BENEFIT SHARING UNDER REDD+ IN MEXICO

DISTRIBUCIÓN DE BENEFICIOS BAJO REDD+ EN MÉXICO

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ABSTRACT

In its national REDD+ strategy, Mexico has adopted an internal benefit sharing system based on input payments for territorial low emissions development investments and related activities at the level of communities (ejidos and comunidades indígenas) and other forest owners, rather than on output based payments for carbon performance. Finance for this will come both from internal sources and from revenues from the Forest Carbon Partnership Facility of the World Bank, which will be based on carbon performance at national level in terms of reductions in deforestation. However, communities and other forest owners who are able to achieve and certify increases in carbon stocks using approved methodologies are in principle free to market credits related to these in national or international voluntary carbon markets; but there are as yet no policy signals on how such voluntary markets will be stimulated. The paper explains the pros and cons of input versus output payments and the differences inherent in payment for avoided emissions from deforestation and forest enhancement from increased stocks, and explains why Mexico has selected this dual policy for benefit sharing between stakeholders.

Index words: output payments/payment by results; input payments; equity; avoided deforestation; forest enhancement.

RESUMEN

En su estrategia nacional de REDD+, México ha adoptado un sistema interno de distribución de beneficios basado en inversiones iniciales en un contexto de planeación territorial para el desarrollo rural sostenible bajo en carbono para financiar actividades a nivel local en comunidades y ejidos; este esquema surge en contraposición a los pagos por resultados basados en carbono. El financiamiento de estas actividades vendrá tanto de fuentes domésticas, así como del Forest Carbon Partnership Facility (FCPF) del Banco Mundial, que se basa en el desempeño medido en la reducción de emisiones de carbono por deforestación. Además, las comunidades y propietarios de los bosques que logren generar y certificar los aumentos en las existencias de carbono en sus bosques son libres para comercializar éstos en los mercados nacionales o internacionales voluntarios de carbono; pero hasta ahora no hay señales de política pública sobre cómo se estimularán los mercados de carbono ya sean voluntarios o de cumplimiento. Este trabajo describe los pros y contras de la distribución de beneficios vía el pago de inversiones iniciales y aquel basado en pagos por resultados; además se discuten las diferencias inherentes en el pago de las emisiones evitadas por la deforestación y aquel asociado al aumento de los acervos de carbono en bosques, finalmente se explica por qué México ha seleccionado esta política de distribución de beneficios entre los diferentes actores.

Palabras clave: pago por resultados; pago por insumos; equidad; deforestación evitada; aumento de acervos de carbono.
INTRODUCTION

A range of benefits is anticipated in Mexico from the application of the United Nations Framework Convention on Climate Change (UNFCCC) policy on Reduced Emissions from Deforestation and Forest Degradation (REDD+). It is hoped that better management of forests will result not just in reduced carbon emissions but in a better level of environmental services in general, many of which could benefit local people. The national REDD+ strategy (CONAFOR, 2015a) will also require considerable capacity building that may have positive spillover effects to other aspects of rural livelihoods. However, many observers feel that the primary benefits to be expected lie in the financial rewards or incentives that are associated with REDD+, in the context of international payments for performance. This paper outlines a number of different systems by which these funds could be distributed among stakeholders within the country and the advantages and disadvantages of these. It then explains the two choices that the Mexican government has made in this respect.

International distribution of benefits

To participate in REDD+, countries must propose to the UNFCCC a baseline known either as a national Reference Emission Level (REL) or a national Reference Level (RL). A REL is a prediction of what would happen as regards loss of carbon stock over the whole country in the absence of implementation of REDD+, i.e. the business as usual scenario. An RL is similar, but would include estimates of any increases of stock that might be expected. These baselines are constructed on the basis of an analysis of past national trends in forest losses and gains, which may be modified to take into account ‘national circumstances’, i.e. causal factors which might plausibly be argued to affect simple straight-line or curvilinear projection made from changes in land cover in the past. Already planned highways across previously inaccessible forest terrain for example would be likely to increase deforestation rates over those of the past, for example, and can be factored into the REL/RL. For instance, the recent discovery of mineral deposits, or opening of new trade treaties might also lead to higher expected deforestation rates.

After REDD+ is implemented, the performance of the country in reducing carbon stock losses or increasing forests carbon stocks compared to the scenario presented in the REL or RL would be assessed at regular intervals and would be rewarded through international funds, or possibly carbon markets. In principle, any improvements compared to these baselines should be compensated on a per ton carbon basis, although prices may vary from fund to fund.

