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Achieving Sustainable Development
of Water Resources in the
Mekong River

— With focus on Dams and the Role of Japan

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Summary

The concept of “sustainable development” has been a part of international discussions regarding environment and development since the end of the 1980s. Although it comprises a number of elements, it is mainly characterized by the notions of integration of environmental protection with the development process, intra-generational equity, inter-generational equity, and sustainable use. The concept gained international support in the beginning of the 1990s, but it is still considered ambiguous in regard to its international legal status. Nonetheless, it has become an important part of natural resource management and is adopted as the key focus in the regional legal regime of the Mekong River Basin in Southeast Asia through the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 1995.

Today, the countries of the Mekong River Basin are exploring the possibilities for exploitation of water resources on the mainstream Mekong. Through the construction of dams, mainly for hydropower, they aim to boost development and economic growth using domestic resources. For the developing countries in the Lower Mekong River Basin, as well as for the Mekong River Commission established under the 1995 Mekong Agreement, one of the most critical aspects of development is the funding of riverine projects. As one of the key donors in the Mekong area, Japan is influential on economic issues as well as environmental concerns, and may therefore have an important part to play also in regard to sustainable development. The thesis focuses on the possibility to achieve sustainable development on the regional level, how dams affect this achievement and what the role of Japan, as a major donor, is.

Until recent years, the main development on the Mekong River has been seen on its tributaries. This is about to change, seeing how planned dam cascades in the Lower and Upper Mekong regions are scheduled for the mainstream river. The potential effects of the dam cascades may result in drastic changes and impacts on areas such as riverine ecosystems, aquaculture, as well as fisheries and agricultural livelihoods for the population in the Mekong River Basin. The construction of dams has been, and is still today, a well discussed and greatly criticised issue. As the 1995 Mekong Agreement is only binding for the nations of the Lower Mekong River Basin, there are inevitably difficulties when addressing impacts that are caused by other riparian states, and consequently for conducting all-embracing environmental impact assessments.

By lacking a legal framework that governs the whole region it is not possible to effectively ensure all stakeholders’ rights and to fully estimate potential risks. Although challenging, it can be concluded that sustainable development is achievable on the regional level if stakeholders’ rights are properly identified and risks are fully assessed, with the effect of fulfilling a

number of procedural and substantive elements of sustainable development. A well-functioning cooperation is therefore essential if this is to be accomplished on a regional level. This will however require great efforts by the countries themselves, as well as for influential aid donors like Japan.

Sammanfattning

Begreppet ”hållbar utveckling” har varit en del av internationella diskussioner angående miljö och utveckling sedan slutet av 1980-talet. Begreppet innefattar ett antal faktorer, men kännetecknas främst av en integrering av miljöskydd och utveckling, tillgodoseendet av rättigheter i förhållande till framtida generationer och mellan stater, och ett hållbart nyttjande av naturresurser. Konceptet fick internationellt stöd i början av 1990-talet, men har fortfarande en oklar rättsstatus på internationell nivå. Icke desto mindre har hållbar utveckling blivit en viktig del i hanteringen av naturresurser. Begreppet har också antagits som en central del i det regionala regelverket angående Mekongfloden i Sydostasien genom ”[the] Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin” från 1995, som behandlar samarbetet för en hållbar utveckling.

Idag undersöks möjligheterna till att utnyttja de vattenresurser som finns tillgängliga i Mekongflodens huvudfåra. Genom dambygge, huvudsakligen avsett för vattenkraft, ämnar länderna i Mekongregionen att främja utveckling och ekonomisk tillväxt genom inhemska resurser. För utvecklingsländerna i Nedre Mekongområdet, liksom för Mekong River Commission som etablerades genom avtalet från 1995, är en av de mest avgörande utvecklingsfaktorerna finansieringen av projekt i floden. Som en av de viktigaste biståndsgivarna i Mekongregionen sträcker sig Japan's inflytande över både ekonomiska angelägenheter och miljöfrågor, och kan därför ha en betydande funktion att uppfylla också i förhållande till hållbar utveckling. Uppsatsen fokuserar på möjligheterna att uppnå hållbar utveckling på en regional nivå, hur dammar påverkar detta åstadkommande och vad som är Japans roll, som en av de större biståndsgivarna i området.

De senaste åren har de största utvecklingsinitiativen setts på Mekongflodens bifloder. Detta håller just nu på att förändras eftersom flertalet av de dammar som planeras i både Nedre och Övre Mekongregionen är avsedda för Mekongflodens huvudfåra. Effekterna av dessa dammar kan potentiellt leda till drastiska förändringar i miljön och påverka ekosystem, konstbevattning, samt det fiske och jordbruk som verkar som uppehälle för befolkningen runt om Mekongfloden. Dammyggen har varit, och är fortfarande idag, ett vida diskuterat och kritiserat ämne. Eftersom avtalet från 1995 endast är bindande för staterna i den nedre delen av Mekongregionen så uppkommer svårigheter i att hantera de skador som orsakats av andra kuststater, och således också för genomförandet av heltäckande miljökonsekvensbedömningar.

Genom att inte ha en tillfredsställande rättslig ram för hela regionen, är det inte heller möjligt att effektivt skydda rättigheter för alla påverkade parter eller för att fullt ut uppskatta potentiella risker. Sammanfattningsvis så dras slutsatsen att en hållbar utveckling kan uppnås på regional nivå om de

berörda parternas rättigheter kan identifieras och risker kan analyseras till fullo. Ett välfungerande samarbete mellan Mekongländerna är därför viktigt för att detta ska kunna ske på en regional nivå. Detta kommer dock att kräva extensivt arbete av länderna själva, liksom för inflytelserika biståndsgivare som Japan.

Abbreviations

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
EIA	Environmental Impact Assessment
GMS	Greater Mekong Subregion
ICJ	International Court of Justice
ILA	International Law Association
ILC	International Law Commission
IWRM	Integrated Water Resources Management
JAIF	Japan ASEAN Integration Fund
JICA	Japan International Cooperation Agency
Lao PDR	Lao People's Democratic Republic
LMRB	Lower Mekong River Basin
MRC	Mekong River Commission
NGO	Non-Governmental Organization
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
UN	United Nations
UNECE	United Nations Economic Commission for Europe
WCD	World Commission on Dams

1 Introduction

The Lower Mekong River Basin¹ is home to approximately 60 million people.² For the majority of the residents, the fish and water supplies provided by the river and its tributaries are of the outmost importance for securing food production and access to fresh water. The fresh water resource is not only vital as a basic human need; it is also a necessity for the creation of a well-functioning state, as well as an essential part of domestic, agricultural and industrial uses. For the nations located in the LMRB, ranging from “least developed countries” to having “lower middle income”,³ the value of the “mother of all rivers” lies in part on its ability to provide for food, income, and other necessities to the residents of the Basin.⁴ A well-established and manageable policy for water resources in the whole region can therefore be regarded as one of the most important steps towards a sustainable management of the river.

At the same time, there are a number of projects in the Mekong River that may lead to considerable environmental impacts and social consequences in the surrounding area. Although the mainstream in the LMRB is, at the moment, relatively unexploited compared to its tributaries and the Upper Mekong mainstream located in the Chinese Yunnan province, exploitation of the raw power in the Lower Mekong mainstream has been on the agenda for some time in form of hydropower projects.⁵ These plans are flagging for a potential boom of dams that could result in devastating impacts on the river’s flow and biological diversity. A question that thus arises is how these plans and projects affect the current quest towards sustainable development. Moreover, the financial funding and expertise that are vital in the regional management of an international river may be dependent on the grace and assistance of aid donor countries or organizations. What is to be expected of donors who are involved with these projects?

This thesis will address the subject of achieving sustainable development in the Mekong River, how dams affect this achievement, and the function of foreign development aid in the LMRB, provided by one of the largest bilateral donors in the region: Japan.

¹ Covering Cambodia, Thailand, Lao People’s Democratic Republic and Vietnam. Hereafter LMRB

² International Rivers, *Mekong Mainstream Dams: Threatening Southeast Asia’s Food Security*, 2009, pp. 1-4, p. 1. Available at http://www.internationalrivers.org/files/Mekong_Mainstream_Aug09.pdf

³ OECD, DAC list of ODA recipients for 2009 and 2010 flows. Available at <http://www.oecd.org/dataoecd/32/40/43540882.pdf>

⁴ International Rivers, *Mekong Mainstream Dams: Threatening Southeast Asia’s Food Security*, 2009, p. 1

⁵ See Supplement B for a map of planned and existing mainstream dams.

1.1 Purpose

This thesis aims to provide clarity on the subject of sustainable development in the management of water resources in the Mekong River, and if, within the existing legal framework, it is possible to achieve sustainable development of water resources on a regional level. The focus for this analysis weighs on the impacts of dams, both existing and planned, for clarifying how these impacts would be assessed in the light of sustainable development as well as for shedding light on some of the challenges found in achieving sustainable development. Lastly, in regard to the needs of such an achievement, light will further be put on the role of Japan, as a major donor in the region, for identifying the responsibilities of aid givers in assisting the Mekong River Basin states' development towards a regional cooperation for sustainable development.

1.2 Delimitation

The focus will lie on the international framework regarding sustainable development, the Convention on the Law of the Non-Navigational Uses of International Watercourses, 1997, and the main regional agreement that exist for cooperation regarding water resources management in the Mekong River Basin, namely the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 1995. The thesis will mainly address issues found in the LMRB unless otherwise mentioned. It is further not possible to address all international organizations that are concerned with sustainable development on the regional level, or all aspects concerned with the achievement of sustainable development itself. The main focus will therefore be on the larger regional institutions that work in the Mekong area, and aspects that especially need to be addressed regionally for the achievement of sustainable development.

1.3 Method and material

The subject at hand has been approached with a dogmatic view in regard to the concept of sustainable development and the legal framework regarding international rivers and the Mekong River Basin, although this has been done with analytical influences. Descriptive parts do also exist as to explain the current situation in the Basin. The used material has its basis in the Rio Declaration on Environment and Development, Agenda 21, the Johannesburg Declaration on Sustainable Development, the Convention on the Law of the Non-Navigational Uses of International Watercourses, 1997, and the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, and the report from the World Commission on Dams, *Dams and Development: A New Framework for Decision-Making*, as they are the leading framework for the objective at

hand and are thus providing the most accepted basis for the discussions ahead.

1.4 Disposition

This thesis first addresses the concept of sustainable development, including its definition, legal status and a proposed basis for its achievement, as well as a section regarding its relationship with international watercourse law. The following chapter provides for the regional circumstances and the geographical features of the Mekong River Basin, where regional cooperation, Japanese aid to the region, and Asian legal culture will be looked into as well. Chapter 4 turns the focus to dams, the framework for decision-making, Japanese aid in the context of water resources and dams, and dam impacts on economic, environmental and social areas. An analysis will be carried out in chapter 5, where the need for regional cooperation and the role of Japanese aid will be in focus, together with a discussion regarding dam impacts in the light of sustainable development. The last chapter will comment on the future outlook of sustainable development in the LMRB.

2 Sustainable development

Since the 1960s, modern environmental law has expanded its spectrum to also include a wider regime of environmental and ecosystem concerns, in addition to natural resources and their preservation. Compromising seems to be a key factor as property rights, social justices and commercial interests are found together with environmental values as core issues in a majority of environmental law cases.⁶ A number of conventions, reports and working documents refer to the need and importance of sustainability through terms such as “sustainable development”, “sustainable use” or “sustainable management” when concerned with the management of natural resources or the preservation of ecosystems and biodiversity. But what does it actually mean? Which aspects are included, and not included, in the concept of sustainable development? To understand a term such as sustainable development, we must first look at how the concept has been treated in international settings.

2.1 The concept

Since its appearance in international discussions regarding the global environment and the human future in the 1980s, the international community has proposed a variety of meanings for the concept of sustainable development. The report of the World Commission on Environment and Development, *Our Common Future*,⁷ from 1987 defines sustainable development as

“development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”⁸

The concept itself has its origin in an idea that was promoting change away from unsustainable exploitation methods of natural resources that were occurring in past production processes for economic gain.⁹ However, sustainability has been a legal term with a defined content, and furthermore used in legislation, long before the modern debates regarding sustainable development in the 1980s.¹⁰ As an example, nineteenth century scholars in forest management commonly considered that “sustaining life as a whole”

⁶ Bosselmann, Klaus., *The principle of sustainability: transforming law and governance*, 2008, p. 23

⁷ Hereafter the Brundtland Report. Available at <http://www.un-documents.net/wced-ocf.htm>

⁸ Brundtland Report, Chapter 2:1. Chapter 2: *Towards Sustainable Development* available at <http://www.un-documents.net/ocf-02.htm>

⁹ Schwarz, Priscilla, *Sustainable Development in International Law*, Non-State Actors and International Law, 2005, pp. 127-152, p. 128. Available at *HeinOnline*

¹⁰ Bosselmann, p. 11-16

was a vital aspect for the continuance of human life. The theory of sustainable management was furthermore popular among other disciplines, such as economy and development.¹¹

In recent times, the notions of sustainability and development have received international attention due to an increasing awareness of pressing environmental concerns. The 1972 UN Conference on the Human Environment, resulting in the Stockholm Declaration,¹² brought light to the responsibility “to protect and improve the environment for present and future generations”¹³, the importance of economic and social development for ensuring the human environment,¹⁴ as well as the safeguard of natural resources, such as water and flora, through careful planning and management.¹⁵ The Stockholm Declaration also reaffirmed the existing sovereign right for states to exploit their own resources.¹⁶ Although not expressly addressing sustainable development as such, the Declaration clearly included the essential components for its creation.

