



# Climate change adaptation and peace

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Climate change may have dramatic consequences for several regions. Most vulnerable are fragile countries with limited capacities to adapt. Without timely action, the stresses induced by climate change may increase the risk of violent conflict. Designing and implementing adaptation strategies is becoming imperative to mitigate conflict potentials and prevent escalation. This article will discuss existing national and international approaches with focus on the UNFCCC process. It will be emphasized that a purely technical understanding of adaptation is insufficient to cope with the socio-political consequences of climate change. Indeed, adaptation may even contribute to conflict potentials if ill-designed. Thus, it is necessary to develop conflict-sensitive approaches complemented by internationally supported capacity development measures. © 2010 John Wiley & Sons, Ltd. *WIREs Clim Change*

The IPCC's (Intergovernmental Panel on Climate Change) analysis of the scientific findings on climate change paints a sometimes dramatic picture of the regional impacts of climate change.<sup>1</sup> Countries with low adaptation capacities will be hit the hardest. What is more, studies such as the 2007 annual report on climate change and security by the German Advisory Council on Global Change (WGBU) and analyses by other research institutes and think tanks reveal a growing potential for conflict and an increase in social tension as a result of the impending changes in our climate. These reports warn of diverse societal conflicts which may be exacerbated by the impact of climate change. Thus, according to the WGBU, conflicts may arise as a result of water and food shortages, caused in turn by an increase in extreme weather events and climate change-induced mass migration.<sup>2</sup> Weak and fragile states are considered particularly vulnerable as their already limited capacities are unlikely to be able to bear the strain of climate change. Further weakening of the public sector can be expected to lead to national and regional destabilization, with societal and political tensions potentially developing into violent conflict.

However, despite the plausible relationship between climate and conflict, many remain sceptical in the field of peace and security research. They point to a lack of empirical basis.<sup>3,4,a</sup> Furthermore, they believe it is important to avoid one-dimensional causal explanations when assessing whether there will be an increase of violent conflicts related to the distribution of natural resources such as water and land. Possible conflicts will not be caused by climate change alone; rather climate change is seen as a factor which multiplies the menacing effects of deficits such as social and economic injustice, no or little rule of law, and so on. A worsening of conflict situations as a result of climate change is only one possible scenario and the peaceful avoidance of new conflict situations is another. Indeed, there has been substantial research about how environmental cooperation toward common challenges could support confidence-building between former antagonists and support peacebuilding efforts.<sup>5,6</sup> The uneven and in some regions potentially dramatic impacts of climate change may catalyze cooperation and transcend enmities.

Political reactions to this discussion are many and varied. In 2007, the UN Security Council held a debate on the impact of climate change on global peace and security. The United Nations General Assembly has held multiple debates on the political consequences of the IPCC status reports. In the summer of 2009, the General Assembly called on the UN Secretary-General

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DOI: 10.1002/wcc.66

(UNSG) to prepare a comprehensive report on the security implications of climate change, incorporating the views of both member states and regional and international organizations.<sup>7</sup> UN member states were invited to present their perspective as well, and the report was released in late 2009.<sup>8</sup> On the basis of a joint report by EU High Representative Javier Solana and the European Commission published in 2008, the European Union has now developed a road map for dealing with the security-related consequences of climate change and is discussing which instruments of foreign policy, security policy, and development policy can be used to prevent conflicts.

Both research findings and political opinion lean more and more toward adaptation as a key lever for avoiding conflicts influenced by climate change among other factors. A study commissioned by the German Gesellschaft für technische Zusammenarbeit (GTZ) also examines this question, describing in concrete terms the potential implications and consequences of climate change for security policy. It also identifies those regions which are most likely—as a result of the impact of climate change and other factors—to be susceptible to violent conflict.<sup>9</sup> Yet climate change adaptation as an area of policy remains a relatively young and as yet ill-defined area.

