

Integration of smallholder farmers in international CO₂-markets in Western Kenya

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Abstract

The integration of smallholder farmers in international CO₂-markets by targeting carbon sequestration projects is among experts worldwide currently highly discussed; however on the ground still not really reality. In order to strengthen arguments on the pro and cons, i.e. on driving and constraining factors, institutional arrangements on the local level are targeted by this research. The research itself is part of M.Sc. thesis that is still in process of completion. Focus area are two catchment areas – Nyando and Yala – in Nyanza Province/ Western Kenya, where during almost two months of data collection ten farmer groups as well as twenty individuals out of the groups have been surveyed in each of the areas, either in form of informal group meetings or semi-structured in-depth interviews. Additionally a case study on group by-laws has been organized by addressing six of the groups. Major importance of the research carried out results in formal and informal institutional arrangements on available land, labor and capital, by having the focus on properly done tree growing activities/ agroforestry practices. In most of the groups this relates to the division of common nursery establishment & management as well as training & extension, but individual tree growing activities/ agroforestry practices. Due to this common practice, farmer groups have an important role in transferring knowledge and skills and therefore in mobilizing and empowering individual farmers as well as local community members. Having the focus on the success of tree growing activities/ agroforestry practices, important institutional arrangements point also at organizing group compositions and processes as well as approaching of external development support. The experiences in organizing groups or approaching of external development support have to be seen as heterogeneous in Nyando and Yala. There are good, but also less developed groups. Same refers to the establishment of effective group by-laws in order to have sustainable land use practices. Just a few of the surveyed groups have incorporated own group by-laws, focusing either mostly on degraded sites like in Nyando or in a minor manner on individual land like in Yala. In order to be integrated in international CO₂-markets, knowledge and skills in proposal writing, experiences in addressing of donors and funds as well as implementing development activities are advantageous. In Nyando and Yala this is given by some of the groups to a certain extent, however still extendable. In terms of distribution of benefits, as important factor of success or failure of projects, having in mind the objective of improved livelihood, possibly supported by international CO₂-markets, the ‘maturity’ as well as the needs of farmer groups has to be considered. Due to the identified heterogeneity among the groups, it has to be proved carefully if benefits should be given in advance or gradually, respectively in cash or in kind.

Introduction

Presently no day is passing without having headings in newspapers on climate change and its consequences for life on our planet. Droughts as well as flooding are two phenomena that are more visible than upcoming global warming caused by enhanced emission of greenhouse gases. The accumulation of greenhouse gases in the atmosphere is less traceable than intense solar radiation or powerful rains. Nevertheless it's not deniable anymore that climate change is present and anthropogenic greenhouse gases are the main source of pollution. Due to the present isolation of source and sink, consequences caused by climate change, respectively related environmental problems are not anymore of local, regional or national concern, but of international and global concern. Presently in particular developing countries are suffering under climate change. With the enactment of the Kyoto protocol in 1997 and its ratification in 2005 a milestone of global justice has been achieved by the community of states. In an international policy process, flexible mechanisms such as emission trading, joint implementation, clean development mechanism and burden sharing have been developed in order to meet the objective to reduce greenhouse gas emis-

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sions drastically. Besides measures on rational use of energy and renewable energy sources, also measures on carbon sequestration have been identified to mitigate climate change.

In order to approach the imbalance between developed and developing world, the focus of this research – by addressing the general objective of sustainable development – targets the integration of smallholder farmers in international CO₂-markets by enhanced tree growing activities/ agroforestry practices. This objective faces public interests like the mitigation of climate change, but also private interests like generation of income to improve livelihood & alleviate poverty (cp. fig. 1).

