

# When Water Defines the Border;

A case study of the hydropolitical vulnerabilities and  
resiliencies in the San Juan River Basin between Nicaragua  
and Costa Rica

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# Abstract

This paper examines the hydropolitical vulnerabilities and resiliencies in the San Juan River Basin located on the border between Nicaragua and Costa Rica. This examination is possible by studying the characteristics of vulnerable and resilient international river basins presented in a UNEP report from 2007. Further, this paper will assess the risks of escalating conflict and the possibilities of a good cooperation between the riparian countries. The hypothesis of this paper is that the relationship between two countries that share a river that also defines the border between them tends to be more conflictive than cooperative. The findings of this paper show that the relationship between Nicaragua and Costa Rica has been tense because of the prolonged border dispute, and this makes it harder for them to cooperate over the water resources they share. However, there seem to be political will to cooperate because the poor environmental condition of the San Juan River Basin.

*Keywords:* Sustainable hydropolitics, Resilience, Vulnerability, San Juan River Basin, Nicaragua, Costa Rica, Border Dispute, Conflict, Cooperation.

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# Abbreviations

ICJ	International Court of Justice
NGO	Non-Governmental Organisation
OAS	Organisation of American States
SAP	Strategic Action Programme
UN	United Nations
UNEP	United Nations Environment Programme

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# 1 Introduction

*“Because international freshwater is shared, unequally divided, scarce and has the potential of being mismanaged, nations have two choices: conflict or cooperation.”<sup>1</sup>*

The concern for conflicts over international river basin has increased; as almost all river basins shared by two or more nations has had an international dispute of some sort. International river basins usually have many users and serve for many different purposes, and they have therefore become arenas for competitive exploitation by neighbouring countries.<sup>2</sup> And as a result of this, it has, like Robert Mandel highlights, *“...become increasingly difficult to distinguish between water as an environmental issue and water as a national security issue”*.<sup>3</sup>

The concern regarding conflict over international river basins are not without validation, because it is a resource that has been neglected both when it comes to quantity and quality for a long time. The UN estimates that by the year 2025, *“1800 million people will be living in countries or regions with absolute water scarcity, and two-thirds of the world population could be under stress conditions.”*<sup>4</sup> The problem of transboundary tensions over water should therefore not be underestimated as half of the world’s surface lies within international waterways; a total of 263 waterways are shared by 145 nations.<sup>5</sup> Further, UN statistics shows that *“Over 1.4 billion people currently live in river basins where the use of water exceeds minimum recharge levels, leading to the desiccation of rivers and depletion of groundwater.”*<sup>6</sup> Cooperation over international river basins is therefore a very important and highly relevant issue today.

Kofi Annan stated in 2001 that *“Fierce competition for fresh water may well become a source of conflict and wars in the future.”*<sup>7</sup> He continued the year after by stating; *“But the water problems of our world need not to be only a cause of tension; they can also be a catalyst for cooperation...If we work together, a secure and sustainable water future can be ours.”*<sup>8</sup> Historical research and empirical studies support Kofi Annan’s statement and shows that cooperation is more likely than conflict over water resources.<sup>9</sup>

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<sup>1</sup> Dinar, Shlomi. 2002. p. 248.

<sup>2</sup> Mandel, Robert. 1992. p. 25.

<sup>3</sup> Ibid.

<sup>4</sup> UN. [http://www.unwater.org/statistics\\_use.html](http://www.unwater.org/statistics_use.html)

<sup>5</sup> Wolf, Aaron. 2006. p. 3.

<sup>6</sup> UN. [http://www.unwater.org/statistics\\_use.html](http://www.unwater.org/statistics_use.html)

<sup>7</sup> Quoted in Wolf, Aaron. 2006. p. 1.

<sup>8</sup> Ibid.

<sup>9</sup> Wolf, Aaron. 2006.

Due to resource scarcity and degradation, the competition over resources will increase. Since, climate change and environmental degradation will above all affect countries with often weak institutions in the global south, there is an urgent need for inclusion, mediation and cooperation between states, organizations like the UN, and NGO's, to secure the well-being of all people and the environment.<sup>10</sup> However, some states are worried that cooperation between countries, when it comes to these issues, will decrease their own state sovereignty. Nevertheless, it is important to consider that state sovereignty and transnational cooperation does not necessarily stand in opposition to one another.<sup>11</sup> On the contrary, cooperation between states can help states share knowledge and build trust between them, and in this way better equip them for dealing with emergencies or other future challenges together.<sup>12</sup> However, transboundary cooperation over international river basins is a complex and complicated issue. Cooperation can pose several challenges for the riparian countries and make their relationship tense, both on a political and social level.

In Central America the potential for conflict over international water resources are calculated to be high because of the region's dependency on river basins for basic survival, industry, agriculture and production of energy.<sup>13</sup> However, despite this calculated risk, the region has a history of more cooperation over water resources than violent conflict. Even so, considering the risk of any type of conflict emerging, solid and stable forms of transboundary institutions are needed to secure the human and environmental security and to reduce the risk of conflict.<sup>14</sup>

I will in this paper study the sustainability of the hydropolitics by examining the hydropolitical vulnerabilities and resiliencies in the San Juan River Basin, located between Nicaragua and Costa Rica. Further, I will try to weigh up the risk of conflict and possibilities of a good cooperation between the two countries. This is a case that shows clearly the complexities of two neighbouring countries sharing a river basin situated on their national border, in a region with a violent past and with enormous vulnerability to climate changes.

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<sup>10</sup> Barnett, Jon. 2001. pp. 128-129.

<sup>11</sup> López, Alexander. 2010. p. 302.

<sup>12</sup> Klare, Michael. 2001. p. 225.

<sup>13</sup> López, Alexander. 2002. p. 406.

<sup>14</sup> López, Alexander – Jimenez, Alicia. 2009. p. 45.

## 1.1 Research question

Hydropolitical sustainability is required to prevent conflict from escalating and therefore the main research question for this paper is; *what are the hydropolitical vulnerabilities and resiliencies in the San Juan River Basin?*

I would like to further extend this question by examining *what the risk of escalating conflict and the possibilities of good cooperation in the San Juan River Basin* based on the analysis of the sustainability of the hydropolitics. These research questions are based on the hypothesis that nations which share an international river basin that also defines the border between them, tend to have more conflictive than cooperative relationship.

## 1.2 Purpose of the paper

The purpose of this paper is to examine the complexities of cooperation and the risks of conflict over transboundary a river basin, which also defines the national border, by studying the hydropolitical vulnerabilities and resiliencies. There are so many factors contributing to a dispute such as the one of the San Juan River Basin between Costa Rica and Nicaragua, and it is therefore important to have a broad understanding of the historical, social and political background to be able to build a sustainable cooperation together. Further, the purpose of this paper is to show another example of the possibilities and will of cooperation over environmental resources despite the complexity of the dispute.

