KCP Project Assessment:

Global Warming and Developing Countries: An Economy-Wide Perspective

A. Objectives

1. **What were the general objectives of the project?**
   The stated objective of the project was to ‘elucidate the potential economic impacts of climate change on developing countries’. This was supplemented by the aim of providing policy advice on ‘appropriate adaptation options’. The reports prepared under the project however, seem to be more closely focused on establishing the internal sectorial impacts not just of climate change but also of alternative policies designed to stimulate mitigation of greenhouse gas emissions (rather than adaptation to climate change). A heavy emphasis is given to the impacts of carbon taxes both across different countries (at varying stages of development) and between sectors (especially agriculture and energy intensive manufacturing). The consequences for development of these policies are a focal point. Important issues are also addressed in connection with ‘second-best’ policies relating to trade barriers erected with the aim of ensuring countries which do not implement a carbon tax policy do not gain a competitive advantage (under the heading of carbon ‘leakage’). Hence the project objectives appear to be rather limited in comparison to the array of issues addressed. While the stated objective gives the impression of a project that simply details more of the impacts of climate change, the reports go much further in that they provide very important findings relating to the distortions to markets that would arise through carbon tax policies and the negative consequences of such policies on economic development (and the enhancement of poverty).

2. **What specific questions or hypotheses did the study seek to answer?**
   What are the regional, country by country and sectors within countries impacts of climate change in terms of foregone economic activity and change in the composition of economic activity?
   What are the impacts (regional national and sectorial) of alternative greenhouse mitigation policies (including economic growth and trade impacts)?

3. **Are the topics and objectives critical for policy in the developing or post-socialist countries?**
   Climate change is one of the most sensitive international policy issues of the decade. Complexities abound in the science of climate change, the associated economics and the
politics of policy making. Understanding these complexities is a daunting task for most national governments, especially with the degree to which the debate is confounded by the actions of rent-seekers on all sides of the argument. This study has sought to illuminate the debate by exploring the consequences of climate change and policies adopted with the goal of mitigating greenhouse gas emissions. These are important issues for governments of developing countries to understand well. For instance, the adoption of carbon tax regimes in developed nations and adjunct trade barriers to developing country imports where the developing country suppliers do not have carbon taxes is a threat to processes of development that are relieving poverty and blatant protectionism on the part of developed countries. The threat to international trade is real and needs to be resisted. Providing information regarding such consequences is an important role for this project. I’m not as convinced by the merits of the project objective relating to the impacts of climate change. It’s not clear that the science has reached the point where it can inform an economic model designed to estimate the costs of climate change to a degree which is much beyond speculation. Furthermore there appears to be some confusion regarding base points in the various analyses. Estimating the ‘costs’ of climate change necessitates the formulation of some counterfactual (ie without climate change). But this is a meaningless concept if climate change is happening or is in train to happen. The appropriate concept is to consider projections of climate change with and without alternative policy instruments of either mitigation or adaptation. The relevant measure of ‘value’ is thus the costs of climate change that are avoided through the implementation of a policy. This appears to be a problem with the conceptualization of the project … just what is the counterfactual?

B. Design and Implementation

1. Did the researchers broadly follow the work program as proposed?
The basic objectives of the project were addressed as proposed – except that mitigation rather than adaptation policies were investigated. Was there some confusion between these two types of policies? The project team appears to have gone beyond the initial specifications of the project to pursue the more policy interesting issues associated with policy consequences. Given that governments are already venturing down these policy pathways, it was an appropriate course of action to take, especially given that the results point to such dramatic impacts on poverty and trade.

2. Was the analytical approach sound and well-executed? If there were difficulties, what were they?
My primary concern with the analytical approach is the rather vague definition of the counterfactual. The ‘base case’ in many of the reports seems to be defined as a uniform international carbon tax so this doesn’t appear to be a true ‘counterfactual’. In the reports looking at the impacts on the economy of climate change (eg Roson et al) the model runs are performed ‘with’ climate change and ‘without’ climate change. This approach is unhelpful in the policy context because the ‘without’ climate change scenario is meaningless if as according to the reports the presumption is made that climate change is happening. If that is the case, the ‘without’ scenario is an artifact of no relevance to the design of policy instruments, either to mitigate or to adapt.
This concern reflects the flaw in reports such as those prepared by Stern and Garnaut that are cited in the Bank reports. Stern similarly estimates the costs of climate change relative to the current situation and then ascribes those costs as the benefits of GHG emission mitigation policies. This approach assumes that the policies under review are completely and immediately successful in eliminating all the consequences of climate change. Of course this is a nonsense. The correct approach is to project the capacity of policies to reduce the costs of climate change and only include those reductions in costs (as they will occur through time and appropriately discounted) as the policy benefits.

3. **How reliable were the data for the purposes of the project?** Were the surveys properly designed and executed (when relevant)? Was data compiled properly from appropriate sources (when relevant)? Were data limitations properly considered in the analysis?

Heavy reliance is placed on the IPCC reports to inform the ENVISAGE model. Yet the controversies surrounding the data and modeling used in the IPCC reports are not acknowledged. Even the very broad confidence intervals that are used in the IPCC reports don’t appear to have been used to provide sensitivity analyses for the economic modeling.

4. **Was the composition of the research team appropriate for the work?**

The research team employed in this project was extensive when all ‘assistants’ are included. The core is very heavily focused on modeling skills.

5. **Were problems anticipated and handled well? Did any unforeseen problems affect the project?**

No real problems were reported.

6. **Was the budget adequate for the work?**

The project objectives were met and exceeded given the available funds.