It was however not until the World Commission on Environment and Development published the Brundtland Report, that the term “sustainable development” was introduced to the international community. The Brundtland definition seen above, which Birnie and Boyle refer to as having been characterized in “somewhat Delphic terms”,¹⁷ has been proved hard to define due to its vague and ambiguous character. The notion of sustainable development does however contain two key concepts according to the Report. The first recognizes that development should meet basic human needs and in particular prioritize the needs of the poor, while the second addresses the idea that human activities in form of state of technology and social organization should not ignore environmental limitations.¹⁸ The first can be approached as the social aspect of sustainable development, concerning development problems (or “needs”), and the second as the ecological aspect concerned with sustainability problems (the “environment’s ability”).¹⁹

Sustainable development did not gain its leading status as a concept of international environmental policy until the 1992 UN Conference on Environment and Development at Rio de Janeiro. Among other things, there was hope that the Conference would result in an Earth Charter which would

¹¹ Bosselmann, p. 21

¹² Declaration of the United Nations Conference on the Human Environment (Stockholm), 1972. Available at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=97&ArticleID=1503>

¹³ Stockholm Declaration, Principle 1

¹⁴ Ibid, Principle 8

¹⁵ Ibid, Principle 2

¹⁶ Ibid, Principle 21

¹⁷ Birnie, Patricia W.; Boyle, Alan E., *International law and the environment*, 2nd edition, 2002, p. 41

¹⁸ See the Brundtland Report, Chapter 2:1 and Bosselmann, p. 30

¹⁹ Bosselmann, p. 30 and 31

provide guiding principles for environmental protection and sustainable development. The adoption of Agenda 21 was another aim on the agenda for successfully implementing these principles. This programme of action was intended to bring clarity to the subject of sustainable development by identifying its goals, as well as the means of achieving them.²⁰ Although the Conference did not result in the adoption of an Earth Charter, it did manage to gain support for the adoption of Agenda 21 and the Rio Declaration²¹ by 176 states.²² The Earth Charter was however presented in 2000. Although its creation had not received any direct contribution from states, it had been achieved by the work of some thousand civil society groups,²³ reflecting a great support from these groups towards resolving environmental concerns globally.

Following the Earth Charter was the 2002 ILA New Delhi Declaration²⁴ and the 2002 World Summit on Sustainable Development in Johannesburg, resulting in the Johannesburg Declaration²⁵ and the Johannesburg Plan of Implementation.²⁶ Although the Johannesburg Declaration and the Johannesburg Plan of Implementation did not present a definition of sustainable development, the Declaration did express an interesting notion by referring to our responsibility “to the greater community of life”, and through this, reflecting the view of non-human species having an “intrinsic value as well as an instrumental one”.²⁷ This can be seen as a step, albeit short, outside of the earlier, more anthropocentric view of sustainable development.²⁸ The Johannesburg Declaration further identified the three pillars that are comprised in sustainable development. Article 5 reads that states have a “collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development – economic development, social development and environmental protection – at the local, national, regional and global levels”.²⁹

Since the World Summit on Sustainable Development in 2002, numerous efforts have been seen for endorsing the Earth Charter through international

²⁰ Birnie and Boyle, 2002, p. 41

²¹ Rio Declaration on Environment and Development, 1992. Available at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=78&ArticleID=1163>

²² Birnie and Boyle, 2002, p. 42

²³ Bosselmann, p. 37. To notice in the Earth Charter is the recognition of every form of life as valuable regardless of its worth to human beings, Principle 1. See also Principle 15. Available at <http://www.earthcharterinaction.org/content/pages/Read-the-Charter.html>

²⁴ New Delhi Declaration of the Principles of International Law Relating to Sustainable Development, 2002

²⁵ Johannesburg Declaration on Sustainable Development, 2002. Available at http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/POI_PD.htm

²⁶ Plan of Implementation of the World Summit on Sustainable Development (Johannesburg), 2002. Available at http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf

²⁷ Bosselmann, p. 38. See also the Johannesburg Declaration, Principle 6

²⁸ See the Rio Declaration. Principle 1 reads, “[h]uman beings are at the center of concerns for sustainable development”.

²⁹ Johannesburg Declaration, Principle 5

resolutions. As “the ethics of sustainability” seem to be higher valued today than before, taking into account the Johannesburg documents as well as the increasingly recognized Earth Charter, it should be possible to sufficiently identify the core essence of sustainable development,³⁰ with all its implications.

2.1.1 The elements of sustainable development

Birnie and Boyle illustrate a number of elements of substantive and procedural character contained in sustainable development. These include 1) the integration of environmental protection and economic development; 2) the right to development; 3) sustainable utilization and conservation of natural resources; 4) inter-generational equity; 5) intra-generational equity; and 6) the procedural elements of sustainable development, including Environmental Impact Assessment,³¹ access to information and public participation in decision-makings.³²

The integration of environmental protection and development is expressed in Principle 4 of the Rio Declaration, reading “[i]n order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.”³³ Although it is not the ultimate solution, as of today integration stays the most probable means of ensuring that environmental needs are not outbalanced by competing priorities. Compared to the situation in more developed economies, environmental concerns in developing nations have not played a leading role in development planning throughout history. The “real implications of Principle 4” are therefore more likely to be seen through its effect on developing countries,³⁴ although great effort may in many cases be needed for its implementation.

The right to development in the Rio Declaration is meant to serve as a sort of counteract to Principle 4 by ensuring that developing countries’ need for economic development is not overshadowed by environmental protection.³⁵ One important restriction can however be noted in the requirement that the right to development must be fulfilled in a manner so as to “equitably meet developmental and environmental needs of present and future generations”.³⁶ It is consequently a right that, on a case-to-case basis, will

³⁰ Bosselmann, p. 39f

³¹ Hereafter EIA

³² Birnie, Patricia; Boyle, Alan; Redgwell, Catherine, *International law and the environment*, 3rd edition, 2009, p. 116-123. In the 2nd edition of *International law and the environment*, Birnie and Boyle also included the “polluter pays” principle found in the Rio Declaration, Principle 16, as one of the elements. See Birnie and Boyle, 2002, p. 84-95.

³³ Rio Declaration, Principle 4

³⁴ Birnie et al., 2009, p. 118

³⁵ Ibid, p. 119

³⁶ Ibid, p. 119 and the Rio Declaration, Principle 3

depend on what is considered *equitable*. It is thus not an absolute right, as it will be determined “only in relation to other competing factors”.³⁷

Sustainable use is a concept in itself, notwithstanding being an important part of sustainable development. The concept is however said to only have some normative content where specific international regimes exist, such as for the management of fisheries or water resources.³⁸ Sustainable use in regard to international watercourses will be addressed further below.

It is undeniable that inter-generational equity³⁹ is an inherent part of sustainable development.⁴⁰ The Brundtland Report also emphasizes on the centrality of inter-generational equity by referring to the needs of future generations.⁴¹ The question is rather concerned with its implementation. While some institutions account for the interests of future generations when balancing interests, representing future generations in legal proceedings is another, albeit less developed, possibility.⁴² However, seeing how resources are constantly used for economic development, the challenge remains in determining how to value the environment so that future generations will not be put in a less desirable position than the present one,⁴³ and to ensure that their needs can be met in an equitable manner.

Furthermore, essential policy concerns can be seen in the Brundtland Report and in Agenda 21 through evening out the imbalance in wealth between developed and developing countries, and in giving special attention to the needs of the poor. Intra-generational equity is thus targeting the present inequity between states, such as the one seen within the existing economic system.⁴⁴

The procedural elements of sustainable development are important in a variety of situations, whether concerned with sustainability issues on a national level or global and transboundary environmental law.⁴⁵ These elements will be discussed further below.

In contrast to the elements presented above, Sands notices four reoccurring elements that appear to contain the legal elements of the concept in international agreements:

³⁷ Birnie et al., 2009, p. 119

³⁸ Birnie and Boyle, 2002, p. 88f

³⁹ Fundamental to the idea of inter-generational equity is that each generation is to manage its “natural and cultural heritage” so that following generations are not put in a less favourable position than the previous ones. To conserve options for future needs is also an important aspect of inter-generational equity. See Birnie et al., 2009, p. 119

⁴⁰ Birnie and Boyle, 2002, p. 90

⁴¹ See the Brundtland definition of sustainable development above

⁴² Birnie et al, 2009, p. 121

⁴³ Ibid, p. 122

⁴⁴ Ibid, p. 122

⁴⁵ Ibid, p. 123

1. “the need to preserve natural resources for the benefit of future generations (the principle of intergenerational equity);
2. the aim of exploiting natural resources in a manner which is ‘sustainable’, or ‘prudent’, or ‘rational’, or ‘wise’ or ‘appropriate’ (the principle of sustainable use);
3. the ‘equitable’ use of natural resources, which implies that use by one state must take account of the needs of other states (the principle of equitable use, or intragenerational equity); and
4. the need to ensure that environmental considerations are integrated into economic and other development plans, programmes and projects, and that development needs are taken into account in applying environmental objectives (the principle of integration).”⁴⁶

The fourth element seen above carries a lot of importance and is the most legalistic in many respects, seeing how requirements for environmental information and EIAs are found in its formal application.⁴⁷ All these elements are however closely connected, and frequently applied in combination, which, according to Sands, suggests the lack of a well-established legal definition or status.⁴⁸

2.1.2 The legal status of sustainable development

There have been vast discussions regarding the legal status of the concept of sustainable development. Some advocate it as a legal principle, others consider it a norm, and in some instances it has been viewed as a mere instrument of political will. Of interest here is the leading ICJ case concerning the *Gabčíkovo-Nagymaros Project, Hungary v. Slovakia* (1997),⁴⁹ as well as the Separate Opinion of Vice President Weeramantry.⁵⁰ The case concerned a hydroelectric dam project on the Danube River, diverting 80-90 percent of the flow away from Hungary, which subsequently led to Hungary trying to pull out of the project.⁵¹ The Court took notice of the “need to reconcile economic development with protection of the environment” as “aptly expressed in the concept of sustainable development”, and thus concluded that for the purposes of the case, the parties should “look afresh” at how the environment was being affected by the activities in the river.⁵² While the Court did not go further than referring to sustainable development as a concept, former ICJ Vice-President Weeramantry clearly expressed that

⁴⁶ Sands, Philippe, *Principles of International Environmental Law*, 2003., p. 253

⁴⁷ Ibid, p. 263

⁴⁸ Ibid, p. 254

⁴⁹ *Case concerning the Gabčíkovo-Nagymaros Project, (Hungary/Slovakia)*, 1997 ICJ.

Available at <http://www.icj-cij.org/docket/files/92/7375.pdf>

⁵⁰ Separate Opinion of Vice-President Weeramantry regarding the *Gabčíkovo-Nagymaros case*. Available at <http://www.icj-cij.org/docket/files/92/7383.pdf>

⁵¹ See the *Gabčíkovo-Nagymaros case*

⁵² *Gabčíkovo-Nagymaros case*, paragraph 140, p. 78

he considers it a "principle with normative value" in his Separate Opinion.⁵³ He further argues that the principle of sustainable development is a part of modern international law, not only due to its "inescapable logical necessity", but also because of its "wide and general acceptance by the global community".⁵⁴

According to Sands, the usage of the concept of sustainable development in the ICJ Judgement is an indication that the term sustainable development has a legal function, as well as a procedural/temporal aspect and a substantive aspect. He also states that there can be "little doubt that the concept... has entered the corpus of international customary law", and considers it to be a principle of international environmental law.⁵⁵ Lowe, however, is sceptical to such an approach.⁵⁶ He argues instead that sustainable development, if viewed as "a meta-principle, acting upon other legal rules and principles – a legal concept exercising a kind of interstitial normativity, pushing and pulling the boundaries of true primary norms when they threaten to overlap or conflict with each other", can claim normative status by acting within the process of judicial reasoning.⁵⁷ As a "modifying norm",⁵⁸ it can be used at tribunals, where the application of the concept without doubt will influence the development of the law as it progresses.⁵⁹

In comparison, Bosselmann views sustainable development as having "sufficient normative character" to be classified as a legal principle, by concluding the content of international documents and the *Gabčíkovo-Nagymaros case*. This does however not automatically amount to the conclusion that sustainable development should be considered a part of international customary law as well.⁶⁰ Another view of the concept can be noticed with Birnie and Boyle, who see sustainable development as a concept of no clear legal definition, and concludes that it is unlikely to have any legal obligation. They view it instead as a goal that "can influence the outcome of cases, the interpretation of treaties, and the practice of states and international organizations".⁶¹

It is not unreasonable to think that it is not the concept in itself that renders its normative value ambiguous. Instead, it could simply be due to the complexity of the involved issues,⁶² such as the full scope of competing interests, or unsustainable production methods that are deeply intertwined

⁵³ Separate Opinion of Vice-President Weeramanatry, p. 88

⁵⁴ Ibid, p. 95

⁵⁵ Sands, p. 254f

⁵⁶ Lowe, Vaughan, "Sustainable Development and Unsustainable Arguments", in *International law and sustainable development: past achievements and future challenges*, 2001 (edited by Alan Boyle and David Freestone), p. 23

⁵⁷ Ibid, p. 31

⁵⁸ What Lowe calls modifying norms are legal concepts which "do not depend upon state practice or *opinio juris* for their status" (as primary legal norms do). See Lowe, p. 33

⁵⁹ Lowe, p. 34

⁶⁰ Bosselmann, p. 56f

⁶¹ Birnie and Boyle, 2002, p. 95ff

⁶² Bosselmann, p. 55

with the current economy. As mentioned before, one of the problems lies in the view of the concept being too ambiguous and vague in character. Together with the lack of general practice by states or *opinio juris*, the unclear status regarding sustainable development has led to the questioning of its international legal status.⁶³ Despite the large number of efforts taken towards an acceleration of the concept's entrance into customary law, we may have to wait until the natural development of such practice takes place.

2.2 A basis for achieving sustainable development

The world we live in today has come to attain a high level of complexity, where the full scope of human engagements is, in one way or another, related to the environmental area. Consequently, there are also no possibilities for quick solutions, and no formula to guarantee permanent fixes of the problems facing us now. The range and integrative quality of environmental law are therefore naturally dependent "on how narrowly or broadly" the environment has been legally defined,⁶⁴ internationally, regionally and on the domestic level.