## 1.3 Method

For this paper I have chosen to use a hypothetical deductive method. The hypothesis is based on a hypothesis presented in Robert Mandel's article "*Sources of International River Basin Disputes*". His hypothesis is that "*International river basin disputes over border issues tend exhibit more severe conflict than disputes over pollution control issues.*"<sup>15</sup> This hypothesis requires a comparative case study, and since I will only do one case study I have changed the hypothesis to fit my paper. The hypothesis for this paper is therefore that nations which share an international river basin that also defines the border between them tend to have more conflictive than cooperative relationship. I will base my research questions on the hypothesis, but I have developed my own research question and I will in

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<sup>15</sup> Mandel, Robert. 1992. p. 30.

this way examine the chosen case and then either strengthen the hypothesis or not, based on the result of the analysis.<sup>16</sup>

I will examine my research question by doing a qualitative research of one case. I have chosen to use a qualitative, or intensive, research method, as this will give me the chance to study in detail the case I have chosen and thus answer the research question more thoroughly. It would be interesting to do a quantitative research to be able to draw some broader conclusions, but given the time and scope of this paper I will focus on only one case.<sup>17</sup> I also find it more rewarding to investigate in detail one case to better understand the complexity and the values of that particular case. I will therefore focus on learning more about the specific case and not strive to draw any broader, generally applicable conclusions, since the fact that I only have one case study does not permit me to do that.<sup>18</sup> However, since I am testing a hypothesis in my case study, this might be useful for further research on similar cases, based on the result of the analysis and if the hypothesis is strengthened or not.

My goal is to first answer the main research question in detail, and then move on to answer the extended question based on the analysis of the main research question. My method is to use the characteristics of hydropolitical vulnerabilities and resiliencies described in the theoretical framework, and then present these characteristics in the San Juan River Basin. I will then analyze the hydropolitical vulnerabilities and resilience. Since it is seen as essential to have sustainable hydropolitics in an international river basin to avoid conflict, one can assess the risk of conflict and possibilities of cooperation by studying the hydropolitical vulnerabilities and resiliencies.

I will use a descriptive approach to describe the vulnerabilities and resilience of the hydropolitics in the San Juan River basin. Further, I will try to evaluate whether or not the sustainability of the hydropolitics is enough to prevent conflict from escalating between these two nations, or enough to build a good cooperation.<sup>19</sup> I will try to measure the vulnerabilities and resiliencies of the San Juan River by going through the history of the basin, the environmental conditions and the situation today.

The definition of the type of conflict I am referring to in this paper is also taken from Robert Mandel's article. The type of conflict I am referring to can be defined as a dispute that "*...may involve seemingly permanently unresolved issues and heated verbal recriminations from all sides and/or violent clashes.*"<sup>20</sup> I have chosen this definition of conflict because it is well suited for international river basin disputes. The likelihood of a full scale military war over a transboundary river shared by only two nations does not seem probable. One could, however, imagine sub-national conflicts between ethnic and social groups, but I will not take this into consideration in this paper.

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<sup>16</sup> Teorell, Jan - Svensson, Torsten, 2007. p. 50.

<sup>17</sup> Ibid. p. 267.

<sup>18</sup> Ibid. p. 264.

<sup>19</sup> Ibid. pp. 22-23.

<sup>20</sup> Mandel, Robert. 1992. p. 31.



### 1.3.1 Case Study

I have chosen to do a case study of only one case; the San Juan River basin located between Nicaragua and Costa Rica. I have chosen one case to be able to go deeper in my analysis of the research question. I also find this case particularly interesting since the Central American countries are not the typical case study of hydropolitical issues, and therefore they are less studied and analyzed than many countries in the Middle East, for instance. I think that it is important to include other regions and countries in the hydropolitical research and not forget about these countries that are exposed to great climate threats and has a very violent past. I also think that the San Juan River case makes an interesting case study because it shows the complex struggles over water resources and over the contested interpretations of rules, rights and legality in border politics.

To study this case I find it important to look back at the history, both of the region Central America and of the San Juan River dispute between Nicaragua and Costa Rica. Without taking the history into consideration it is impossible to understand the complexity of the relationship between Nicaragua and Costa Rica, and the complications of cooperation over the San Juan River Basin. As Central America is a small region with a lot of natural resources, the neighbouring countries often affect each other, and it is therefore important to see the San Juan River hydropolitics in the Central American context. Also it is important to have a historical view on this conflict, since my hypothesis include a water dispute in conjunction with a border dispute, and this might tend to induce more severe conflicts.<sup>21</sup>

### 1.3.2 Material and Previous Research

This paper is based on secondary material, since I have not had the opportunity to collect material myself. For the purpose for this paper, though, the secondary material has been sufficient. The material is basically academic articles written by leading scholars within their fields. Much of the literature is about hydropolitics in Central America and in the San Juan River basin. My case study is therefore based on previous research and case studies done in the area, in addition to information gathered from newspaper articles and documents and statistics from organizations on the internet.

I have chosen newspaper articles from some of the biggest newspaper in each country; “La Prensa” in Nicaragua and “La Nación” and “La Republica” in Costa Rica. I have chosen newspapers from both countries to get a more objective insight on recent events in the dispute. I also think it is important to include information from newspaper articles because this is the information that reaches the people and contribute to their opinion about the conflict and cooperation of the river basin. In addition, there has not been written much academic articles about

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<sup>21</sup> Mandel, Robert. 1992. p. 30.

recent events and developments in the basin, and therefore newspaper articles provide updated information for this paper.

The documents and statistics I have used in this paper have been collected from what I consider reliable sources, namely some organisations within the UN, OAS and the ICJ. The OAS has provided this paper with much updated information and they have also been one of the important actors in a cooperation project in the San Juan River Basin. The concept of hydropolitical sustainability and the characteristics of vulnerability and resilience are taken from a continental report conducted in 2007 by the UNEP called “*Hydropolitical Vulnerability and Resilience along International Waters: Latin America and the Caribbean*”.

Alexander López has done several regional studies in Central America, and his work has been of great influence and inspiration to this paper. However, I have also used work from more general studies on hydropolitics in international rivers basins, environment and security by leading academics like Aaron Wolf, Robert Mandel, Jon Barnett and Shlomi Dinar.

### 1.3.3 Disposition

I will first present the theoretical framework I have chosen to study my research question. This section consists of three under chapters with three different theoretical approaches; Sustainable hydropolitics, the new security threats and the democratic peace theory. Further, I will present the background on water resources, environmental degradation and border disputes in Central America, and then in the San Juan River Basin.

In the section where I present the San Juan River basin, I will first present the historical background of the basin, and then I will present some attempts at cooperation and the previous and current situation of water resources, environmental degradation. In these presentations the vulnerabilities and resiliencies in the hydropolitics will become evident. In the analysis I will discuss the vulnerabilities and resilience factors presented in the previous sections and based on this analysis I will examine the risks of an escalating conflict and possibilities of good cooperation. In the end I will come to a conclusion on both the research questions and the hypothesis.

## 2 Theoretical framework

Hydropolitical sustainability is seen as important to prevent conflict and to build a stable cooperation that will last in the future. I will therefore present here the concepts within hydropolitics. To understand the potential of conflict in international river basins it is also important to understand the shifting of security threats, so the new security terms will also be presented in this section. I will also present the theory of democratic peace, as this is also an important component and might be connected to conflict and cooperation over international river basins.

### 2.1 Hydropolitics and Sustainability

Hydropolitics, or the politics of water, is a relatively new term that arose as the discussion of potential conflict over international water resources came about. Hydropolitics “...relates to the ability of geopolitical institutions to manage shared water resources in a politically sustainable manner, ie. without tensions or conflict between political entities.”<sup>22</sup>

Within the term hydropolitical sustainability are the two concepts of “vulnerability” and “resilience”. Hydropolitical vulnerability, in this sense, is defined as “...the risk of political dispute over shared water systems”<sup>23</sup>, while hydropolitical resilience is defined as “...the complex human-environmental system’s ability to adapt to permutations and change within these systems.”<sup>24</sup> According to Aaron Wolf, it is rapid changes, either institutional or physical, that can lead conflict, if these changes outpace the system’s capacity to handle these changes. Rapid changes therefore tend to indicate vulnerability, whereas the institutional capacity, that is, the institutions capacity to recover after a shock or a disturbance, indicates resilience. Resilience is about reducing the vulnerability, not resisting it, and institutional plurality will contribute this. To study the hydropolitical sustainability then, one must assess these two concepts of vulnerability and resilience together.<sup>25 26</sup>

I have extracted some characteristics of hydropolitical resilience and vulnerability from the continental report, “*Hydropolitical Vulnerability and*

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<sup>22</sup> Wolf, Aaron. 2006. p. 23.