This article attempts to define more clearly what adaptation policy is, its goals and its means. We take a close look at the challenges of this policy area, at the juncture of international climate policy, approaches to crisis prevention, and development policy, and define possibilities for integrating these areas. To this end, we first critically examine the different views of adaptation policy, taking into account the uncertainty of climate science and conflict analysis. We then look at existing potentials for adaptation policy and highlight opportunities for political action. Our focus in this section is on the ability of national adaptation schemes to develop preventative strategies and avoid the predicted destabilization of states. We hypothesize that strengthening adaptation capacities not only reduces the risk of the expected socio-economic consequences of climate change, but also contributes to curbing potential conflicts and defusing conflict constellations. One central instrument is the local and national adaptation processes as laid down by the Framework Convention on Climate Change (UNFCCC) in the form of National Adaptation Programmes of Action (NAPAs). Our discussion of conflict-prevention measures is intended to reveal the specific challenges involved in developing conflict-sensitive adaptation strategies in (post-)conflict situations as well as the extent to which the political scope of action must be broadened.

## ADAPTATION IN THE DEBATE ON CLIMATE CHANGE AND SECURITY

The UNFCCC defines adaptation as ‘adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities’.<sup>b</sup> Adaptation is an idea that has taken center stage in the debate on the security-related implications of climate change. It is no longer possible to avoid adaptation measures, as greenhouse gases emissions (GGEs) to date have already triggered irreversible global warming. Even if we were hypothetically to cease all GGEs tomorrow, certain changes in our climate would still be inevitable.<sup>2,9,10</sup>

Although adaptation measures as a topic are given central priority in most studies and political treatises on climate change and security, it is often unclear what concrete form they should take. The joint report by EU High Representative Javier Solana and the European Commission<sup>11</sup>—the key document in the European context—underscores the relevance of climate change adaptation processes as an element of conflict prevention. However, it limits itself to the general aim of better integrating adaptation into appropriate policy areas such as regional strategies.<sup>11</sup> Likewise, the necessity of adaptation was repeatedly drawn attention to during the United Nations Security Council (UNSC) debate on climate change on April 17, 2007. However, these demands by and large remained as general as statements that adaptation measures alone would represent a contribution to conflict avoidance.<sup>12</sup> Two years after the publication of the fourth IPCC status report, debates on security policy are mostly still only threat assessments. One reason for this may be that policy debates are isolated from one another. Discussions of security policy and debates on adaptation (see Section *Adaptation in the International Climate Debate*) take place in different political arenas, and exchange to date has been marginal. Furthermore, there are a very large number of stakeholder viewpoints on the question of climate change and security, making it difficult to create strong connections between threat assessments and recommendations for political action. Opinions run the gamut from defining climate change as a national security threat to negating any potential security risks as a result of climate change.<sup>c</sup>

Adjusting natural and human systems to expected climate stimuli can take a variety of ways—from building dams against sea-level rise to relocating populations. The implications of this variety of measures are highly diverse. Generally, in academic debate, which mostly takes the form of analyses and regional studies by think tanks

(sometimes commissioned by various governments), four different perspectives on adaptation are discernable. We examine these different viewpoints more closely below. They are

1. Adaptation as a technical challenge;
2. Adaptation as socio-political transformation;
3. Adaptation as the cause of conflicts; and
4. Adaptation as conflict transformation.

One of the most widespread approaches is to view adaptation as primarily a technical challenge. The negative consequences of climate change should be in the main absorbed by measures such as technology transfer, capacity building in the area of resource management, and developing resistant crops.<sup>1,13</sup> The European Commission White Paper on Adaptation, published in April 2009, states that the framework for action should build on various pillars. The focus should be on the management and conservation of water, soil, and biological resources. In this manner, ecosystems should remain fully functional and resilient against climate change. Adaptation processes should therefore not only focus on protecting physical infrastructure, but also on the ability of nature to absorb the impact on urban and rural areas. An example of this 'Green Infrastructure' is the ability of soil to store carbon and water, conserving water in natural systems as a way of countering the effects of drought, floods, soil erosion, and desertification.<sup>14</sup>

