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Fishing and Fisheries Under International Water Law: A Dialogue Between Professor Gabriel Eckstein and Professor Paul Stanton Kibel

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I. Introduction

On April 10 and 11, 2023, the Center on Urban Environmental Law (CUEL) at Golden Gate University School of Law hosted a two-day webinar on *International Law Aspects of Fisheries and Hydropower in Europe*. To open the webinar, Professor Gabriel Eckstein[1] (of Texas A&M University School of Law) and Professor Paul Stanton Kibel[2] (of Golden Gate University School of Law) participated in a keynote dialogue titled *Fishing and Fisheries under International Water Law*. What follows is a transcription of this dialogue between Professor Eckstein and Professor Kibel.

II. Dialogue

Professor Kibel: In setting up our keynote dialogue this morning with Gabriel, I wanted to start by focusing on one of the words in the title

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[2] Professor Kibel teaches water law and international law at Golden Gate University School of Law and is the author of the book *Riverflow: The Right to Keep Water Instream* (Cambridge University Press 2021). He is also the author of the article *Damage to Fisheries by Dams: The Interplay Between International Water Law and International Fisheries Law*, UCLA Journal of International Law and Foreign Affairs (2017).

that we have selected for the keynote dialogue. The word I want to focus in on is not the noun fisheries but the verb fishing. And I'll explain why.

Under the 1997 United Nations Convention on Transboundary Watercourses there are provisions in that convention that focus on the principle of equitable utilization.[3] This is a bedrock foundational principle in international water law. The provisions of the 1997 Watercourse Convention[4] that focus on usage and on utilization deal with issues such as out-of-stream diversions of water for municipal or agricultural use or for certain instream uses such as the generation of hydropower.

But under the 1997 Transboundary Watercourse Convention there are separate provisions that deal with the protection of the environment and aquatic biodiversity, and that deal with the avoidance of environmental harm.

To date in dealing with this topic, of fishing and fisheries under the 1997 Transboundary Watercourse Convention, the focus has been on those provisions relating to avoidance of significant environmental harm or those provisions dealing with the protection of freshwater aquatic biodiversity. But when we talk about fishing as a verb, as an act – whether it is subsistence fishing, commercial fishing or recreational fishing – it's somewhat different from talking about fisheries. Fishing is different from fisheries in that it is a human activity. It is a human activity that is reliant on certain instream conditions. These include conditions that relate to fisheries such as instream temperature, such as salinity, such as turbidity, such as the condition of the bed and banks of the river in terms of spawning habitat, such as whether or not there's adequate passage upstream and downstream for migratory fish.

When one shifts the focus from fisheries to fishing, to the activity of fishing, what we are talking about is a use of water, the utilization of water and of transboundary rivers. And when we focus on fishing as a use, this shift moves some of the concerns about fisheries back into the foundational principle of equitable utilization of rivers.

As we consider fishing as a use of water, not simply a natural resource that is impacted by the use of water, I want to briefly mention two situations in the United States, one under California law and one under federal law, to give a sense of how fishing as a use of water for fisheries has been dealt with under domestic law and how it may relate to the broader international law principle of equitable utilization of water.

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[3] U.N. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, *opened for signature* March 17, 1992, 1936 U.N.T.S. 269 (entered into force Oct. 6, 1996).

[4] *Id*.

First example. Pursuant to the California Water Code[5], the California State Water Resources Control Board recognizes several "beneficial uses" of water. I'm not going to go through all of these uses, just the ones that seem most pertinent to our webinar today. In California, beneficial uses of water include the following: uses of water that support cold water ecosystems, including, but not limited to preservation or enhancement of fish; uses of water that support estuaries and ecosystems, including, but not limited to preservation and enhancement of fish, and, finally, uses of water that support estuaries and ecosystems, including but not limited to fish and the propagation, sustenance, and migration of estuary organisms. So when we think about dams that often block passage of fish upstream and downstream, it's interesting to note that, at least under California law, a beneficial use of water includes the use of water by fisheries and fisherman.

