

AUDITING CLIMATE CHANGE: THE INDONESIAN PERSPECTIVE¹

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1. What aspects of sustainability can we audit?

SAIs are expected to audit climate change because of the greenhouse effect, solar influences and a number of other sources. The first source of climate change is caused by the emissions of carbon dioxide into the atmosphere, which in turn depends on population, economic growth, technology, energy and lifestyle. The solar influence is caused by the balance between increasing solar radiation and outgoing thermal radiation. Other sources of the greenhouse effect include volcanic eruptions that emit a lot of sulfur into the atmosphere to cool the Earth. Emissions of carbon dioxide and other trace gases are almost irreversible as they remain in the atmosphere for a very long time. Meanwhile, as greenhouse gases travel around the world in a few days, the scale of the problem is global. Climate change affects the sustainability of natural resources and our economic productivity, comfort and health.

The Stern Report on global climate change of 2007³ is the most important study on the costs and risks of global climate change. As they are not incurred at market prices, some of the costs and benefits cannot be measured in financial terms. The Stern Report recommends taking prompt and strong action to substantially reduce carbon dioxide emissions today, at modest cost so as to avoid high risk and more expensive costs of global warning in the future.

The Stern Report, however, admits that in the absence of mitigation, the possible outcome of global warming is very bad, although the costs are still uncertain because of the uncertainty about when and where particular impacts will occur far in the future. Because of the uncertainty, the Bush Administration in the US took the position of postponing the costly efforts to reduce carbon dioxide emissions until we know more about the dangers of climate change.

SAI (BPK) of Indonesia is prioritizing the auditing of the rainforest. This is because Indonesia's rainforest is the third largest in the world after Brazil and Congo. Deforestation and forest fires not only emit carbon dioxide into the atmosphere but have also caused river blindness, protracted droughts, floods, health problems, affect ecosystem, transportation problems and reduced productivity in agriculture, fisheries and

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³ Nicholas Stern. 2007. *The Economics of Climate Change. The Stern Review*. Cambridge, U.K.: Cambridge University Press.

forests. The adaptation costs to those who live in and near the forests are high, especially because they are highly dependent on food production using simple technology.

BPK audits compliance with the rules and regulations on forest policy, forest management and socio-economic financial aspects. The focus of BPK audits are property rights in forestry, allocation of logging permits, illegal logging, forest fires, biodiversity and government revenue generated from forest-based economic activity.

There is no private property right over forest land in Indonesia as they are owned by either state or traditional community. The Constitution says that all natural resources, including forests should be exploited sustainably and to maximum welfare of all. The state can issue rights to exploit the forest land either for logging, mining, agriculture or other commercial purposes. The logging concession and other permits are issued for relatively short period, 55 years.

There are three implications of not having private property rights and short period of concession for exploiting the forest land. First, there is no incentive for the permit holder to preserve the forest land and to increase its value by investing and innovating or combining them with other resources. Second, the permit holders cannot use the forest land for more valuable purposes or as collateral. This, in turn, limits mobility of the forest as a factor of production and reduces its productivity. Third, the community incurs substantial costs in defending communal land and satisfying the need for public property by setting up and operating informal organization that demand a lot of investment of time and other resources.

Under the long rule of President Suharto's from 1966 to 1998, the issuance of logging permits was centralized in the Ministry of Forestry. Logging permits at that time were mainly distributed to the cronies of the regime, while the trade export of wood-based products was directly controlled by a confidante of the President. Meanwhile, reforestation funds were used to develop the IPTN aerospace company and to subsidize pulp plantations.

2. Do financial auditors have a role to play?

Financial auditors have a mandate to audit the economic rents collected from the exploitation of natural resources as well as audit government outlays for rehabilitating environmental damage. Accordingly, financial auditors have the right to audit those who create greenhouse gas emissions that negatively affect the global climate, natural resources, ecological systems and vulnerable species. Some of the resources are renewable, such as water, air, forests, fisheries, and other biological resources. Some others are non-renewable and will continue to be depleted, such as minerals and fossil fuels.