Multi-sectoral strategies such as these should be developed equally for industrialized, developing, and threshold countries, whereby the latter two will be hit much harder by the impacts of climate change. The WGBU, in its 2007 annual report, recommends taking the bio-geographical changes caused by a global warming of  $+2^{\circ}\text{C}^{\text{d}}$  as a gauge for adaptation measures.<sup>2</sup> To make this possible, development cooperation funds and funds for the implementation of the Climate Framework Convention should be increased. It is also necessary to anticipate the potential social and political implications of adaptation measures and to avoid negative impacts, for example, by applying the Do No Harm principle.<sup>10,e</sup> This necessitates a multi-level approach in the project development phase. Although at first glance adaptation appears to be a purely technical or financial question, it also has a political dimension, particularly when it takes place in an area of conflict. It is therefore necessary for adaptation measures to be conflict-sensitive, especially in fragile contexts.<sup>9</sup>

This political perspective is also necessary with respect to the transfer of financial resources if adaptation measures are to move forward. Many developing countries are demanding the unconditional flow of resources as compensation for the impacts of climate change, caused mostly by industrialized countries. Here it is almost impossible to avoid questions of justice between North and South, a fact that quickly overtaxes the narrow framework of international climate change negotiations. For their part, many industrialized countries want to help determine how adaptation funds are used, in particular when the recipient is a state in which corruption is rife. Debates on adaptation can become politically highly charged, depending on the degree to which such demands by industrialized countries are seen as interference in domestic affairs or touching on questions of sovereignty.

This is especially true where climate change leads to a fundamental change in individual living situations—as is the case with small island states that threaten to sink due to rising sea levels, or the potential desertification of Brazil, one of the possible tipping points of the global climate system.<sup>5</sup> This is the main focus of the second perspective: adaptation as socio-political transformation. In the aforementioned cases, adaptation means no less than the fundamental redistribution of the chances and resources of an entire society.<sup>15</sup> This kind of reform also opens up opportunities to build a more sustainable society,<sup>16</sup> particularly as historically, clinging to the status quo has more often contributed to societal collapse.<sup>17</sup> However, friction and resistance are to be expected as a result of such transformation processes, predominantly from those who profit from the status quo or are interested in embezzle adaptation funds for other purposes. Depending on how adaptation processes manifest themselves, they can also contribute to the erosion of established societal structures and thus to the destabilization of states.<sup>18,19</sup>

This links it closely to the third perspective: adaptation as a possible cause of conflict. But whereas in the second perspective adaptation, measures are not designed in a conflict-sensitive manner and exacerbated conflicts are seen as a sort of 'collateral damage' of the intended political goal, in the third perspective adaptation, measures are potentially the direct cause of conflict. One example of this is patterns of use of transboundary rivers. The risk of conflict between up-river and down-river states increases when the adaptation measures of an up-river country further reduce water supply in the down-river country in addition to the impact of climate change. Such a scenario is found in Central Asia and

elsewhere.<sup>20</sup> Alongside this direct connection with possible conflict, militarization and increased security due to climate change are seen as possible areas that could spark conflict.<sup>18,21</sup> Prognoses of resource scarcity and climate-induced conflict<sup>22,23</sup> threaten to develop a momentum of their own. They can, in this interpretation, cause a security dilemma in countries that are attempting to prepare their defence sector for possible conflicts. In this manner, countries intensify or even trigger the very conflicts which they were trying to avoid. Studies on the security implications of climate change such as that of the Centre for Naval Analysis (CNA), which in part makes explicit proposals to the US defence department, can themselves contribute to this. This study calls among other things for the adaptation of military planning in a world affected by climate change. In its threat analysis, it takes into account further causes of conflict such as the increase of failing states, radicalization, and the possible spread of terrorist networks.<sup>24</sup>