The second example I wanted to give is under federal law in the United States. In the United States many Native American tribes, and this is particularly true in the Northwest where salmon are present, have legal rights under treaties with the federal government to fish for certain fisheries and at certain locations.[6] The federal courts in the United States, in interpreting these Native American indigenous fishing rights, have held that these fishing rights can give rise to Native American tribes having enforceable rights to keep sufficient water flowing in stream to maintain these fisheries. The instream water rights are ancillary to the fishery rights.

So once again, in this example which is focused specifically on indigenous fishing rights, we see fishing rights – the activity of fishing – providing the basis for certain instream water rights. Enforceable rights, to keep water instream.

I'm highlighting these examples at the outset, before the dialogue with Gabriel, to highlight that although the concept of fishing as a utilization and a use of water may be an emerging idea within the framework of international water law such as the 1997 Transboundary Watercourse Convention, this concept of fishing as a use of water is more established under certain domestic legal systems, such as the two examples I provided related to the California Water Code and beneficial uses and related to Native American fishing rights.

With that framing I would like to welcome Professor Eckstein and invite him to offer some opening remarks before we get into the dialogue.

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[5] Cal. Water Code § 100, et seq.

[6] *U.S. v. Tribes of Colville Indian*, 606 F.3d 698 (9th Cir. 2010).

Professor Eckstein: Thank you Paul. I appreciate the opportunity to be part of this program and thank Golden Gate Law School and CUEL for the kind invitation. I'll keep this fairly short so we can get into the dialogue itself.

I think your point about uses such as fishing are particularly relevant because the notion of uses under the UN Watercourses Convention, and I think more broadly under customary international law, has been evolving. What we used the watercourses for 50 or 100 years ago has changed over time and I think that there has been a lot of flexibility, but also modification in the process. You're also arguing, though, that some of these uses actually predated and have existed in the past, such as fishing as a use. And this is something that I think that we haven't really explored perhaps as much as we should have.

There are other types of uses that need to be considered as societies develop, as new technologies are developed, and as new uses come to bear. I think that these kinds of discussions are valuable to consider what exactly do we mean by "uses" or "utilization" when we talk about equitable and reasonable utilization. What kind of uses are included, or not included, and fishing certainly is one of them. You could trace fishing uses back thousands and thousands of years. These are activities we take for granted. We take them for granted because we've done them for so long and we don't consider them as an official or actual type of use activity, and maybe we don't need to always mention it. I think that there's a lot of value here in raising these kinds of discussions. I'll just keep my introductory comments short and maybe we'll just dive right in.

Professor Kibel: Sounds great and to respond to some of the points Gabriel just made, at least in the United States, as we consider appropriative water rights, which are the dominant type of water right in the Western United States, in general the appropriative water rights doctrine has also been reluctant to recognize instream water rights. There are instream water concerns and interests, but in general one of the essential elements of an appropriative water right in most States has been the out-of-stream diversion of water.

So domestic water rights systems have also struggled with instream uses and how to capture them as rights, as water rights, and that's an evolving piece as well. Okay, you ready Gabriel? I have some prompts for you and we'll see where this all goes.

The first question I had and would be interested in hearing from you on is, there are water cases that have come before the International Court of Justice (ICJ), such as the 2010 River Uruguay case between Argentina

and Uruguay.[7] And, at least in that case, the issue of transboundary environmental impact assessment (EIA) was recognized as an international law norm. I'm curious what your view of the significance of recognizing transboundary EIA as an international law norm is, and whether the ICJ decisions on this question tell us much about the content or substance of that norm.

Professor Eckstein: In reference to the *Pulp Mills* case, it is important here because it was the first case, or one of the earliest cases, to recognize that an environmental impact assessment has become so well accepted, and part of our transboundary water management system, that it has become part of customary international law. Part of the problem is that we quite know what the content of that norm should be.

