

ADAMNEWS

The newsletter of the ADAM project

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Project Outline and Contents

Funded by the European Commission and co-ordinated by the Tyndall Centre for Climate Change Research in the UK, ADAM (Adaptation and Mitigation Strategies: supporting European climate policy) is an integrated research project running from 2006 to 2009 that will lead to a better understanding of the costs and benefits, trade-offs and synergies of climate change adaptation and mitigation policies.

ADAM is supporting the EU policy-making process in the next stage of the development of the Kyoto Protocol and will inform the emergence of new adaptation strategies for Europe.

In this issue of ADAMNEWS we explore the four ADAM regional Case Studies and we present a brief outline from each of the twenty deliverables produced during the second year of ADAM.

Introducing ADAM Case Studies

Three regional Case Studies are being conducted in ADAM to test and show the applicability of the Policy Appraisal Framework (PAF).

These case studies are all one work package, P3d, under the direction of WU-Alterra.

The selected regions are:

- *Tisza river basin in Hungary;*

- *Guadiana river basin in Spain and Portugal;*
- *Inner Mongolia of northern China*
- *Lake Victoria*

The PAF is being applied to these localities in order to develop and test regional policies which contribute to climate change mitigation and adaptation goals and focuses on related environmental issues as water management, forestry, agriculture, bio energy, and integrated spatial planning. These regional cases were chosen because of their differences (e.g. Spain: drought issues; Hungary: flooding, contamination, and joint implementation forestry issues; and China: water management, desertification and clean development mechanism options). The Spain and Hungary cases also represent respectively old and new EU member states. Implementation of the PAF will differ between all three regional Case Studies because of differing ecological circumstances and political institutions.

A further case study is included in work package P3b, and it examines the climate induced vulnerabilities and adaptation needs of farming communities living in the Lake Victoria basin.

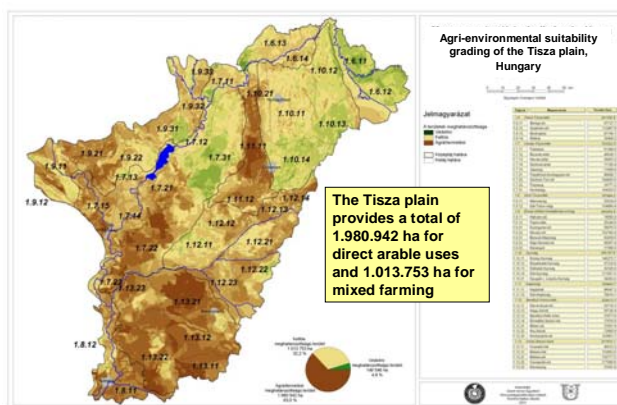


TISZA RIVER BASIN CASE STUDY

Contact Zs. Flachner and M. Jolankai,
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This case study focuses on analyzing land use and agriculture for adaptation and mitigation in the Tisza region. The focus is on energy crops and their cost effectiveness in relation to adaptation and mitigation.



The Tisza plain in Hungary covers a 3-million-hectare area, of which 2 million hectares can be used for direct arable farming, and 1 million hectares for reduced agricultural and improved environmental activities, according to ecological aspects.

The cropping structure of the region has been highly influenced by a range of political and administrative issues, (EU obligations, 2001/77/EC and 2003/30/EC directives). The agricultural government of Hungary has encouraged investments into the alternative energy sectors focusing mainly on bioethanol and biodiesel and partly on other fields of biomass production.

In the CUB (Corvinus University Budapest) coordinated research, the agronomic use of 24 potential energy crops (grain crops, legumes, oil seed crops, root and tuber crops and energy grasses) has been studied. The possible production area and the regional distribution has been identified. In grain ethanol trials maize genotypes x agrotechnical interactions have been studied. An 8.4-14.1% starch yield improvement has been recorded. Energy conversion and cost-benefit relations were evaluated, and results suggest that energy conversion of the crops studied ranges between 1:1.1 (wheat grain for ethanol) to 1: 6.05 (biomass processing). Cost-benefit calculations suggest that renewable energy in most cases has a negative turnover (0.56-0.65%) in comparison with fossil fuels regarding net prices of the period examined. The results obtained may contribute to further land use issues of the region.

Besides all this, as part of the policy appraisal work, a local discussion on alternative land utilization options, namely the potential alternatives to introduce integrated floodplain management combined with improved water management, was started.