Distribution of benefits within countries

Since the policy is directed at whole countries and performance is assessed and paid on the basis of national performance, a system is first needed to transfer the funds vertically downwards to the lower level jurisdictions responsible for managing REDD+ activities. Secondly, a process is required to distribute the benefits horizontally to the stakeholders at local level – communities, farmers, forest owners etc – who are actually implementing the activities that result in carbon savings, such that these funds may operate as incentives or rewards to stimulate such activities (Buss et al., 2013); how this will be done is not decided by UNFCCC at all, but by each country itself. Though it may sound simple in principle, in practice there are many technical and legal hurdles to be overcome. To understand these, it is important to distinguish first between two fundamentally different payment principles: payment by outputs (i.e. by performance in terms of carbon, representing a reward for achievements) and payment by input (which is an incentive to implement certain activities thought to reduce carbon loss, but not tied to performance measured in terms of carbon) (Skutsch et al., 2011; Loft et al., 2014). It is also necessary to understand that there are two different ways in which carbon can be saved; through reductions in or avoidance of emissions from deforestation and degradation, and through increasing removals/sequestration through forest enhancement (Schlamadinger et al., 2007). It is important to understand that even though the impact of reducing emissions by slowing down deforestation and increasing absorptions by increasing forest density and/or area are equivalent in terms of impact on CO₂ levels in the atmosphere, these two processes have very different characteristics and may have to be treated separately under Mexican law. The advantages and

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1Under certain circumstances UNFCCC compliant REDD+ may be assessed at a sub-national level, for example by province or state, but usually only when exceptional circumstances prevail, for example if one part of the country is not fully under the control of the national government as a result of insurgency, for example.
disadvantages of designing benefit distribution around inputs versus outputs, and around emissions versus increased sequestration, are explained below.

**Output payment versus input payment principles**

Output or performance payment requires a baseline against which the performance may be measured. Such a baseline is essentially a counterfactual estimate of what the future situation would be in the absence of any REDD+ intervention (‘business as usual’). As noted, payments will be made this way at the national level, and a similar system could fairly easily be developed at the level of individual states within the country, using mapped data on past land use change and state economic plans to model future states of the forest. The funds received at national level could thus in principle be divided between participating states on the basis of their relative performance, once the activities have started and have been monitored for carbon results. However, it would be very difficult to replicate this for the case of horizontal distribution to individual communities, farmers and forest owners at the local level. For this, each would require an individual baseline, which would be a very costly overhead, and assessment of performance of each owner would require an analysis of potential leakage (spatial displacement of deforestation to other areas). It would also direct benefits chiefly towards those owners who had heavy deforestation losses in the past, provided they were able to reduce this under REDD+, but not to those who had conserved their forests in the past, since what is measured and rewarded is reductions in rate of carbon loss. A payment policy of this kind would likely be considered highly unfair to the general public (Skutsch, 2014). And finally, the benefits would be paid to the owners of forest only. While for example around 60% of all forests in Mexico are still officially communally owned within ejidos and comunidades indígenas, the reality is that by no means all people living in these agrarian nuclei belong to families with ejidatario or communal rights. At least 30% of families support themselves by renting or borrowing land or by working as laborers for others, and these people in most cases do not have rights to profits from the forests (for example they do not necessarily share profits from community timber sales and they are not usually eligible for individual payments under Payments for Environmental Services systems (Alix et al., 2012), although each community will make such decisions through its ow customary procedures).

It can certainly be debated from a legal-financial point of view whether people without such rights should have access to REDD+ benefits. However, much of the literature on REDD+ benefit sharing is founded on the idea that REDD+ should be a socially progressive system aiming for ‘win—win’ results with poverty reduction as one of the aims (Corbera et al., 2011; Essam, 2011; Hou, 2013; Balderas-Torres and Skutsch, 2014), and indeed much of the criticism of REDD+, particularly by the NGO community, has reflected concerns that REDD+ will mainly benefit the richer people (Corbera et al., 2011; Peskett, 2011; Enright et al., 2012; Luttrell et al., 2013), although as noted above, communities may make their own decisions on such distribution. Views vary between those who strongly support an inclusive distribution of benefits to all stakeholders, to those who argue for attribution of ´carbon rights´ only to the holders of formal land rights, and finally to those who would prefer attribution to all benefits to national government. All these options have their pros and cons and clearly choices in this matter should be adapted to the local political and historical contexts and needs. But aside from moral and legal issues in this regard, there are practical and pragmatic reasons why it may be advisable to ensure that at least part of the benefit flow reaches people without land rights. Their participation may be essential to ensure that measures taken are fully supported and not sabotaged by those excluded. Moreover, if payments are made solely to forest land owners on the basis of outputs, many of the drivers of deforestation, which lie outside the forest, could not be addressed. Output based payment systems are however considered by many economists to be the most cost-efficient means of reaching mitigation goals, since every dollar is paid proportionally to measured carbon effects, although the reality of this efficiency has been disputed; it is a theoretical position which ignores how real people make decisions (Brockhaus et al., 2016).