Looking at the definition in the Brundtland Report and its reference to needs, it is obviously impossible to foresee all environmental services that may be necessary for future generations.⁶⁵ It has also been argued that it is not an unrealistic situation that humans may, one day, substitute their natural environment with one that is entirely artificial.⁶⁶ This may indeed turn out to be reality unless we achieve, and are able to maintain, a sustainable development.

There are no ultimate plans or guidelines for achieving sustainable development, nor can there truly be any considering the large variety of environmental settings and environmental degradation, as well as the different needs and abilities of developed states, developing states and economies in transition. The implementation of Agenda 21 could however amount to important progress, especially on the national level. In this regard, there are a number of aspects that should be addressed, some of which are important for the content and analysis of this thesis and will thus be sorted out here.

While the commitment to Agenda 21 is not legally binding in international law, it does express political commitment and offers a baseline for establishing whether a specific government has taken sufficient measures

⁶³ Ibid, p. 56f

⁶⁴ Ibid, p. 23

⁶⁵ Basic needs and preconditions such as accessible water, clean air, fertile soils and biological diversity will certainly be considered vital in the future as well. See Bosselmann, p. 32

⁶⁶ Bosselmann, p. 32

towards sustainable development.⁶⁷ The responsibility of a successful implementation of Agenda 21 lies first and foremost on governments.⁶⁸ Several changes have also been noticed for the sake of enabling a “more systematic consideration of the environment when decisions are made on economic, social, fiscal, energy, agricultural, transportation, trade and other policies”,⁶⁹ and “good governance” has become a reoccurring term in development literature. The following are some key elements for achieving sustainable development.

Adapting to National Circumstances

Agenda 21 points out that there are “different situations, capacities and priorities” among the countries that carry out the programme,⁷⁰ as well as clear differences in their “cultures, histories, economic systems and natural environments” consequently leading to a variety of “natural, human and human-made capital” in need of protection and improvement.⁷¹ These are factors that must be dealt with nationally, and in some cases regionally, when considering the ways to become a sustainable society. The value of employing an adoptive approach of the concept and its implementation is therefore reflected in the wide range of settings in which sustainable development can be used.⁷²

Effective Legal Framework

One necessity for achieving sustainable development can be found in an effective legal framework.⁷³ In many states, there are in fact incentives in laws and policies that may encourage or support activities of unsustainable character. Until these kinds of laws and policies, especially seen as tax incentives and subsidies, are modified or repealed, the achievement of sustainable development is not possible. Governments must therefore recognize their own shortcomings in promoting sustainable development before the first steps towards an effective legal framework can be taken.⁷⁴ In particularly developing countries however, these sorts of instruments might be attractive tools for encouraging initiatives for economic development. As stated in Principle 10 in the Rio Declaration, environmental issues should further be dealt with at the relevant level, with participation of all concerned citizens.⁷⁵ This may include the delegation of planning and management responsibilities to what is seen as “the lowest level of public authority”.⁷⁶ What sort of responsibilities is not mentioned in Agenda 21, but may be best

⁶⁷ Dembach, John C., *Sustainable Development as a Framework for National Governance*, Case Western Reserve Law Review, 1998, pp. 1-104, p. 22. Available at *HeinOnline*

⁶⁸ Agenda 21, Chapter 1:3

⁶⁹ *Ibid*, Chapter 8:2

⁷⁰ *Ibid*, Chapter 1:6

⁷¹ Dembach, John C., 1998, p. 82

⁷² *Ibid*, p. 83

⁷³ *Ibid*, p. 63

⁷⁴ *Ibid*, p. 67

⁷⁵ Rio Declaration, Principle 10

⁷⁶ Agenda 21, Chapter 8:5(g)

determined on a case-to-case basis depending on the situation at hand and the character of the issues involved.⁷⁷

Targets and Timetables

Specific targets and timetables are needed in order to achieve sustainable development, since, without specific timetables; targets are simply “aspirational statements of goals”. Dernbach recognizes six valuable tasks that could be accomplished by establishing effective targets and timetables: 1) “identifying priorities”; 2) “clarifying objectives of decision makers”; 3) “demonstrating commitment to sustainable development and thus giving it greater credibility”; 4) “giving operational meaning to sustainable development”; 5) “clarifying the role of law”; and 6) “for difficult long-term objectives, providing benchmarks of progress through short-term or interim goals”.⁷⁸ Clear objectives may for example help when there is a need to bring focus on concerns that otherwise might be “polarized by competing ideological views”,⁷⁹ and as the transition towards sustainability has been deemed achievable by 2050, it is likely that the road there will be filled with a number of environmental, financial, social and political challenges. Interim, or short-term, goals are a way to make a larger problem doable by dividing it into smaller pieces, and may thus be a way to counter difficulties regarding the desired long-term objectives.⁸⁰

Public Participation

One of the fundamental prerequisites for the achievement of sustainable development is a broader range of public participation in decision-making. Public awareness and information exchange are other important aspects that have to be promoted for the sake of its achievement.⁸¹ Broad public awareness should also be encouraged to constitute an essential part of global education efforts that strengthen attitudes, values and actions towards sustainable development.⁸² Information systems and services should be reviewed and strengthened at the local, provincial, national and international levels, and special emphasis should be given the transformation of current information into forms that are more suited for decision-making, as well as the transformation of scientific and socio-economic assessments into information that is appropriate for planning and public information.⁸³ In fact, a poor access to information regarding possible benefits in the natural environment, is, for instance, a main reason why watersheds are not well

⁷⁷ As noted by Dernbach, problems such as water pollution are most likely to be addressed on both a local and national level. See Dernbach, John C., 1998, p. 39

⁷⁸ Dernbach, John C., *Targets, Timetables, and Effective Implementing Mechanisms: Necessary Building Blocks for Sustainable Development*, Sustainable Development Law & Policy, 2005, pp. 46-50, p. 46. Available at *HeinOnline*

⁷⁹ *Ibid*, p. 48

⁸⁰ *Ibid*, p. 49

⁸¹ See Agenda 21, Chapter 8:3, 11 and 17

⁸² Agenda 21, Chapter 36:9

⁸³ *Ibid*, Chapter 40:22

protected.⁸⁴ In this context, the performance of effective EIAs is a vital step for accessing such information.

Need for Cooperation

The need for cooperation is mentioned throughout Agenda 21, and is an important element for achieving sustainable development.⁸⁵ For instance, cooperation is vital between the technological and scientific community and decision makers, for promoting regional cooperative mechanisms for regional needs,⁸⁶ as well as for eradicating poverty,⁸⁷ and for promoting economic growth among developing countries.⁸⁸ Moreover, regional cooperation might be one of the most essential aspects of sustainable development when concerned with natural resources of transnational character, and should be endorsed on international, regional and national levels for an effective structure.

Financial Issues

There exist a number of difficulties concerning the financing of sustainable development efforts in developing countries. Most of these countries not only lack the financial means to successfully achieve sustainable development, they are also in heavy debt. Agenda 21 recommends that “the development of global, regional and subregional programmes should include identification and evaluation of regional, subregional and national need-based priorities. Plans and studies supporting these programmes should provide the basis for potential financing by multilateral development banks, bilateral organizations, private sector interests and NGOs”.⁸⁹ Other types of support should also be granted developing countries, with one example seen regarding consumption patterns. Achieving sustainable consumption patterns (covering the basic needs of the poor, and avoiding hazardous, inefficient and wasteful behaviours) may require “enhanced technological and other assistance from industrialized countries”.⁹⁰

Adapting Over Time

A necessity in the transition towards a sustainable society, that will also continue after the transition, is the need to stay updated with the latest information and changed circumstances, and to adapt to these new aspects through laws and policies. Further, as long as technology, human activities and natural systems evolve, so will also the required actions for

⁸⁴ Dernbach, John C., 1998, p. 74

⁸⁵ The need for cooperation is also viewed in the Rio Declaration. Principle 27, for example, reads “[s]tates and people shall cooperate in good faith and in spirit of partnership in the fulfillment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.”

⁸⁶ Agenda 21, Chapter 31: 3 and 4(b)

⁸⁷ Ibid, Chapter 3:10(b)

⁸⁸ Ibid, Chapter 2:40

⁸⁹ Ibid, Chapter 34:24

⁹⁰ Ibid, Chapter 4:8

sustainability need to change and develop.⁹¹ Sustainable development can thus not be seen as a static concept, but rather a means of continuing our own (and hopefully, other living non-human species') long-term existence through sustainable use and management of the environment. As our knowledge of technology and science increases, our attitude and approach towards a sustainable environmental situation can improve.

Genuine Commitment

The last key element mentioned here is a sense of genuine commitment towards achieving sustainable development. Environmental resources are in many respects scarce commodities, which inevitably may result in countries, classes, communities and individuals struggling for their possession.⁹² Factors that often weaken the efficacy of law, such as corruption, can be found in the legal administration in a number of developing countries,⁹³ and consequently hinder the possibilities to carry out effective sustainable development policies. One vital requirement for achieving sustainable development is therefore to recognize resources as a common responsibility through genuine commitment towards sustainability projects. Without such a commitment, sustainable development may be considered a less prioritized issue and necessary efforts may be postponed, carried out insufficiently or, in the worst case, not at all.

2.3 Water resources, watercourse law and sustainable development

When addressing considerations of sustainable development within the own territory, the use of water is not in itself different from any other type of natural resources use that occur within the states borders.⁹⁴ As expressed in the Stockholm Declaration, Principle 21, and re-affirmed in the Rio Declaration, Principle 2, states have "the sovereign right to exploit their own resources" in accordance with the state's own environmental and developmental policies.⁹⁵ However, water resources that are confined to international watercourses need special consideration due to their transboundary character. What happens in one state may consequently also have great impacts on another.

A variety of UN organizations chose to not give attention to any deeper considerations regarding the management of transboundary rivers during the

⁹¹ Dembach, John C., 1998, p. 71

⁹² England, Philippa, *Problems and Prospects for the Implementation of Sustainable Development in Developing Countries: A Critique of the Brundtland Report*, Griffith Law Review, 1993, pp. 147-160, p. 156. Available at *HeinOnline*

⁹³ *Ibid*, p. 150f

⁹⁴ Birnie and Boyle, 2002, p. 316

⁹⁵ Both Principles do however contain limitations concerning transboundary effects that cause *damage* to other states or areas outside of national jurisdiction. See the Rio Declaration, Principle 2 and the Stockholm Declaration, Principle 21

1970s and 1980s. This was the result of a number of nations expressing great opposition to discussions on the management of shared resources because of “perceived national self-interests”.⁹⁶ Although a few important riparian states seem to align with this approach today as well, progress was made in 1997 when the UN General Assembly approved the ILC resolution on the non-navigational uses of international watercourses, and thus adopted the Convention on the Law of the Non-Navigational Uses of International Watercourses.⁹⁷ Although some 106 countries voted in favour of the Convention,⁹⁸ it is not yet in force, counting only 18 contracting states so far.⁹⁹ Although Cambodia, Lao People’s Democratic Republic,¹⁰⁰ Thailand and Vietnam were among those who voted in favour of its approval, none of them has signed it.¹⁰¹ It should also be noted that the countries voting against the Convention, namely China, Turkey and Burundi, referred to the Harmon Doctrine of absolute territorial sovereignty.¹⁰² Instead, a number of rivers are governed by bilateral or regional agreements, such as the 1999 Rhine Convention and 1994 Danube Convention,¹⁰³ Amazonian Cooperation Treaty,¹⁰⁴ and the Mekong Agreement from 1995¹⁰⁵.

The UN Watercourses Convention encompasses a number of principles that reflect customary international law, and can be considered “the most comprehensive and important codification of international watercourse law” thus far.¹⁰⁶ The three main principles are equitable and reasonable utilization,¹⁰⁷ the prevention of significant harm,¹⁰⁸ and prior notification to other watercourse states.¹⁰⁹ The UN Watercourses Convention’s procedural obligations include cooperation¹¹⁰ prior notification, consultation and data

⁹⁶ Biswas, Asit K., Chapter 1: “Management of Transboundary Waters: An Overview”, in *Management of Transboundary Rivers and Lakes*, 2008 (edited by Olli Varis et al.), p. 8. Available at [SpringerLink](#)

⁹⁷ Hereafter the UN Watercourses Convention

⁹⁸ WWF, *UN Watercourses Convention Voting Records*. Available at http://assets.panda.org/downloads/un_watercourses_convention_voting_records.pdf

⁹⁹ WWF, *Status of Ratification: United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention)*, 2009. Available at http://assets.panda.org/downloads/un_convention_ratif_status.pdf

¹⁰⁰ Hereafter Lao PDR

¹⁰¹ WWF, *UN Watercourses Convention Voting Records*

¹⁰² Bearden, Bennett L., *The legal regime of the Mekong River: a look back and some proposals for the way ahead*, Water Policy, Uncorrected Proof (2009), pp. 1-24, p. 10. Available at <http://www.iwaponline.com/wp/up/pdf/wp2009060.pdf>

¹⁰³ The Convention on the Protection of the Rhine, 1999 and the Convention on Co-operation for the Protection and Sustainable Use of the Danube, 1994. Negotiated under the 1992 UNECE Watercourses Convention, for European watercourses. See Birnie and Boyle, 2002, p. 300

¹⁰⁴ Treaty for Amazonian Cooperation, 1978

¹⁰⁵ The Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 1995

¹⁰⁶ Bearden, p. 8

¹⁰⁷ UN Watercourses Convention, Article 5. Available at http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf

¹⁰⁸ Ibid, Article 7

¹⁰⁹ Ibid, Article 12

¹¹⁰ Ibid, Article 8

exchange (such as EIA).¹¹¹ Dispute settlements should be carried out with focus on fact-finding and negotiations, in accordance with Article 33.¹¹²

In general, Agenda 21 states that freshwater resources are to be protected to satisfy “the needs of all countries for their sustainable development”.¹¹³ It further links the protection of water quality, water quantity and aquatic ecosystems with protective measures for other objectives, such as the supply of drinking water and food production. Agenda 21 also requires necessary information and technology developments by governments and an improved scientific understanding of natural systems, including what effects humans lay on those systems, for a full protection of the environment.¹¹⁴