What exactly is an environmental impact assessment? Well, we know what such an assessment means in our own countries. We have rules and regulations within our particular national laws, but not in an international context. This has not been well defined. We do have the Espoo Convention[8], and we do have good experience in Europe, but I do think Europe tends to be quite a bit ahead of the rest of the world when we talk about transboundary rules and regulations and principles of water law, in terms of how water resources should be managed, and structured, and so on. So in the context of *Pulp Mills* and customary international law, there is the notion that some kind of environmental impact assessment needs to be done.

But, what does that mean? When environmental impacts may result from an activity or use that is about to be undertaken, the acting country is supposed to initiate an impact assessment to see exactly (1) whether there will be any harm, (2) what that harm will be, and (3) the extent of any harm. But this is still so broad in terms of what types of research are needed to address these questions, what types of investigations should be hired, and who should be involved in that research? Moreover, is it one sided, or should both countries be involved, meaning the country that is acting and the potentially affected country? Should they both be involved in the process of impact assessment? In addition, in looking at impact assessments, we have to consider whether we should only look at the human environment, or whether the assessment should include impacts on species, impacts on ecosystems, impacts on habitats, and/or impacts on the broader environment?

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[7] *Argentina v. Uruguay*, No. 135, 113, Holding that since Uruguay did not pollute the river, closing the pulp mill would be unjustified, 977, (International Court of Justice April 20, 2010).

[8] U.N. Convention on Environmental Impact Assessment in a Transboundary Context, *opened for signature* Sept. 2, 1991, 1989 U.N.T.S. 309 (entered into force Sept. 10, 1997).

There are also a lot of issues that we can talk about in terms of non-economic impacts. Whether it be aesthetics or the destruction of some ecosystem or species, it can be hard to quantify, in economic terms, what that impact may be for society and the rest of us.

I should note that we are so dependent on economics to tell us how to gauge our lives, in terms of whether we having a good life or bad life. This includes standard of living, cost of living, GDP, and so on. Everything in our society is set up in economic terms, and so when we have an impact that has a non-economic effect, we're not always sure if we need to take it into account for purpose of determining whether the water use should be undertaken. And most times when you consider hydropower, irrigation, or any kind of typical use from a transboundary river, or even a domestic river, there are both economic and non-economic impacts.

So the point here is that we don't have good guidelines. Not yet. Maybe we will in the future. But we currently don't have good guidelines for what should be included in an environmental impact assessment in a transboundary context. All we know is that we're supposed to do one.

Professor Kibel: For those of you that are a little less familiar with this area of law, Gabriel referenced the *Pulp Mill* case. The 2010 decision by the International Court of Justice on the River Uruguay is often referred to as the *Pulp Mill* case. And in that case the ICJ said, which many view positively, that transboundary environmental impact assessment is now a part of customary international law and is required. The challenges in that case were not to whether an environmental assessment was done but whether the assessment done was adequate. In the *Pulp Mill* case the ICJ did not have much to say on that point other than that that Uruguay was required to do an EIA and they did one.

There is an entire convention that is devoted to nothing but transboundary environmental impact assessment, the Espoo Convention. Yet when you go to the definition of environmental impact assessment in the Espoo Convention, it's defined as "a national mechanism to assess the impacts on the environment of a project." I'm not sure what the term "national mechanism" means in terms of content or substance. Something regulatory, right? But not very helpful in terms of guidance.

Okay, next question. And this relates, again, to environmental impact assessment. We have the 1997 Transboundary Watercourse Convention and other conventions related to the rights of countries to the equitable utilization of water in a transboundary context. And then we have 1991 United Nations Espoo Convention on environmental impact assessment.

My question for you Gabriel is what are your thoughts on the relationship between the provisions of the 1997 Watercourse Convention relating to the equitable utilization of water, and the Espoo Convention, which deals with transboundary environmental impact assessment. The reason I'm framing the question this way is that it seems in many instances EIA is where the rubber hits the road, it is often in the EIA context that equitable utilization concerns and conflicts are identified and initially addressed. So it seems that there is a connection between the two. I'm interested in your thoughts about whether you view them as mutually reinforcing or potentially at odds.