Input payment systems are intended to encourage improved forest and land management and to (partially) overcome opportunity costs. They are tied to particular activities which are considered to have beneficial effects on carbon stocks, but the payment is for implementation of the activity, like a subsidy or grant, not for the carbon savings generated: thus it in no way guarantees that there will be positive carbon outcomes, when carbon levels are measured at the end of the period. Input payments are much easier to administer than output payments and payments could in principle be made for a variety of different activities...
such as conservation, and to people whose activities outside the forest impinge on the forest (e.g. to cover the costs of stall feeding of cattle so that grazing in the forest is no longer necessary). However, this system of payment is often considered less efficient from an economic point of view because the direct link between payment and carbon is not made and some resources would be “wasted” or invested in less cost-efficient interventions (i.e. some activities may be expensive yet yield little or no carbon saving). It should be noted that most Payment for Environmental Services (PES) systems, although defined as schemes for direct output payment for services provided (Wunder, 2005), are in practice financed on an input basis (Loft et al., 2014) mainly because of the complications involved in measuring performance (flows of ecosystem services). A comparison of the characteristics of these two different approaches is presented in Table 1.

Table 1. Comparison between output and input-based mechanisms for the distribution of benefits (Taken from: Skutsch et al., 2016).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Output-based</th>
<th>Input-based</th>
</tr>
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<tbody>
<tr>
<td>Baselines and monitoring</td>
<td>Carbon baselines are essential to calculate/estimate additional carbon savings, and payments which are conditional and proportional to these (for both avoided/reduced emissions and carbon sequestration/removals) (e.g. Cattaneo et al., 2010; Luttrell et al., 2013). Monitoring is required at local level to demonstrate results and channel resources locally and horizontally.</td>
<td>Baselines are not required for defining payment levels; it is simply assumed that REDD+ activities will produce carbon benefits. Monitoring takes place at national or sub-national level to demonstrate results and to access international finance.</td>
</tr>
<tr>
<td>Payment levels</td>
<td>In market mechanisms, payments are determined by demand and supply; however flat rate payments are commonly offered. In theory payment offered would have to cover implementation, transaction and opportunity costs in order to be an effective incentive (Balderas-Torres et al., 2010) but it could be based on opportunity costs only (Cattaneo et al., 2010). Total payments are uncertain since they depend not only on the payment/price level but also on the actual carbon achievements, which are known only ex-post.</td>
<td>Usually it includes only implementation costs; however, if benefits from implementation do not cover opportunity costs, participation could be low. Lower monitoring requirements reduce transaction costs. Payment levels are known ex-ante.</td>
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<tr>
<td>Criteria</td>
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<tr>
<td>Eligible activities</td>
<td>There is flexibility, but participants (the local actors) will clearly want to select activities that have maximum carbon impacts and for which approved accounting methodologies are available. Specific safeguard standards can be established.</td>
<td>Specific activities need to be proposed by the government (funding agency) and thoroughly evaluated to ensure they will produce carbon impacts, and to define the required levels of finance. Usually the selection of activities is not made by local actors, although they may be consulted.</td>
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<tr>
<td>Timing of payments</td>
<td>Payments on delivery are ex-post; this reduces their present value. Higher risks and uncertainty on initial investment.</td>
<td>Ex-ante payments, increasing present value of the money. The only risk appears if local actors fail to implement the activities.</td>
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<tr>
<td>Source of finance</td>
<td>Private or intergovernmental resources via full or quasi carbon markets. In practice, resources may also be channelled through the government.</td>
<td>Typically provided by, or channelled through, the government; the scheme is similar to programs of Payments for Environmental Services (PES), and other existing subsidy programs.</td>
</tr>
<tr>
<td>Incentives to reduce emissions</td>
<td>Very difficult to link incentives to performance at local level due to technical and legal barriers and lack of baselines (see main text).</td>
<td>Selection of and finance for activities that are assumed to reduce emissions from deforestation and degradation.</td>
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<tr>
<td>Incentives to promote carbon enhancements</td>
<td>Resources channelled to local level via national or international carbon markets.</td>
<td>Selection of and finance for activities that are assumed to increase carbon stocks.</td>
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<tr>
<td>Pro-poor potential</td>
<td>Lower potential to engage vulnerable groups (landless) since performance is linked to carbon-achievements which are associated with land tenure (i.e. market mechanisms for carbon sequestration/removals), independently of land tenure.</td>
<td>Higher potential to be pro-poor. Activities can be identified to target specific vulnerable groups and pay them for activities implemented. In this case, systematic exclusion of landless and poorer people would not be so marked.</td>
</tr>
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</table>
Reduced emissions versus carbon removals