In addition to being an essential part of sustainable development and its realization, there is sufficient proof in international and regional law to conclude that sustainable utilization is, at a minimum, an “evolving element” of international watercourse law.¹¹⁵ According to the UN Watercourses Convention, no use of an international watercourse enjoys priority over another use, although special regard has been given to vital human needs.¹¹⁶ The assurance of adequate water for drinking, sanitation and nutrition is crucial as these uses are likely to fall within the category of vital human needs, while a conflicting use can be viewed as neither sustainable nor equitable if it consequently hinders the fulfilment of these needs.¹¹⁷

For an effective management of the environment, the present generation should be regarded as a trustee of natural resources, instead of the sole owner. With an approach of ownership, future generations may suffer from negative impacts, as the ownership approach may not always align with a sustainable management of the environment.¹¹⁸ According to Benvenisti, regulation that covers the usage of the entire resource is *mandatory* when concerned with shared resources, simply in order to attain a state of effective and sustainable use of the resource in question.¹¹⁹ If this is the case, then regional cooperation and agreements that are binding for all riparians should be essential elements for managing an international river. However, as we will see, this is not always possible. Instead, as further noted by Benvenisti, “state sovereignty – as it is understood today – entails the authority of states to use resources under their sole ownership at their discretion, even inefficiently”.¹²⁰

¹¹¹ Ibid, Article 11 and 12

¹¹² Bearden, p. 9

¹¹³ Agenda 21, Chapter 18:7

¹¹⁴ Dernbach, John C., 1998, p. 27. See further Agenda 21, Chapter 18

¹¹⁵ Birnie and Boyle, 2002, p. 318

¹¹⁶ UN Watercourses Convention, Article 10

¹¹⁷ Birnie and Boyle, 2002, p. 318f

¹¹⁸ Benvenisti, Eyal, *Sharing transboundary resources: international law and optimal resource use*, 2002, p. 117

¹¹⁹ Ibid, p. 29

¹²⁰ Ibid, p. 204

As seen above, sustainable development is not a principle that applies solely in cases of transboundary effects on other watercourses states, but is rather “a principle of general or universal application”.¹²¹ Although it is highly applicable in cases of transboundary effects, it should work as an integrated part in all areas that are affected by international watercourses.

Regional Agreements

A watercourse treaty is generally considered to “govern [only] what it governs”. If it, for instance, does not require the performance of EIAs, or the monitoring of (future) projects, there should be no reason why the general law regarding these subjects cannot be used, with the exception of the treaty actually excluding it. Although this may be the case, issues remain in resolving the exact relationship between this kind of treaty and general law,¹²² and the relationship is further not unlikely to differ depending on what field the treaty left ungoverned.

Article 3 in the UN Watercourses Convention, states that nothing in the Convention will affect agreements that are already in force, but adds, that parties to existing agreements “may, where necessary, consider harmonizing such agreements with the basic principles” found in the Convention.¹²³ Moreover, there is no recognition of a “need for flexibility and sensitivity” to changes outside the scope of those agreements. The Convention does further not comment on issues regarding the subsequent modification of water-related agreements, which suggests a possibility to apply the general doctrine of *rebus sic stantibus*.¹²⁴

However, the ICJ did put emphasis on the nature of watercourse-related agreements as being subjects to continuous change and development, and further stressed on the need to stay aware of new scientific insights.¹²⁵ The Court noted in the *Gabčíkovo-Nagymaros Case* that “[t]he awareness of the vulnerability of the environment and the recognition that environmental risks have to be assessed on a continuous basis have become much stronger in the years since the Treaty’s conclusion.”¹²⁶

The 1995 Mekong Agreement

For the Mekong River, the main treaty regarding sustainable development is most likely the 1995 Mekong Agreement.¹²⁷ The Agreement was the first

¹²¹ Birnie and Boyle, 2002, p. 316

¹²² Ibid, p. 317

¹²³ UN Watercourses Convention, Article 3(1) and (2)

¹²⁴ Benvenisti, p. 189

¹²⁵ Ibid, p. 189f

¹²⁶ *Gabčíkovo-Nagymaros case*, para. 112, p.68 and Benvenisti, p. 190

¹²⁷ To notice is also the Agreement on the Conservation of Nature and Natural Resources, 1985 (ASEAN). Article 2(1) calls for states to ensure that “conservation and management of natural resources are treated as an integral part of development planning at all stages and at all levels” within the national legal framework. The treaty does reflect the idea of integration, but does not include a sustainability approach. See Bosselmann, p. 27.

transboundary watercourse agreement that adopted the concept of sustainable development.¹²⁸ Although the 1995 Mekong Agreement was presented two years prior to the UN Watercourses Convention, they do contain similarities as the Mekong Agreement was based on the ILC draft articles, while the UN Watercourses Convention was influenced by them.¹²⁹

The 1995 Mekong Agreement is a treaty between the states of the LMRB, namely Lao PDR, Vietnam, Cambodia and Thailand, and is meant to govern the framework on cooperation for sustainable development in the Mekong River Basin. Article 1 states the area of cooperation,

“To cooperate in all fields of sustainable development, utilization, management, and conservation of the water and related resources of the Mekong River Basin including, but not limited to irrigation, hydro-power, navigation, flood control, fisheries... in a manner to optimize the multiple-use and mutual benefits of all riparians and to minimize the harmful effects that might result from natural occurrences and man-made activities.”¹³⁰

Through the treaty the parties agree to protect “the environment, natural resources, aquatic life and conditions, and ecological balance” of the Basin from any potential harmful effects that may result from development plans or water uses,¹³¹ by cooperating on the basis of sovereign equality and territorial integrity.¹³² Parties are to make efforts of prevention and cessation of harmful effects,¹³³ and where substantial damage has already occurred, states will be held responsible in accordance with international law.¹³⁴ However, despite being a fully binding treaty in all respects, some view the 1995 Mekong Agreement’s framework as mainly an “agreement to agree” and consider it largely hortatory in character.¹³⁵

The concept of sustainable development is the core essence of the Agreement, although its precise contours are somewhat undetermined. A “sustainable water development” has however been suggested a definition where it is “a balance reached between the maintenance of the adequate quantity and the preservation of good quality of water”. Five elements of a sustainable water development have further been identified, through which the Mekong regime may be viewed: 1) “the right to use water”, 2) “the protection of water and prevention of water degradation”, 3) “the maintenance and conservation of water flow”, 4) “ecosystem related

Agreement available at

<http://environment.asean.org/index.php?page=agreements:conservation>

¹²⁸ Bearden, p. 6

¹²⁹ Ibid, p. 8

¹³⁰ 1995 Mekong Agreement, Article 1. Available at

http://www.mrcmekong.org/agreement_95/agreement_95.htm

¹³¹ Ibid, Article 3

¹³² Ibid, Article 4

¹³³ Ibid, Article 7

¹³⁴ Ibid, Article 8

¹³⁵ Bearden, p. 10

approach”, and 5) “the procedural elements to achieve sustainable water development: EIA, stakeholder participation and access to information”.¹³⁶ These elements are in themselves a good basis for analysing sustainability and development in regard to transboundary water resources.

2.4 Conclusion

For the purpose of this thesis, and with its basis in the presented material, the term sustainable development in regard to water resources in the Mekong River will hereafter be considered “a state of balance where the right to development and the right to use water resources are met without compromising the maintenance of an adequate water quantity, the preservation of a good water quality and the protection of the environment”. Although rather general, this should be a sufficient basis for ensuring sustainable usage, inter-generational equity, intra-generational equity and the integration of environmental protection and development. Procedural elements are important, mainly due to the need to ensure that effective and required efforts are being made for its realization and maintenance, and for monitoring the entire process of its achievement.

¹³⁶ Ibid, p. 11. Bearden on Bantita Pichyakorn.

3 The Mekong River Basin:¹³⁷ regional aspects and water resources

Ancient communities, as well as modern ones, have found themselves relying on rivers for sustaining livelihood and trade, as well as for ecological functions that are provided by the mainstream and its tributaries. It is therefore not beyond reason that river basins in general are renowned as the “cradles of civilization”, and that they are often well-known for their cultural heritage.¹³⁸ In the same way, the countries of the Mekong River Basin are all dependent on the Mekong River in a variety of areas, ranging from satisfying agricultural needs and sustaining fish populations, to hydropower projects and water supply. It is therefore important to take notice of the main activities in the Basin, as well as unique regional aspects that may influence the view on sustainable development.

3.1 The Mekong River

With an age of approximately 10,000 years,¹³⁹ the Mekong River is only second to the Amazon River Basin in terms of greater diversity of plants and animals.¹⁴⁰ The river begins its journey from an altitude of over 5,000 metres on the Tibetan Plateau, running through the Mekong Basin, 4,800 kilometres of length, until it reaches the South China Sea.¹⁴¹ The average discharge amounts to 15,000 cubic metres per second, leading to about 475,000 million cubic metres of water that annually empties into the South China Sea.¹⁴² The River Basin covers an area of 795 000 square kilometres in total, including parts of China, Myanmar, Lao PDR, Thailand, Cambodia and Vietnam.¹⁴³ The average population density is 71 persons per square kilometre in the Mekong region.¹⁴⁴ However, as the Mekong Delta has more

¹³⁷ See Supplement A for a map of the Mekong River Basin

¹³⁸ World Commission on Dams, *Dams and development: A New Framework for Decision-Making*, 2000, p. 8. Hereafter the WCD Report, 2000. Available at http://www.unep.org/dams/WCD/report/WCD_DAMS%20report.pdf

¹³⁹ Rix, Adam, S., *The Mekong River Basin: A Resource at the Cross-Roads of Sustainable Development*, Temple Environmental Law & Technology Journal, 2002-2003, pp. 103-130, p. 104, Available at *HeinOnline*

¹⁴⁰ International Rivers, *Mekong Mainstream Dams: Threatening Southeast Asia's Food Security*, 2009, p. 2

¹⁴¹ Le-Huu, Ti; Nguyen-Duc, Lien, *Mekong Case Study*, UNESCO-IHP, 2003, p. 1. Available at <http://unesdoc.unesco.org/images/0013/001332/133290e.pdf>

¹⁴² Ibid, p. 1 and 2

¹⁴³ Rix, p. 104

¹⁴⁴ World Resources Institute, *Watersheds of the World*, 2005, pp. 1-6, p. 1. Available at http://earthtrends.wri.org/pdf_library/data_tables/wat3_2005.pdf

than 17 million residents living in its area, the Delta holds an approximate population density of 260 persons per square kilometre.¹⁴⁵

The seasonal changes have great effect on the amount of water flowing through the Mekong mainstream and its tributaries. The wet season is characterized by a massive quantity of additional water in the river, which annually may lead to serious flooding and considerable damage in the fertile flood plains of the Mekong River Delta, along the mainstream and in the major tributaries. The dry season, on the other hand, may result in drought due to a severe reduction in the river's flow. Leading not only to a noticeable lack of water for domestic and agricultural use, as well as limitations in the navigable depth in the mainstream, water shortage in the river may also result in an increasing amount of salt water invading the delta.¹⁴⁶

The different hydrological and geographic features of the Mekong region become clear when looking at the river's bio-geographic zones. Seven major zones can especially be noted, crosscutting riparian territory: Upper Mekong, Northern Highlands, Eastern Highlands, Korat Plateau/Bolovens Plateau, Lowlands, Southern Uplands and the Delta.¹⁴⁷

China and Myanmar

Although the Basin only covers 2% of Chinese territory, this number represents 23% of the Basin's total area. Myanmar accounts for a total of 3%, or 24,000 square kilometres, of the Mekong Basin.¹⁴⁸ The Upper Mekong zone is exclusively confined in Chinese territory, where the lower section of the zone depends on the river for agriculture. The Chinese portion of the Mekong River¹⁴⁹ is also subject to a number of planned hydroelectric projects, in addition to already existing dams, causing a rise of concern among environmentalists.¹⁵⁰ Myanmar is part of the Northern Highlands, which is distinguished by rugged terrain. The land offers financial opportunity to local populations through forestry and agriculture, where the most well-known and profitable crop is opium.¹⁵¹

3.2 The Lower Mekong River Basin

With a catchment area larger than 600,000 square kilometres, the LMRB includes nearly all of Cambodia and Lao PDR, one third of Thailand and one fifth of Vietnam. Approximately 60 million people reside in the LMRB

¹⁴⁵ Rix., p. 117

¹⁴⁶ Le-Huu and Nguyen-Duc, p. 2 and 3

¹⁴⁷ Rix, p. 105

¹⁴⁸ Ibid, p. 105

¹⁴⁹ Known as the Lancang River in China

¹⁵⁰ Rix, p. 106

¹⁵¹ Ibid, p. 108

area, accounting for more than 40% of the total population of these nations.¹⁵²

3.2.1 Vietnam

Vietnam covers 94,000 square kilometres, or 29%, of the Basin.¹⁵³ The Mekong Delta, shaped as an enormous triangle, is the last bio-geographic zone that the mainstream flows through in the Basin. As the river crosses into Vietnam, it splits in a number of stages into several smaller watercourses, flowing into the sea.¹⁵⁴ The entire Delta is rich in agriculture, often called “Vietnam’s rice bowl” as it produces around 16 million tons¹⁵⁵ of rice annually, for both domestic use and export. The rice production carries up to 90% of the Vietnamese rice export volume.¹⁵⁶ In addition, the Delta has become increasingly productive for aquaculture projects, such as shrimp and prawn farming.¹⁵⁷

The degree of salt intrusion in the Delta is considerably affected by tidal influences, most notable during the dry season when the river discharge is usually about 2,000 cubic metres per second.¹⁵⁸ Tidal waves and wind patterns can further contribute to damaging amounts of saltwater as far as 70 kilometres upstream.¹⁵⁹ In general, an area of about 2,1 million ha is affected by salt water during the dry season.¹⁶⁰