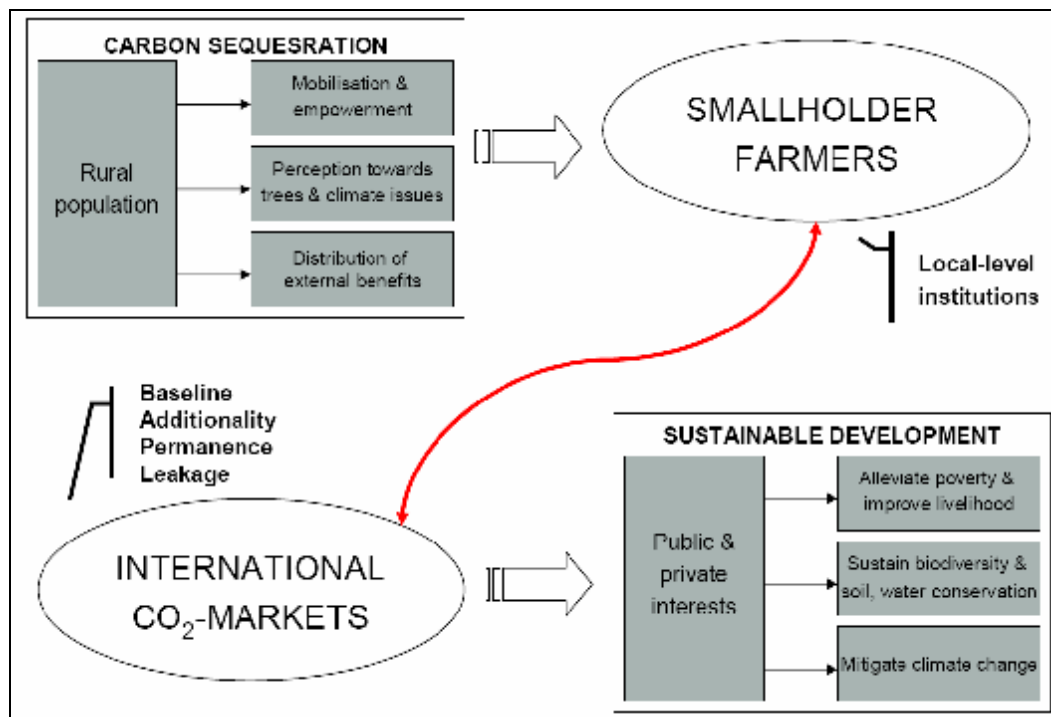


Fig. 1: Conceptual framework targeting the integration of smallholder farmers in international CO₂-markets by having the focus on rural population and the fulfilment of public as well as private interests according to sustainable development.

If this could be achieved, the integration of smallholder farmers in international CO₂-markets would give an important contribution for the fulfillment of the declared Millennium Development Goals (MDGs) till 2015, i.a. to eradicate extreme hunger and poverty by reducing half of the proportion of people living on less than a dollar a day respectively suffers from hunger.² However, international CO₂-markets based on carbon sequestration projects are presently rarely to non-existing, especially by focusing on the integration of smallholder farmers. Two major reasons are crucial for this: 1) the lacking political will on the international level in terms of finding a consensus in ongoing debates, but also 2) the lacking experience on the local level in terms of organizing tree growing activities/ agroforestry practices in order to address international CO₂-markets.

Objective

The main objective, if the integration of smallholder farmers in international CO₂-markets is possible, will be proved by identifying major driving and constraining factors by focusing on institutional arrangements on the local level. Therefore established requirements set by the clean development mechanism (CDM) of the Kyoto-protocol serve as guidance. This includes provision of baseline data, respectively guarantee on additionality, permanence and leakage of tree growing activities/ agroforestry practices (cp. fig. 1).

² <http://www.un.org/millenniumgoals>

In order to get a clear idea, the identification of driving and constraining factors focuses on three major points:

- i) Mobilization and empowerment of individual smallholder farmers for tree growing activities/ agroforestry practices in order to match the requirements of carbon sequestration projects. The focus is set on basic conditions like availability of land, labor and capital, the presence of knowledge & skills including methods of transfer as well as organization of group composition and group processes.
- ii) The perception of individual smallholder farmers towards tree growing activities/ agroforestry practices & climate issues in terms of design, implementation and enforcement of adequate activities.
- iii) The distribution of external benefits gained by tree growing activities/ agroforestry practices in terms of addressing sustainable development; i.e. mitigation of climate change and improved livelihood/ alleviated poverty of individual smallholder farmers.

