

CAPITOLO 9

EFFETTI DEI MECCANISMI DEL PROTOCOLLO DI KYOTO SULLE COMUNITÀ LOCALI

Federica Matteoli

ABSTRACT

L'articolo analizza come i Clean Development Mechanism (CDM) e, in particolare, il Community Development Carbon Fund (CDCF) possono contribuire e stanno contribuendo alla riduzione della povertà nei paesi in via di sviluppo. Occorre sottolineare che con il termine povertà si intenderà non solo affrontare i problemi connessi con l'economia familiare delle comunità coinvolte nei progetti, ma anche i problemi legati ad altre difficoltà come l'accesso alla scolarizzazione, alla salute, alla possibilità di esprimere le proprie idee. I CDM e il CDCF nascono per ridurre le emissioni di gas ad effetto serra attraverso l'utilizzo di nuove tecnologie, generalmente le migliori disponibili, nei Paesi in via di sviluppo e di contribuire alla sostenibilità locale. In particolare il CDCF risulta di grande interesse perché si concentra su tecnologie applicate a progetti di piccolo taglio ospitati dai Paesi in via di sviluppo maggiormente disagiati. Nel processo di preparazione, evoluzione e verifica dei progetti, gli operatori internazionali della Banca Mondiale stanno attuando una politica di coinvolgimento della società civile e in particolare delle comunità che saranno raggiunte dai progetti stessi. Dall'analisi emerge che i cambiamenti che effettivamente trasformano in senso positivo le vite dei più poveri sono soltanto quelli nei quali essi sono partecipanti attivi.

9.1 Introduction

This paper is intending to present an analytical approach that will explore problems connected with climate change and sustainable development. The purpose of this paper is to analyze the impact of CDM on poverty.

Climate change is harmful for all countries but it is more dangerous for these countries that have a precarious development. Moreover, problems connected with climate change should be faced keeping in mind sustainable development. In fact,

international organizations, governments and civil societies have too often focused their efforts on one problem without linking this to other needs that society asked for. Sustainability is taken to mean providing basic human needs in a way that can continue over time, results in less damage to the environment, and provides more social benefits and long-term economic development¹.

The strategy to affront climate change problems is connected with adaptation and mitigation. Adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change. Mitigation is the policy strategy to reduce emissions of greenhouse gas that are the causes of climate change. To make this strategy it is necessary the involvement of civil society and institutions such as governments, international organizations, NGOs, communities, and private sector. Moreover, natural resources are important for all countries because have always given food, material to build houses, and to make trade with other families, tribes, and countries. Defense and respect of them should be one of the most important challenges for all societies.

International operators often have made big mistakes blaming poor people for problems such as degrading agricultural lands, shrinking forests, diminishing supplies of clean water, dwindling fisheries, and the threat of growing social and ecological vulnerability from climate change and loss of biological diversity. For example, many operators claim that fuelwood collection by peasants is the second major cause of deforestation in the rainforest. Others, on the contrary, assert that firewood shortages are the consequences, rather than the causes of deforestation. In fact, peasants, often, are coerced to move into the forest by compulsory purchases to make development projects and reallocation of land in favor of nesters. Peasants have to clear forest to make agriculture and soil is too barren to support that. Another cause is the conversion of forest in ranching. Pasturelands cause long term and often-irreversible ecological destruction. In fact, the land is abandoned in a few years, because of is depleted of nutrients and invaded by toxic weeds. Timber trade is another cause of degradation. Cutting trees is cause of soil erosion because of loss of roots that make stable land. Moreover, heads of trees avoid that rainstorms, typical in tropical weather, wreak floods. In fact, strong rains are not cushioned of leaves and furthermore, it can arrive to land stronger and offload it². It appears, as all of these actions should be then considered as causes of poverty rather than effects. In fact, people live with yields that natural resources make. If they decrease or vanish, people do not have food and materials, thus become poor, hungry, and desperate. Another example of bad development is the case of Fulbe people. Fulbe people are nomads that are skilled at getting their cattle, camels, and goats quickly into a new grass, which is more than twice as digestible as dry grass. Pastoralism requires mobility and large areas of land and more in drought years. In 1982, after a research by British and American researchers on livelihood of nomads, wells had been dug, grazing fees had been

¹ Baumert K., 2002, p. 63

² Goldsmith, E., 1990. pp. 76-87, 117-27.

imposed, rangelands had been divided in blocks to be alternatively used and left fallow, and group ranches had been organized. After a few years land became not nutritious because of overgrazing³. Many tribes lost their flock and became poor and hunger. They moved to cities to look for work but found only inequality and desperations. Cities became overpopulated, without enough basic services such as hospitals, schools, and houses. People did not find work and crime, alcoholism, and desperation increased.