Economists characterize man-made climate change as an externality and the global climate as a pure public good. There is zero marginal cost for additional individuals enjoying a non-polluted climate and it is technically difficult or impossible to exclude

individuals from doing so. As a result, firms and consumers do not pay the full costs of production, particularly the cost of pollution to the global environment. Because of market failures, the government is the only provider of public goods as there is no incentive for the market to supply them. Government involvement in correcting market failures has fiscal implications. As climate change is a global problem, it demands global auditing and responses.

Arrow⁴ identifies 5 policies for mitigation of the climate change, namely: (i) shifting to energy sources that produce lower carbon dioxide emissions per useful energy, (ii) developing technology for energy conservation or that use less energy per unit output, (iii) shifting demand to products with lower energy intensity, (iv) reforestation and reducing deforestation, (v) capturing and sequestering carbon dioxide from stationary plants and injecting it into underground repositories.

Schelling⁵ points out two important ways to induce or provide the necessary funds for the five policies for mitigating climate change. One is to use appropriate taxes, subsidies, rationing and quotas to affect the market price system. In addition to these economic tools, consumers can be convinced that non-renewable resources such as fossil fuels are going to be most costly in the future. The private sector is interested in producing hybrid cars and in energy conservation and in shifting demand to products with lower energy intensity. With proper policies and an incentives system, the private sector can be interested in reducing deforestation. Public funds, the other source of funds are needed to finance the activities that will not be undertaken by private sector. SAIs audit the effectiveness and efficiency of the tax, subsidy, rationing and quota systems as well as the use of public funds for mitigating climate change.

3. Do SAIs need special powers to audit government's operational impacts?

Global warming is the result of the use of natural resources as regulated by the government. Auditing the impacts of government operations in managing resources can be, therefore, regarded as an integral parts of a financial and performance audits. For this reason, SAIs do not really need special powers to audit the operational impacts of government

4. What has worked well for SAIs in building capacity of sustainability?

Auditing sustainability requires training for auditors not only in financial matters and on performance auditing but also in areas such as science, forestry, mining and fisheries. Such audits also require auditors from multidisciplinary backgrounds including both in-house and outside experts from universities and research institutions, as well as the use of modern technology, such as satellite images, GIS, GSP and remote sensing.

⁴ Kenneth J. Arrow. 2008. "Global Climate Change: A Challenge to Policy". In J. E. Stiglitz, Aaron S. Edlin and J. B. DeLong, eds., *The Economists Voice*. New York: Columbia University Press.. chapter 2, pp. 13-22.

⁵ Thomas C. Shelling. 2008. "Climate Change: The Uncertainties, the Certainties, and What They Imply About Action". In J. E. Stiglitz et. al. *ibid.* chapter 1. pp. 5-12.

As pointed out in the Stern Report, auditing climate change requires global cooperation between SAIs, including joint audits as the problem is a global issue. On our part, we welcome the participation of other SAIs in jointly working with us to conduct joint audits on tropical forests in Indonesia. Global cooperation is also needed for practical training, exchanging of information, experiences and data.

5. What are the benefits and or risks from external reporting of SAIs operational impacts on the environment?

The first benefit is objectivity. As independent external auditors, SAIs are more reliable and objective in evaluating problems related to climate change. Secondly, SAI reports not only cover the financial and performance aspects of government operations, but also cover environmental and social aspects. Third, SAI reports have a broader impact in the form of creating public awareness and understanding about sustainability issues as the documents are not only officially transmitted to Parliaments and government but also made available to the general public.

The risks surrounding SAI report primarily concerns the general perception that they are mainly financial auditors and have no expertise outside accountancy. This is particularly true in the case of Indonesia as environmental auditing is a new venture for the BPK and most of its staffs are accountants who have no deep understanding and knowledge outside accountancy. On environmental issues people, believe more on reports prepared by the technical ministries and by the Ministry for Environment.

6. What good practices have we identified among our audit clients that we should adopt ourselves?

An SAI as an audit institution can adopt the following approaches in order to reduce emissions:

1. SAIs can reduce paper consumption by recycling paper and moving to paperless auditing;
2. SAIs can reduce consumption of energy and water by building environmentally friendly buildings and reducing the use of air conditioners and heaters;
3. Implementing green procurement;
4. Managing waste properly;
5. Promoting the use of public transportation and shifting to non-fossil modes of transportation.