<sup>23</sup> Ibid. p. 23.

<sup>24</sup> Ibid. p. 23.

<sup>25</sup> Ibid. pp. 23-24.

<sup>26</sup> Barnett, Jon. 2001. p. 112.

*Resilience along International Waters: Latin America and the Caribbean*”, conducted in 2007 by the UNEP. I will use these characteristics to analyse the resilience and vulnerability, hence the sustainability of the hydro-politics, in the San Juan River Basin.

Some characteristics of resilience in international river basin are;

- *International agreements, organizations and institutions*
- *A historically good political relationship between riparian countries*
- *A history of cooperation*
- *High level of economic development*

On the other hand, some characteristics of a river basin that is at risk of vulnerability are;

- *Rapid environmental change*
- *Rapid population growth*
- *Unequal economic growth*
- *Major unilateral basin projects*
- *General hostile relationships between riparian countries*
- *Absence of institutional capacity*
- *Natural climatic variability, like rainfall patterns with frequent periods of floods and drought.*<sup>27</sup>

These characteristics are important to understand and take into consideration when analysing the potential of a water conflict. In order to have sustainable hydro-politics then, the creation of solid and stable institutions is necessary, as these institutions will establish a set of rules of conduct and a sharing of responsibilities. Establishing a good institutional framework is seen as a key aspect for gaining peace and environmental cooperation.<sup>28</sup>

Treaties are seen as an important institution in transboundary water disputes, and a contributor to hydro-political resilience. However, a treaty does not signify quarantined cooperation and peace between riparian countries.<sup>29</sup> Treaties can contribute to vulnerability as well as resilience in a river basin. Treaties and other institutions have to survive the same variety of stress that threatens the river basins. They therefore have to overcome climate changes like droughts and floods, political stress like elections and changes in government, and social stress like lack of public support and changes in values and norms. This means that the institutions need to possess the flexibility to handle changes within the basin, in addition to changes in politics.<sup>30</sup>

Conflict is seen as probable where the institutions are inadequate, for example where there is no formal system of water-use permits, or when there is lack of enforcement and monitoring. Also, if local participation is insufficient, conflict is

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<sup>27</sup> Wolf, Aaron. 2006. p. 24.

<sup>28</sup> López, Alexander. 2007. 43.

<sup>29</sup> Wolf, Aaron. 2006. p. 36.

<sup>30</sup> Ibid. pp. 36-38.

likely, since this fails to take local rights and practices into consideration.<sup>31</sup> Therefore, the development of capacity to monitor, predict and prevent transboundary water disputes is crucial to the human and environmental, and thus national security, especially in the developing countries.<sup>32</sup> Aaron Wolf further states that;

*“This suggests that there are two sides to the dispute setting: the rate of change in the system and the institutional capacity. In general, most of the parameters regularly identified as indicators of water conflict are actually only weakly linked to dispute. Institutional capacity within a basin, however, whether defined as water management bodies or treaties, or generally positive international relations, is as important, if not more so, than the physical aspects of a system.”*<sup>33</sup>

In complex disputes, like international river basin disputes, it may be difficult to come to a lasting agreement, because, as Aaron Wolf further states;

*“Disparities between riparian nations – whether in economic development, infrastructural capacity, or political orientation – add further complications to water resources development, institutions, and management. As a consequence, development, treaties, and institutions are regularly seen as, at best, inefficient; often ineffective; and, occasionally, as a new source of tensions themselves.”*<sup>34</sup>

Others Scholars, like Manuel Orozco, agrees with Wolf in this statement and further adds that unresolved treaties and problems of treaty interpretation have contributed to prevailing past and present conflicts.<sup>35</sup> This can be especially challenging in disputes where the river is forming a shared border between two countries. This kind of dispute tends to reflect a geopolitical sphere-of-influence concern and therefore appear to be more symptomatic of intractable zero-sum trade-offs between the competing parties.<sup>36</sup> And, as Robert Mandel emphasizes, *“Because water is continuously in motion, issues of control, jurisdiction and sovereignty are much more complicated than when dealing with static land resources.”*<sup>37</sup>

There are, however, several factors that can make cooperation easier and more likely. The internationalization of natural resource management is important to consider in hydropolitics because when countries are forced to follow

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<sup>31</sup> Wolf, Aaron. 2006. p. 27.

<sup>32</sup> Ibid. p. 5.

<sup>33</sup> Ibid. 2007. p. 4.

<sup>34</sup> Ibid. 2006. pp. 5-6.

<sup>35</sup> Orozco, Manuel. 2001. p. 8.

<sup>36</sup> Mandel, Robert. 1992. p. 29.

<sup>37</sup> Ibid. p. 25.

international norms of cooperation, it might be more difficult not to cooperate.<sup>38</sup> Thus, according to Alexander López “...the more a given issue area, such as transboundary environmental cooperation, is regulated by international norms of cooperation, the more permeable state boundaries should become for transnational activities.”<sup>39</sup> Therefore, internationalization of environmental problems and cooperation might help build more sustainable hydro-politics.

Also, a shift from a rights-based to a needs-based argument will make cooperation more likely. This means that while states were previously occupied with the rights they had over a river basin, they may in times of climate change and environmental degradation become more occupied with the needs of the populations and eco-systems. According to Aaron Wolf, most of the water conflicts solved have been needs-based and not rights-based, because it is easier to cooperate and create win-win-situations when the issue is about needs and not legal rights.<sup>40</sup>

## 2.2 The New Security Threats

It is important to see this shift in the security threats in order to understand why water conflicts are possible and why it is of concern to so many. Water resources are more than simply another environmental input; it is also a security issue. Water flows, like many other natural resources, ignores political boundaries, and it can therefore become a threat to national sovereignty, territory and security. However, the transnational environmental problems facing the world today and the efforts to deal with them seem to be reshaping the importance of national territoriality and state sovereignty.<sup>41</sup>

Traditionally the state is seen as autonomous, sovereign and mainly preoccupied with its national security, national interests and its own territory. In this traditionally view of the state the focus is very much on the nation-state instead of on the people living in it. Security in this sense is defined as “... security of territory from external aggression, or as protection of national interests in foreign policy or as a global security from the threat of a nuclear holocaust.”<sup>42</sup> This definition is, however, criticised for being too narrow considering the new challenges and the changes in the world after the Cold War.

This way of seeing the state and the national security is changing, and new concepts of security are emerging, like environmental and human security. Samuel Huntington predicts that in the future the national borders will be of less

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<sup>38</sup> López, Alexander. 2010. pp. 291-292.

<sup>39</sup> Ibid. p. 294.

<sup>40</sup> Wolf, Aaron. 2006. p. 12.

<sup>41</sup> López, Alexander. 2010. p. 292.

