization. Where the utilization of transboundary freshwater resources is concerned, these benefits can only be truly realized through transboundary EIA. As impacts on a freshwater system are spread through the system as a whole by the flow of water, measures implemented in one jurisdiction will have an impact on the utilization of freshwater in other jurisdictions. Hence to be most effective EIA on measures implemented on respect to international freshwater systems and their utilization should consider possible transboundary impacts of such measures.

4. Conclusion

Public international law in respect to transboundary EIA procedures is still somewhat rudimentary. Nonetheless, the existing requirement for transboundary EIA in particular involvement and participation of possibly affected states offer considerable environmental benefits. Where the utilization of cross-boarder freshwater resources is concerned such environmental benefits help to increase the utilization of these resources.

However, there remains considerable room for improvement. In particular post-assessment monitoring and involvement and participation of affected (foreign) populations promise to further increase positive effects of transboundary EIA. Regrettably such procedural measures are not yet required under general public international law. It remains to be seen whether these measures will become binding under general public international law in the future or states further incorporate these in regional treaties on transboundary EIA as for example the European countries did in the Epsoo Convention.

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