3.2.2 Thailand

The Basin covers 183,000 square kilometres of Thailand and shares 900 kilometres of the mainstream river with Lao PDR,¹⁶¹ where it acts as the international boundary between the two countries. A part of the Eastern Highland can be found in the eastern Thai territory.¹⁶² On both sides of the Mekong mainstream, in eastern Thailand as well as in central Lao PDR, a number of agricultural activities are carried out by using the river. Most cultivation takes place in riverbank vegetable plots that are created by riparian residents during the dry season, but there are also fields of wet rice spread out along the Thai shoreline and inland.¹⁶³

¹⁵² Le-Huu and Nguyen-Duc, p. 2

¹⁵³ Rix, p. 105

¹⁵⁴ Ibid, p. 116f

¹⁵⁵ International Rivers, *A Dam Rush on the Mekong?*, World Rivers Review, June 2007, Available at <http://www.internationalrivers.org/files/WRR%20Mekong%20Map.pdf>

¹⁵⁶ Rix, p. 117

¹⁵⁷ Ibid, p. 117

¹⁵⁸ Le-Huu and Nguyen-Duc, p. 3

¹⁵⁹ Rix, p. 118

¹⁶⁰ Le-Huu and Nguyen-Duc, p. 3

¹⁶¹ Rix, p. 105

¹⁶² Ibid, p. 110

¹⁶³ Ibid, p. 111

The Korat Plateau/Bolovens Plateau zone also covers territory in eastern Thailand. The Thai part of the zone is favourable to agriculture of wet rice, although woodlands spot the landscape as well. The area is densely populated as a number of Thailand's population centres are located in the region, and it is further where the largest Mekong tributary, the Mun River, is located.¹⁶⁴ Thailand's growing electricity demands led to plans to construct a thirteen dam cascade along the Chi and Mun rivers,¹⁶⁵ contributing to what seems to be a dam rush on the Mekong River.¹⁶⁶

3.2.3 Cambodia

Having 181,035 square kilometres, or 86%, of the total land area inside the Mekong Basin, Cambodia is the state with the largest percentage of its territorial area within the Basin out of all six riparians.¹⁶⁷ The greater part of the Lowlands zone covers the northern half of Cambodia, while the rest encompasses a smaller section of Thailand and Lao PDR. Resources of greater importance in this area are the Khone Falls, and the "Great Lake": the Tonle Sap.¹⁶⁸

The Khone Falls are comprised of a chain of connected cataracts and falls, located on the border between Cambodia and Lao PDR. The Khone Falls provide for a rich aquatic biodiversity and constitute the breeding ground for a variety of fishes, such as catfish, carp and needlefish.¹⁶⁹ The Tonle Sap has a key function in regulating water flow in the Mekong Basin. During the rainy season, rivers go from 2 metres in May to 8 metres high in August, flooding one third of Cambodian territory and subsequently affecting the flows of the Tonle Sap. The lake's waters provide for perfect spawning conditions for aquatic species, as well as for activities for sustainable cultivation, due to its ebb and flow. In addition, for a great part of Cambodia's citizens, the daily intake of protein can be directly traced to the lake's annual fish catch.¹⁷⁰

Also covering parts of Cambodia is the smaller Southern Uplands zone, which is the area that for example Tonle Sap tributaries originate from. The Southeastern territory of Cambodia is also part of the Mekong Delta, where the Mekong River encounters a number of islands as it flows through the Cambodian swamplands before entering Vietnamese territory.¹⁷¹

¹⁶⁴ Ibid, p. 112 and 113

¹⁶⁵ Ibid, p. 113

¹⁶⁶ See the map in International Rivers' "*A Dam Rush on the Mekong?*" (n 155) for the location of the dams.

¹⁶⁷ Rix, p. 105

¹⁶⁸ Ibid, p. 114 and 115

¹⁶⁹ Ibid, p. 114f

¹⁷⁰ Ibid, p. 115

¹⁷¹ Ibid, p. 116

3.2.4 Lao PDR

In total, 85% of Lao PDR's 236,800 square kilometres of territorial area is located within the Mekong Basin,¹⁷² an area that includes part of the Northern Highlands zone. The Northern Highlands zone begins north of the shared boarder between China, Myanmar and Lao PDR, and reaches until the Laotian capital of Vientiane.¹⁷³ More than half of Lao PDR is covered with woodlands of hardwood and pine, where most of these forests can be found in the hilly regions of the Upper Highlands.¹⁷⁴

Since the 1970s, and the construction of the Nam Ngum dam, there have been indications of declining woodlands in Lao PDR. Besides commercial logging, dam construction has done its share in decreasing wooded areas on the Laotian territory. The importance of trees can be noted during the dry season, where they serve as valuable water sources. At the same time, the Nam Ngum dam has made large financial contributions to the Laotian economy through export of hydropower to Thailand.¹⁷⁵

The central part of Lao PDR constitutes a section of the Eastern Highlands. This zone is the source of two-fifths of the Mekong Basin's water, where large quantities of rainwater and a number of tributaries contribute to the water supply. The Laotian part of the Eastern Highlands consists of a rugged terrain with several mountains reaching over 1,500 metres in height. It is in this zone that Nam Theun Hinboun hydropower dam operates. Within a couple of years of the completion of its construction, the dam stood for two-thirds of Lao PDR's energy exports.¹⁷⁶

Also the Korat Plateau/Bolovens Plateau zone is found within Laotian territory, covering area in the south. The mainstream runs exclusively through Lao PDR downstream of the meeting of the Mun and Mekong Rivers. Compared to the Thai side, rainfall is considerably higher in the Laotian area of the zone.¹⁷⁷

¹⁷² Ibid, p. 105

¹⁷³ Ibid, p. 107f

¹⁷⁴ Ibid, p. 108f

¹⁷⁵ Ibid, p. 109

¹⁷⁶ Ibid, p. 110f

¹⁷⁷ Ibid, p. 112f

3.3 Regional cooperation and Japanese aid

3.3.1 The Mekong River Commission

The Mekong River Commission¹⁷⁸ was created in 1995, when Thailand, Cambodia, Lao PDR and Vietnam signed the 1995 Mekong Agreement. The Commission can be seen as “a supranational organization designed to oversee the sustainable development of the Mekong River”,¹⁷⁹ with the authority of entering into agreements and obligations with donors or the international community.¹⁸⁰ However, failing to see the benefits, neither China nor Myanmar considered it worthwhile to join the Mekong River Commission¹⁸¹ and thus chose to not become parties to the Agreement.¹⁸² Although they now hold positions as dialogue partners,¹⁸³ there also exists a possibility for non-member riparians to become parties to the 1995 Mekong Agreement, in accordance with the provisions set out in Article 39.¹⁸⁴

The MRC consists of three permanent bodies: the Council, the Joint Committee, and the Secretariat.¹⁸⁵ While the Council, through unanimous vote, is in charge of making policies and decisions that are intended for the sustainable implementation of the Agreement, the Joint Committee, through unanimous vote, is meant to implement the Council’s guidelines, to formulate a basin development plan and to collect data. The supervision of the Secretariat and settlement of disputes between member parties are also responsibilities of the Joint Committee. The Council handles such disputes as well. Lastly, the Secretariat is the provider of technical and administrative support to the other two bodies. It also formulates the annual work program and prepares for other required activities and documents.¹⁸⁶

¹⁷⁸ Earlier attempts for regional cooperation can be seen in the Mekong Committee and its successor, the Interim Mekong Committee.

¹⁷⁹ Freeman, Joshua D., *Taming the Mekong: The Possibilities and Pitfalls of a Mekong Basin Joint Energy Development Agreement*, Asian-Pacific Law & Policy Journal, 2008-2009, pp. 453-481, p. 454. Available at *HeinOnline*

¹⁸⁰ 1995 Mekong Agreement, Article 11

¹⁸¹ Hereafter MRC

¹⁸² Freeman, p. 454

¹⁸³ Mekong River Commission, *Dialogue Partners & Observers*. Available at http://www.mrcmekong.org/di_partners_observers.htm

¹⁸⁴ See the 1995 Mekong Agreement. Article 39 reads “Any other riparian State, accepting the rights and obligations under this Agreement, may become a party with the consent of the parties.”

¹⁸⁵ 1995 Mekong Agreement, Article 12

¹⁸⁶ Rix, p. 125. See further the 1995 Mekong Agreement, Article 18 for the functions of the Council, Article 24 for the functions of the Joint Committee and Article 30 for the functions of the Secretariat.

3.3.2 The Association of Southeast Asian Nations

In regard to the Mekong region, the Association of Southeast Asian Nations¹⁸⁷ has created a basic framework for the ASEAN-Mekong Basin Development Cooperation. The objectives of the cooperation include, for instance, the enhancement of “economically sound and sustainable development of the Mekong Basin”.¹⁸⁸ ASEAN states are further to be governed by a set of principles for the cooperation, where it, for example, “utilises resources fully and ensures stable and sustainable development leading to improved management of natural resources and protection of the environment”,¹⁸⁹ as well as “complements cooperation initiatives currently undertaken by the Mekong River Commission, donor countries and other multilateral agencies”.¹⁹⁰ ASEAN is also one of the organizations holding an observer status at the MRC, and can therefore participate in formal meetings held by the Commission.¹⁹¹

3.3.3 The Greater Mekong Subregion

The Greater Mekong Subregion¹⁹² consists of Cambodia, China, Lao PDR, Myanmar, Thailand and Vietnam, and is thus a means for governing the whole Mekong River Basin. Through the assistance of the Asian Development Bank¹⁹³ in 1992, a “program of subregional economic cooperation” between the six Mekong riparians was created as a means to enhance the states’ economic relations.¹⁹⁴ The 10-year strategic framework for the GMS Program has one of its focuses on the protection of the environment and promotion of sustainable use of shared resources. This focus includes that “[e]nvironmental considerations must be at the forefront of all decision-making regarding development projects”, as cooperation is critical for finding solutions to issues of transboundary character that arise from “unintended negative outcomes” in the development process. As a result, the strategic framework contains the initiatives for subregional monitoring of the cumulative environmental impact of development, sound practices for sustainable use of shared resources and participation in international environmental initiatives.¹⁹⁵

¹⁸⁷ Consisting of Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. See <http://www.aseansec.org/74.htm>
Hereafter ASEAN

¹⁸⁸ Basic Framework of ASEAN-Mekong Basin Development Cooperation, Kuala Lumpur, 17 June 1996, Article 1 (i). Available at <http://www.aseansec.org/6353.htm>

¹⁸⁹ Ibid, Article 2 (iii)

¹⁹⁰ Ibid, Article 2 (iv)

¹⁹¹ Mekong River Commission, *Dialogue Partners & Observers*

¹⁹² Hereafter GMS

¹⁹³ Hereafter ADB

¹⁹⁴ ADB, GMS information available at <http://www.adb.org/gms/>

¹⁹⁵ Asian Development Bank, *Building on success: A Strategic Framework for the Next Ten Years of the Greater Mekong Subregion Economic Cooperation Program*, 2002, p. 28f.
Available at http://www.adb.org/documents/books/building_success/chapter4.pdf

3.3.4 Japanese aid and cooperation

The provision of aid has early been viewed as an important element of Japanese diplomacy as to fulfil the responsibilities of being a leading economic power.¹⁹⁶ In the Mekong Region, Japan is one of the funding partners of the MRC,¹⁹⁷ as well as one of the largest shareholders in the ADB,¹⁹⁸ with a history of being a large, if not the largest, bilateral donor to the majority of the countries in the Mekong River Basin.¹⁹⁹ It is thus clear that Japan has the means of influencing the Basin countries significantly, mainly through a strong presence in the region.

Japan is a participating country of the Paris Declaration on Aid Effectiveness, 2005,²⁰⁰ with the effect of mutual accountability for donors and partners in regard to development results. Donors are also to respect their partner countries' leadership, and to help strengthen their capacity to exercise it, while partner countries are to exercise leadership when developing and implementing their own national development strategies through broad consultative processes.²⁰¹ This recognition of *ownership* is important from a perspective of sustainable development. Although the document is non-binding, it does give an indication of the scope of responsibilities for aid donors. It should be noted that Japan, together with other development partners, have declared their commitment to the Paris Declaration on Aid Effectiveness also in regard to the MRC.²⁰²

3.4 Asian legal culture

In general, neither religion nor revelation is clearly relied upon as a direct source of law in Asia. Asian religions, such as Buddhism, all share a common theme of addressing issues that are essentially non-legal,²⁰³ and

¹⁹⁶ Inada, Juichi, "Japan's Aid Diplomacy: Economic, Political or Strategic?", in *The international relations of Japan*, 1990 (edited by Kathleen Newland), p. 101. Addressing the intentions behind Japanese aid diplomacy as a means of foreign policy and the controversy noted thus far.