<sup>42</sup> Dalby, Simon. 2009. p. 41.

importance, and cultural and ethnic borders will be of greater importance.<sup>43</sup> Additionally, Michael Klare claims in his book that the new geography, with maps of resource location, will create resource boundaries instead of political boundaries.<sup>44</sup> Further, Robert Kaplan argues that with changes, such as environmental changes, migration flows, and the moving of borders, the state will lose its ability and power to protect its citizens, in the sense of legally protecting them, but also physically.<sup>45</sup>

The environmental threats are different than that of traditional military threats, and therefore the traditional ways of thinking about security are inappropriate. In the traditional view threats usually comes from other states and are violent and intentional acts, on the contrary “...*environmental threats tend to be diffuse, indirect, and international, originating both inside and outside the state concerned*” and “...*environmental degradation is a long-term process usually derived accidentally from routine economic activities.*”<sup>46</sup>

Some interesting dilemmas for state security emerge when it comes to international waterways. Since the geography of international rivers does not take national borders into consideration, it can pose some challenges to the notion of national sovereignty. One state can not take action on a shared river without affecting the other riparian state, and similarly, development of the water resources can not take place without cooperation between riparian states. If the different riparian states decide to take unilateral action to manage the water resources, this might lead to conflict.<sup>47</sup> Therefore the states come under a mounting pressure to manage the transboundary resources according to international norms, although this might undermine their state sovereignty. States are in a way asked to put aside their traditional notion of sovereignty and security, and start transboundary cooperation over water resources.<sup>48</sup>

However, linking environment to security does not necessarily mean an increased risk of riparian countries going to armed war against each other for the sake of water resources;<sup>49</sup> there are several examples where transboundary cooperation has led to a more flexible perception of national sovereignty, territoriality and national interests.<sup>50</sup> Nevertheless, mutual disagreement over how a river defines one’s border is regarded as a more severe security threat than simply the sharing of environmental degradation in an international river basin.<sup>51</sup>

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<sup>43</sup> Kaplan, Robert. 1994. p. 60.

<sup>44</sup> Klare, Michael. 2001. p. 215.

<sup>45</sup> Kaplan, Robert. 1994. p. 74.

<sup>46</sup> Dalby, Simon. 2009. p. 50.

<sup>47</sup> Dinar, Shlomi. 2002. pp. 238-239.

<sup>48</sup> López, Alexander – Jimenez, Alicia. 2009. p. 48.

<sup>49</sup> Dinar, Shlomi. 2002. p. 239.

<sup>50</sup> López, Alexander – Jimenez, Alicia. 2009. p. 48.

<sup>51</sup> Mandel, Robert. 1992. p. 30.

## 2.3 The Democratic Peace

After the Cold War the focus on liberalization as a means towards peace and democracy increased. The idea is to liberalize the markets, the economy and the politics to achieve the ultimate goal; a peaceful democracy. This is based on the assumption that democracies do not go to war against each other, and that they are less likely to relapse into internal conflict.<sup>52</sup>

This theory has however been highly contested and many scholars point especially to the early years of democratic transition and claim that these countries are prone to war because they swing back and forth from autocracy to democracy.<sup>53</sup> This discussion remains a matter of disagreement among scholars, but there is at least evidence that gives reason to scepticism of the theory of democratic peace.<sup>54</sup>

When it comes to environmental conflicts, Shlomi Dinar highlights the importance of differentiating between poor, undemocratic, politically unstable countries, and countries that are affluent and stable democracies. Because, as he points out; “...*studies indicate that there is a positive relationship between democracy and environmental preservation and peaceful resolution of environmental problems.*”<sup>55</sup> Therefore the political and social situation in the countries might affect the will and success of cooperation over water resources.

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<sup>52</sup> Paris, Roland. 2004. p. 5.

<sup>53</sup> Ibid. p. 45.

<sup>54</sup> Ibid.

<sup>55</sup> Dinar, Shlomi. 2002. pp. 235-236.



# 3 Water Resources, Disputes and Hydropolitics

To understand the situation of hydropolitics in the San Juan River it is important to have a regional understanding of water resources, cooperation and previous tensions. I will therefore first present the situation in Central America, and then continue to present the history, disputes, cooperation and water resources of the San Juan River Basin between Nicaragua and Costa Rica.

## 3.1 Water Resources and Disputes in Central America

Central America holds 7 % of the world's biological diversity and is extremely vulnerable to rapid climate change. One of the characteristics of the region is that it contains a large number of river basins; 120 in total, and 23 of these rivers, in addition to 40% of the protected areas in the region, are located in the borderlands between two or more nations.<sup>56</sup> In general, the Central American countries do not have a severe water scarcity problem, however, some information indicates that with the annual population growth index of 3,5%, the availability of drinking water will worsen and lead to a shortage of quality drinking water.<sup>57</sup> The major threats to the quality of the water are discharge of fecal matter, rural latrines, septic tanks and the high level of suspended sediment loads from soil erosion, in addition to high vulnerability to extreme weather events. Also, the creation of hydroelectric generation plants is causing social and environmental stress in the region, since this would cause more environmental change in form of pollution, floods and land expropriation.<sup>58</sup>

In Central America it is especially important to understand the historical background of disputes, because as Manuel Orozco states; “...*disputes in the region are a continuation of incomplete arrangements or unresolved disputes that coincide with the political opportunity of some players to revive old disputes to turn to their advantage*”.<sup>59</sup> In Central America natural resources, for the most part river basins have been used to draw the border lines between nations, without

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<sup>56</sup> López, Alexander. 2002. pp. 404-406.

<sup>57</sup> Ibid. 2007. p. 24-25.

<sup>58</sup> Ibid. p. 29.

<sup>59</sup> Orozco, Manuel. 2001. p. 1.

consideration of the conservation of the natural resources or management of these resources. Transboundary cooperation over natural resources can therefore be especially challenging because of the influence of ongoing border disputes in the region, and because of the fear of each state to lose their state sovereignty. The states in this region still have a strong connection to the traditional notion of sovereignty, territoriality and national interests.<sup>60</sup>

The boundary disputes are a result of the unclear definition of national borders that the Spanish colonizers left behind. Because of this there has been a dispute between almost all of the Central American countries about where to draw their national border. Just in the last three decades there have been seven boundary disputes that have escalated into major conflict. In four of these seven disputes it has been about Nicaragua's national border.<sup>61</sup>

The increasing focus on climate change and natural resources, especially water resources, has imposed new challenges to the countries in dispute, as this introduces new competitions between the riparian countries.<sup>62</sup> There have been several attempts of conflict resolution in form of treaties and accords, but these attempts have often been half-hearted and left room for future escalations.<sup>63</sup>

## 3.2 The San Juan River Basin

### 3.2.1 History of the San Juan River Basin

The San Juan River belongs to Nicaraguan territory, although the bank on the Costa Rican side belongs to Costa Rican territory and they have also been given certain navigational rights over the river. Historically, the San Juan River has been an area of disagreement all the way back to when the indigenous peoples' purposes of the river clashed with that of the colonial empire and later that of the two nations, Nicaragua and Costa Rica.<sup>64</sup>

The current San Juan dispute originated when the Spanish colonial rulers gave independence to the Central American countries and left the borders undefined. In 1858 Nicaragua and Costa Rica signed the Cañas-Jerez treaty which confirmed Nicaraguan sovereignty over the San Juan River and gave Costa Rica navigational rights. The dispute aggravated later around beginning of the 1900's because of the United States' interests to make a canal from the Pacific coast to the Atlantic coast through the San Juan River, similar to the one they later made in Panama. Nicaragua gave permission to the United States, but this was opposed by Costa

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<sup>60</sup> López, Alexander. 2010. pp. 292-293.

<sup>61</sup> Orozco, Manuel. 2001. p. 11.

<sup>62</sup> Ibid. p. 10.

<sup>63</sup> Ibid. p. 3.