Methodology

The research is based on the structure of the “Western Kenyan Integrated Ecosystem Management Project” (WKIEMP) that is run by Global Environmental Facility (GEF) funds.³ Having this larger project in mind, the geographical focus of this research is narrowed down on two regions of the lower Nyando and Yala catchment areas in Nyanza province. Both regions are defined as extreme rural areas. Beside high population density, they are in particular characterized by badly degraded soil and vegetation patterns, caused by conventional cropping practices, overgrazing as well as an increased number of unpredictable rainfalls. Within the research the focus is set exclusively on farmer groups due to more promising results by having adequate carbon stocks later on. In order to gain adequate data, three methodological phases – preparation, concretization and realization – have been defined beforehand. The preparation of the field work consisted of an extended literature review as well as informal observations during field visits by joining the team of the WKIEMP. After finishing this first phase, the research outline had to be concretized by generating tolerable hypotheses as well as identification of farmer groups. In both regions ten farmer groups have been selected that were approached by having informal group meetings based on a checklist of questions. In lower Nyando the realization has taken place by approaching farmer groups along an extended gully crossing one tripe border, Luo and Kipsigis, mostly close to a main road. In contrast in lower Yala farmer groups have been approached more on an evenly distribution within the catchment area, remaining in the area of one tribe, Luo, mostly far from a main road. Besides the realized group meetings also twenty individuals (out of the groups) have been surveyed in each of the regions. The individuals have been approached by having single meetings based on semi-structured in-depth interviews. Additionally to having group and single meetings, a small case study on local group by-laws has been carried out by approaching six already targeted farmer groups, four from Nyando and two from Yala.

When approaching farmer groups on institutional arrangements on the local level in Nyando and Yala, it has to be mentioned that due to the fact that carbon sequestration projects by integrating smallholder farmers are still rarely to non-existing, the term ‘international CO₂-markets’ has not been used within this research. In order to avoid any hopes or give promises, rather the term ‘new market opportunities for smallholder farmers in terms of tree growing activities/ agroforestry practices and climate issues’ has been used.

Results

Well functioning international CO₂-markets rely primarily on the mobilization and empowerment of individual smallholder farmers for tree growing activities/ agroforestry practices. In order to distinguish these from other group and individual activities basic conditions like land, labor and capital has been analyzed. In most of the groups, both in Nyando and Yala, informal institutional arrangements have led to com-

³ For further information: www.gefweb.org

monly established and managed tree nurseries, but individually carried out tree growing activities/ agroforestry practices. In terms of labor and capital, this division is in some of the groups not so clear due to assistance and benefits given to each other when doing work individually, i.e. support when digging holes or planting trees, respectively when having local fundraisings (merry-go-around).

A similar approach exists when focusing on transfer of knowledge & skills. In almost all the groups, the group itself serves as an entity where knowledge & skills is gathered, either generated from external training & extension or by individual group members. If knowledge & skills are once generated within the group, the transfer is directed to individual group members, but also to community members. The group serves as a multiplier, i.e. giving practical support like several examples show: organizing a tree planting day, distribution of seedlings, doing follow-ups etc.

However the success of generated as well as applied knowledge & skills depends partly also on the structure of group compositions and group processes. In order to understand the usefulness of institutional arrangements for tree growing activities/ agroforestry practices, the focus of this research has been set therefore on group activities in general. In terms of group composition all the groups have officials and ordinary group members, but partly also group committees as well as sub-groups, respectively in particular in Yala also a defined person in charge of group activities like farm managers or activity leaders. In terms of group processes, the focus has been set on decision-making, carrying-out activities and taking over of responsibility. Mostly in Nyando the groups have agreed on making decisions on consensus principle, whereas in Yala the groups have agreed on majority rule. Carrying out of activities is done in all the groups commonly, i.e. no division between male and female and young and old. However some of the groups have arranged sub-groups focusing on specific activities, respectively divide the group according to the work that has to be done. Taking over of responsibility, i.e. who is in charge of what, refers mostly to all the group members, but in terms of overall responsibility to group officials like chairperson/ secretary or in case of some groups in Yala to farm managers or activity leaders.