9.2 CDM and Poverty Reduction

Helping developing countries achieve sustainable development is one of the objectives of the Clean Development Mechanism defined by the 1997 Kyoto Protocol. The CDM is emerging as a new financial mechanism that can contribute significantly to addressing local issues. One of its instruments is the CDCF (Community Development Carbon Fund) that is born with the strategy to reduce poverty involving communities in consultation, preparation and monitoring of projects.

The Community Development Carbon Fund evolved from a proposal by the Secretariat of the United Nations Framework Convention on Climate Change and the International Emissions Trading Association (IETA) that the Bank address the special needs of small and least developed countries that want to benefit from the emerging carbon market through a fund mechanism, by building on its experience with the pioneer Prototype Carbon Fund (PCF).⁴

CDCF supports small-scale renewable energy, energy efficiency, and solid waste to energy conversion projects. These projects provide significant and measurable development benefits to communities living in the immediate project vicinity or with a historical, cultural or economic affiliation to the project.

These benefits may arise from the project itself such as village or neighborhood electrification, improved air quality or increased employment and income. They may include basic social services such as schools or health centers, or basic infrastructure such as water, irrigation, local roads or markets. How can these projects reduce poverty? To understand impacts of CDCF on poverty we must specify what poverty is. For many years international operators have thought poverty as an income problem. Poverty was only connected with economic and finance aid. In the reality poverty is more than no have money to buy something. According to the World Bank, "Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time. Poverty is losing a child to illness brought about by unclean water. Poverty is powerlessness, lack of representation and freedom"⁵. CDCF espouses this definition and makes a strategy to

³ Lloyd T., 1996, pp 90-93.

⁴ Community Development Carbon Fund. Annual Report 2004.

⁵ "About Poverty". Last Updates Oct 26, 2004. World Bank Poverty Reduction. 22 February 2005. <http://intranet.worldbank.org/WBSITE/INTRANET/SECTORS/INTPOVERTY.html>.

achieve poverty reduction involving civil society in the process of preparation, evolution, and verification of every project.

The first step is for project developers to provide basic information in the original project document known as the Project Idea Note (PIN). This includes details about the economic, environmental, and social benefits the project will bring to the communities affected by the project. From this information, a determination is made by a review committee of Bank staff as to whether the proposal meets CDCF criteria, including the provision of community benefits. If this is not clear from the PIN, additional information is requested.

Once the PIN is approved, the project developers are requested to provide more detailed project information in the form of a Carbon Finance Document (CFD), including further details about the community benefits component of the project. For this purpose, a Community Benefits Questionnaire consisting of 10 questions is provided. The questionnaire is meant to elicit basic information about the community benefits, whether direct or indirect, that will arise from the project, how these benefits will be provided, measured, and maintained, how the community will participate in the project, and how much this component of the project will cost.

Once the CFD and benefits questionnaire are submitted, the information will be assessed by the Bank review committee to determine whether all aspects of the project, including the community benefits component, are fully explained and feasible. At this point the project developers are requested to provide a Community Benefits Plan that will be included in the final agreement, the Emission Reductions Purchase Agreements (ERPA), and it must include benefits implementation plan & budget, baseline data, and monitoring and reporting plan.

It is clear that project developers must demonstrate as a minimum that the benefits proposed can be achieved with the resources available to the project from all sources, that communities themselves have a say in selecting the benefits to be provided, that they will participate in implementing and maintaining the benefits, and that the project activities will not create other economic, environmental or social problems within the affected communities.