The Living Tisza association is a partner in the process covering 6 micro regions along the Tisza river. These micro regions are looking for mitigation and adaptation options to reduce the negative impacts of climate change (drought,

flood risk, water stagnation, soil degradation).

As a part of the ADAM project, a study tour took place at the Broads, East England, UK, combined with a workshop at UEA-Tyndall Centre to discuss these alternatives. As a next step of policy appraisal, a Tisza vision is going to be developed in the light of two main possible scenarios, and as a part of the back casting exercise adaptation options elaborated using the results of modelling-connected research.

GUADIANA RIVER BASIN CASE STUDY

Contact Francesc Cots *Universitat Autònoma de Barcelona*, xesco45@hotmail.com

This regional case study applies the ADAM Policy Appraisal Framework (PAF) in the Portuguese-Spanish Guadiana river basin. It engages regional and local stakeholders in social and interactive learning processes, with the aim to obtaining insights that favour land use change and diversification. Contributing to local development objectives as a potentially important adaptation option is also a goal. In light of future climate risks and associated environmental problems, this case study undertakes integrated assessment of possible sources of conflicts or convergences between the tourism and agriculture sectors in the river basin, and evaluates the potential for adaptation measures to enhance and contribute to more sustainable forms of rural development. Finally, it looks at how

transboundary institutions can be best designed to meet the complex challenge of addressing water scarcity, climate change and sustainable development. Institutional flexibility of certain cross boundary networks may facilitate the eventual configuration of interaction structures in the mode of bridge organisations between the public and private sector, hence supporting transition processes towards a more integrated approach of both water management and climate change adaptation policies.

INNER MONGOLIA CASE STUDY

Contact Xingang Dai, *Chinese Academy of Sciences – Institute of Atmospheric Physics* daixg@lzu.edu.cn or daixg@tea.ac.cn

The Inner Mongolia (IM) case study aims at investigating the land desertification and the serious environmental deterioration in Alxa League, west IM of China, and assessing the related policies against the problems. Alxa league was selected as a case study within the ADAM project to appraise climate change mitigation and adaptation options and to develop new possible policies. The case study will test the PAF and improve it during the project. In recent years, IM desertification has shown an expanding trend and the region has become one of the Chinese provinces having the highest level of land and ecological deterioration, due to both climate change and human activities.

Desertification and its consequential eco-environmental problems are extremely serious in the region compared to rest of China. The region faces serious water shortage, expanding land degradation, and frequent sand storms. The increasingly serious environmental deterioration has major impacts on the society and economic system of Alxa league, as well as on the regions of Northern China. Nowadays, Alxa league has become one of the major sand sources of sandstorm in China. Alxa league has adopted a series of policies and management practices to combat environmental deterioration and to restore ecosystem.

LAKE VICTORIA BASIN CASE STUDY

Contact Sara Gabrielsson and Lennart Olsson, Lunds Universitet, lennart.olsson@lucsus.lu.se, sara.gabrielsson@lucsus.lu.se,

P3b3a involves a case study examining the climate induced vulnerabilities and adaptation needs of small-scale farming communities living in the Lake Victoria basin. Focus is put on identifying both current coping mechanisms among local households and future adaptive capacities. Accordingly, 600 farming households are participating in the study and various stakeholders, including responsible public authorities, regional market actors, national academics and NGOs, including those receiving funding through EU IDA, are targeted and engaged to assess adaptation possibilities and capacities on various scales. The final outcome of the study is

to provide strategic options to the EU and its member countries which may assist in the implementation of local and regional climate change adaptation and mitigation activities in ways that are acceptable to both donor and recipient communities.

Deliverables

During this second year we have produced deliverables on a range of topics including those summarised below. These (and year 1) deliverables are available in full on the ADAM website.

ADAM WP2 – Policy and Governance Climate Policy and Governance: A Theoretical and Methodological Framework to Guide Research

Joint authors: VU Amsterdam, UEA, Lund, JRC.

This work seeks to inform the systematic inventorisation of mitigation and adaptation policies in the EU member states, the meta-analysis of existing studies evaluating the performance of these policies, the appraisal of current EU policies and the development and appraisal of alternative portfolios of policies.