The fourth perspective looks at conflict transformation and adaptation as complementary measures which strengthen each other.<sup>9,25</sup> This perspective is based on two observations. On the one hand, joint resource management by potential conflict parties can act as a trust-building measure and create interdependencies.<sup>25</sup> On the other hand, climate change adaptation processes and conflict transformation processes share a desire to create change. By adapting to a changing environment, socio-economic conditions should be further developed in such a way as to avoid negative effects such as water or food scarcity and consequently also circumvent social and political tensions. Similarly, conflict transformation processes aim to create a society in which conflicts are solved non-violently. Non-violent conflict resolution skills may well be crucial to easing the implementation of necessary but unpopular adaptation measures such as unavoidable resettlement programmes or the negotiation of suitable compensation. At the same time, it is quite probable that as the ability to adapt to climate change increases, so does the potential for peaceful conflict resolution and conflict transformation. Both thus aim to strengthen social resilience, that is to say the ability to withstand social and economic stress factors without societal structures being fundamentally destabilized.<sup>25</sup>

Considering the four approaches, particularly, the second and fourth approaches are of key relevance in preventing or mitigating conflict: socio-political transformation toward a society capable to resolve potential or actual resource conflicts may also be able to resolve disputes in other areas. In addition, to confront the security risks induced by climate change

it is important to harness the direct co-benefits of adaptation for peacebuilding on a more local, project-based level. This, e.g., includes the creation of conflict-sensitive adaptation programmes with a positive transformative effect. Below we examine the extent to which these challenges are currently being met within the political framework for action on adaptation.

## ADAPTATION IN THE INTERNATIONAL CLIMATE DEBATE

The international debate on climate protection to date has been characterized mainly by attempts to mitigate the dangers of climate change by reducing the level of GGE. The discussion about the impact on security of climate change is more reason than ever to take comprehensive measures to counter climate change. In its fourth status report, the IPCC set a required target corridor of 25–40% emission reductions for industrialized countries by 2020.<sup>26</sup> It is much less clear how building a sustainable adaptation structure can in the future be measured by performance goals. However, adaptation to the negative effects of anthropogenic climate change has been an issue since the beginning of international climate protection negotiations. Its importance is stressed both in the UN Framework Convention on Climate Change (UNFCCC) and in the Kyoto Protocol, thus ensuring its position as a key element in the climate protection regime. Article 4 of the UNFCCC requires all parties to formulate and implement ‘measures to facilitate adequate adaptation to climate change’ and to ‘cooperate in preparing for adaptation to the impacts of climate change’ (Article 4.1 UNFCCC). In so doing, parties shall, according to Article 4.8 UNFCCC, ‘give full consideration to what actions are necessary [...] to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures’. This includes, according to Article 4.4 UNFCCC, the costs incurred by adaptation to the effects of climate change. This applies especially to particularly vulnerable parties. According to Article 4.9 UNFCCC, all parties must take full account of the special situation of least developed countries. This applies not only to funding, but also to technology transfer. The Kyoto Protocol reiterates signatories’ responsibility for adaptation and calls on them in Article 10 to formulate and facilitate adaptation to climate change.

Actual progress in establishing a robust framework of facilitation is, however, rather slow.<sup>27</sup> With the adoption of the Marrakesh Accords in

2001, a system for supporting adaptation measures in developing countries was developed which allowed three funds to be set up<sup>28</sup>:

1. Under the Kyoto Protocol, an *Adaptation Fund* was set up to finance concrete adaptation projects and programmes in developing countries. The fund's revenues stem from 2% of the income generated by Clean Development Mechanism (CDM) projects. It is expected that the final agreement shall in the course of 2009 fill in the gaps in the regulations for the support of concrete projects.
2. Voluntary contributions by Annex I parties will go into a *Special Climate Change Fund* under the UNFCCC to finance supplementary measures to the activities of the Global Environment Facility (GEF). This fund also supports technology transfer programmes and measures in greenhouse gas-emitting sectors to diversify economic systems that would be adversely affected by GGE reductions.
3. A *Least Developed Countries Fund* under the UNFCCC to support the development of working programmes for these countries. This should help to implement the Framework Convention on Climate Change, including the preparation of National Adaptation Programmes of Action (NAPAs—see further below).