Professor Eckstein: I don't necessarily see them as at odds but I'm not sure I agree with you that they are so connected. In my mind, the no significant harm rule is more connected to environmental impact assessments than the equitable and reasonable use rule. When you consider equitable and reasonable use you are talking about the countries, the riparians to a particular waterbody that is transboundary, and how they can use that water in an equitable and reasonable manner. Equitable can refer to the apportioning the water, but can also refer to apportioning the benefits in some fair manner. And reasonableness pertains to the water use being reasonable under the circumstances. These concepts, however, are not well connected to impact assessment or how the use affects another riparian. Such effects are more in the realm of the no significant harm rule.

In addition, the equitable and reasonable use provision in the UN Watercourses Convention references adequate protection of the watercourse. So it suggests some kind of environmental consideration but its not quite clear what "adequate" protection of the watercourse might mean. In addition, that provision also refers to "a view" to attain optimal and sustainable utilization of watercourses, and the benefits thereof. So, the focus on equitable and reasonable utilization seems to be more focused on the uses and the benefits that are derived from those various uses, and making sure that the benefits are allocated equitably. In contrast, environmental concerns and concerns are left to other provisions under customary international law and in the UN Watercourses Convention, such as the no significant harm rule.

Professor Kibel: Just to respond a little, since this is a dialogue. I think Gabriel's characterization is accurate, in that if you're focused on the provisions of the 1997 Transboundary Watercourse on avoidance of harm, there seems to be a more obvious logical connection between environmental impact assessment, which is itself an exercise for identifying

significant environmental impacts or harms, and avoiding or mitigating them.

What I was hinting at is that if you view fishing, this gets back to my opening remarks, as also related to uses and utilization of water, that is why there may be more of a link with environmental impact assessment and equitable utilization principles than would initially be apparent. In that, if in an EIA you identify significant impacts on fisheries, then that's affecting fishing as a use, as we go through this reasonable and equitable balancing. But I think your point, if I'm understanding you correctly Gabriel, is that this had not traditionally, historically, been the way it's been done.

Professor Eckstein: It's not just that. You may have a completely valid use and utilization of the watercourse for fishing purposes. But the point of the principle of equitable and reasonable utilization is that you are allocating the benefits derived from all of the different uses in the competing uses. So, you may have fishing, agriculture, hydropower, and other uses that are taking place on that river, which can result in potentially conflicting uses. And if the uses do conflict, we have to figure out how best to allocate, not the water, but the benefits derived from all those different uses in an equitable manner. And equity is not equivalent to equality; and it does not create some kind of prioritization. Rather, it is a system that is supposed to be based on fairness and justice.

Article 10 of the UN Watercourses Convention does have a provision that states: "In the absence of an agreement or custom to the contrary, no use. . .enjoys inherent priority."[9] So, while all of the uses I mentioned earlier are considered equal, you now have to determine what are the equities in terms of the allocation of the benefits derived from those uses. And so yes, I do think that the impact on fishing from some of the uses are going to be part of the analysis, but I see that more as an impact on the no significant harm principle rather than a balancing of equities.

Professor Kibel: One last thought before we move on to the next question. When we think about instream uses of water for fish, like what level of instream flow is necessary to support a healthy fishery, that is sometimes a more difficult scientific and technical question to answer than quantifying the amount of water for municipal use, irrigation or hydropower generation.

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[9] U.N. Convention on the Protection and Use of Transboundary Watercourses and International Lakes art. 10, *opened for signature* March 17, 1992, 1936 U.N.T.S. 269 (entered into force Oct. 6, 1996).

Professor Eckstein: Yes.

Professor Kibel: It's a very scientific inquiry related to fisheries biology. Let's say you're going to be reducing or altering normal instream flow patterns, with effects on water quality from a project like a hydropower project. The EIA is a mechanism where you can actually quantify those impacts and quantify what levels of flows are needed to support healthy fisheries below the dam. EIAs can give us some of the information that would be helpful when engaging in the kind of broad based balancing that is involved with equitable and reasonable utilization.