D-A1.4a – A draft synthesis report of the actor-based analysis of adaptation to climate change

Contributing authors: D. McEvoy (ICIS), K. Lonsdale (SEI Oxford), T. Takama (SEI Oxford), T. Downing (SEI Oxford), P. Watkiss (SEI Oxford), V. Mathur (SEI Oxford), C. Sorisi (SEI Oxford now Defra).

This deliverable should be seen as “work in progress” and focuses on the assessment of

institutional adaptive management of vulnerability and risk, and adaptive capacity.

D-A2.4a – Report of interviews and design of survey instruments

Contributing authors: P. Matczak (PAS), A. Heller (PAS), I. Banaszak (PAS), D. McEvoy (ICIS)

The content of this interim document reflects on research theory and methodology, design of interview protocol and process with discussion of early insights, and the ongoing development of the adaptation catalogue.

D-P2.3 – How effective are European Climate Policies

Contributing authors: C. Haug (VU Amsterdam), T. Rayner (UEA), D. Huitema (VU Amsterdam), E. Massey (VU Amsterdam), S. Monni (JRC), R. Hildingsson (Lund), H. van Hasselt (VU Amsterdam), A. Jordan (UEA), J. Striple (Lund)

This deliverable includes a meta-analysis of recent policy evaluations. It describes the methodology used and justifies the choice of jurisdictions and evaluations analyzed, considers what lessons can be drawn from the evaluation regarding a series of key policy choices that underlie climate policy and provide an assessment of what the evaluations have said about climate policy effectiveness.

D-A2.2a – Preliminary impact assessment for 2° and 5°C scenarios

Contributing authors (PAS): Z. Kundzewicz, M. Szwed, M. Radziejewski, I. Pinskiwar, D. Graczyk

A review of impacts, especially related to floods, droughts and heat waves, is offered, with particular reference to the time horizons 2025 and end of the 21st century.

For the end of the 21st century, two warming scenarios are considered: 2°C and 5°C.

D-A.1.3a – Macroeconomic modelling

Lead author: A. Aaheim (CICERO)

This report shows how analyses of adaptation to climate change may take advantage of the economic behaviour assumed in general equilibrium models. It describes how assessments of impacts of climate change may be utilized to adjust the economic stocks and flows of an economy and discusses how adaptation to climate change can be described as the resulting market responses.

D-A.2.6 – Report on identified developing country regions for study of novel development assistance options, and characterization of risk profiles

Contributing authors (IIASA): S. Hochrainer, R. Mechler, J. Linnerooth-Bayer.

This interim report focuses on disaster risks affecting selected countries/regions, where innovative public-private insurance schemes are underway or have recently been implemented. It sets the stage and outlines the context for the later analysis of risk financing options to be included in the final month 36 deliverable.

D-A.2.3 – Preliminary report on Europe's financial and economic vulnerability to meteorological extremes

Contributing authors (IIASA): S. Hochrainer, R. Mechler, G. Pflug, J. Linnerooth-Bayer.

This deliverable aims at identifying a set of extreme events and return periods which may now be beyond the economic resilience of identified regions and sectors in Europe

by placing unacceptable stress on the economic system.

D-P3b.2b – An outline proposal for an Internal Air Travel Adaptation Levy

Contributing authors (SEI): B. Mueller, C. Hepburn.

The deliverable highlights political advantages and moral reasons to link problems created by significant climate change to those put in place by increasingly growing aviation emissions. Solving both problems by an International Air Travel Adaptation Levy is ethically, economically and politically attractive.

D-P3A.4a – A first iteration of completed policy appraisal exercises of post-2012 policy options

Contributing authors: F. Zelli (UEA), F. Biermann (IVM)

This report summarizes WP P3a activities during the first iteration of application of the PAF in the case study analyzing the options for global climate governance beyond 2012. Following Year 1 review, the project will move towards creating a set of tailored approaches to climate change appraisal in different policy contexts.

D-P3A.3a – A first iteration of completed policy appraisal exercises of post-2012 policy options

Contributing authors: F. Zelli (UEA), P. Pattberg (IVM)

This report presents first ideas for novel post-2012 options, with a special focus on which type of governance architecture promises a higher degree of institutional performance in terms of social and environmental effectiveness. Some options

work better in a fragmented architecture than others.