These three funds are run by the GEF and are meant to complement each another. The structure for funding adaptation is still under construction at the GEF. To establish a viable funding structure that supports the development and implementation of adaptation strategies, both guidelines for and methods of assessing vulnerability and adaptation requirements are needed.<sup>29</sup> For the introduction of positive transformative adaptation processes, a massive redistribution of financial means is required. However, a preliminary analysis of the money expected to flow into the two adaptation funds already set up and of GEF activities specifically targeted at adaptation reveals that only USD 200 million will be available until 2012.<sup>29</sup> The impact of these funds is comparatively modest compared to the volume deemed necessary—estimated to be in the area of tens of billions per year.<sup>29,30</sup>

Great hopes rest on the Adaptation Fund as a way of providing this sort of money. The fund receives 2% of the income generated by the sale of emission certificates for CDM projects.<sup>f</sup> Estimates of the amount money which can be raised in this manner vary greatly due to uncertainty about how

the emissions market will develop. However, the total possible volume by 2012 is estimated by some to be almost USD 1 billion.<sup>29</sup> It makes sense to generate the monies needed for adaptation directly from the architecture of international climate protection. This guarantees the flow of cash and also decouples it from one-sided commitments by industrialized countries, for example. Whether such commitments are upheld is often uncertain, as they are the result of complex national and international negotiation processes. Linking funds for adaptation measures to the global carbon dioxide market creates a financial procedure within the climate regime. This connects the polluters to those most affected by climate change.

Using money generated by emissions trading creates new scope for political action and creative leeway. This is shown, for example, by the international climate protection initiative recently launched by the German federal government,<sup>31</sup> under which the proceeds from auctioned emissions certificates are used in climate protection projects. Currently, EUR 60 million annually is earmarked for the implementation of international adaptation projects. However, the quality of an international framework for supporting climate change adaptation measures should not be measured simply by the amount of money it generates. Rather it must be ensured that when financial support is provided, it is accompanied by vital administrative capacity building. This is also a priority in order to avoid any misappropriation of funds. The efficient use of funds must be guaranteed, as well as coherency between adaptation measures and other national development processes. In the worst case, an influx of cash inadequately supported by other programmes can strengthen corrupt elites and exacerbate existing conflict-producing trends in the receiving countries. Below we discuss how existing adaptation programmes already integrate elements of a conflict-sensitive approach.

## NATIONAL AND INTERNATIONAL ADAPTATION EFFORTS IN AREAS OF CONFLICT

Existing activities have already made some progress in creating strategic support for future adaptation processes: By the spring of 2009, 40 NAPAs for least developed countries (LDCs) were submitted to the UNFCCC. These programmes identify national priorities for future adaptation processes. They are the result of national consultation processes supported by the United Nations Institute for Training and Research (UNITAR) and other UN institutions. The money

needed to implement the NAPAs in the next 5 years is an estimated USD 5 billion.<sup>32</sup> Of the 40 programmes, 16 were developed in countries that, according to the 2008 analysis by the Fund for Peace, are failed states at high risk of becoming destabilized.<sup>33</sup> A total of 35 states were assessed as showing this risk level in 2008. A further 19 countries for which NAPAs were developed show increased risk. According to the Fund for Peace assessment, over 90 countries in total fall into this category.

This makes it clear that schemes do exist on the international level for introducing climate change adaptation measures in conflict areas. However, it may well be necessary to supplement national processes in many further countries with political procedures. Bhutan is to be the first country to receive funds for implementing urgent climate change adaptation projects, with three projects initially selected from among the many priorities to receive support. The slow initiation of concrete projects not only illustrates the as yet insufficient funding available, but also contributes to an increasing loss of credibility for international climate protection measures in those countries most severely impacted by climate change.