Professor Eckstein: Building on that, I think what may be missing for us is an equities assessment. I think that one of the problems that people always seem to complain about with regard to the principle of equitable and reasonable utilization is: how do you implement it? It sounds so vague—the idea of how to assess what are the benefits that are derived from one use versus another use; and whether it's hydropower, fishing, irrigation, or manufacturing, how do you balance those uses and benefits? It's not articulated very well in the UN Watercourse Convention or in customary international law in terms of how to analyze the benefits derived from those different uses.

Additionally, analyzing the impact of the uses is one thing, but analyzing the benefits, which is more the focus of equitable and reasonable utilization, is something different. Whether you can do that type of analysis in an environmental impact assessment is not fully clear and may be beyond the scope of such assessments.

Professor Kibel: Alright, let's move on to another question. And this was prompted by some of my preparatory discussions with Gabriel in advance of this dialogue. Focusing in on those principles of international water law that relate to avoidance of significant harm, we have the 1997 Transboundary Watercourse Convention, but we also have the UNECE Helsinki Convention.[10]

One of the things you have noted, Gabriel, is that, point one, over time the number of signatories and parties adopting the Helsinki Convention seems to be gaining steam while we seem to be hitting a bit of a plateau with the UN Watercourse Convention. Why is that? That's probably a much broader conversation. This suggests that on a practical level the Helsinki Convention may be taking on a more prominent role going

[10] U.N. Convention on the Protection and Use of Transboundary Watercourses and International Lakes, *opened for signature* March 17, 1992, 1936 U.N.T.S. 269 (entered into force Oct. 6, 1996).

forward as the signatories expand. But, as a second point, it's my understanding that, and I don't want to misstate your views on this Gabriel, when it comes to the general principle of avoidance of environmental harm, your take is that the Helsinki Convention perhaps gives more weight to that principle than the UN Watercourse Convention.

For the rest of us that have not focused on this issue, perhaps you can explain why you believe that's the case. But two, if that is your view, what are the implications in terms of looking at fisheries and fishing, and how they might be dealt with differently under the Helsinki Convention?

Professor Eckstein: When looking at the Helsinki Convention and the UN Watercourses Convention, I think it's pretty clear that the Helsinki Convention is much more sophisticated. It just seems to be at another level. The UN Watercourses Convention is much more of a framework treaty in the sense that it gives you very general ideas of what the norms are, whereas the Helsinki Convention goes a step further in providing more details.

Now when you look at the two and compare them, you don't see as much of an emphasis on equitable and reasonable use in the Helsinki Convention. While that Convention does reference equitable use, it's in one minor provision. Of course, you could read into the Helsinki Convention that it is really based on equity amongst the parties, but that perspective is certainly not emphasized as the principle of equitable and reasonable utilization that we understand, that is part of customary international law, and that is articulated in the UN Watercourses Convention. You also don't have the no significant harm principle, in such terms, evident in the Helsinki Convention, as you do in the Watercourses Convention. What you have is the concept of adverse effects.

When you think about the threshold of these two ideas—adverse effects and no significant harm— you have to question what they might mean. With significant harm, you have to reach the threshold of "significant" before the impact becomes actionable. In contrast, an "adverse" effect has a lower threshold in terms of what activities can be allowed to continue before they have to be reconsidered because of the impact they may have on another riparian state or on the watercourse. To that extent I do think that the Helsinki Convention has taken the concept of what impacts are permitted or not permitted on a transboundary watercourse to that next level in terms of ensuring that we are integrating uses and impacts in a more comprehensive analysis. This is something which, as I said previously, has not been done as well under customary international law and certainly not in the UN Watercourses Convention.

Professor Kibel: To tie this back with some of our earlier discussion about the ICJ *Pulp Mill* case, there were some claims in that case related to air pollution but the bulk of them were related to discharges into the river of pollutants associated with the pulp mill's operation. And there was evidence submitted by Argentina related to the "significance" of the adverse impacts on water quality and its effect on fisheries. For whatever reason, the ICJ, at least in its opinion in this case, was not willing to engage in much of a scientific inquiry as to adversity, and essentially accepted Uruguay's position that, yeah, there's some impacts, but they don't seem to be that much. But the bar that case seemed to set for what significance meant seemed quite high.