7. **Are the conclusions adequately supported by the research?** Were problems/concerns noted and reviewed? Are appropriate caveats presented?

The conclusions are very strongly put without adequate reflection on the confidence intervals that are inherent to most of the data used as projections in the model. That applies to the climate science as well as the economic assumptions. The impression given by the results is that the model is deterministic rather than a matter of probabilities. I have some concerns regarding the conclusions as well partly because of the excessive ‘confidence’ expressed in the input data (I’m especially worried when papers start to quote Al Gore’s ‘An Inconvenient Truth’ as a source). However the more worrying
conclusions are those that suggest compensating policies to ‘correct’ for the impacts of climate change policy impacts: For instance, subsidies for manufacturing industries adversely affected by GHG taxes or import taxes (tariffs) based on the ‘carbon footprint’ of imports from untaxed countries. This is reminiscent of the tariff compensation argument to support agricultural industries in the 70’s. The distortions to markets created by carbon taxes are bad enough but adding on the compensatory mechanisms adds further to those distortions as well as opening the floodgates for vested interests to seek and secure rents from government policy. These reports run the risk of encouraging such policies and the Bank should be reluctant to further such moves. Ironically of course, measures to subsidise sectors adversely affected by carbon taxes negate the impacts of the taxes. The reports should be focused on signaling the impacts of climate change policies on wealth creation processes and the future of the international trade system. It is a strange feature of this sequence of reports that many of them do this while others take the protectionist and interventionist stance.

8. **What were the outputs of the project?**
The listed sequence of reports and conference papers that have been reviewed.

9. **Are the outputs likely to be of sufficient quality to merit publication in a refereed journal (if this has not already happened)?**
I’m not aware that any of the reports have been published in peer reviewed journals. The analytical concerns raised in this report would need to be addressed before the reports were presented for submission.

**C. Dissemination**

1. **Were project reports and publications presented in a manner appropriate for and accessible to the intended audience(s)?**
The reports are technical and lengthy. Policy makers and advisers would be unlikely to read them. I suggest that the Bank projects develop a sequence of short briefing papers of 1 or 2 pages that encapsulate the findings of the work in a readily accessible format for the policy community.

2. **Were the data well-catalogued, publicized and made publicly available roughly at cost of reproduction? Do the data warrant dissemination costs?**
The reports are available on line and are so publicly available. I am unsure as to the public availability of the data and the ENVISGAE model.

**D. Results and Cost-effectiveness**

1. **What are the key findings of the study? How do they advance policy in the field? Did the study meet its objectives?**
The ‘take-away’ messages from the project are that climate change will impact agriculture but that climate change policies will also have effects on the wealth creation processes at work in the developing world. The threat to free trade is also reported (however, the political economy of developed country interests seeking to promote
carbon taxes worldwide in order to stifle competition from the developing world is not addressed and could have provided an interesting dimension to the research). The mixed message (pro-support for manufacturing but anti-support for trade restrictions) regarding the appropriate policy response needs to be clarified.

2. Was there adequate time to complete the project?
Yes
# Research Quality Indicator Form

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## I. Proposal

*How would you rate, on average, the following aspects of the set of proposals you evaluated?*

### Topics
- Importance of the issues addressed
- Clarity of the project focus and stated objectives
- Literature review and references

### Data and analysis
- Theoretical/conceptual framework
- Statistical and econometric methods
- Use of knowledge and resources available
- Awareness of data sources
- Appropriateness of data to research
- Data compilation

### Data collection (if applicable)
- Hiring/training of survey personnel
- Survey design
- Conduct of survey
- Data input
- Data cleaning
- Data cataloging

## II. Conduct of research

*How would you rate the following aspects of the conduct of the research?*

### Project schedule
- Overall budget and cost effectiveness
- Overall apparent efficiency and timeliness of research/project
- Flexibility, efficiency in responding to unforeseen events

### Collaboration with Local Researchers (if applicable)
- Collaboration with local researchers/institutions

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<td>Training of junior researchers from developing countries</td>
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<td>Team participation with local research institutions</td>
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<td>Interaction with government counterparts or appropriate government agencies?</td>
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<th>III. Project Outcomes</th>
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<td>How would you rate the following aspects of project outcomes</td>
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<td>Clarity of conclusions and recommendations</td>
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<td>Extent to which conclusions are based on sound analytic work</td>
<td>X</td>
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<td>Realism of the recommendations in light of social, political, and administrative constraints</td>
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<td>X</td>
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<td>Extent to which research outputs are well written</td>
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<td>Appropriateness of exposition to intended audiences</td>
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<td>Extent to which research increased knowledge and understanding of the issues</td>
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<td>Extent to which research provided a sound basis for action for subject country(ies)</td>
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<td>Extent to which research provided a sound basis for future research.</td>
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<td>Actual or likely impact on government policy.</td>
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<td>Actual or likely impact on capacity building or institutional change</td>
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<td>X</td>
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<td>Actual or likely impact on the wider development community</td>
<td>X</td>
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<td>Timeliness of dissemination relative to policy debate and problems</td>
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**Dissemination**

| Identified and made presentations at existing conferences (large and specialized) | X |  |  |  |  |  |
| Identified and made presentations at regional conferences (beyond subject country(ies) only) |  |  |  |  |  |  |
| Broader outreach (media, blogs etc) |  |  |  |  |  |  |
| Capacity building (training workshops, manuals, instructional briefs, etc.) |  |  |  |  |  |  |
| Appropriateness of dissemination vehicles for target audiences of the research | X |  |  |  |  |  |
| Overall research dissemination | X |  |  |  |  |  |
| Overall value of the research | X |  |  |  |  |  |