<sup>64</sup> Villalobos, Sonia. 2005. p. 3.

Rica and they filed a case against Nicaragua to the Central American Court of Justice for violating the rights guaranteed to Costa Rica by the 1858 treaty.<sup>65</sup>

The two countries interpreted, however, the 1858 treaty differently and unfriendly relationship continued between the Somoza dictatorship and the different Costa Rican governments into the 20<sup>th</sup> century. Later, during the Nicaraguan revolution and counterrevolution<sup>66</sup>, the border between Nicaragua and Costa Rica became an important strategic location for the Contras<sup>67</sup>, which again made the relationship between the two nations tense.<sup>68</sup>

In the 1990's the environment became an important factor in the dispute, as the Nicaraguan government accused Costa Rican agricultural activities of polluting the river. Although environmental arguments were made, it was also an issue of national sovereignty for Nicaragua, as they considered the pollution from Costa Rica to be an invasion on Nicaraguan territory.<sup>69</sup>

At this point the enormous migration flows from Nicaragua to Costa Rica also contributed to provoking the conflict. The dispute escalated in around 1998 when Nicaragua felt threatened by Costa Rican police patrolling the river carrying weapons. Nicaragua considered this not only to be a violation of the treaty but also a threat to their national sovereignty, and they reinforced their military presence in the basin.<sup>70</sup> They also forbade Costa Rican police to carry weapons along the river. Costa Rica then threatened to take Nicaragua to The International Court of Justice in Hague, and Nicaragua responded by charging fees from Costa Ricans navigating on the river.<sup>71</sup>

In this same period of time they came to several agreements about the use of the river, only to annul them later. It was for the most part Nicaragua that annulled the agreements and they kept threatening to place more military along the river and they also threatened to arrest any foreign vessel navigating on the river. Costa Rica, which does not have a military, responded with diplomatic protest to all of the threats from Nicaragua, but they also demanded that Nicaragua repaid an electricity debt of \$475 million.<sup>72</sup>

However, in the late 1990's, both countries decided to work towards integration and cooperation due to the environmental problems facing the San Juan River Basin.<sup>73</sup> Although this effort was made to cooperate, there have continued to be confrontations between the two nations on a political and social level. Until recently, the conflict has for the most part been about the extent of the

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<sup>65</sup> ICJ. 2009. p. 3.

<sup>66</sup> The Sandinistas overthrew the Somoza dictatorship during the revolution from 1972-1979, and the U.S. supported Contrarevolution to overthrow the Sandinista Government was in the beginning of the 1980's.

<sup>67</sup> Contras was a U.S supported guerilla organization that fought to overthrow the new Sandinista government in Nicaragua.

<sup>68</sup> Villalobos, Sonia. 2005. pp. 3-4.

<sup>69</sup> Ibid. p. 5.

<sup>70</sup> Orozco, Manuel. 2001. p. 20.

<sup>71</sup> Villalobos, Sonia. 2005. p. 5.

<sup>72</sup> Orozco, Manuel. 2001. pp. 20-21.

<sup>73</sup> Paulet-Iturri, Manuel. 2005. p. 3.

navigational rights the Costa Ricans should have and about military presence along the river.<sup>74</sup>

In addition, the migration problem and the criminal activities that follow, like drug smuggling, have contributed to keeping the dispute alive.<sup>75</sup> The illegal immigration from Nicaragua to Costa Rica has inflamed the dispute in several ways, especially since the San Juan River is where most illegal migrants cross to get into Costa Rica. In 2006 Costa Rica formed a new migration law that criminalizes the Nicaraguan illegal immigrants searching for work.<sup>76</sup>

A large amount of anti-Nicaraguan sentiments has emerged among the Costa Rican people as a result of the migration flows<sup>77</sup>, and this can also affect their feelings towards the San Juan River cooperation. A study of the Costa Rican media coverage of the San Juan River dispute showed that the newspaper coverage of the two largest newspapers in Costa Rica had both a tendency to write more negatively about the other part, and to promote hostile and conflictive attitudes.<sup>78</sup>

There has also been observed a resistance to change the view of the San Juan River to a basin instead of a border.<sup>79</sup> Although an improvement has been registered of the attitudes in media coverage of the dispute, there is still the a resistance to recognize the San Juan River as a basin and not only a border, and this has made the shift from pro-conflict to pro-cooperation harder, and hostile sentiments still linger.<sup>80</sup>

Finally, 2005, Costa Rica filed a case against Nicaragua to the International Court of Justice about the navigational and related rights in the San Juan River. The major disagreement at this point was the types of navigation that was covered by the “perpetual rights” Costa Rica was granted in the 1858 treaty.<sup>81</sup> Specifically, as stated by the ICJ, the disagreement was about the

*“...definition of the activities covered by the right in question and of those which, not being thus covered, are subject to Nicaragua’s sovereign power to authorize and regulate as it sees fit any activity that takes place on its territory, of which the river forms part.”<sup>82</sup>*

The court concluded in 2009 that the navigational rights of Costa Rica include navigation for purposes of commerce, transporting tourists and of fishing. They do not need to have Nicaraguan visas or pay any fee to navigate the river. The Court also judged that people living on the Costa Rican bank of the river have the

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<sup>74</sup> Orozco, Manuel. 2001. p. 19.

<sup>75</sup> Ibid.

<sup>76</sup> Latin American Monitor. 2005.

<sup>77</sup> Bishop, Lea. [http://humanrights.uchicago.edu/Baro/Martin%20Baro%20paper%20\(Bishop\).htm](http://humanrights.uchicago.edu/Baro/Martin%20Baro%20paper%20(Bishop).htm)

<sup>78</sup> Villalobos, Sonia. 2005. p. 11.

<sup>79</sup> Ibid. p. 12.

<sup>80</sup> Ibid.

<sup>81</sup> ICJ. 2009. p. 6.

<sup>82</sup> Ibid.

right to navigate between the riparian communities for “...*the purposes of the essential needs of everyday life which require expeditious transportation*”.<sup>83</sup> They do not, however, have the right to navigate with vessels carrying out police functions.<sup>84</sup> The Court highlights the point that “...*the right of free navigation, albeit “perpetual”, is granted only on condition that it does not prejudice the key prerogatives of territorial sovereignty.*”<sup>85</sup>

### 3.2.2 Procuencia San Juan

In 1994, the governments of Costa Rica and Nicaragua requested UNEP and OAS’s assistance in undertaking a diagnostic study on the state of the San Juan River basin and its costal zone. The study was carried out in 1995-1996 by the Ministries of Environment in both Nicaragua and Costa Rica, and it established the environmental, social and economic challenges facing the river basin and purposed guidelines.<sup>86</sup>

The Procuencia San Juan is a cooperation between international, national, regional and local actors in Nicaragua and Costa Rica for the “*Formulation of a Strategic Action Program for the Integrated Management of Water Resources and the Sustainable Development of the San Juan River Basin and Coastal Zone.*”<sup>87</sup> The Strategic Action Program (SAP) was conducted from 2001 to 2005 and its goal was to contribute to the conservation of the natural resources and the social and economic development in the basin. Also its purpose was to address transboundary issues between the riparian countries and strive for an integrated approach to the management of freshwater resources.<sup>88</sup>

The program was meant to be a pilot for future cooperation programmes between Nicaragua and Costa Rica. A terminal evaluation report of the program concluded that there were “...*very important and major indirect benefit stemming from several of the project activities as distinct from their direct results and outputs.*”<sup>89</sup> Further, it concluded that the conditions and motivation of each country was different, but that they seemed to have a common interest in improving the San Juan River basin. The programme gets some critique for not including all necessary actors, especially on a lower level, but there is however observed motivation and will from national authorities.<sup>90</sup>

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<sup>83</sup> ICJ. 2009. p. 17.