So as a follow-up question Gabriel, if you look at the facts of the *Pulp Mill* case, there certainly was evidence of adverse effects of water pollution from the pulp mills related to fisheries, although the court found, at least under the Watercourse Convention, that it didn't rise to the level of significant. Do you think if you were focused on the provisions of the Helsinki Convention that analysis might come out different?

Professor Eckstein: I think it's definitely possible because when you're comparing significant harm with adverse effects, significant harm has a higher threshold that must be achieved before the impact becomes actionable. So what is significant? Well, that analysis will be very fact-specific and may be somewhat subjective in a courts' eyes. But adverse effect simply says that it has some kind of negative impact, and it's not necessarily requiring us to say how much of a negative impact. It just requires an adverse effect. This means that the threshold is lower and, if had been applied to the *Pulp Mills* case, may have resulted in a different outcome. However, most customary norms of cross-border impacts have been structured around the no significant harm rule, as articulated in the UN Watercourses Convention, and not on the adverse effects norm, which is found in the Helsinki Convention.

I must note, however, that the Helsinki Convention is certainly relevant and applicable in Europe. It started as a UNECE convention, and now has become open for global membership. And now you do see more countries joining that instrument. So, it appears interest in the Helsinki Convention's formulation seems to be broadening; maybe at some point, we will see a change in customary international law from a focus on the no significant harm rule to this lower threshold of adverse effects. But we're not quite there yet.

Professor Kibel: To circle back to how this links to some of our earlier discussion, the language in the Espoo Convention on transboundary envi-

ronmental impact assessment, the triggers for actually doing an EIA, once again, comes back to that language of significance and what is or is not significant environmental harm. The Espoo Convention doesn't say that you need to do an environmental impact assessment in any and all instances. The Espoo Convention provides that you need to do an EIA when there's the potential or evidence of a significant environmental impact.

We are going to have a presentation tomorrow from Maja Kostic-Mandic[11] on the current controversy between Montenegro and Bosnia and Herzegovina over a hydropower project under the Espoo Convention. But if you were briefing that type of a complaint, I think you would need to get into the question of significance. Because they don't really define it very well in the Espoo Convention. So then you're left to flesh it out in reference to either Helsinki or the UN Watercourse Convention.

Professor Eckstein: Let me take it one step further, because this actually became an issue in the in the *Silala* case that I was recently involved in.[12]

Professor Kibel: You might want to explain the *Silala* case a bit for our attendees.

Professor Eckstein: The *Silala* case was a dispute between Chile and Bolivia over a waterbody that Bolivia originally claimed was entirely domestic and Chile argued was transboundary. Eventually, Bolivia changed its position and the questions that ultimately went to the Court focused on determining what rights the parties have to that waterbody.

One of the issues in the case questioned whether Bolivia, which had taken certain actions in the upper reaches of the river, should have prepared an environmental impact assessment or provide notification to Chile, the downstream riparian, because of potential significant environmental harm to Chile. A corollary questions that then arose was: who would determine whether an impact was significant? As you read the UN Watercourses Convention, which is arguably the codification of at least some of the customary norms of international water law, it does say that nations have to take action to prevent significant harm. But who decides when a potential cross-border impact rises to the level of significant harm? And then, when you bring in the Espoo Convention, which is

[11] Professor Maja Kostic-Mandic, University of Montenegro Law Faculty, *Montenegro's Complaint Against Bosnia & Herzegovina under the Espoo Convention Regarding the Buk Bijela Project on the Drina River*, April 11, 2023.