In the meantime, preliminary assessments are available for the national adaptation priorities set by NAPAs. Triggers of possible climate change-related conflicts such as water and food scarcity play a central role,<sup>34,35</sup> as does strengthening early warning and disaster management capacities.<sup>36</sup> The sectoral approach of NAPAs enables a deficit analysis, for example, in the water sector. This makes it possible to identify the most urgent priorities for improving the urban and rural water supply infrastructure, preventing further water pollution (e.g., salt water penetration in coastal areas) and developing methods of water storage, say. Similar analyses are available for agricultural approaches to improving food security. Projects planned in this area would in part mean a break with traditional cultivation patterns, or at least the diversification of cultivated goods, and hence call for significant transformation processes. The method by which NAPAs are created thus results not only in a list of national priorities in the area of adaptation, but ideally also sensitises different groups to the future challenges of climate change and makes societies better able to respond to these challenges.

Yet this rigid demarcation into sectoral tasks can sometimes fall short of the mark, particularly with regard to conflict sensitivity. Usually a systematic approach is needed in order to give sufficient consideration to the conflict situation and to incorporate existing conflict dynamics and the overarching socio-political and economic conditions

into the design of adaptation measures. This also lies behind demands to integrate planned adaptation processes into ongoing efforts at development planning and poverty alleviation.<sup>25,37</sup> A United Nations Development Programme (UNDP) assessment of the importance of fresh water resources in NAPAs shows that the initial stages of an integrative approach are already in effect.<sup>38</sup> Countries such as Bhutan, Rwanda, and Sudan have at least integrated much-needed adaptation measures into their poverty reduction strategies. Nevertheless, integration is often superficial. Crucial to ensuring coherency with larger relevant political processes—not least national water laws—is the establishment of good governance structures in the area of adaptation. Coordinating the various political processes is a major challenge even for industrialized countries with adequate administrative capacity. In post-war societies, the difficulties of coordination are disproportionately greater and meet with resistance from a wide range of quarters.<sup>39</sup>

It is possible to institutionalize responsibility for a coherent implementation of adaptation measures in individual countries by assigning them to a specific state institution or inter-ministerial body. It is also conceivable that, like CDM projects, adaptation measures should be supported by so-called Designated National Authorities (DNA) which oversee implementation in developing and threshold countries.<sup>8</sup> National Implementing Entities (NIE) may be appropriate to serve this purpose. If such an authority does not exist, it not only jeopardizes the integration of adaptation measures into other development processes, but also makes it extremely difficult to incorporate conflict-sensitive considerations into national planning processes. However, it is also important to keep in mind that in a conflict-ridden, polarized, and fragile country, a DNA may actually serve one-sided purposes. Indeed, caution is needed, as in a country in a state of conflict or emerging from unbiased planning.

The UNDP assessment of the significance of the water sector for NAPAs makes it clear that a further aspect should be considered in any evaluation of the relevance of adaptation programmes for conflict areas. Thus references to institutional pacts on transboundary fresh water resources, such as the Nile Basin Initiative, are almost completely absent, missing the chance to embed adaptation measures regionally.<sup>38</sup> This lack of regional focus in NAPAs is on the one hand most likely due to the fact that this comparatively new method of anticipating the local and national impact of climate change is in itself a great challenge for these societies and ties up a great deal of capacity. On the other hand, the

'state-oriented',<sup>40</sup> conventional focus of the UNFCCC makes it difficult to develop regional approaches. Thus, the regional contextualization of adaptation needs can hardly be expected at this early stage.