D-A2.1 – An assessment of weather-related risks in Europe - Preliminary report at M18: maps of floods and drought risks

Contributing authors: E. Genovese (JRC), N. Luger (JRC), C. Lavallo (JRC), J.I. Barredo (JRC), M. Bindi (DISAT), M. Moriondo (DISAT)

This technical report describes the adopted methodology and the outputs produced by task A2.1. It benefits from the experience gained in several EU research projects and is based on existing methodological approaches for the computation of impacts of extreme weather events. It includes some key innovative aspects: quantification of the probabilistic monetary impact, combined use of modelling techniques and observed data, estimation of uncertainty, geographical scale.

D-P32.4 – An appraisal of EU climate policies

Author: Institute for Environmental Studies, IVM

The deliverable presents findings from a “meta-analysis” of recent policy evaluations and discusses practices of climate policy evaluation in Finland, France, Germany, Poland, Portugal, the UK and the European Union. It also reports about the ADAM workshop “Evaluating European Climate Policy: Lessons for the Future”.

D-P1.3a – Report on the collaborative research on climate change appraisal during the first 18-months of the ADAM project

Contributing authors: A. Haxeltine (UEA), M. van de Kerkhof (IVM), E. Vasileiadou (IVM), K. Backstrand (Lund), D. Tabara (UAB)

This deliverable reports on the collaborative research conducted by WP P1 during the first 18 months of ADAM, analyzes lessons learnt, and articulates the revised objectives defined for research in the second halves of the project. It aims to provide a bridge between the first and second halves of ADAM.

D-P3b.2a – Reports on Stakeholder Views of Development/Humanitarian Assistance

Development and Climate Change in Nepal: Mainstreaming as Seen and Engaged with at the recipient's End

Author: M. Thompson (IIASA)

The deliverable has two parts: the first one includes a revised version of the framing paper “The Toad Beneath the Harrow”, circulated before the ADAM workshop held in Kathmandu, 22-25/03/2007; the second one is the programme of the workshop. The topic of development aid and climate change is presented as seen by recipients.

D-A1.2a – Meta-analysis of impacts, vulnerability and adaptation (CCIVA) assessments in Europe

Contributing authors (PIK): J. Hinkel, D. Reckien, O. Roithmeier, M. Wrobel

This deliverable aims to inform about the proceedings of work undertaken in task A 1.2 “Analytical review and meta-analysis of impacts and vulnerability”. It explains the choices made to select sources, and the concepts behind categorizing information contained in literature. Parameters of the meta-analysis code are described and an outline about what can be expected from the meta-analysis is given.

D-A2.5a – Mainstreaming adaptation to extreme events

Authors (JRC-IES): C. Lavalle, J. I. Barredo

This report presents the results of a desktop study aiming to analyze the major current policies and programmes of the European Union relevant for inclusion of adaptation options, and to review their implementation stages and procedures. This should in turn help in understanding if and how adaptation options can be proposed and potentially included in such programmes and policies.

D-M2.4 – Report on model comparison

Author: Potsdam Institute for Climate Impact Research (PIK)

For assessing different combinations of mitigation options and their respective efficiency in reducing emissions, a model comparison of five global economy-energy-environment models is performed. The main objective of the model comparison is to find robust results despite the model differences, and to identify the key model features that lead to diverging model results.

D-M2.2 – First Assessment of the cost of EU and global mitigation policies

Author: Potsdam Institute for Climate Impact Research (PIK)

Four major issues are investigated in this report: induced technological change and technological mitigation options, policy regimes and international emissions trading, impact of climate policies on EU's competitiveness and energy security, and uncertainties and risks of climate policies. The focus is on the presentation of results from model-based scenario runs related to these issues.

D-M1.1 – Report of the Base Case Scenario for Europe and full description of the model system

Main Author: E. Jochem (ISI)

This deliverable reports on the methodology and models used to project the future European greenhouse gas emissions until 2050 in a Base Case Scenario, which is an explorative scenario assuming constant policy trends in energy policy and no climate change at all before 2050. The methodology chosen to analyze the potentials, costs and impacts of possible mitigation options is a hybrid model system, using three different macroeconomic models for different time horizons and several bottom-up models at the process-oriented level. A material flow model and a forest model are also applied.

Dates for the diary

The next major event in the ADAM calendar is the ADAM Week 2008 (Poznan, 22-26/09/2008)

Comments on ADAMNEWS

If you have ideas about any one off or regular features for future issues of ADAMNEWS please contact Emanuela Elia at e.elia@uea.ac.uk