¹⁹⁷ Mekong River Commission, *Funding Partners*. Available at <http://www.mrcmekong.org/funding-partners.htm>

¹⁹⁸ ADB fact sheet, Japan (as of 31 December 2009), p. 1. Available at http://www.adb.org/documents/fact_sheets/jpn.pdf

¹⁹⁹ Mekong Watch information (regarding Japan in the Mekong) available at <http://www.mekongwatch.org/english/index.html>

²⁰⁰ Paris Declaration on Aid Effectiveness, 2005. Available at http://www.adb.org/media/articles/2005/7033_international_community_aid/paris_declaration.pdf

²⁰¹ Paris Declaration, p. 3, para 14-15

²⁰² Development Partners Group Statement, 2010 (Mekong River Commission Summit in Hua Hin, Thailand). Available at http://www.mrcmekong.org/partners_statement/development-partners-group-statement.htm

²⁰³ Glenn, Patrick H., *Legal traditions of the world: sustainable diversity in law*, 3rd edition, 2007, p. 304

when Buddhism spread into Cambodia, Lao PDR, Thailand and Vietnam, it did so “in a non-political, non-institutional way, just telling people about the way of the world”.²⁰⁴ Instead, the most prominent traditional source of normativity is most likely found in Confucianism,²⁰⁵ and despite a history of animosity between Confucianism and Buddhism, they both come together in their refusal to take positive law into serious consideration.²⁰⁶

For centuries, Asian legal tradition has refused to integrate normativity into formal regimes, leading to a tradition that principally aims to persuade, rather than to oblige.²⁰⁷ In addition, a greater part of Asian life is characterized by its chthonic features,²⁰⁸ which basically means that law is completely interwoven, and infused, with the people’s beliefs. However, it may not be sufficient to view it merely as custom. As law is not separated from morals, or any other thing for that matter, law cannot be fully understood unless you understand those “other important messages” which it has been profoundly mixed in with.²⁰⁹ One form of chthonic law could further be reflected in Confucianism.²¹⁰

Glenn concludes that Confucianism can be found standing “somewhere between religious norm and positive law, necessarily defending itself in both directions”.²¹¹ A Confucian society can, in brief, be identified as “one which does what it says should be done, leaving no gap between formal law and actual behaviour, no slippage between formal equality and massive social discrepancy”.²¹² Laws can thus not stand alone, leading to their subsequent disappearance without the needed support from humans.²¹³

The history of the Mekong region has been characterized by colonization, warfare and communism during the last centuries.²¹⁴ By the end of the 19th century, most of the Mekong River Basin was governed by France and England. The struggle over territory led to French rule over Lao PDR, Cambodia and Vietnam (former Indochina), and English control over Myanmar, while Thailand²¹⁵ managed to keep its sovereignty in the Basin.²¹⁶ During the course of colonization, French and English laws were formally received and remain influential today as well, although in somewhat varying degree.²¹⁷

²⁰⁴ Ibid, p. 316

²⁰⁵ Glenn, p. 304. Confucius was the philosopher of *li*, which primarily means “denial of the lasting and effective normativity of formal law and formal sanctions”. *Fa*, on the other hand, is the “tradition of formal law and formal sanctions”. See Glenn, p. 306f

²⁰⁶ Ibid, p. 317

²⁰⁷ Ibid, p. 304

²⁰⁸ Ibid, p. 305

²⁰⁹ Ibid, p. 69f

²¹⁰ Ibid, p. 306

²¹¹ Ibid, p. 313

²¹² Ibid, p. 314

²¹³ Ibid, p. 314

²¹⁴ Rix, p. 118

²¹⁵ Then known as the Kingdom of Siam.

²¹⁶ Rix, p. 119

²¹⁷ Glenn, p. 329

However, as France left the Mekong Basin at the end of World War II, communism entered the Basin from China.²¹⁸ Today, the political system in Lao PDR is officially communist in outlook,²¹⁹ and the Socialist Republic of Vietnam has in fact been a communist state since 1975.²²⁰ Although Cambodia's political regime today is "a multiparty, liberal democracy", its history is stained by two decades of rule by the communist Khmer Rouge.²²¹ Compared to the formal Soviet communism, socialist law in Asia can be described as a "different, necessarily a kinder, gentler form of communism, though of course equally savage when necessary".²²² In other words, Asian communism can be said to be different simply because Asia is different. Whether of socialist or capitalist outlook, there is in general a smaller focus on formal law.²²³ Although older Asian traditions live on through the teachings of Confucianism and Buddhism, they have become challenged, maybe the most by modern communism.²²⁴

Although this section is quite general in its outlook, it is still possible to understand the character of the current foundation on which actions of cooperation, assessments and policy-making are based. Such understanding can be useful when establishing the basis for achieving, and maintaining, sustainable development.

²¹⁸ Rix, p. 119

²¹⁹ Ibid, p. 121

²²⁰ Ibid, p. 123

²²¹ Ibid, p. 122

²²² Glenn, p. 333

²²³ Ibid, p. 333

²²⁴ Ibid, p. 304

4 Dams in the Mekong River

Almost half of all the river basins around the world are transnational in character and thus shared by two or more states.²²⁵ Riverine communities have since ancient times experienced a variety of natural and human-made alterations to rivers, affecting them in varying degrees and aspects.²²⁶ Naturally, this applies to the Mekong River Basin as well. The survival of the Mekong River past the 21st century is directly linked to the successful maintenance of a balance between economic growth and the conservation of natural resources, where the main threats principally arise from “eco-damaging development practices”.²²⁷ One of the most significant development projects found on rivers, if not the most, is the construction of dams. Seeing how over 45,000 dams were counted in over 140 countries by the year 2000,²²⁸ the question of their relation to sustainable development and its achievement is in need of an answer.

4.1 Framework for decision-making

An enormous potential for hydropower, among other areas, is today a prominent feature of the Mekong River.²²⁹ There are currently plans of an 11 dam cascade on the mainstream Mekong in the LMRB, and an 8 dam cascade in the Yunnan province in China,²³⁰ suggesting drastic changes of the environment in the Basin area, both of positive and negative character. The 11 dams on the Mekong mainstream would be located at PakBeng, Luang Prabang, Sayabouri, Pak Lay and Sankham in the northern Lao PDR, at Pak Chom and Ban Koum on the boarder of Lao PDR and Thailand, at Lat Sua and Don Sahong in the southern Lao PDR, and at Stung Treng and Sambor in Cambodia.²³¹

The international and regional framework regarding sustainable development presented above does of course also apply to the construction of dams, together with relevant national provisions that govern riverine projects on a domestic and local level. Although national legislation is not further approached here, it is a vital part for implementing regional agreements and for assuring compliance with their provisions.

²²⁵ Sands, p. 460

²²⁶ WCD Report, 2000, p. 8

²²⁷ Rix, p. 103

²²⁸ WCD Report, 2000, p. 8

²²⁹ Bearden, p. 2

²³⁰ See Supplement B for a map of planned and existing mainstream dams.

²³¹ Bearden, p. 8

World Commission on Dams – A Framework for Decision-Making

The report of the World Commission on Dams²³² from 2000, *Dams and Development: A New Framework For Decision-Making*,²³³ resulted in what may be the most clear and comprehensive set of existing guidelines for water and energy projects. The Commission identified five core values: equity, efficiency, participatory decision-making, sustainability and accountability. These were based on the Commission's unanimous agreement that although dams have contributed significantly to human development, as well as amounted in considerable benefits, the price paid to secure those benefits has too often been unacceptable, and at times unnecessary as well.²³⁴

As a result, the WCD Report presents seven strategic priorities for decision-making based on the need to recognize the rights and to assess the risks of all affected parties: 1) gaining public acceptance; 2) comprehensive options assessment; 3) addressing existing dams; 4) sustaining rivers and livelihoods; 5) recognizing entitlements and sharing benefits; 6) ensuring compliance; and, 7) sharing rivers for peace, development and security. On the way towards an equitable and sustainable development, these strategic priorities are meant to serve as guidelines for all concerned parties, and to aid the successful integration of social, economic and environmental aspects into decision-making for dams and their potential alternatives.²³⁵

The normative development framework has its basis in the Rio Principles, the UN Declaration of Human Rights, and the Right to Development. Together, they are suggested to provide “an internationally accepted framework of norms empowering a concept of development that is economically viable, socially equitable, and environmentally sustainable”.²³⁶ The WCD Report refers directly to several of the principles found in the Rio Declaration, giving their immediate relevance to identifying existing rights in the management of water and energy resources.²³⁷ These principles concern the notion of human beings as the “centre of concerns for sustainable development”,²³⁸ the right to development,²³⁹ the integration of environmental protection with the development process, the importance of involving affected citizens and to let them participate in the decision-making process. Appropriate and

²³² Hereafter WCD

²³³ Hereafter the WCD Report

²³⁴ Steiner, Achim; Haas, Lawrence J. M., “The Report of the World Commission on Dams: Some Implications for Energy Law”, in *The law of energy for sustainable development*, 2005 (edited by Adrian J. Bradbrook et al.), p. 239

²³⁵ WCD Report, 2000, p. 214ff

²³⁶ Ibid, p. 202

²³⁷ Ibid, p. 201f

²³⁸ Rio Declaration, Principle 1. People are thus entitled to have “a healthy and productive life in harmony with nature”.

²³⁹ Rio Declaration, Principle 3. This right “must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations”, and are in many aspects important for developing countries.

effective access to relevant information, and possibilities for redress and remedy if so needed, are thus considered central parts of participation.²⁴⁰

In addition, Principle 13 emphasizes that states should ensure compensation for victims that have suffered from environmental damage and that priority should be given to the development of law concerning this sort of liability.²⁴¹ Principle 15 refers to the application of the precautionary approach, and that states should use it in accordance with their own abilities. It should be noted that the lack of full scientific certainty should not be seen as a reason for justifying any postponing of cost-effective measures that prevent environmental degradation, especially when concerned with threats of serious or permanent damage.²⁴²

Lastly, the vital role of indigenous people and other local communities is recognized in Principle 22, where states are entrusted with enabling the effective participation of these groups in the achievement of sustainable development.²⁴³ The principles in the Rio Declaration, together with Agenda 21, are thus placing emphasis on the important role that is given local communities when forming strategies for national development,²⁴⁴ which may be of concern regionally as well.²⁴⁵

4.2 The Japanese view on water resources and the funding of dams

Japan is in general expected to play a rather “positive role” when acting within the water sector as a leading donor.²⁴⁶ According to the Japan International Cooperation Agency,²⁴⁷ consideration should be given to other river basin countries in the light of the UN Watercourses Convention, when bilateral aid agencies commit to projects in an international basin area.²⁴⁸ In general, it should be noticed that it is gradually more challenging to build new dams due to concerns regarding their environmental and social impacts, although dam constructions so far have been a main choice for water resources development.²⁴⁹ JICA further noted that Japan, in the future, should preferably put its focus on a broader range of water resources use in

²⁴⁰ WCD Report, 2000, p. 201f . See further the Rio Declaration, Principle 4 and 10

²⁴¹ Ibid, p. 202. See further the Rio Declaration, Principle 13

²⁴² Ibid, p. 202. See further the Rio Declaration, Principle 15

²⁴³ Rio Declaration, Principle 22

²⁴⁴ WCD Report, 2000, p. 202

²⁴⁵ Seeing how affected ethnic minorities may be located in local communities that in fact encompass parts of another territorial entity.

²⁴⁶ Japan International Cooperation Agency, *Approaches for Systematic Planning of Development Projects – Water Resources*, 2006. Chapter 1, p. 2. Available at <http://www.jica.go.jp/english/publications/reports/study/topical/app2005/>

²⁴⁷ Hereafter JICA

²⁴⁸ JICA, *Approaches for Systematic Planning of Development Projects – Water Resources*, 2006, Chapter 2, p. 20f

²⁴⁹ Ibid, Chapter 2, p. 26

the context of integrated water resources management.²⁵⁰ As indicated by the granting of yen loans, while the proportions of hydroelectric power generation and irrigation/drainage decreased between the middle of 1990's and 2005, water supply and sewerage systems were instead increasing.²⁵¹

The support for sustainable use of rivers and their water resources could thus come through a well-established and effective IWRM, which includes the management of dams and a more efficient use of donor aid. The concept of IWRM has its basis in the 3E principle, where “waters should be used to provide Economic wellbeing to the people, without compromising social Equity and Environmental sustainability”.²⁵² If properly implemented, it could be a great approach for managing water issues in a basin-wide context.

Dam Constructions in the LMRB

Japan has contributed to a number of dams in the Mekong River Basin, through bilateral Official Development Assistance²⁵³ and through the ADB. The following are some examples of projects financed by Japanese aid from the 1990s.²⁵⁴

Construction:

Ham Thaun – Da Mi, Vietnam (Soft Loan: ¥ 53,07 billion)
Ham Thuan – Dai Ninh, Vietnam (Soft Loan: ¥ 4,03 billion)
Nam Leuk, Lao PDR (Soft Loan: ¥ 3,9 billion)
Bhumipol Unit No. 8, Thailand (Soft Loan: ¥ 7,85 billion)
Sirikit Unit No. 4, Thailand (Soft Loan: ¥ 4,4 billion)
Lam Thakong, Thailand (Soft Loan: ¥ 18,24 billion)

Development Study:

Dong Nai 3 and 4, Vietnam – Master Plan Study (Grant)
Nam Ngiep 1, Lao PDR – Feasibility Study (Grant)
Se Kong Basin, Lao PDR – Master Plan Study on Hydroelectric Power Development (Grant)
Nam Ngum, Lao PDR – Private Sector Investment Finance (Loan for private sector)
Kok-Ing-Nan Water Diversion, Thailand – Feasibility Study (Grant)

The Japanese government further financed constructions or studies regarding numerous dam projects during the 1960s and 70s, such as Nam

²⁵⁰ Ibid, Chapter 2, p. 26. Hereafter IWRM

²⁵¹ Ibid, Chapter 1, p. 10

²⁵² Mehtonen, Katri; Keskinen, Marko; Varis Olli, Chapter 8: “The Mekong: IWRM and Institutions”, in *Management of Transboundary Rivers and Lakes*, 2008 (edited by Olli Varis et al.), p. 208. Available at *SpringerLink*

²⁵³ Shortened ODA

²⁵⁴ Summary on ‘Developing Dams in Lower Mekong River Basin and Japanese Money’ (Satoru Matsumoto, Mekong Watch), 2000, Probe International. Available at <http://www.probeinternational.org/me-kong-utility-watch/summary-developing-dams-lower-mekong-river-basin-and-japanese-money>

Pong, Lam Dom Noi and Nam Pung. Through the ADB, Japan has also contributed to a number of operational dams in Lao PDR, such as Se Set, Nam Song Diversion and Nam Theun-Hinboun.²⁵⁵ Today, Japan is, among others, active in the hydropower section in the LMRB for the MRC through the Japan ASEAN Integration Fund (JAIF), where it is conducting the “Initial Analysis of Hydropower Potential in the Lower Mekong Basin in Relation to Cumulative Transboundary Impacts”. This project is scheduled to end in December 2010.²⁵⁶ The Japanese involvement in a large number of dam projects, together with the role of being a major donor, indicates that Japan could play a vital part in regard to the future management of water resources in the Mekong Region.