Besides institutionalized group structures being presented, also group by-laws are of major importance in terms of having sustainable land use practices that also refers on secured tree growth in a long-run. However among the twenty groups being part of this research, just a minority has incorporated their own group by-laws. These are still young and refer mostly on the objectives of the group like e.g. soil and water conservation, which also integrates mostly tree growing activities/ agroforestry practices. The majority of more or less in a participatory manner established group by-laws have been located in Nyando due to the fact that the groups work commonly on degraded sites. In Yala just two groups could be identified with own group by-laws. These are either very young or even still in the drafting process. Most of the by-laws, in particular in Nyando refer to land under common management. Just in case seedlings have been given to individual group or community members, those by-laws refer to individual land, too. Similar the practice in Yala, where the groups also want to exemplify the importance of tree growing activities/ agroforestry practices to the communities by having own incorporated group by-laws.

In order to be able to approach international CO₂-markets, beyond institutionalized arrangements on the ground, also structures gained through design and implementation of external development activities such as proposal writing, approaching donors & funds have been analyzed. However among most of the groups, these experiences are not given to a full extent, both in Nyando and Yala. Some of the groups haven't been part of external development activities so far, whereas others have no experience in proposal writing or approaching donors and funds. In terms of design and implementation of development activities, it can be stated that almost all the groups are experienced in carry out group activities, however more or less successfully. Apart from giving instructions in form of training & extension in advance most of the groups have been in charge by their own, if implementing new activities. Due to lacking knowledge & skills, this has led partly to minor success of even failure.

Focusing on the question of organizing international CO₂-markets, closely related to external development activities, i.e. having major or minor success, the distribution of benefits plays an important role, too. In terms of institutional arrangements, it has to be proved if benefits should be given to individuals or to groups, in advance or gradually, respectively in kind or in cash. In Nyando and Yala all the groups have in common that benefits should be given to groups. However in case of type and time, groups in Nyando and Yala have different ideas. Whereas groups in Nyando prefer mostly the distribution of benefits in cash and in advance, groups in Yala prefer mostly in kind and phase after phase.

Conclusions

Due to lacking experiences so far, the integration of smallholder farmers in international CO₂-markets has to be seen as a new field of research. However presently, the focus is set on farmer groups due to more promising results in having adequate carbon stocks, also undermined by the institutional arrangements on the local level being presented in this research. When focusing on smallholder farmers in Nyando and Yala in Nyanza province/ Western Kenya, institutional arrangements do not differ so much between the two regions in terms of well functioning group structures, but do differ among the regions due to identified heterogeneity among the groups. This does not only refer on tree growing activities/ agroforestry practices, which are still young disciplines in the two regions in Western Kenya, but on group activities in general. Despite the identification of good approaches still further opportunities for additional training & extension are needed, both for 'soft skills' like group development, leadership, proposal writing, but also for 'hard (technical) skills' like modern farming practices (agroforestry). The same refers to group by-laws. After a first revision of existing group by-laws further adaptation has to be done as well as further transfer to other groups. In terms of addressing and implementing external development activities, similar observations has been realized, i.e. good examples for instance in proposal writing and identifying of donors and funds do exist, however also these need to be further institutionalized in form of training & extension. In order to have successfully implemented international CO₂-markets and therefore an improved livelihood for smallholder farmers on the ground, the distribution of benefits has to be reconsidered and seen differentiated according to the farmer groups, i.e. due to different experiences and ideas benefits should be given either in kind or in cash, respectively in advance or phase after phase, however in common always to farmer groups.

Summary

Having in mind, the present difficult status of projects integrating smallholder farmers in international CO₂-markets, the generated outcomes of this research will make it easier, in particular in political debates on the international level, to discuss and argue future issues on project design and project implementation. This is in particular of interest in order to achieve one of the basic objectives of international CO₂-markets, sustainable development of developing countries.

However when the objective to integrate smallholders in international CO₂-markets is taken more seriously, further mobilisation & empowerment is needed. Therefore best-practice examples like farmer-to-farmer approaches i.e. transfer of knowledge & skills from groups to individuals as well as beyond to communities have to be emphasised, but also further farmer-oriented training & extension.

At the end the aim should be the bundling of various small-scale smallholder projects in order to have smallholder farmers as a charming and reliable partner for investors in international CO₂-markets. However in this respect, in particular the responsible role of intermediaries either governmental bodies or NGOs have to be further institutionalized, too, by establishing adequate structures of support.

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