**English Summary**

Does climate change cause conflicts? While the public debate carried by journalists, international organisations and governments supports the notion of “climate wars”, citing examples such as the Darfur conflict, academic research paints a more complex picture. Due to the many influences of climate change, this question covers a variety of aspects, such as the impact of extreme weather effects (e.g. floods or typhoons), of rising sea levels or of changes in temperature and precipitation. I focus on one link between climate change and conflict: scarcity of livelihood resources such as arable land and water. This argument is linked to an older debate on resource scarcity and conflict, but is of renewed relevance as climate change will reduce the freshwater and arable land in many regions. In the literature on resource scarcity and conflict natural resources, such as freshwater, soil and forests play an important role in linking changes in the natural environment to social consequences like armed conflict. Resource scarcity theories (Bächler, 1998a; Homer-Dixon, 1999; Kahl, 2008) argue that a lack of resources creates volatile situations in which conflicts break out more easily. They argue that there are various mechanisms linking resource scarcity and conflict, such as inter-groups conflict, migratory pressures and state manipulation by groups in power.

Explanations focusing on inter-group conflict argue that competition over scarce resources exacerbates existing cleavages in societies. If resource conflicts are framed in terms of ethnic, social, religious or political groups, this can result in a hardening of group identities and inter-group conflict (A. Martin, Blowers, & Boersema, 2006). A second mechanism focuses on migratory pressures Homer-Dixon (1999, p. 74). Scarcity provides incentives for people to migrate to other areas, where this might result in tensions between those already living in the area and newcomers. In addition, the influx of newcomers can lead to increased pressures in the new area, which might prompt further migration. The third mechanism consists of the manipulation of the state by groups in power Homer-Dixon (1999, p. 74) Kahl (2008, pp. 50–51): In a situation of scarce resources elites might be tempted to use their power to secure their access to scarce or potentially scarce resources. By manipulating state policies in their favour, they can limit access to resources to themselves and their supporters. This may contribute to social unrest or even spark conflict.

It is important to note that most writings on resource scarcity do not envision a direct link between resource scarcity and violent conflict. These links are doubted by scholars who argue that this argument amounts to environmental determinism (Barnett, 2000; Peluso & Watts, 2001a) and that it ignores the many ways humans can adapt to changes in their natural environment (Lomborg, 2001).

The empirical evidence for a relationship between resource scarcity and armed conflict is weak. Even though there is a considerable body of empirical research on the links between resource scarcity and armed conflict, there are no conclusive results. While there are many qualitative, in-depth case studies using process tracing that find strong links between resource scarcity and armed conflict, quantitative studies using statistical methods do not support this finding. This contradiction is the puzzle I am exploring in this thesis. I argue that the reason for
this contradiction is the different economic, social and political conditions in different countries that act in conjunction with the lack of natural resources. To address this gap in the literature, this dissertation aims to answer the following research question:

*Under which sets of political, social and economic conditions does armed conflict occur in countries with low levels of freshwater or arable land or both?*

While most quantitative studies ignore political, social and economic conditions by design, the small-n design of most qualitative studies fails to compare these conditions across cases. Using conjunctural logic and the method of qualitative comparative analysis (QCA) can bridge this divide as it allows for the use of conjunctural causation as well across-case comparison. Using QCA, I can compare a number of social, economic and political conditions across 30 resource scarce cases with and without conflict outcomes and determine necessary and sufficient (combinations of) conditions for conflict or peace outcomes.

I use an adaptive capacities framework to select the conditions included in the QCA. These are based on an extensive review of case studies of conflicts in resource-scarce countries and the larger conflict literature. I add conditions from the debate on adaptive capacities in the climate change literature, which have found little attention in the debate on resource scarcity and conflict so far. This procedure leads to 22 conditions, including economic conditions (economic development, agricultural population, poverty, dependence on exports, dependence on natural resources, dependence on oil and economic diversification), political conditions (corruption, high tax capabilities, high quality of political institutions, rule of law, authoritarian regimes and political stability) and social conditions (uneven economic development between groups, economic inequality, inequality in political power, gender inequality, access to science and technology, high levels of tertiary education and access to agricultural research). These conditions are analysed in three separate chapters, focusing on economic, social and political explanations and are then brought together in an integrated analysis.

I compare these conditions in 30 cases, all of which have low absolute levels of freshwater per capita or low levels of equivalent potential arable land per capita or both. Of the thirty cases, 14 cases experienced armed conflicts between 1990 and 2010, which are my conflict cases. Armed conflict is defined as conflict between the state and armed groups or between two or more armed groups resulting in more than 25 battle deaths. 16 cases have not experienced conflicts between 1990 and 2010, which are my peaceful cases.

