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## **THE RELATIONSHIPS BETWEEN ADAPTATION AND MITIGATION AND ITS POLICY IMPLICATIONS**

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### **Overview**

The Intergovernmental Panel on Climate Change has stated in its Third Assessment Report that even with the best scenario of mitigation efforts, the occurrence of climate change is inevitable. Thus adaptation is needed to moderate the negative impacts and exploit the opportunities resulting from climate change. However, research in adaptation is still left far behind that of mitigation due to two extreme views regarding adaptation, both advising not to support adaptation research (Kates, 1997). A third view has positioned itself between those two extreme views and believes that realistic adaptation options should be pursued together with mitigation efforts (Parry et al, 1998). Along with this third view, many papers have discussed the integration of adaptation and mitigation efforts into more general development and climate policies. However, little attention has been given to the relationships between adaptation and mitigation. This relationships need to be understood not only in the context of achieving an effective mainstreaming of adaptation policies to more general development policies but even in enhancing the efficacy of its goals.

Although it is widely accepted that there is an irrefutable relationship between adaptation and mitigation as strategies for dealing with climate change, there is still ongoing debate on the character and the extent of the relationship. In general, researchers and policy makers treat both strategies as either completely separate issues, or parallel issues, or a mix of policies that create a synergy. In the context of evaluation, the successful adaptation and mitigation strategy depends on adaptive and mitigative capacities and some key issues of the relationship (Huq and Grubb, 2003).

### **Methods**

This paper focuses on the relationship between adaptation and mitigation by looking at their differences and similarities and how those characteristics affect the interactions between the two in their implementation. Thus, the potential synergies and conflicts that may arise from the mix of both policies or from mainstreaming of both to can be addressed accordingly to achieve better effectiveness in their implementation. Furthermore, the effects of those differences and similarities on the determination of optimal adaptation level will be discussed in the framework of Costs Benefits Analysis. Finally, some illustrations on the relationships on policy making are provided.

### **Results**

There are basically eleven different natures between adaptation and mitigation which include main objective, effective temporal scale, effective spatial scale, easiness to aggregate and compare its benefits and costs, secondary benefits, level of actors of type of policy implication, nature of public/private good, proactiveness of response, uncertainty and equity. These differences do not necessarily mean that the implementation of adaptation measures will conflict with mitigation measures. The combination of both policies could even create some synergies, given the appropriate mix of both strategies and focussing on the key issues of the interrelationships between adaptation and mitigation. In this context, the resulting conflict or synergy will be influenced by the complementary or substitutability nature of the relationship between adaptation and mitigation measures.

Optimal adaptation level will be difficult to achieve with the public good nature of adaptation to some extent especially in the presence of externality and lack of information. In this light, appropriate government intervention can help to correct the situation for both individual and joint adaptation.

### **Conclusions**

Some studies claim that adaptation and mitigation can be pursued at the same time and a synergy of the combined strategies can be created. Main findings of the studies on the relationship between adaptation and mitigation state that the relationship can be either positive or negative and have substitutability or complementarity nature. Although these findings still do not give any clear directions of the relationship, it is believed that there is considerable potential synergy to be gained from the appropriate mix of adaptation and mitigation policies.

The nature of the relationships also have implications on the determination of optimal adaptation level both for individual and joint adaptation.

Further research on the scale of the relationship and the factors that influence the relationship needs to be done to enhance the effectiveness of implementing either each of the strategy or combining both of them. It is also important to see how mainstreaming both policies to more general context of sustainable development can affect the relationships. The result of such research will be of particular importance for instance in determining the mechanism to allocate Adaptation Fund and assessing the benefits of adaptation options conducted in each country.

### **References**

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