Nonetheless, limiting NAPAs to a national perspective often ignores the transboundary nature of resource scarcity, particularly with regard to adequate water supplies. As mentioned above, an isolated national approach can in the worst-case scenario lead to new conflicts, for example, where water-related measures taken in an up-river country have a negative impact on a country further down river. Furthermore, the stabilizing and trust-building potential often demonstrated by transboundary cooperation in the water sector<sup>39</sup> is in this way ignored by the adaptation programmes. In addition, examples from the local how cooperation could be trust between alienated communities within a country can also be imagined.<sup>6</sup>

Cooperation between countries with bordering watersheds has long been a focus of the international donor community. As a result, it is often possible to make use of existing structures. However, an assessment of donor activities in transboundary river areas in Africa shows that funding is limited to just a few catchment areas and pre-existing institutions, and that conflict-torn regions are barely integrated at all.<sup>41</sup> Yet it is just these politically sensitive regions that need to be focused on most if future water distribution conflicts are to be avoided. At an EU level, regional strategies offer an important starting point for addressing this issue. The EU strategies for Central Asia and Africa adopted in 2007 can help further regional integration through shared sustainable resource management and a collective approach to adaptation. The importance given to water in these strategies, for instance, mirrors the critical appraisal of a variety of risk assessments on the security implications of climate change. The above-mentioned 2008 report by High Representative Javier Solana and the European Commission also examines the importance of EU regional strategies for conflict prevention. However, it remains to be seen whether the EU and its member states actually translate the security-related impact of climate change into policy.

Added to this rather unsystematic approach to adaptation and the lack of a regional perspective is a third aspect. This aspect also needs to be taken into account when looking at the conflict constellations most likely to be severely impacted by climate change. In the NAPAs completed to date, the possibility of migration as a result of increasing resource degradation have been mentioned. However, it is hardly addressed in a systematic way. Yet in Bangladesh, for instance, this development is expected

on a large scale, possibly intensifying national and transboundary tensions.<sup>37</sup> In large portions of Africa, there have also been mass, sometimes temporary and mostly intra-state migrations toward cities in the past, triggered by an increase in environmental degradation.<sup>42</sup> In light of the expected population growth, a further increase in migration in conjunction with worsening environmental conditions is possible—even if it is too early in many cases to draw conclusions about possible conflict trends, or where such statements are not based on reliable scientific findings.<sup>43</sup> Ideas such as temporary migration as an adaptation strategy are already under discussion and should be integrated into planning processes.<sup>44</sup>

Within the climate security debate, migration has been often framed negatively as potential conflict constellation.<sup>2</sup> However, there are many advantages migration may yield as well—such as remittances which could be used for adaptation measures at home or the benefits of industrialized societies accessing highly trained migrant workers. However, assessing the positive and negative aspects of migration as an adaptation strategy for host and moving communities is beyond the scope of this article.

## CONCLUSION: CONFLICT-SENSITIVE ADAPTATION AS A PATHWAY TO PEACE?

The possible impact of climate change on conflicts is the subject of much debate. Its true role is highly controversial. However, there are many indications that the challenges for states which are already weak will grow as a result of climate change. To prevent further destabilization, possibly leading to the outbreak of violent conflict, it will be necessary to introduce adaptation processes despite the diversity of approaches and associated risks. In any case, a purely technical approach to these strategies does not go far enough in light of the potentially conflict-exacerbating impact of climate change. This is particularly true for weak and fragile states, where strategies must include a much stronger political dimension.<sup>3</sup> Creating conflict-sensitive adaptation processes which also have a positive, transformative effect is an ambitious task. To help it along, a variety of requirements must be met:

First, the sectors critically affected by climate change and the role they play in national and regional policy must be identified. This will enable the situation with regard to possible conflict to be understood at the outset, and ensure coherency and coordination with other

planning processes. If necessary, additional peace and conflict assessments can be used to reduce the danger of maladaptation. Thus conflict-sensitive adaptation processes must be approached using a multi-dimensional system that incorporates different levels, both administrative and societal.

