

The Asian Co-benefits Partnership (ACP) serves as an informal and interactive platform to improve information sharing and stakeholder coordination on co-benefits in Asia. The ACP was launched with the support of the Ministry of the Environment, Japan in 2010 to help mainstream climate and environmental co-benefits into decision-making processes in Asia. Learn more about us at our website. <http://www.cobenefit.org/>



Highlights

Reviewing Trends in Co-benefits Research: Looking Back on Three Decades of Thinking

In past Asian Co-benefits Partnership newsletters, the secretariat interviewed a leading thinker or practitioner who could offer insights into advancing co-benefits in Asia. As the ACP approaches its tenth anniversary in 2019, the secretariat decided to take a more reflective approach to this newsletter. Rather than summarising responses to interview questions, this newsletter reviews some trends in the literature on co-benefits based on a survey of relevant studies. The focus of much of this review is on the quantification of co-benefits—a theme that has run through the nearly three decade history of co-benefits. Citations have been removed from the text for ease of reading but a fully referenced version of the newsletter can be obtained upon request to the secretariat.

Since the term “co-benefits” was coined in the early 1990s, the work on the quantification of co-benefits can be broken down into roughly three stages.

The **first stage** runs from the initial publications on co-benefits to 1999 near the time of the agreement over the Kyoto Protocol and publication of the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). During this stage, a significant number of studies quantified reductions in greenhouse gases (GHGs) and air pollution in **developed countries**. This would then lead to an analysis of the effect of emissions changes on ambient air quality. The impacts of these changes in air quality were frequently monetised by looking at how exposure to air pollution affected premature mortality or chronic morbidity. The estimates of these monetised could then be listed in terms of the average value of the co-benefits per ton of carbon dioxide (CO₂) mitigation.

A **second stage** of quantitative research runs from approximately 2000 to 2013, covering the period of the fourth IPCC assessment report and early negotiations over a successor to the Kyoto Protocol. Studies during this stage apply the same basic approach as used previously but with a focus on **developing countries**. This shift in emphasis followed the realisation that the size of these health benefits could be greater in developing countries because of comparatively higher levels of air pollution, population densities, pollution

exposure rates and adverse health impacts.

Yet another trend that begins to appear toward the end of this second phase (2009-2013) is the diversification in the projects/policies and resulting co-benefits. For example, there emerges a large literature on a wide range of health impacts (often linked to reductions in short-lived climate pollutants (SLCPs)), ranging from reductions in pulmonary disease to fewer children with low birth weights to less noise pollution. These benefits are also the result of an increasingly diverse set of interventions, ranging from changes in sources of household energy to increases in greens spaces to expanded access to reproductive services.

The **third stage** runs from approximately 2014 to the present. There are several important trends in this phase. The first is there are many articles that appear designed to influence the design and implementation of Nationally Determined Contributions (NDCs) – the sets of targets and policies that countries pledged to the United Nations Framework Convention on Climate Change (UNFCCC) after the Paris Agreement in 2015. Many articles are published in 2014 and beyond that quantify co-benefits mention NDC specifically in the text. Others do not refer to NDCs but appear positioned to influence actions in particular sectors (especially clean energy and energy efficiency) that would contribute to NDCs. These include studies of carbon finance projects that have already been implemented with some success

but could be scaled.

A related stream of publications running through this third phase involves the continued variation in the kinds of benefits that are analysed. The types of co-benefits that are evaluated still include benefits related to climate change, air pollution, and health impacts (following the conventional approach that started in the first phase). However, there is also a greater consideration of a fourth category of socioeconomic benefits. These benefits include improvements in energy security (typically measured in reductions in oil demand), green jobs (often in the form of jobs involving renewable energy), and other sector benefits (such as cost savings from reduced energy use or access to energy for poor communities).

An additional stream of work appearing in this third stage is a review of a diverse set of interventions analysed. The studies in this phase concentrate on mix of sectors where co-benefits analysis such as wastewater management and food policy.

Complementing the examination of a more varied set of interventions has also been a review of co-benefits from adaptation. Unlike the work on mitigation, the work on

adaptation co-benefits is still focusing on defining concepts. For instance, some studies use the term “adaptation co-benefits” to refer to benefits for mitigation and adaptation, while others highlight adaptation actions with development/socioeconomic benefits such as the positive effects of different adaptation actions on communities/social groups. Despite the largely conceptual concentration in this research, there have also been some progress in quantifying adaptation co-benefits with the development of “Adaptation Co-benefit Assessment Methodology.”

A final noteworthy theme found in much of the literature in this third phase is the possible trade-offs or conflicts between climate and other development objectives that results from some of the analysed policies. In some cases, the analysed sets of actions negatively affect the environment. This is apparent, for instance, for some of the cases involving clean energy. The manufacture of different clean energy technologies (such as photovoltaic solar panels) can also generate pollution and waste that can negate some of the positive environmental impacts. Analyses of the lifecycle costs and benefits to understand a full range of these effects.

Updates

IIASA Japan Committee Annual Workshop held in Tokyo, Japan, February 2019

The IIASA (International Institute for Applied Systems Analysis) Japan Committee Annual Workshop was held under the title *How Can Asia Manage Air Pollution and Climate Change?: From Understanding Impacts to Implementing Solutions* on the 19th February in Japan. The workshop began with UNEP’s Regional Director and Representative for Asia and the Pacific providing opening remarks that highlighted the importance of regional cooperation on air quality and climate change in Asia. The meeting also featured a keynote address from IIASA’s Markus Amann on the recently published UNEP report *Air Pollution in Asia and the Pacific: Science-based Solutions*. The workshop was attended by about 100 participants including institutions based in Japan, China, Korea as well as the private sector. The Secretariat of ACP shared presentations on quantifying the co-benefits and promoting the implementation of co-benefits cases. All presentation materials can be downloaded at:

https://www.iges.or.jp/en/network/iiasa_20190219.html