[12] *Chile v. Bolivia*, No. 2022/62, Unofficial, Dispute over the Status and Use of the Waters of the Silala (International Court of Justice Dec. 1, 2022).

based on significant harm, at what point do you have to implement an impact assessment when its been determined that significant harm is a possibility? Under customary international law, the burden seems to be on the acting state, the state embarking on the activity that may have a cross-border impact. However, if the acting state decide that its activity will not have any cross-border impact that rises to the level significant, then there is no obligation to implement an environmental impact assessment, under Espoo or under customary international law. And, as a result, that state does not have to provide notification to other riparians. This may seem odd, and is something that I think will have to be reconsidered as nations continue to engage on transboundary water resources, at least in their treaty and cross-border project negotiations. Ultimately, I don't think it's been made fully clear who has or should have the obligation to determine the significance of potential cross-border impacts such that the EIA and notification obligations are triggered.

Arguably, the way it is currently understood, the obligation is in the hands of the acting state, not the state that may be affected. There is some language suggesting that the potentially affected state should have some say in the assessment process, but I think we are far from clearly understanding when these obligations are triggered.

Professor Kibel: The *Pulp Mill* and *Silala* cases reveal that confusion and uncertainty.

Professor Eckstein: Yes.

Professor Kibel: In California we have an environmental impact assessment law called the California Environmental Quality Act, CEQA.[13] And this issue of how to deal with significant versus not significant impacts has come up a number of times under CEQA.

The way it's been dealt with in California under CEQA relates to burdens of proof. The rule in California is that the agency preparing the EIA, we call it an EIR but it's an EIA, must present substantial evidence to support a finding that an impact is less than significant.[14] The burden is on the acting agency to develop substantial evidence that it's less than significant. That's important because if it goes before a court the burden is not on the party alleging significant harm to prove that it's more than significant. So it's burden shifting,with a substantial evidence standard.

[13] Cal. Pub. Res. Code §§ 21000 et seq.

[14] *Friends of "B" St. v. City of Hayward*, 106 Cal. App. 3d 988, 165 Cal. Rptr. 514 (Ct. App. 1980).

But we don't have the type of clarity under the Espoo Convention or international water law, that explains even what the standard is and who has the burden. At this point it is left open.

Professor Eckstein: I think that prioritization under international water law is still being developed. Economic development, I still believe, is the chief priority when considering equitable and reasonable utilization. Any kind of potential impact becomes secondary in that sense. So, if you try to put the obligation on the acting state to prove that its activity will not result in significant transboundary harm, I think that's an idealized future world. We are nowhere near that ideal yet.

Professor Kibel: We have time for one more question. This question relates to hydropower and, particularly, hydropower generated by in-stream impoundments and facilities and dams.

So you had mentioned that with equitable and reasonable utilization we generally don't have priorities. But as we think about the use of in-stream waters for hydropower generation, my question is: In light of climate change and the need to transition from carbon intensive sources of energy to low carbon sources, and hydropower tends to fall into the latter category, does that change the balancing in terms of water used for hydropower, does it give hydropower enhanced balancing considerations?

Where I'm going with this is whether there may be a kind of a subprinciple emerging within equitable utilization related to this concept of vital human needs, and that, however we define what vital human needs are, that those needs should be given extra consideration. Maybe vital human needs are more equal than others. I'm thinking of George Orwell's *Animal Farm*[15] – that all uses of water may be equal but that some uses are more equal than others.

What my question amounts to is, in light of climate change concerns, and the urgency of shifting to low carbon sources of energy, does that somehow suggest that hydropower as a use starts becoming something akin to a vital human need?

Professor Eckstein: The short answer is that we are starting to move in the direction you're suggesting, but we haven't quite achieved that goal. The longer answer is, I don't agree that we do not have prioritization of uses in international law. We would like to say there it doesn't exist, and we would even point to Article 10 of the UN Watercourses Convention, which says that no use has a priority over other uses. But, the fact is 100 years ago, the environment had no recognition under international water

[15] Orwell, George. 2021. *Animal Farm*. Collins Classics. London, England: William Collins.

law, let alone international law. Nobody cared about the environment. Yet, today, the environment has become a prominent priority in domestic and international water law. There are various social factors and concerns that that we have woven into our legal norms, into our legal systems, that have effectively created a *de facto* priority system.