There are three main economic explanations that have been closely linked to peace and conflict. The first argument focuses on economic development, in particular poverty and dependence on agriculture, the second focuses on export dependencies and the third on the impact of economic diversification. The analysis supported arguments linking very low levels

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1 Algeria, Armenia, Bahrain, Bhutan, Burundi, Cape Verde, Chile, Djibouti, Egypt, Haiti, Jamaica, Japan, Jordan, Kenya, Kuwait, Kyrgyzstan, Lesotho, Mongolia, Nepal, Netherlands, Pakistan, Qatar, Rwanda, Singapore, South Korea, Switzerland, Turkmenistan, United Arab Emirates, Uzbekistan and Yemen
of development to conflict and found that high levels of oil were sufficient for conflict where countries were not well-integrated into the global economy. The analysis also supported arguments linking high levels of development and high integration into the global economy to peace.

There are various arguments linking aspects of the political system to peace and conflict, mostly focusing on various aspects of state weakness, such as (neo)patrimonialism, administrative capacities and regime types. The analysis supports argument linking neopatrimonialism (characterized by authoritarian rule, corruption and low levels of legal order) to conflict and the presence of a strong legal order and low corruption to peace.

Two social conditions are analysed: inequality in society and the skills to adapt to changing circumstances, such as knowledge, skilled personnel and available technologies. The analysis shows having high skills to adapt, in particular a highly qualified population, is a necessary condition for peace if the level of development is even between groups. Therefore, the results find high conflict-mitigating effects of adaptive skills and an important role for socio-economic inequality between groups rather than individuals.

This separation between economic, political and societal factors along the lines of the adaptive capacities framework was introduced in order to provide structure to the large number of theoretical explanations and potential conditions. In addition, the total of 22 conditions included in the various analyses cannot be included in a single analysis for method reasons. A final integrated analysis aims at overcoming this separation by bringing the economic, political and social conditions together. It shows that the most prevalent pathways can be summarised into three causal explanations for conflicts in resource-scarce countries: being a patrimonial state (Uzbekistan, Burundi, Haiti, Rwanda, Yemen, Kyrgyzstan), being a least developed countries (Burundi, Haiti, Rwanda, Nepal, Yemen, Pakistan) and being oil-rich but poorly integrated into the global economy (Algeria, Kenya, Egypt).

Integrating social, economic and political explanations for the peace outcome also shows that there are two types of resource-scarce countries that remain peaceful: Those that are not dependent on agriculture and experience even development between groups (Japan, Switzerland, South Korea, Singapore, Netherlands, Chile, Qatar, United Arab Emirates, Bahrain, Mongolia, Kuwait, Armenia, Cape Verde, Lesotho, Jamaica ) and those that are non-agrarian and integrated into the global economy with high adaptive skills (Qatar, United Arab Emirates, Turkmenistan, Singapore, Netherlands, Switzerland, South Korea, Chile, Kyrgyzstan, Bahrain, Jordan, Kuwait). The first pathway is in line with the arguments on peace and development. The second pathway highlights the importance of adaptive skills for peace, which is an argument that has received little attention in the literature.

Overall, the dissertation highlights two key themes in explaining peace and conflict in resource-scarce countries: the level of development and the role of authoritarianism, in particular in oil-rich states. It shows that development mainly matters for highly developed countries, which tend to remain peaceful, and for the least developed, which tend to
experience conflicts, but less for the countries with medium levels of development, where other explanations play a more important role. Regarding the role of natural resources (such as oil) and authoritarianism the dissertation finds little support for the resource curse argument as many of the resource-rich cases remain peaceful and only limited support for the rentier state argument.

This dissertation contributes to the literature on climate change and conflict by showing that there are clear combinations of conditions under which conflicts break out in resource-scarce countries. Resource-scarce countries remain peaceful if their population is not highly dependent on agriculture for their livelihoods and the level of development is relatively even between different groups in society or if they are not highly dependent on agriculture but highly integrated into the global economy with high levels of adaptive skills. In addition, the dissertation presents the QCA as a method to analyse complex causalities, which has not frequently been employed in the conflict studies literature. The result that conflicts occur in countries highly dependent on subsistence agriculture also suggest that resource scarcity might be a causal factor for conflict in these cases. The findings also contribute to the literature by introducing the adaptive skills as a relevant condition for preventing conflicts.