Second, having government and non-government stakeholders work together to identify risks and formulate strategies and programmes can help to raise awareness among civil society of the impact of climate change. In this way, it is possible to win acceptance for the transformation processes necessary to secure the supply of food and water, and to improve disaster preparedness.

Third, given these requirements, institutional support is imperative. A national steering committee setup by the respective country should be responsible for, among other tasks, monitoring the adaptation programme, coordinating public authorities and external stakeholders such as donor organizations, and establishing mediation bodies.

Fourth, to meet these challenges it will be necessary to significantly expand the political scope of action for adaptation measures and substantially increase capacity on a national and regional level. At the moment, proposals for strengthening adaptation capacity are largely in their infancy.

Fifth, the funds provided by the international community to date allow only a limited number of countries to identify adaptation priorities using a stakeholder-based approach. Initial assessments suggest that NAPAs could form a central element of capacity building. However, adaptation measures should also be better integrated into development processes and the fight against poverty, and institutional support for adaptation programmes should be expanded. Failure to apply a systemic approach to the creation of NAPAs has meant that they are not integrated at present into the larger regional context, making conflict-sensitive implementation difficult under current conditions.

Sixth, the UNFCCC conferences of parties should, as part of the international financial architecture for the fight against climate change, adopt a broader framework for adaptation than currently exists. This will provide funding for sustainable approaches. Recent developments of the Adaptation Fund Board under the Kyoto Protocol are encouraging in this regard since it has started to adopt concrete adaptation projects. Solving financing woes is only the first step in a thorough examination of national and regional governance structures. Mismanagement would lead to a severe loss of credibility for international climate policy, particularly if funds allocated for adaptation measures were appropriated by corrupt elites who then misused them to retain their power.

It will be necessary to strengthen regional cooperation arrangements to meet the challenges of adaptation created by global climate change. The systematic extension of existing river area agreements to cover the expected impact of climate change is one example among many of how regional adaptation programmes could be furthered. Additionally, methods and instruments need to be developed for enabling civil society and decision makers in fragile states to develop and implement conflict-sensitive adaptation strategies. Participative processes for the mutual identification of the impacts of climate change specific to the region are only the beginning. For example, divergent interests must be contained in discussions on water or land distribution. To ensure that social and economic injustices are not exacerbated by climate change, the international community must make a substantial commitment—and not only a financial one. Indeed, vigorous dialogue needs to be established across the climate change, development, and peacebuilding communities to harness the co-benefits adaptation may have for peace and security across the world.

## NOTES

<sup>a</sup>See also, in this volume, Nils Petter Gleditsch and Ragnhild Nordås, 'Climate Change and Conflict: A Critical Overview'.

<sup>b</sup>Taken from the glossary of [www.unfccc.int](http://www.unfccc.int) (December 2009).

<sup>c</sup>For an overview, see the UNSC debate of April 17, 2007 (UNSC).

<sup>d</sup>There is broad scientific consensus that global warming must be limited to 2°C above pre-industrial

levels to avoid the worst possible effects of climate change. This goal has been the reference point in European climate policy since 1996 (Council of the European Union. Press release 8518/96).<sup>e</sup>The Do No Harm principle, developed by Anderson<sup>45</sup>, is widely taken to mean shaping development cooperation in such a way that it does not exacerbate conflicts in crisis areas, for example, by distributing humanitarian aid in a way which is perceived to be unfair.

<sup>f</sup>In CDM projects, industrialized countries (or their companies) invest in climate protection projects in

developing countries which could not have been realized without this mechanism (the ‘additionality’ criterion). The emission rights thus acquired can be sold on the international certificates market.

<sup>g</sup>It has been shown that setting up DNAs has a decisive effect on building climate policy capacity both in governments and civil society.<sup>46</sup> At the same time, there has been much criticism of the unbalanced global distribution of CDM projects and the lack of stakeholder participation in projects, for example.

## ACKNOWLEDGEMENTS

The authors would like to thank the reviewers for many helpful comments as well as Arne Janssen for editorial support.

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