It is even clear that the different types of benefits proposed will involve different requirements, both in terms of review procedures and criteria, and in terms of organization and inputs at the community level. In each case, however, it is desirable that all stages in the project cycle be conducted in partnership with a representative community organization and local government entity. That means the initial project proposal should indicate the community counterpart with which the project will be planned and implemented. It should also make clear what role this entity will play in the post-project phase. In the absence of such a counterpart, and given the time constraints involved, it may be necessary for a local NGO or other civil society organization to serve as an intermediary between the community and project developers. In such cases, it will be very important to ensure this intermediary is sufficiently experienced and trusted by the local people to be effective.

For all projects it will be vital, through community dialogue and consensus building, to ensure that individuals, community leaders, and local government officials agree on the benefits to be provided and, more importantly, on the counterpart

contributions required both for initial and recurrent costs. This agreement should be expressed in a written agreement that clearly describes the roles and responsibilities of all parties. To the extent possible, it will always be preferable that benefits provided via CDCF projects be combined with other development initiatives that may be underway or planned in the community as this will help ensure integration and contribute to sustainability.

Where providing community benefits will involve working with a counterpart organization, it is important that project developers indicate early on who the community counterpart will be. The review process should also carefully consider how capable, how representative, and how trusted this organization is. This is important as the project proposal should indicate as early as possible what specific benefits will be provided. To do this, it will be necessary to engage the community in a dialogue that includes all stakeholders and gives all elements of the community the opportunity to express their priorities and to reach agreement on what should be done in a consensual manner.

It will also be important to ensure effective communications with the community during the start-up and implementation phases of the project, including with local leaders and government officials. Following the project start-up phase, the focus will shift to project implementation and monitoring in order to ensure the plan for community benefits is followed and to verify the proposed benefits are realized. This is why the creation of Independent Vericator whose task will be to control that benefits identified in the agreement will be realized. The Independent Vericator is generally identify in the person or NGOs, depend on the case, recognized and trusted by the community that will be affect of the project and it can become the voice of community itself.

During the first two years of CDCF we realized that every project are not connected with a single problem, like creating electricity for a villages or water for a region, but it involves other problems linked with the general an local situation. We have understood that one of the important strategies to achieve a competent, real and strong project is to identify opportunities to link CDCF projects to World Bank operations through coordination with the Region. We have examples of this with landfill projects. Landfill is a new technology to create energy covering dumps and extracting methane by them. The problem that we have discovered is that many people in developing countries live in dump as scavengers recycling wastes to have a minimum of income. They live in crumbling houses without water and electricity and their children are affected of diseases such as malnutrition, chicken pox, and diarrhea. As you can understand, these are not problems that can be solved only with an electricity project; they need a general intervention in collaboration with the internationals operators and national and local governments. Moreover, the CDCF project could create other problems if it will not connect with above said projects because could create involuntary resettlement shifting them in other areas of the country. CDCF landfill projects with these characteristics need to be linked with health, social and infrastructure projects that can look on general situation.

One other issue that we identify in two years of activity is the necessity to utilize funding sources available to help with project preparation, capacity building and other needs, both concerning environmental and community benefits.

9.3 Insights from projects

9.3.1 Nepal Biogas

Under the proposed project activity, the Biogas Sector Partnership Nepal (BSP-Nepal) aims to sell biogas digesters (biogas plants) to households located primarily in the rural areas of Nepal. The project activity will reduce GAS SERRA emissions by displacing conventionally used fuel sources for cooking such as fuel wood and kerosene and by introducing a proper disposal of animal waste. The change in fuel use will also reduce CH₄ and N₂O emissions. Where significant, the N₂O and CH₄ emissions from cow manure, buffalo manure, and chemical fertilizer consumption, have been quantified.

By providing high quality biogas plants to poor households at an affordable price, the project activity will support the Nepali Government's objectives of improving the access to modern energy services in rural Nepal.

Nepal is a small land-locked country with a population of 25 million people, more than 90% of whom live in rural areas, and rely on agriculture for their livelihoods. It is a low-income country with per-capita income of US\$ 240 in 2004. Only 10% of households are connected to the power grid, and per-capita energy consumption is low. In rural areas, most energy used comes from traditional fuel sources such as wood and animal dung. Fossil fuels such as kerosene are expensive for many rural people and villagers, in particular women, often spend hours to collect enough fuel wood simply to cook a proper meal each day. Smoke from indoor cooking fires contributes to high levels of indoor air pollution and related sickness, especially among women and children. Sanitation in Nepal is also often poor with few families using latrines. This is another cause of disease. Burning animal waste also deprives farmers of this source of fertilizer and means they are required to purchase expensive chemical fertilizers.

