

awareness and the perceived importance of renewable energies on the part of the Panamanian population, as well as its opinion on political engagement with regard to environmental policy. Some 93 percent of respondents stated that environmental protection is an important or very important issue for the future government, which will hold office from 2014 to 2019. Furthermore, around three-quarters of those surveyed declared themselves in favour of the creation of an

environment ministry, contradicting the assumption propagated by leading political and social figures that the majority of the population does not want a ministry instead of ANAM. The hope remains that the new government will respond to the population's wish with actions. So far, Panama has had no environment minister to represent it at international climate conferences.

PERU

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PERU AND CLIMATE CHANGE

The Peruvian state is called upon to promote sustainable development founded on the interaction and balance between economic efficiency, social justice and environmental protection, with the goal of improving quality of life by means of responsible and sustainable management of natural resources. In Peru's constitution, protection of the individual and respect for human dignity are enshrined as the ultimate goals of society and the state, guaranteeing every person the right to "peace, tranquillity, enjoyment of leisure time and to rest, as well as to a balanced and appropriate environment for the development of his life".

Evidence of Peru's precarious environmental situation¹ can be found every day, anywhere in the country – a situation that is exacerbated by extreme poverty and pollution. Added to this are the effects of global warming.² The paradox lies in the fact that while Peru causes the same quantity of greenhouse gas emissions as Denmark or New Zealand, its income only amounts to between a fifth and a quarter respectively of that produced by these countries. Peru is therefore faced with a major challenge. A society that wishes to achieve greater development must understand its environment and the physical, natural, cultural and social resources at its disposal. Accordingly, strategic

planning of social and ecological aspects of economic activity is indispensable. Yet medium and long-term thinking is in short supply in Peru, while the public education system suffers from a lack of funding. Moreover, state policy elements are not interlinked in such a way as to favour sustainable development. Ecological institutionalism is closely related to ecological literacy, as well as to knowledge about best practices for interacting with nature, about the production of goods and the provision of services, and about the main challenges in the field of technology. If the population is not educated, and therefore not equipped to develop the capacity for sustainable resource management, the cost of climate change in the country could turn out to be much higher than previously assumed. Only the very highest degree of institutionalism and high-quality institutions will enable the country to implement an appropriate strategy for mitigation of the effects of climate change and the necessary adaptation. Ultimately, social conflicts arising as a result of the decline in quality of life pose a threat to governability. Accordingly, it is indispensable to reinforce the institutional and ecological empowerment of the country as part of a process of decentralisation and modernisation of the state. This process should be understood as economic and technological processes for the development of local and regional capacities, and not just as the creation of political bodies or as a means of gaining a higher budget. This in turn must be accompanied by the creation of systems for accountability and monitoring of the implementation of environmental regulations.

At the same time, mechanisms for public participation in the entire sphere of state administration must be reinforced. It is also important to strengthen environmental management so as to increase competitiveness, especially in terms of cleaner and more susta-

1 | According to the World Bank's CDF, environmental pollution causes damages amounting to 2.9 percent of the country's GDP.

2 | Everything depends on the decisions of the international community and the specifics of the long awaited agreement to reduce emissions to slow down the increase of global temperatures and ensure that it does not exceed two degrees Celsius. In this context, Peru could suffer damages totalling 4 to 20 percent of its GDP.

inable production processes, while constantly taking into account the ecological footprint of the economic activities. We must aim to utilise the competitive advantages of biodiversity and the characteristics of our national territory. We must create and maintain an inventory of our natural and renewable resources, our traditional knowledge and environmental services, and value these elements. We must form strategic bonds between state, science and business. We need to stimulate competition and the creation of scientific and technological competencies so as to be equipped to face the risks, problems, tensions and conflicts caused by environmental destruction and climate change, as well as any resulting hazards to health, the environment and biodiversity.

Peru's national environmental policy is of a cross-cutting nature, pertaining to all productive and extractive sectors, the educational system and national security. The country's governability and thus its ecological security (the extent to which a system is equipped to deal with the damaging effects of climate change) depend on a strengthening of institutionalism. Instruments to be employed in this regard include strategic environmental assessments, economic and ecological development planning, ecological land use planning and environmental impact studies; these should all be part of an ecosystemic approach.

In short, faced with heavy pollution and the growing destruction of the country's ecosystems, shortcomings in terms of governability and the influence wielded by the country's institutions are hampering an appropriate response and efficient management. The costs of environmental damage are estimated to have equalled 3.9 percent of GDP in 2003 (MUNDIAL, May 2007). This damage affects both urban and rural areas, which suffer primarily from water pollution, indoor and outdoor air pollution, natural catastrophes, declining soil quality, deforestation and accumulation of waste.

Added to this are the effects of climate change, estimated to cause losses amounting to 4.5 percent of GDP in 2005 (Andina, 2008). Although Peru is responsible for just 0.4 percent of global greenhouse gas emissions, it is among the countries most susceptible to the effects of climate change worldwide. Observations show that the country's glaciers have receded by 22 percent over the last 30 years, which will have a negative impact on the drinking water supply in the future. Climate scenario models show that the El Niño phenomenon will grow in intensity and frequency. Dry periods and freezing temperatures in river areas, which play a key part in the country's food production, have become more frequent.

