## Input by Junnius Arifa, Department of Agriculture and Environment Audit - Federal Court of Accounts - Brazil

The Federal Court of Accounts – Brazil (TCU, Brazilian acronym) has the mandate to assess the environmental issues which are managed by federal public agencies and their expenditures.

TCU's performance on the particular issue "Climate Change" began with a commitment to participate in the Global Coordinated Audit on Climate Change, carried out under the scope of the Working Group on Environmental Auditing (WGEA), at International Organization of Supreme Audit Institutions (Intosai), with the Supreme Audit Institutions of South Africa, Australia, Austral, Brazil, Slovenia, United States, Estonia, Finland, Greece, Indonesia, Norway, Poland, United Kingdom, and Canada (coordinator).

According to domestic needs and preferences, each institution could assess the performance of their respective government in different sectors, regarding mitigation and adaptation of impacts as well as science and technology driven towards climate changes.

Our assessments on adaptation measures were held on agriculture and cattle raising, a key sector in Brazil, water safety on semiarid regions and coastal zones.

## 1 - Given the diverse set of indicators that currently exist to measure and evaluate adaptation, how can communities, countries and development and adaptation agencies build on a common understanding of success in achieving climate resilience?

First of all, it's important to state that measuring resilience is a big challenge, especially because environmental conditions and adaptation measures have to be tracked over for quite long periods. For developing countries, like Brazil, this is a huge challenge. There are still some basic needs of our population which also have to be addressed in a more urgent matter. Although we have made important improvements in the last decades, there are much more to do by introducing climate change adaptation measures in the policies to attend basic needs.

Even under present climate conditions, we can already identify low resilience of some regions of our country, especially in big cities.

To achieve climate resilience, we have to identify the risks and vulnerabilities of our country to climate change scenarios. One of the biggest limitations for the development of our adaptation actions is that part of the studies has not been concluded.

In Brazil's National Plan about Climate Change, adaptation measures are still in the embryonic stage, not able to deal with problems that might come from climate change, and there are no targets established for implementation, which makes it difficult to define indicators to measure and assess those actions.

We need to remember that for a country of continental proportions like Brazil, the indicators have to be dynamic, in order to be applied to different regions, with different population densities and ecosystems (urban areas, forests, semiarid and arid regions).

So, in order to minimize the impacts of natural disasters, federal government recently established the National Center for Natural Disasters Monitoring and Alert, which has developed a warning system for natural disasters, such as floods and landslides, enabling a fast response to reduce harmful consequences to the population.

A good example of an on-going adaptation action in Brazil is the development of various resistant crops to the stresses of drought seasons and high temperatures. Another one is the Agricultural Zoning of Climate Risks, which is an indicator of regions that holds the needed conditions for a specific agricultural products already considering climate changes issues, in order to avoid crop failures.

Considering the developing countries reality, a common understanding of success in achieving climate resilience might be drawn around establishing criteria and targets for four stages: I - identifying vulnerabilities; II – developing and establishing adaptation measures; III - implementing adaptation measures; IV - monitoring and evaluating the implementation and results of the preview stages.

## 2 - How can a framework be created that links individual assessments with national level assessments to broaden the focus from the means of achieving outcomes (individual interventions) to the desired end result (countries becoming less vulnerable and having more adaptive capacity)?

A communication channel should be established among institutions that carry out individual assessments on the matter, in order to enable experience sharing. This network channel would also help institutions design the scope of future studies; identifying gaps of information that would bring opportunities for those studies, and avoid effort overlapping and doing so feed a national database for common usage.

It's important that these assessments follow some predetermined criteria, in order to ensure quality of their results, to enable comparison between them and also the possibility of consolidating their findings and conclusions. Therefore, criteria and targets have to be established for each stage of the studies as mentioned before (I - identifying vulnerabilities; II – developing and establishing adaptation measures; III - implementing adaptation measures; IV - monitoring and evaluating the implementation and results).

This framework will gather government entities (federal, state and municipalities), nongovernmental organizations, private and other institutions.

## 3 - How can results from M&E be reported and disseminated so as to ensure that they are fed back into the respective adaptation process but also to allow for lessons learned and good practices identified to be shared with the wider community of adaptation planners and practitioners?

As a result of the audits carried out by The Federal Court of Accounts - Brazil, several measures were recommended in order to improve federal government actions to deal with climate change, such as: to include adaptation actions in the National Plan about Climate Change; to make available the historic series of meteorological data in electronic media, in order to support the development of models to predict future climate changes of the country, considering that such information is strategic to the action plan of the Brazilian government to face climate changes; to allocate funds to create a meteorological datacenter to be fed by the information that are still in printed forms (books, notebooks, maps etc), to allow access to long term meteorological data for all institutions, in order to enable climate studies; to consider climate change scenarios in the development of public policies. The reports of these assessments were sent to all government stakeholders and experts.

In 2009, TCU held an event to communicate the results of climate change. The participants were: lecturers, experts, stakeholders, members of the Congress and other governmental authorities.

In addition, the audits results also were integrated in the international report consolidating the results of the audits held by Supreme Audit Institutions (SAIs) from other 13 countries, which was disseminated worldwide. This kind of diagnostic work produced by SAIs is a way to provide more transparency regarding government actions towards climate change, and it could even contribute to the establishment of criteria and indicators as well as to the assessment framework.

With the knowledge developed by the audits carried out on the subject, the WGEA from Intosai also produced the guide "Auditing the Government Response to Climate Change: Guidance for Supreme Audit Institutions", where the results of these audits are used as reference and examples.

In 2012, TCU verified that important measures recommended by its audits on climate change were implemented, like the allocation of funds, in the government budget planned for 2012-2015, to the digitalization of meteorological data that are still in printed forms, as a solution mentioned before and the enabling access to this data by research entities and the national water agency started to consider climate change scenarios when planning and implementing public policies for the management of water resources.

Another way of disseminating our works on the subject is engaging and exchanging of information in national and international events, such as this one and others held worldwide, as part of the framework suggested in the previous question.