Benefits of the project can be very helpful to reduce poverty because are improving income but at the same time are trying to solve other social problems. They are showed in the following list.

Latrines Attached to Biogas Plants

Related to construction of the biogas plant, families are encouraged to construct a latrine attached to the biogas digester. According Biogas Sector Partnership Nepal (BSP-Nepal), the addition of human waste will increase gas production by 15-20%. BSP also provides a length of PVC pipe to attach the latrine to the biogas digester, and the digester itself serves as a septic tank for the latrine. In addition, workers from the companies responsible for constructing the latrine are trained by BSP to advise families on the benefits of constructing a latrine attached to the biogas plant and of the correct practices for using the latrine in conjunction with the biogas plant.

Reduction in Kitchen Smoke

As part of the User's Survey, biogas users are asked about the reduction in smoke after biogas plant installation. Kitchen smoke is the main factor in indoor air pollution and it is assumed that reducing this smoke has a significant impact on the health of mothers primarily, and of other family members as well. It should be noted, however, that biogas plants normally do not eliminate kitchen smoke entirely as most families continue to use other materials for cooking some materials such as animal feed that are not practical to cook using biogas.

Incidence of Disease

Installing latrines and reducing indoor smoke will reduce the incidence of common diseases such as eye infections, respiratory disease, cough, diarrhea, dysentery and parasites among both adults and children

Perception of Improved Agricultural Yields

Applying bio-slurry, the byproduct of biogas production, results in improved soils and increased agricultural output. It also means farmers require less chemical fertilizer which both protects the environment and saves farmers money.

Fertilizer Use Pattern

As mentioned, use of bio-slurry means farmers requires less chemical fertilizer for their fields. This both protects the environment and saves farmers money. Currently farmers use farm yard manure, compost, and chemical fertilizers. Bio-slurry is considered superior to these other fertilizers and should result in improved yields of all the major crops.

Employment Creation

The construction of biogas plants generates both full-time and part-time employment. BSP estimates for each 100,000 biogas reactors about 10,000 skilled artisans (masons), laborers and other employees are permanently employed. Most of these are employees of the 45 companies that construct the plants in 66 of Nepal's 75 districts.

Time Saving for Women

BSP estimates that women save three hours daily per household using biogas for cooking versus cooking with fuel wood. According to women interviewed they will have more time available for child care, for tending to sick family members and to their own health, and for undertaking income generating activities. In addition, mothers may be able to become more involved in activities outside the home such as literacy training, school associations, and other community organizations.

Firewood Consumption

Due to the use of biogas stoves, the pressure on forest resources for fuel wood supply has decreased. User's Survey data indicates household fuel wood consumption was reduced by about 50% in regions of Nepal following installation of biogas plants.

This in turn allows forest resources gradually to regenerate, especially when combined with effective community management.

9.3.2 Other goals

During a mission in the country, we realized that ensuring more security in rural areas should be a goal to achieve benefits for all the country. In fact, the political situation in Nepal is very difficult because of the insurgency of Maoists in rural part of country that they control with violence and civil war. Phenomena of this situation are the completely absence of local government because of many killings of political men and public officer by Maoists, children-soldiers and a common feeling of mistrust in national government.

The World Bank, in collaboration with other developing agencies, is attempting decentralized service delivery amidst an ongoing insurgency and without elected governments at the local level. Problems are: how can decentralized projects be implemented and accountability maintained in such a situation? Can community user groups create accountability and facilitate implementation in conflict areas? The World Bank has based the strategy on two studies: "Institutional Options for Service Delivery" and "Support for Poor Producers of Nepal". The second project builds community organizations and infrastructure (rural roads, irrigation, water, and micro-hydro projects), in the far western region of Nepal. This, the poorest region of Nepal is the heart of the nine year insurgency. Linking CDCF project with these could be a good strategy to achieve development.

In conclusion, the Nepal Biogas arises as an energy and environment project with a component of community benefits. During the process of analysis, monitoring and consultation with communities we understood the complexity of Nepalese situation.