If we ignore the need for efforts to mitigate the impact of climate change and concentrate only on adapting to climate change and compensating for its effects, there is a risk that in the long term these effects will grow to such a scale that it will no longer be possible to control them despite adaptation measures and mitigation scenarios. What is more, those most affected by these problems are the poorest segments of society, thus leading to increased social conflict.

A mitigation strategy must also take into account local benefits and synergies tied to economic growth, management of renewable and non-renewable resources, effects on local environmental quality, adaptation policy and changes to climate protection regulations.

Climate change will also continue to affect agriculture, biodiversity and the availability of water, which are ultimately connected with the issue of energy. Other expected consequences include the disappearance of the tropical glaciers in the Andes below an altitude of 5,000 metres, a certain degree of desertification in the Amazon region, low crop yields, floods in coastal areas caused by the rising sea level, higher occurrence of tropical diseases, disruptions to the water cycle and increasingly extreme weather events. It is estimated that measures to mitigate the economic effects of climate change will cost the region between US\$17 and US\$27 billion per year.

Meanwhile, there are also examples of how economic growth can be decoupled from greenhouse gas emissions in Latin America, as there are numerous growth models which do not involve excessive carbon emissions.

There are many ideas, as well as initiatives already under way, such as the introduction of carbon indicators in the stock exchange as an initiative to promote investment in renewable energies and to expand forestry. Others include the creation of environmental protection legislation, personnel training for the development of measures to reduce carbon emissions, incentives and energy regulations, and NAMAs. Equally important in this regard was the successful execution of the UN Climate Change Conference (COP20).

Peru submitted three targets to the UN as voluntary commitments: increasing the share of renewable energies in the energy matrix to 40 percent by 2021, reducing net emissions to zero in the category land use and forestry, and capturing and using methane gas through proper urban waste disposal. Measures to

achieve these objectives have already been adopted; however, slow implementation due to the low political priority given to these issues raises concerns about

whether Peru will be able to stick to its plan. There is a danger that this will drive the economic costs caused by climate change even higher.

VENEZUELA

Henning Suhr

Venezuela signed the UNFCCC in 1994, and the Kyoto Protocol in 2004 (the latter did not enter into force until 2005). Nevertheless, the country is – in proportional terms – Latin America's greatest emitter of CO₂. According to data from the World Bank, per capita emissions of CO₂ totalled around seven tonnes in 2010, while in neighbouring Chile and Argentina this figure was only around four tonnes.¹ Venezuela is responsible for 0.56 percent of global carbon emissions.

Venezuela's plentiful supply of energetic resources has resulted in a feeling of entitlement on the part of both the government and the population to consume unlimited amounts of oil, gas and electricity at low prices. The market is subject to a range of distortions that evolved over time as a result of subsidies and price controls leading to higher consumption levels and offering no incentive for energy efficiency or savings. The result is an above-average energy consumption compared to other countries in Latin America and the rest of the world. What is more, environmental protection and sustainability have so far been considered to be of secondary importance in political terms. Major shortcomings can be particularly observed in areas such as waste disposal or wastewater treatment.

While climate change and environmental protection are intensively discussed in Venezuela, the debate is largely restricted to specialist circles. Numerous academics and other experts and a range of academic departments and courses are devoted to the topic. Issues such as climate or environmental protection are frequently covered by the media. However, there are very few civil society groups that approach the issue in such a way as to be able to exercise any political influence. The political sphere itself does very little to put climate change on the public agenda, although this is also due to the current political situ-

ation, which is characterised by repression, violence, economic crisis and increasing disorder.

The policies announced by the Venezuelan government frequently differ from those it actually initiates and executes, and it often does not involve civil society groups or experts that do not completely share the government's views. This is also the case with regard to environmental and climate protection. Not long ago, well-known politicians spoke out in favour of environmental concerns, but due to the ongoing political crisis the topic has practically no resonance in the political debate. Environmental and climate protection are not widespread concerns, and the population has only a limited knowledge of the issues, which does not in any way alter everyday behaviour (e.g. increased recycling) or result in political demands. The issue of sustainability has virtually no influence on the Venezuelan people's consumer behaviour, nor is it given priority in policy making.

Nonetheless, climate and environmental protection could become more prominent in the future. The government's National Plan 2013–19 (Plan de la Patria 2013–19) establishes, in Target 4, "the need to establish an eco-socialist [sic!] economic model based on a harmonious relationship between people and nature that guarantees optimal and rational use of and benefit from natural resources and respects natural processes and cycles". Whether and, more importantly, how this target will be implemented in terms of government policy remains to be seen. So far, it simply appears that the Chavista government has once again co-opted an issue for propaganda purposes. Accordingly, concrete results with regard to climate protection are unlikely. In late May 2014 the implementation of the eco-socialist model was announced, without any definition of the term's actual meaning.

1 | The World Bank, "World Development Indicators: Energy dependency, efficiency and carbon dioxide emissions", 2013, <http://wdi.worldbank.org/table/3.8> [28 July 2014].