4.3 Rights-and-risks approach for negotiated outcomes

Through its report, the WCD proposed that a rights-and-risks approach should be developed as a tool for decision-making and future planning. This approach was based on the “recognition of rights” and the “assessment of risks”,²⁵⁷ and would thus to be used to determine which actors have a legitimate place in consultations regarding water and energy policies, which issues to address, and what group of stakeholders that should be granted a role in negotiating project-specific agreements, such as for resettlement or compensation.²⁵⁸

For upstream and downstream communities alike, a “bundle of rights” may be identified in regard to dams and their possible effects.²⁵⁹ These rights may be customary and traditional rights of ownership and tenancy or rights of resource access and livelihood benefits. They may range from uncodified rights to more formal ones found in legislation. They may further belong to a variety of concerned actors; the individual, a household or a family, a traditional user or neighbouring group, to a community or a public body, or any other defined social entity, for instance indigenous people.²⁶⁰ The rights of present and future generations are another area that may be approached.²⁶¹ These rights are the same principles that have emerged through global acceptance of the Universal Declaration of Human Rights, the Declaration on the Right to Development, as well as the Rio Declaration.²⁶² The recognition of rights is to be done with an understanding that no party’s rights can erase those of another, and that during the

²⁵⁵ Ibid

²⁵⁶ Mekong River Commission, *MRC Work Programme 2010*, p. 132. Available at http://www.mrcmekong.org/download/programmes/work_program_10.pdf

²⁵⁷ WCD Report, 2000, p. 206

²⁵⁸ Ibid, p. 207 and 210

²⁵⁹ Steiner and Haas, p. 243

²⁶⁰ Ibid, p. 243

²⁶¹ WCD Report, 2000, p. 206

²⁶² Steiner and Haas, p. 243

assessment process, all claims are to be handled in a “fair, open and transparent” manner.²⁶³

The second element of the rights-and-risks approach is concerned with the risk assessment, which is an important element for understanding and determining to what extent, and how, a project may affect stakeholder’s rights.²⁶⁴ While the “traditional practice” limits the definition of risk as to only include risks of economic character belonging to the developer or corporate investor,²⁶⁵ the WCD looked beyond these sorts of voluntary risks and showed that a much larger group frequently had risks imposed on them *involuntarily*. Although these risks may have direct impact on the individual well-being, livelihoods, quality of life and culture, they are often managed by others.²⁶⁶ To secure equitable outcomes, bearers of involuntary risks must therefore join (voluntary) risk takers in a transparent process to effectively negotiate risks and benefits, through means that are suitable in the governance context. The Commission thus proposed that the responsibility lies on the governments to ensure that such enabling framework is established for the sake of effective “good faith negotiations”, whether this would be through improved political measures or judiciary ones.²⁶⁷

Risk management and its function in both domestic and international environmental law can be viewed in the “precautionary principle”. This approach should also be used during risk assessments, when faced with scientific uncertainty and public concerns, and where there may be threats of serious and irreversible damage.²⁶⁸ For the Mekong Region, this could mean that the risk-and-rights approach must be managed regionally if potential impacts are of transboundary character and there is a risk for transboundary effects on a community belonging to another riparian. This also highlights the importance of carrying out EIAs for a full grasp of potential risks and affected areas.

4.4 Dam impacts

4.4.1 Economic growth vs. Ecological sustainability?

Growing populations, water pollution, deforestation, regulation of water flows and water withdrawals for irrigation are all increasing threats that

²⁶³ WCD Report, 2000, p. 206

²⁶⁴ Ibid, p. 207

²⁶⁵ Such as risks “in terms of capital invested and expected returns”. WCD Report, 2000, p. 207

²⁶⁶ Ibid, p. 207

²⁶⁷ Steiner and Haas, p. 244

²⁶⁸ See Benvenisti, p. 109f and the WCD Report, 2000, p. 236f. See also the Rio Declaration, Principle 15

derive from large dam constructions and that affect the “ecological integrity” of watersheds around the world.²⁶⁹ The desire to exploit natural resources to boost development is growing. Although the Mekong tributaries are considered to be among the least developed rivers in the world, the majority of the Mekong development has been on them, and not on the Mekong mainstream,²⁷⁰ leading to changes in the often complex ecosystems of the river estuaries as well.²⁷¹ In reality, little regard has been given to multilateral frameworks like the 1995 Mekong Agreement and the MRC, when constructing dams in China, Lao PDR and the Vietnamese highlands.²⁷² Given the conflicts between Vietnam and Cambodia over hydropower development on the Se San River at the Yali Falls dam, and the controversial situation regarding the “Thai Water Grid” which will transfer water from tributaries in Cambodia and Lao PDR to support irrigation in Thailand, the direction seems to be heading towards development concerns in the LMRB, rather than environmental ones.²⁷³

4.4.1.1 Economic aspects

Considering that dams are usually under discussion several years prior to that of any project development is actually considered seriously, communities can go on for decades in desperate need of investments to support development and welfare. As soon as a site has been located, a type of “planning blight” may appear which makes governments, businesses, farmers and others unwilling to take on any additional productive investments in places that in reality may become flooded afterwards.²⁷⁴ However, if carried out properly, careful planning may instead result in long-term benefits for the local community. Infrastructures installed during the construction process, such as roads, power lines and social services, may for example offer access to areas that would otherwise be inaccessible. Although it brings both positive and negative impacts, thorough planning could allow settlement, and connect local economies to national markets.²⁷⁵ The construction of dams and to them related infrastructures do also provide for job opportunities. Considerable benefits can be observed for the employees and shareholders of companies involved with construction and supply of equipment and materials.²⁷⁶ Apart from construction jobs, employment will also be provided by such newly created enterprises that operate by the provision of water and electricity.²⁷⁷

China, the major dam builder on the Mekong River, is mainly interested in constructing infrastructure and increasing capacity to maintain its economic

²⁶⁹ WCD Report, 2000, p. 16

²⁷⁰ Bearden, p. 3

²⁷¹ WCD Report, 2000, p. 16

²⁷² Bearden, p. 8

²⁷³ *Ibid.*, p. 11

²⁷⁴ WCD Report, 2000, p. 99

²⁷⁵ *Ibid.*, p. 99f

²⁷⁶ *Ibid.*, p. 99

²⁷⁷ *Ibid.*, p. 101

growth. These aspects, together with significantly increasing oil prices, are said to be the motivating factors behind China's plans to exploit the hydropower in the Mekong River.²⁷⁸ Exploitation of hydropower in the Mekong River may also reduce regional tensions caused by rising oil prices. Growing prices have resulted in a massive problem for China, Thailand and Vietnam as they are all depending greatly on oil imports.²⁷⁹ At the moment, the entire Mekong region imports fossil fuels that account for about 21% of electricity generation, which in itself is increasing. At the same time, approximately 74 million people, or 20% of the Mekong Region, are without electricity in their homes.²⁸⁰ A domestic supply of hydropower could thus provide for many positive results in terms of development.

On the other hand, data regarding cost performance in the WCD Knowledge Base imply that sizeable capital cost overruns are often brought about by large dam projects.²⁸¹ Even smaller projects may experience the same problem. An example from the Mekong Region is the Pak Mun dam in Thailand, a medium-sized hydropower dam that had a 68% overrun. Reasons for cost variations can be found in four categories, of which one refers to "the poor development of technical and cost estimates and supervision by sponsors".²⁸² This just highlights the need for developing countries to receive aid in their development process, especially since dams, even without cost overruns, are very expensive projects.

4.4.1.2 Effects on the environment

When the WCD Report came out in 2000, the knowledge at hand indicated that large dams resulted in a number of negative impacts on ecosystems.²⁸³ Ecosystem impacts can fall into three groups; first-order impacts that involve physical, chemical and geomorphological results seen from blocking a river or altering its flow; second-order impacts that include changes in primary biological productivity of ecosystems; and third-order impacts that involve changes to fauna (for example fish) due to first –and second order impacts.²⁸⁴ Downstream effects on biodiversity and aquatic and floodplain ecosystems are the result of a variety of complex interactions,²⁸⁵ that can reach several hundreds of kilometres and, in some cases, beyond the boundaries of the river channel. To see the full implications of dam constructions may take time as some impacts are likely to only develop over time and will thus not be seen until after the dam is fully operating.²⁸⁶

²⁷⁸ Freeman, p. 457

²⁷⁹ Ibid, p. 459

²⁸⁰ Mekong River Commission, *MRC Work Programme 2010*, p. 128

²⁸¹ WCD Report, 2000, p. 39

²⁸² Ibid, p. 40

²⁸³ Ibid, p. 74

²⁸⁴ Ibid, p. 74

²⁸⁵ Ibid, p. 90

²⁸⁶ Ibid, p. 112

The lower Mekong Region is wealthy in terms of fish species diversity, and fisheries subsequently form the centre around which community livelihoods and culture are mainly woven. Dams can have drastic effects on the aquaculture. The Pak Mun dam resulted in a radical decline in upstream fish catches as it blocked fish migration from the Mekong River upstream into tributaries of the Mun River.²⁸⁷ Reported losses of 80% in fish catches stirred up local villagers, and although a fish ladder was employed, only 96 of the original 265 fish species remained.²⁸⁸ Moreover, each year 75-85 million tons of river sediment has its origin in China. Due to hydropower reservoirs, the sediment has decreased radically, affecting the spread of essential nutrients throughout the Basin. Lower levels of oxygen, leading to the death of fish and favourable conditions for malaria, dengue fever and schistosomiasis, are the consequences of the filling of reservoirs. As dams drastically change the natural flood cycle, up to 90% of the fish in the Mekong Basin may be affected.²⁸⁹ The planned dam cascade may also have drastic impacts on the Irrawaddy Dolphin and the Mekong Giant Catfish, endangered species that have already been driven close to extinction.²⁹⁰

The timing, duration and frequency of floods are all vital elements for the continued existence of plant and animal communities found downstream. The key variable for these aquatic ecosystems is thus the river's flow regime.²⁹¹ One unique, and important, phenomenon can be viewed in the Tonle Sap. The Tonle Sap area is especially of importance to Cambodia, as fisheries in the lake provide for 80% of the protein found in the Cambodian diet. During periods of heavy flooding, the flow of the Tonle Sap reverses, pushing water back up the Tonle Sap's riverbed and thus results in the flooding of the shallow wetlands.²⁹² The planned dam cascade on the mainstream Mekong may result in drastic impacts on the natural cycle of the Tonle Sap through alterations in the flow regime, as well as erosion traced back to the dams. Another concern, as seen with the Chinese dams, can be found in the sediment-free water and the possibility that it may increase the amounts of erosion on its way downstream the river.²⁹³ The cumulative impact of the dams may thus lead to drastic impacts for other riparians.

However, it is important to notice that dams may also provide for some benefits to the states of the LMRB. During the monsoon season in East and Southeast Asia, rivers may swell up to over 10 times the flows seen during the dry season.²⁹⁴ The planned Chinese dams in the Upper Mekong could therefore prove useful, as they would store water during the rainy season, and then release the water again in the dry season. This could help in

²⁸⁷ Ibid, p. 84

²⁸⁸ Rix, p. 113

²⁸⁹ Ibid, p. 107

²⁹⁰ International Rivers, *Mekong Mainstream Dams: Threatening Southeast Asia's Food Security*, 2009, p. 2

²⁹¹ WCD Report, 2000, p. 78

²⁹² Freeman, p. 263

²⁹³ Ibid, p. 263

²⁹⁴ WCD Report, 2000, p. 11

balancing out the existing flood and drought patterns that characterize the lower Mekong River.²⁹⁵

4.4.2 Social consequences

There are numerous benefits granted through the services that large dams provide, shown for example through a variety of social benefits, such as having water provided, electricity, flood control, but also any indirect economic benefits or multiplier effects that subsequently appear.²⁹⁶ In a number of cases, the provision of these sorts of benefits may actually continue past the proposed timeframes found in the original project documents.²⁹⁷ At the same time, the planning, construction and operation of dams have also led to a variety of significant changes for people, and a large part has been through negative social and human impacts. One problem connected to the planning stage is the fear and concern among the residents in a potential reservoir area. This sort of psychological stress is not possible to be successfully translated into any economic quantity or term, but it is nonetheless a real issue.²⁹⁸

The construction and operation of a dam have impacts reaching further than the immediate location of the proposed site. Affected populations include a range of people, such as directly displaced families, host communities that have become resettlement sites, and riverine communities that have their livelihoods and their access to natural resources disturbed by changed river flows and ecosystem fragmentation.²⁹⁹ In the Mekong Basin region, the Pak Mun dam led to the displacement of 241 families when the construction began in 1991. By the time it was completed, another 1,459 households were counted for resettlement. In total, more than 6,000 households were affected, mainly through livelihood loss.³⁰⁰ The current dam cascades planned on the Mekong mainstream have been officially estimated to require the relocation of 88,000 people, creating over 600 kilometres of reservoir along the Mekong River.³⁰¹

At times, relocation sites have been chosen without ensuring the possibility to meet livelihood needs or without any regard to the preferences of the affected people. Such experiences have for instance been noted in Hoa Binh in Vietnam and Sirindhorn in Thailand.³⁰² The Houay Ho dam in Lao PDR led to the displacement of among 800 families of the ethnic minority Nya Heun, and there were reports of people experiencing severe food shortage, lack of suitable land for agriculture and insufficient supplies of clean

²⁹⁵ Freeman, p. 458,

²⁹⁶ WCD Report, 2000, p. 97f

²⁹⁷ Ibid, p. 120

²⁹⁸ Ibid, p. 99

²⁹⁹ Ibid, p. 16

³⁰⁰ Ibid, p. 104

³⁰¹ International Rivers, *Mekong Mainstream Dams: Threatening Southeast Asia's Food Security*, 2009, p. 2

³⁰² WCD Report, 2000, p. 107

water.³⁰³ Large dams may in general result in serious effects on the “lives, livelihoods, cultures and spiritual existence of indigenous and tribal peoples”.³⁰⁴ These peoples have often had poorly defined or inadequately protected rights in the domestic legal framework, leading to their entitlements being overlooked in the development process.³⁰⁵

4.4.3 The need of EIAs, stakeholder participation and access to information

The impacts described above show a wide range of situations where possible conflicts may occur between areas that should be dealt with in an integrated manner according to the concept of sustainable development, without compromising their inherent importance for its achievement. It thus becomes obvious that there is a need to conduct EIAs for analysing probable impacts and deficiencies in the original project plan. The Rio Declaration,³⁰⁶ the Johannesburg Plan of Implementation³⁰⁷ and the UN Watercourses Convention³⁰⁸ all have requirements to perform EIAs.