<sup>84</sup> Ibid. pp. 16-17.

<sup>85</sup> ibid. p. 7.

<sup>86</sup> OAS. 2005. p. 15.

<sup>87</sup> OAS. 5. <http://www.oas.org/sanjuan/>.

<sup>88</sup> OAS. 5. <http://www.oas.org/sanjuan/>.

<sup>89</sup> Paulet-Iturri, Manuel. 2005. p. 8.

<sup>90</sup> Ibid. pp. 13-15.

### 3.2.3 Water Resources, Population and Environmental Degradation

The San Juan River basin is the most significant transboundary freshwater reserve in Central America, as it constitutes the largest lake in the region; Lake Nicaragua, and also contains large amounts of high-quality groundwater.<sup>91</sup> However, the last decade's social and economic transformations have provoked massive environmental changes in the region, and the San Juan River basin suffers from environmental deterioration such as deforestation, erosion, sedimentation and pollution.<sup>92</sup>

Problems identified by the diagnostic study, carried out by Procuencia San Juan, include; accelerating degradation of transboundary ecosystems, overexploitation of valuable natural resources, soil degradation and increasing sedimentation, pollution of water bodies, high vulnerability to natural hazards, disintegration of social groups and uprooting from territory, inadequate political, legal, and institutional framework for integrated management and loss of economic potential.<sup>93</sup>

The river basin has a population of about one million and 73% of them live in Nicaragua.<sup>94</sup> Most of these people live below the poverty-line and lack access to safe drinking water and sanitation. There are great differences in the living standards in Nicaragua and Costa Rica, as Costa Rica is a far more developed country than Nicaragua. However, in the river basin area, the living standard and economy are significantly below the averages of both countries. The poor quality of life in this area has been one factor leading to a lot of migration from Nicaragua to Costa Rica.<sup>95</sup> The issue of poverty is very important because it spreads across both countries and affects the manner in which natural resources are managed. And as observed by the diagnostic study carried out in the river basin;

*“On the one hand, there are populations with very low incomes and a predatory approach to resources, resulting in the overexploitation and degradation of the habitat. On the other hand, there is the need to develop the zone to reduce the incidence of poverty, which can cause more pollution, increased energy consumption, and damage to the environment if measures are not taken to prevent, control, and reduce the environmental impact of such activities.”<sup>96</sup>*

In addition to poverty, the increasing climate changes, in form of hurricanes, tropical storms and volcanic activity, has led to more migration and difficulties for the freshwater supply.<sup>97</sup> The river also serves a lot of different purposes and is

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<sup>91</sup> OAS. 2005. p. 1.

<sup>92</sup> López, Alexander. 2007. pp. 21-22.

<sup>93</sup> OAS. 3. <http://www.oas.org/sanjuan/english/documents/tda/analysis.html>.

<sup>94</sup> OAS. 2005. p. 9.

<sup>95</sup> OAS. 2005. pp. 1-2.

<sup>96</sup> OAS. 4. <http://www.oas.org/sanjuan/english/documents/tda/information/economics.html>.

<sup>97</sup> OAS. 2005. pp. 1-2.

therefore exposed to severe pollution. Among other things, it is greatly used for navigating and transporting trading goods and passengers between the different communities on both sides of the border.<sup>98</sup> Municipal and industrial wastewater already poses a threat to the quality of the water in the river, as many people deposit the water with no prior treatment.<sup>99</sup> The recent studies carried out in the San Juan River basin conclude that considering the importance of the river basin to the population in the area, it is very likely that the basin will come under increasing pressure from human exploitation.<sup>100</sup> Several hydroelectric projects and other types of projects, like building dams, have also been suggested by the Nicaraguan government in the basin. These kinds of project would severely impact the flow rate, and eventually, the navigation of the river. It would also affect the aquatic life in the area, and the construction work related to these kinds of projects would cause environmental degradation.<sup>101</sup>

### 3.2.4 The San Juan River Dispute Today

After the ICJ verdict there has been a relatively good relationship and less tension between the two nations. However, after a calm period of about a year<sup>102</sup>, some difficulties have emerged again, as Nicaragua has now been accused of continuing to charge fees from Costa Ricans navigating on the river. In addition, they are accused of confiscating merchandise, and not permitting Costa Rican merchandisers to carry weapons to protect themselves. Costa Rica claims that this goes against the ruling of the ICJ. Nicaragua, on the other hand, says that the river is their territory and they can not permit foreigners to carry weapons on the river. Also, the Nicaraguan President issued a regulation following the ICJ verdict that obliges the Costa Ricans to ask for permission to navigate, and also permits Nicaraguans to monitor the vessels and make controls.<sup>103</sup> The Nicaraguans also accuse Costa Ricans of several illegal activities on the river, like illegal fishing and transportation.<sup>104</sup>

Recently, there has also been a large discussion about Nicaragua's wish to dredge the river. Costa Rica has opposed this and asked for an evaluation of the potential damages this would cause on Costa Rican territory. Nicaragua, however, interpreted this as a need to ask for permission from Costa Rica, and therefore refuses to wait. The Costa Rican newspaper "La Nación" makes their opinion clear by stating that they have had enough of the bullying and jealousy from Nicaraguans, and that they will defend their territory and national interests.<sup>105</sup> A

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<sup>98</sup> OAS. 1. [http://www.oas.org/sanjuan/english/documents/tda/information/water\\_use.html](http://www.oas.org/sanjuan/english/documents/tda/information/water_use.html).

<sup>99</sup> OAS. 1. [http://www.oas.org/sanjuan/english/documents/tda/information/water\\_use.html](http://www.oas.org/sanjuan/english/documents/tda/information/water_use.html).

<sup>100</sup> OAS. 2. [http://www.oas.org/sanjuan/english/about/project\\_brief/background.html](http://www.oas.org/sanjuan/english/about/project_brief/background.html).

<sup>101</sup> OAS. 1. [http://www.oas.org/sanjuan/english/documents/tda/information/water\\_use.html](http://www.oas.org/sanjuan/english/documents/tda/information/water_use.html).

<sup>102</sup> La Republica. 17.07.2010. [http://www.larepublica.net/app/cms/www/index.php?pk\\_articulo=37916](http://www.larepublica.net/app/cms/www/index.php?pk_articulo=37916)

<sup>103</sup> La Prensa. 19.03.2010. <http://www.laprensa.com.ni/2010/03/19/nacionales/19616>

<sup>104</sup> La Prensa. 10.08.2010. <http://www.laprensa.com.ni/2010/08/10/nacionales/34137>

<sup>105</sup> La Nación. 25.07.2010. <http://www.nacion.com/2010-07-25/Opinion/Foro/Opinion2459214.aspx>

new “word-war” has therefore emerged between the two nations and tense relationship still remain today because of lack of implementation of the ICJ ruling.<sup>106</sup>

The new President of Costa Rica stated recently that she is hoping to improve the diplomatic relationship with Nicaragua, as she thinks this has not been prioritized by previous governments.<sup>107</sup> She says that it serves in the best interests of both countries to have a safe and protected San Juan River Basin.<sup>108</sup> The Nicaraguan President has also stated recently that he wants a good diplomatic relationship with Costa Rica, but that it is absurd and a mistake by Costa Rica to claim that Nicaragua needs Costa Rica’s permission to dredge the river.<sup>109</sup>

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<sup>106</sup> La Prensa. 05.04.2010. <http://www.laprensa.com.ni/2010/04/05/nacionales/20974>

<sup>107</sup> La Prensa. 19.07.2010. <http://www.laprensa.com.ni/2010/07/19/politica/32043>

<sup>108</sup> La Prensa. 05.04.2010. <http://www.laprensa.com.ni/2010/04/05/nacionales/20974>

<sup>109</sup> La Republica. 17.07.2010. [http://www.larepublica.net/app/cms/www/index.php?pk\\_articulo=37916](http://www.larepublica.net/app/cms/www/index.php?pk_articulo=37916)



## 4 Analysis

In this section I will analyze the hydropolitical vulnerabilities and resiliencies in the San Juan River Basin presented in the previous sections. I will then use the theories of the new security threats and the democratic peace and try to determine the risk of an escalating conflict and the possibilities of a sustainable cooperation between Nicaragua and Costa Rica over the river basin.