I would even say that up until a 100 years ago human lives probably weren't prioritized like they are today. In World War I, for example, we saw the massive destruction that people can inflict on one another, . At that point people started to question whether we should start protecting human lives and peoples during armed conflict, which developed into the Geneva Conventions on the laws of war.[16] As a result, I do think that there always has been some prioritization. And while it hasn't always been clearly articulated, economic development has been, and still is, considered a top priority when utilizing natural resources like water. And when you consider the benefits that can be derived from equitable and reasonable utilization, we're primarily focused on economic benefits.

Over the decades, there has been a slow shift, since the environmental movements of the sixties and seventies, where today, we are seeing more emphasis being placed on environmental priorities. But we're not there yet. When comparing potential hydropower and electrification needs against the environmental impacts, most societies, certainly the developing world, will still go with the hydropower over any potential negative environmental impacts.

Now, bringing in climate change, if you talked about climate change 20-30 years ago, you had a lot of what I would call healthy skepticism. Today there really is no such thing as healthy skepticism when it comes to the subject. The facts are the facts. Climate change is a massive, huge boulder on our backs. And yes, we have started to internalize it into our regulatory systems, and into our economic systems, and to quantify the economic impacts of climate change.

So I think we're going towards the direction of what you're suggesting, of a more holistic approach to assessing not only the economic impacts of proposed activities, but also their social impacts, human impacts, and environmental impacts. We are beginning to take all of this into the evaluation process of equitable and reasonable utilization, but, it is a slow transition. And while we are moving forward with that transition, we continue to hold on to our priorities. It's part of the way we live in terms of deciding what we want right now, and what is more beneficial to us right now. Many countries, possibly most of the world, still

[16] U.N. GENEVA CONVENTION RELATIVE TO THE PROTECTION OF CIVILIAN PERSONS IN TIME OF WAR, *opened for signature* April 21, 1949, 973 U.N.T.S. 287 (entered into force Oct. 21, 1950).

regards economic development as the chief priority. But we are definitely seeing the impact from climate change starting to creep into that analysis and decision-making.

Professor Kibel: Just to clarify, I wasn't necessarily recommending or suggesting that climate change consideration should tilt the balance in favor of hydropower use. I was simply noting that problems like climate change present a difficult fit given traditional notions of what vital human needs are, but there is a lot of language out there in the political arena about the vital human need to move away from carbon intensive energy sources.

So at some point those issues come into play. Our experience here in the United States has been that opposition to and concerns about on-stream dams were the genesis of the birth of the United States environmental movement. Opposition to dams was a critical part of the rise of Sierra Club and John Muir's status as an environmental icon.

What we have seen in recent decades, and I work with a group called the Hydropower Reform Coalition (HRC) that is concerned about hydropower expansion, is that climate change has been a great gift politically for the hydropower industry. Because whereas before the hydropower industry was the bane of the environmental movement for literally a century, they've now rebranded themselves as part of the climate solution and there is some truth to that. There is some truth to that but the environmental impacts of hydropower and dams haven't gone away because of that truth.

So in the United States the hydropower sector has made excellent political use of climate change to justify maintaining and expanding hydropower. Some of that, I think, is genuine and responsive to the real concerns of climate change, and some of it seems like good strategic marketing. I'm noting the connection between the two and putting it out there for discussion.

Let's put it this way: if I were a fish, just work with me Gabriel, if I were a fish, I would be very concerned about hydropower interests being able to use climate change as justification for any and all hydropower projects, because that would present acute problems with fisheries.

Professor Eckstein: As clean as hydropower may be, you still have some significant challenges, like methane emissions from the reservoirs. So, I am not sure that hydropower is the "be all and end all" to deal with climate change. I think it could be part of a series of possible solutions, but in terms of a use of water, international water law allocates the equities, the benefits, between all the riparians. I do think that climate change

is starting to come into the analysis in terms of how we identify and evaluate the benefits that are being derived from the uses, as well as the harms suffered from dams and hydropower facilities, and how those benefits and harm should be balanced.