In the *Gabčíkovo-Nagymaros case*, the ICJ played a significant role in the development of international environmental law by recognizing the concept of “ecological necessity” and pointing out the need to continuously assess environmental risks which accompany a project by taking new environmental standards into consideration.³⁰⁹ The lack of “objective and in-depth analyses of the physical, economic, social and environmental impacts of large dams” several years after they were built is a clear deficiency in assessing the full scope of their effects. Moreover, EIAs must take account of both positive and negative impacts for a full understanding of which benefits can be anticipated, or has been seen, and which negative outcomes can be expected, or has already been realized.³¹⁰

An example of substandard EIA performances was the one conducted for the Yali Falls project. The EIA failed to address effects reaching further than 8 kilometres downstream, and was initially only accountable for Vietnam, neglecting possible environmental impacts downstream in Cambodia.³¹¹ Moreover, there was no stakeholder participation or access to information prior to the construction and operation of the dam, leading to unawareness of the dam project among the affected communities. These communities were not even involved in determining the effects of the dams

³⁰³ Ibid, p. 108

³⁰⁴ Ibid, p. 110

³⁰⁵ Ibid, p. 111

³⁰⁶ Rio Declaration, Principle 17

³⁰⁷ See for example the Johannesburg Plan of Implementation, para 135, p. 54

³⁰⁸ UN Watercourses Convention, Article 12

³⁰⁹ Sands, p. 477

³¹⁰ Biswas, Asit K., *Dams: Cornucopia or Disaster?*, International Journal of Water Resources Development, 2004, pp. 3-14, p. 9. Available at *EBSCOhost*

³¹¹ Bearden, p. 17

along the Se San River as stakeholders in the aftermath. The provisions laid down in Article 12 in the UN Watercourses Convention were thus not followed.³¹² The 1995 Mekong Agreement does not provide for any requirements regarding EIAs, stakeholder participation or any access to information regarding planned dam projects. Therefore, as some have noticed, if the 1995 Mekong Agreement is to be a guiding framework for sustainable development and its achievement, there is a need to approach transparency and public participation in a completely different way.³¹³

³¹² Ibid, p. 17f

³¹³ Ibid, p. 18

5 Achieving sustainable development in the Mekong River Basin

As understood from Chapter 2, there is a range of aspects that needs to be considered for the achievement of sustainable development. This chapter will focus on some of the main components for achieving sustainable development on the regional level in the Mekong River Basin when concerned with dams, such as how dams should be addressed, the need for cooperation and the importance of fruitful support from a donor like Japan.

5.1 Dams in the context of sustainable development

5.1.1 Comments on the sustainable development paradigm

The three pillars of sustainable development are inherently conflicting elements, aiming to protect different areas of subject. The needs of the present and future generations are subsequently also the needs of economic growth, needs of people in different social contexts and needs for environmental protection. Integration is not an easy task when balancing these elements, but must nonetheless be accomplished if sustainable development is ever to be achieved. Sustainable river use and the right to use the river's water resources are obviously important aspects of the concept when concerned with water law, directly addressing the sovereign right of exploitation of natural resources as well as the limitation concerned with transboundary damage.

The protection of water, the prevention of water degradation, the maintenance and conservation of water flow, as well as the preservation of ecosystems, are all directly linked with sustainable utilization of freshwater resources in international rivers, involving areas such as the water quantity, water quality and the flow regimes of a river. There should therefore not be of greater difficulty to define what should be considered as (substantial) damage in regard to the usages of the river. Despite this, the term has not been defined in the 1995 Mekong Agreement, which leaves a gap in the way non-compliance is being addressed. Although the UN Watercourses Convention could result in an important means to fill this and similar gaps in the 1995 Mekong Agreement, it still does not solve the question of how to address non-party riparians, such as China and Myanmar. It is clear that consideration should be given to other riparians' rights when a project may

subsequently affect these riparians.³¹⁴ To what extent this can apply to the vast area of the Mekong River Basin is difficult to say, as tracing back specific outcomes to a certain project may be proven close to impossible.

The right to development is an important aspect in the approach of sustainable development, especially in regard to the construction of dams. Seeing how many hydropower, irrigation or flood control projects are all meant to *benefit* the society as such, they fill a great function in a state's development process. Regionally it could also lead to trade of goods, such as water resources for irrigation in a neighbouring country or electricity generated by hydropower. The adaption to national and regional circumstances, reflecting historical aspects, culture, economic systems, population pressures, industrial needs, and even the legal tradition, is therefore directly linked with what is needed for the country to achieve sustainable development. For the Mekong River Basin, agriculture and river activities, such as fishing, concern a large part of the activities that have their base in the river and often cover the livelihoods of indigenous peoples. This must be accounted for when addressing sustainable development.

5.1.2 Dam effects: addressing pros and cons

As seen above, dams do not come without impacts on local residents, riverine ecosystems, the flow regime of the river, as well as the economic development process. From the previous chapter, it is reasonable to draw the conclusion that dams provide for unsustainable changes, and difficulties in protecting the environment. However, dams should not be considered as good or bad *per se*.³¹⁵ Despite numerous negative impacts on the environment, dams provide for electricity, water supply and irrigation, and thus lead to a variety of positive effects that are vital in the development process for a large number of developing states. The right to development should not be forgotten in this context, neither should the concept of sustainable use. Of major importance then are the procedural elements of sustainable development, such as the EIA.

In order to have a full appreciation over the possible effects of a planned dam, EIAs must be carried out as to understand the scope of risks and for accessing information. Seeing how only about 70-75% of the actual impacts can be predicted, *if* the assessment in itself was exceptionally well-performed,³¹⁶ there is an even greater need for supporting EIAs performed in developing countries through increasing the knowledge base, focusing on capacity building and strengthening institutions. As EIAs conducted prior to the dam construction are in fact predictions of possible outcomes,³¹⁷ it is

³¹⁴ As concluded from the case of the *Lac Lanoux* (between France and Spain), regarding plans for a French hydro-electrical power plant that would change the flow in the River Carol and affect Spanish farmers. See Sands, p. 463

³¹⁵ Also noted by Biswas. See Biswas, 2004, p. 6f

³¹⁶ Biswas, 2004, p. 9

³¹⁷ *Ibid*, p. 9

the more important to analyse potential long-term impacts also after the dam has been operating for a couple of years. This may inevitably be of great interest in regards also to other projects that have yet not been carried out, or are still on the planning stage, as well as to ensure that future generations are not deprived of their potential needs.

However, there is an indication in case studies that groups considered poor and vulnerable, as well as future generations, are the ones likely to be portioned with a disproportionate share of the social and environmental costs of large dam projects, without any corresponding share of economic benefits to gain.³¹⁸ The possibility to access, and distribute, information is a significant outcome of EIAs, and will thus become an important part of providing satisfying information to stakeholders. Public participation for affected residents of a dam project requires that all the facts are in order to ensure that the rights of the stakeholders are not neglected. In this regard, the MRC has a large role in assuring that these procedures are carried out.

It is in general important to ensure the existence of a legal framework that governs the process of displacement in order to protect the affected people and their rights.³¹⁹ As well as providing an effective framework for compensation due to resettlement.³²⁰ Of particular importance is the recognition of the rights of ethnic minorities and women, as these groups are often overlooked. The most noteworthy questions may therefore be how we in the best way can plan, design and construct dams at the locations “where they are needed so that their performances in economic, social and environmental terms can be maximized and their adverse impacts can be minimized; and how we can simultaneously ensure that those who may have to pay the costs of their implementation are explicitly made their beneficiaries”.³²¹

5.1.3 Possibilities for cooperation in the whole Basin area

As China voted against the UN Watercourses Convention, as well as declining membership of the MRC, it is obvious that China is highly protective of its sovereign rights to the natural resources existing in the river. Scholars have suggested a number of reasons for China’s reluctance to join the MRC.³²² It is obvious that cooperation must be motivating for all

³¹⁸ WCD Report, 2000, p. 98

³¹⁹ Ibid, p. 109

³²⁰ As an example of its importance, the Thai government paid an interim compensation to the affected people of the Pak Mun dam (constructed in the beginning of the 1990s) in 2000, pending a final solution to the results of permanent loss of fisheries livelihood. See the WCD Report, 2000, p. 104

³²¹ Biswas, 2004, p. 14

³²² Such as there is limited amount of research that has been carried out in China about the Mekong River, the potential limitation on domestic development of the river if China would join, and Chinese regulations on state secrets that may hinder a fruitful cooperation. See Nickum, James E, Chapter 9: “The Upstream Superpower: China’s International

parties. China therefore needs to gain something in return if it is to change any of its current plans in the Upper Mekong.³²³ In the view of China's growing hydropower needs, a potential constraint on its sovereign jurisdiction to exploit water resources will obviously not amount to any greater incentives for it to join the MRC. It will rather limit China's own progress towards economic development. A regional agreement regarding sustainable development of water resources in the Mekong River Basin would probably have more effect if it also regulated economic cooperation between the Basin's states. China has proven to be highly interested in the area when economic relationships are concerned, such as with the GMS and ASEAN. A broader cooperation between the MRC and the GMS and/or ASEAN may also cover the gap of not having the two upper riparians as members of the MRC.

5.2 The role of Japan

Since the middle of the 20th century, Japan has been involved with dam construction in the Mekong River Basin. Through participating in the Paris Declaration, Japan has politically agreed to support the regional cooperation regarding water resources through the MRC. Although the Paris Declaration is not legally binding, it could provide for a larger focus on sustainable development when Japan, for example, is supporting the MRC. The view of the concept as a tool also in aid policies goes well with the outlook of the concept's legal status presented by Birnie and Boyle. It can also serve a purpose as showing "political good will".

In the Chair's Statement of the Second Mekong-Japan Foreign Ministers' Meeting in 2009, the ministers recognized the important role of the MRC in questions regarding sustainable development and the protection of the Mekong River Basin, where the Japanese minister of foreign affairs expressed "willingness to continue its support through the MRC". In regard to hydropower, the view was clearly in favour of exploring its development although environmental and biodiversity protection should be taken into proper consideration.³²⁴ Sustainable development as a concept has the possibility to be applied for in a variety of settings, not just as a legal term. However, due to its ambiguous character, it may be found to have different emphasis depending on in which arena it is being used. The support of Japan in the context of sustainable development should therefore be managed according to how it is being used in the 1995 Mekong Agreement.

Financial aid is a critical element in meeting all the needs of sustainable development in the Mekong River Basin, mainly in form of strengthening

Rivers", in *Management of Transboundary Rivers and Lakes*, 2008 (edited by Olli Varis et al.), p. 241. Available at *SpringerLink*

³²³ Mehtonen et al., p. 219f

³²⁴ Chairs' Statement of the Second Mekong-Japan Foreign Ministers' Meeting, Siem Reap, Kingdom of Cambodia, 3 October 2009. Available at <http://www.mofa.go.jp/region/asia-paci/mekong/fm0910/statement.html>

national and regional institutions. For dams, capacity building, supporting local knowledge, encouraging effective access to information and empowering the local population may be among the most important issues on the agenda for Japan.

5.3 Conclusion: Can sustainable development be achieved in the Mekong River?

There are a range of aspects that need to be considered in achieving sustainable development, especially when addressing a sustainable development scheme that covers a whole region. However, if the basic requirements for such an approach can be met, there is no reason why sustainable development could not be a realized goal. Nonetheless, sustainable development is an ongoing process, and to achieve it is basically an ever-lasting strive to balance economic development, social development and environmental protection as society evolves, technology becomes more advanced and new scientific research is presented. In this aspect, developing countries such as in the LMRB may have a difficult time catching up. However, through financial aid and support for capacity building and implementation of necessary regulations, it is not unreasonable that sustainable development can be achieved in the Mekong River Basin. The question is if it can be done before severe environmental degradation has occurred. In the end, only time can tell if the political will, and the cooperation of the MRC with the GMS or ASEAN may bring a satisfying solution for engaging all riparians in the process of achieving sustainable development.

6 Final remarks – Where to go from here

The imminent construction of the 11 dam cascade on the Lower Mekong mainstream, together with the 8 dams located in the Upper Mekong, may have vast impacts on the environment, on people, and on the national economy. Seeing how important dams are, the more essential is the notion of cooperation and integrated development schemes between countries. The time has come for the “real work” of sustainable development, through implementing the concept in a number of areas involved with water resources management. For this, the LMRB countries should strive for engaging China, as well as Myanmar, in some kind of deeper regional cooperation, which will have positive effects on the elements of sustainable development.

Sustainable development as a concept is neither concerned with purely environmental goals, nor of development. The approach must be *integrated*, which essentially means that none of its parts has priority. If one element disproportionately succeeds over the others, then the project at hand does not go well with the concept of sustainable development. This recognition is vital when determining if a dam construction is sustainable, or not. As some have noted, the mere adoption of the concept of sustainable development does not guarantee its implementation.³²⁵ To identify lacking elements in the national and regional governance of the river is therefore crucial for advancing beyond the point of just aligning with the obvious desire to achieve sustainable development. It must be shown through action, and as understood from the presented material, although achievable, this will be a long and challenging road for the LMRB nations.

³²⁵ Bearden, p. 6f

Supplement A

The Mekong River Basin³²⁶



³²⁶ MRC Strategic Plan 2006-2010: *Meeting the needs, keeping the balance*. Available at http://www.mekong.org/download/free_download/Strategic-plan-2006-2010.pdf

Supplement B

Mekong Mainstream Dam Plans³²⁷



³²⁷ International Rivers, *Location of proposed Mekong River mainstream dams*. Available at <http://www.internationalrivers.org/en/southeast-asia/mekong-regional-initiatives/proposed-location-mekong-river-mainstream-dams?size=original>

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