We discovered limits in the sponsor that proposed the project, difficult politics in the countries and real necessities to improve the quality and possibility of local communities. We realized, moreover, that development is not a simple work but needs a whole of knowledge in many fields and a predisposition at open mind, patience and negotiation. This project showed us that development can be done involving all parts of society and that it needs, often, long term to have good results.

9.4 What have we learned so far?

Firstly, the CDCF group of experts has learned that every project is different from other because of different situation in every country, region, village and community and knowledge of each details of civil society is very important and involving communities in all process of project is a fundamental to put bases for achieve goals.

Secondly, identifying benefits can be difficult at first but usually yields results because sponsors/developers are focused on other things and lack experience in this area. This, often, require support and guidance based on close contact, discussion and information to identify benefits and prepare plans through actual dialogue and consultation with potential beneficiaries and partners. Based on these inputs sponsors

eventually see “win-win” potential. To achieve this is important takes time and real effort on all sides but result can be collaboration and partnership.

Thirdly, experts have learned the importance of being specific, practical and realistic regarding community benefits and importance of flexibility and patience until clarity and focus emerge.

9.5 Conclusions

The Clean Development Mechanisms and Community Development Carbon Fund have been created to reduce emission of greenhouses gas hugging another goal that is sustainable development, as they improve the life of small communities in developing countries.

Poverty is closely connected with these tools. This World Bank Carbon Fund and more in general the CDM are not contributing to poverty reduction only creating job to increase income, but also they are even trying to put on the table and then possibly solve issues such as hunger, lack of shelter, no-access to school and knowledge, no-job and then fear for the future as well as living *one-day-at-a-time* and powerlessness or lack of representation and freedom⁶.

Those goals can be achieved trying to involve civil society in the process of preparation, evolution, and verification of every project. CDCF underlines that aspect of poverty reduction, emphasizing the importance of all the voices of people.

Bibliography

BAUMERT K. (2002), *Building on the Kyoto Protocol. Options for Protecting the Climate*, Internal Ed, p. 63.

BURTON I. and VAN AALST M. (2004), *Look Before You Leap. A risk Management Approach for Incorporating Climate Change into World Bank Operations*, December, Internal Ed..

CHAMBERS R. (1997), *Whose Reality Counts? Putting the First Last*, London: ITDG, 1997.

ESCOBAR A. (1995), *Encountering Development: The Making and Unmaking of the Third World*. Princeton, Princeton University Press.

GOLDSMITH E. (1990), *Imperiled Planet. Restoring Our Endangered Ecosystems*, pp. 76-87, 117-27, Cambridge, Massachusetts, The MIT Press.

⁶ “About Poverty”. Last Updates Oct 26, 2004. World Bank Poverty Reduction. 22 February 2005. <http://intranet.worldbank.org/WBSITE/INTRANET/SECTORS/INTPOVERTY.html>

- LLOYD T. (1996) *Africa in Crisis. The Causes and Cures of Environmental Bankruptcy*, Philadelphia New Society, Philadelphia, pp 90-93.
- STEDMAN-EDWARD P. (1998), *Root Causes of Biodiversity Loss. An Analytical Approach*, April, World Wild Fund for Nature.
- THE WORLD BANK, (2004), *Focus on Sustainable Development*, Internal Ed.
- THE WORLD BANK, (2005) *The Role of the Bank in Implementing the Kyoto Protocol*. Febraury 16, Internal Ed.
- THE WORLD BANK (2005), *The World Bank Participation Sourcebook*, Internal Ed.
- THE WORLD BANK (2005), *Social Consultations Related to Phase IV of the Nepal Biogas Support Program. A World Bank Community Development Carbon Fund (CDCF) Project*, Internal Ed.
- THE WORLD BANK (2005), *Community Development Carbon Fund. Annual Report 2004*. Internal Ed.
- THE WORLD BANK (2005), *About Poverty*, Last Updates Oct 26, 2004. World Bank Poverty Reduction. 22 February, Internal Ed.
- UNFCCC (2003), *Clean Development Mechanism Simplified Project Design Document for Small Scale Project Activities (SSC-PDD)* January.
- WMO, UNEP (1998), *The Regional Impacts of Climate Change. An Assessment of Vulnerability*, Internal Ed.