### 4.1 Resilient or Vulnerable River Basin

By going through the history of the San Juan River one can see that there are several factors affecting this dispute, such as political and economical gain, fear of loosing sovereignty, migration, in addition to a periods of hostile relationship. When looking back at the characteristics of a vulnerable and a resilient river basin, one can see that the San Juan River possesses several characteristics of both the concepts.

First of all, the 1858 Cañas-Jerez treaty is of great importance in this dispute. As noted by Aaron Wolf, and several other scholars, treaties can sometimes be unsuccessful and in some cases a source of more tension between riparian countries. Although treaties are seen as a factor contributing to stronger resilience, it can also be seen as vulnerability when the treaty is interpreted in different ways. As Manuel Orozco states; *“A key general issue that explains the continuation of boundary problems is, that despite agreements over new boundary lines, Central American states have a weak capacity to delimit those boundaries or to maintain jurisdiction.”*<sup>110</sup> In this way, one can see that a treaty is ineffective if there are no institutions around the treaty to secure the implementation and control of it. This has obviously been the case in the San Juan River, where they signed a treaty already in 1858, but the tensions between them lingered and still prevail today.

Treaties can be seen as a major accomplishment in a dispute like this, but the strength of treaties as an institution can be questioned when looking at the effects in some specific cases. The treaty signed in 1858 has certainly led to misunderstandings and different interpretations, which again has caused tensions. One of the flaws with this treaty might be that it only takes the border factor and the rights of the different nations into consideration. It does not mention water

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<sup>110</sup> Orozco, Manuel. 2001. p. 9.

management nor monitoring, neither does it consider local rights or practices. It simply clarifies the water-use rights of the two nations, and even this has been imprecise, seeing that they had to file a case to the ICJ to get a neutral interpretation of the treaty. Like mentioned in the theoretical framework, all of these issues are important to include in a treaty to build a good and lasting agreement, and also to avoid conflict. One can, of course, argue that without a treaty there would probably be more tensions and maybe even a violent conflict between the two nations, and therefore the treaty, even though not perfect, has contributed to stabilizing the dispute.

The main argument for an effective cooperation is that stable institutions are necessary. In the San Juan River basin there have been initiatives of institutional framework, but still the creation of transboundary organizations has been slow. Since the dispute still prevails to some extent, one can argue that the institutions lack implementation and are therefore ineffective and unstable. Nonetheless, the fact that they did seek help and justice from a third party, the ICJ, when they could not agree on the extent of the navigational rights of Costa Rica, shows the will to come to an agreement and cooperate. The international ruling might also make the treaty between them more stable and lasting since they now have to follow international law and norms of cooperation.

In the case of the San Juan River several bilateral meetings, negotiations and new agreements have been attempted, but only to annul or ignore them later. Usually it has been Nicaragua annulling them, claiming that they were not finished or did not have popular support. This might indicate a lack of trust between the conflictive parties, and it can certainly lead to more distrust when one of the parties does not keep their part of an agreement and change their position up to several times.

The long history of tension between Nicaragua and Costa Rica over the San Juan River basin is a clear vulnerability. Although they have never declared war against each other, there have been threats and hostile actions from both sides. One can see, however, a difference between the two nation's actions towards each other. While Nicaragua has often threatened with military power and strength, Costa Rica has for the most part answered in diplomatic manners, although they have made some economic threats. This might be explained by the fact that Nicaragua has felt threatened on their own territory, while Costa Rica has merely been fighting for their rights on this territory.

These actions may also be explained by looking at the different governance in the countries. While Costa Rica has a long tradition of democracy and peace, Nicaragua has a history of harsh dictatorship and civil war. In this way one can see that Nicaragua is a more vulnerable country than Costa Rica. Nicaragua is a much poorer country and has very unequal economic development, while Costa Rica has stronger resilience since they have a higher economic development and a tradition for building strong institutions. Another contributing factor is that Costa

Rica has not had a military since 1948, and this sends out a strong message of hope for peace in a region with heavily militarised neighbouring countries.<sup>111</sup>

Another factor that may influence Nicaragua's aggression in this dispute is the history of boundary disputes Nicaragua has had with other neighbouring countries. Nicaragua has felt threatened for their sovereignty on all sides of their country, and might therefore be particularly sensible in the San Juan River dispute with Costa Rica. It is apparent that especially Nicaragua has problems with changing their traditional view of sovereignty and security.

The San Juan River Basin serves as an example of where the creation of transboundary institutions has had to overcome the challenge of prevailing tensions caused by other factors than the environment.<sup>112</sup> When examining this dispute it seems like the environmental factor is of minor importance compared to the border issue. The change in the view of the river as a basin and not a border is essential to be able to create the right institutions for managing the river. In addition, it is important that it is seen as a basin and a natural resource, as this will most probably make it easier to cooperate, as opposed to cooperating over a border. A focus on the water resources will make it easier to create institutions and projects that both nations can benefit from. Therefore the shift from a rights-based focus to a needs-based focus is very important, as most resolved disputes over international river basins have been based on needs and not rights. Hopefully, the shift towards prioritising the needs will be easier now after the verdict from the ICJ confirms the different rights of the two countries and can allow them to focus on other issues.

Another important consideration is that water disputes are not merely disputes over water quantity, as Aaron Wolf argues, it is also a dispute over meanings, attitudes and contexts.<sup>113</sup> This is very relevant in the San Juan River dispute, where the water resources have not always been the most important argument between the disputing parties. When looking at the environmental changes and degradation that is happening in the area one can understand the urgency of cooperation over the river basin. It is highly vulnerable to extreme weather events in addition to pollution and degradation. There should therefore be a discussion about the quality and not merely the quantity of the water resources. Focus on quality is more important for cooperation than quantity because quality is something everyone can gain from and it is easier to achieve. The quantity of water has often lead countries into dispute, and it will also be wrong focus since the San Juan River dispute is more about quality than quantity.<sup>114</sup> It is therefore a need of assessment over the most important issues to consider in this dispute, because only if the riparian countries have the right focus can they find the right solution to their problems.

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<sup>111</sup> Barash, David – Webel, Charles. p. 441.

<sup>112</sup> López, Alexander. 2007. p. 42.

<sup>113</sup> Wolf, Aaron. 2006. p. 25.

<sup>114</sup> López, Alexander. 2007. p. 43.

The Procuencia San Juan and the SAP is clearly one of the greatest positive achievements in this dispute, and a strong resilience factor. This programme was so strong because it was a cooperation of local, regional, national and international actors to develop and conserve the river basin and the population in the basin area. Although they got some critique for not being inclusive enough, it was an effort to take the local needs into consideration when developing a plan of action, and they had the political will from their national governments, in addition to the support of international organizations. This is a good recipe for a sustainable cooperation between two riparian countries over an international river basin. The SAP included all the important components mentioned in the theoretical framework for creating strong and stable institutions, and can therefore, if followed up, be of great importance for the future of the cooperation over the San Juan River Basin.

However, despite this cooperation programme, they could not agree on the issue concerning navigational and related rights over the river. Thus, in this particular case, they did not find it easier to solve other policy issues once they cooperated over environmental issues.

One of the challenges facing the governments of both countries now is to build mutual trust between them and to prevent competition, jealousy and ancient tensions from getting in the way of cooperation over the San Juan River Basin. The creation of win-win-projects will most likely contribute to building mutual trust and confidence.<sup>115</sup>

## 4.2 Conflict or Cooperation

The hypothesis of this paper is that the relationship between two nations that share a river that defines the national border tends to be more conflictive than cooperative. So, based on the analysis of the hydropolitical resilience and vulnerabilities presented in the previous sections, *is it possible that the conflict will escalate or that a sustainable cooperation will develop in the San Juan River basin?*

The San Juan River Basin has experienced a lot of changes through the history in form of political changes and environmental changes, as presented in previous sections. Considering all of these changes and that the institutional framework has not always been stable, nor strong, does conflict seem probable in this river basin. Nevertheless, violent conflict has never emerged between the two nations, despite poor diplomatic relationship in the past and threats from both sides. However, according to this paper's definition of conflict, unfriendly diplomatic relationship and verbal threats is also a type of conflict. In this way there has been almost a constant conflict between them the last centuries. Even so, violent clashes that

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<sup>115</sup> López, Alexander. 2007. p. 43.

have led to several deaths have been avoided and this must be seen as an accomplishment in this region that is haunted by extreme violence.

The fact that the two countries are democracies may have an influence on the way they handle a dispute. Still, this dispute has lasted for centuries and the two countries has not always been stable democracies, and indeed one can argue that Nicaragua still has a long way to go to reach a stable democracy.<sup>116</sup> But even when Nicaragua was governed by a dictatorship for decades<sup>117</sup>, there were no significant violent clashes between the two countries over the San Juan River. It is also interesting to observe that the conflict escalated around 1998, with more military presence in the river, when Costa Rica already was a stable democracy, and Nicaragua was in democratic transition.

When looking at the dispute from a security perspective, one can ask if the security threat has been great enough to cause violent conflict. As mentioned previously, Nicaragua has felt threatened for their sovereignty several times, and recently Costa Rica has also expressed worries for their own territory because of the dredging Nicaragua wants to implement on the river basin. Risk of conflict may emerge if unilateral project are implemented in the basin, and it is therefore worrying if Nicaragua proceeds with their project without consulting Costa Rica and without evaluating the potential damages this might inflict on Costa Rican territory. Developing a unilateral project that are inappropriate for the other riparian country will cause more negative tensions, and it is therefore in the best interest of both countries to develop a cooperative management project.<sup>118</sup>

One can, nevertheless, see that although one of the strongest conflicts of interests in Central America is taking place in the San Juan River Basin, cooperation is possible even though several points of disagreement remain.<sup>119</sup> The so-called word-wars continue between the two governments and articles and interviews in newspapers continue to play on old hostile sentiments and stereotypes of Nicaraguans and Costa Ricans,<sup>120</sup> and this contribute to keeping the dispute alive.

Yet, when examining the situation between the nations today, it seems like they both have a genuine wish to improve their relationship and cooperate together. They still have several obstacles to overcome, but it is important to see the positive developments and focus on that, like Alexander López highlights;

*“It is important to point out that the political interests of the basin countries are important in deciding whether countries head towards cooperation. However, even more crucial is the fact that Central American governments are beginning to look at international river basins as elements for promoting regional integration in border areas*

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<sup>116</sup> SIDA. 17.06.2009. <http://www.sida.se/Svenska/Lander--regioner/Latinamerika/Nicaragua/Utvecklingen-i-Nicaragua/>

<sup>117</sup> The Somoza dictatorship lasted for over 40 years in Nicaragua and ended in 1979.

<sup>118</sup> López, Alexander – Jimenez, Alicia. 2009. p. 48.

<sup>119</sup> López, Alexander. 2007. p. 43.

<sup>120</sup> Villalobos, Sonia. 2005. p.9.

*rather than perceiving these areas merely as natural borders and security zones.*”<sup>121</sup>

Examples from other transboundary cooperation projects in the Central American region show that cooperation over environmental themes often builds trust and confidence between riparian countries. If Nicaragua and Costa Rican can cooperate properly together over a new programme for the water resources in the San Juan River basin that focus more on the water and environmental factors instead of the border and sovereignty factor, then this will most likely affect other policy issues, and generate a more positive relationship between them.<sup>122</sup>

Examining this dispute over the international river basin that also defines the border between Nicaragua and Costa Rica, it is apparent that the border and sovereignty issue is what contributes to most tension between them. This seems to make it harder for them to cooperate over the river basin. If violent clashed are ruled out, then the hypothesis of this thesis can be strengthened because this dispute has been for the most part conflictive and not cooperative, and this is for the most part caused by the prevailing border dispute between them.

However, there have been political will to cooperate and because of the urgent need for management of the river basin, and with the recent verdict from the ICJ, the two countries will hopefully strengthen their will to cooperate. If they focus away from all the issues differentiating them, and instead focus on the things they have in common and that they both can gain from, it is likely that cooperation will define their relationship in the future instead of the dispute that has characterized their relationship for so long.

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<sup>121</sup> López, Alexander. 2007. p. 43.

<sup>122</sup> López, Alexander – Jimenez, Alicia. 2009. p. 49.

## 5 Conclusion

This dispute between Nicaragua and Costa Rica contains elements of both conflict and cooperation. In periods it may lean more towards one side than the other, and in some periods the hydro-politics are more resilient and yet in other periods more vulnerable. Overall, the case of the San Juan River suggests that conflict is not typically associated with violence, but rather by actions that are perceived as threats to another country's water resources and sovereignty. Cooperation is demonstrated by the voluntary use of the institutions available to each country. In terms of the vulnerability of the institutional framework by which transboundary water issues are resolved, there is great resilience in the institutions that have already survived for over a century, like the Cañas-Jerez Treaty from 1858. There are no signs of long-term vulnerability of the institutions and therefore there is no vulnerability of the transboundary basins over a long period of time, since the institutions are still being used to resolve disputes. Nevertheless, the resilience of these institutions will be tested by the prolonged presence of environmental changes that increase water degradation and that will require flexibility to maintain resilience.

The importance of developing good institutions in transboundary river basins for promoting cooperation, development, peace and regional integration is a fact that seems to be acknowledged by both involved parties in this dispute. The building of new institutions and developing the existing ones to deal with the future environmental problems they face will of course be challenging. There are a whole range of different interests from the two countries and from local, national and international organizations that will oppose each other and make it difficult to cooperate.

The hypothesis of this paper is strengthened when examining this dispute between Nicaragua and Costa Rica over the San Juan River basin that also defines their border. The relationship between the two countries has been conflictive but never violent. At times they have cooperated, and hopefully they will work towards more cooperation in the future. One of the major tasks ahead of them will be to build mutual trust and confidence in each other, and to overcome old negative notions and feelings that still linger from the prolonged border dispute. Failures to address the current challenges facing them may cause an escalating conflict and the loss of opportunities to cooperate. If this should be the outcome, then the threats to human and environmental and thus national security are more frightening and damaging than the threats to their national sovereignty if they do cooperate.

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