The fundamental difference between reduced or avoided emissions and increased stocks as a result of sequestration is that the former is counterfactual, i.e. can only be estimated against a baseline which considers historical patterns and estimates of future trends, while the latter can be physically measured before and after, since the carbon growth will be proportional to increases in biomass in a given plot or parcel of land. The baseline is the carbon level at the starting date. This means there is a lot more certainty as regards sequestration, and this is one of the main reasons that under the Kyoto Protocol, the Clean Development Mechanism only permitted reforestation and afforestation projects (Boyd et al., 2008), with the baseline being zero since these projects are only permitted on areas which were not forest when the project started. It can be argued however that any regrowth of forest (i.e. also natural regeneration within forests which are currently degraded) is measurable and also that it is less likely to result in leakage than activities that reduce emissions. It is also questionable whether landowners may have exclusive rights to reductions in emissions assessed against a baseline on their property. The Mexican General Law on Sustainable Management of Forests states that ‘owners and legal possessors’2 of forests have the right to benefits from the environmental services generated by them, but stops short of saying that reductions in emissions belong to them, which is a crucial difference. Recent legal reviews (Skutsch et al., 2016) have indicated that under Mexican law this kind of ‘saving’ in carbon emissions has no legal existence as such, since it refers to something that never happened/never existed and therefore cannot be owned. Moreover, in Mexico deforestation is illegal without a land use change permit, and although this principle is widely abused, directly paying people not to deforest would be tantamount to paying them for not committing a crime. For these reasons, the Mexican government will claim title itself for all international credits generated by reduction/avoidance of emissions, although it has in principle committed itself to using all the revenues so generated as investments to stimulate better territorial management by land owners (CONAFOR, 2016a).

On the other hand, the law does recognize that the trees on land are the property of the owners of the land. The legal framework (article 27 of the Constitution, and particularly 5°, 7° and 134 Bis of the General Law on Sustainable Forest Management) states that the owners of the land (private individuals, ejidos and comunidades) are the owners of any forest resources on that land. It could be concluded that the carbon, which is a chemical component of the trees, belongs to the owner of the land and the trees, a point which is echoed also in the ENAREDD+ (CONAFOR, 2015a), and the IRE (CONAFOR, 2016a). This right of property involves also a number of subsidiary rights such as use and the right to receive benefits from this property. It could therefore be deduced that any carbon accumulation within the trees can be attributed to them, on the basis of the principle of ‘fruits of labour’; rights over this form of carbon definitely rest with the owners of the resource (CONAFOR, 2016a). If they are able to monitor and measure any growth in stocks, then they would be entitled to trade credits for this in national or international voluntary carbon markets as long as they comply with the requirements of the applicable and approved methodology (CONAFOR, 2015a).

However, although it is quite possible to measure stock change at the level of individual plots to calculate the accumulation rate, Mexico has until recently not had sufficient data on stocks over the whole country to assess the dynamics of carbon (losses and gains) and for that reason, has developed and submitted to UNFCCC a national REL which takes into account only losses due to deforestation, not accumulation of stock or enhancement (CONAFOR, 2015b).

Strategy for distribution of benefits of Mexico

The ENAREDD+ is the defining policy document for REDD+ in Mexico and (CONAFOR, 2015a), and was prepared largely through a participatory process under the CTC over a five-year period. The Initiative for Reduced Emissions (IRE) (CONAFOR, 2014; 2016a) is a proposal to the Carbon Fund of the FCPF of the World Bank. Both documents take into account the points that have been explained above, and also the popular wish as expressed in the CTC that REDD+ should not just be about carbon but should aim for sustainable environmental development in a much broader sense to include social and economic development of poor communities in rural areas. This desire is strongly expressed in an appendix to the IRE (CONAFOR, 2016b), entitled ‘methodology for guiding the process of participatory construction of the rules for distribution of benefits at the local level

2Dueños y posesores legales.
in the context of the IRE\textsuperscript{3}. This document notes that the ENAREDD+ identified as beneficiaries the owners or possessors of land who undertake activities to reduce deforestation and degradation, but points out that many people are not formally owners, citing e.g. the case of women, and stating that ‘it is necessary to guarantee equitable access’ and to promote equality between men and women. It specifically identifies owners and possessors of land, villages and indigenous communities with forest land, legal users with usufruct rights, other users of forest lands and people or groups without land whose activities may impinge on forest (p9) as potentially eligible for REDD+ benefits. It then outlines procedures for participatory processes by which the rules and norms for distribution of benefits are to be discussed at the local level. Though clearly very well intentioned, it is not clear exactly what the legal status of these rules is, since the decision-making body at the local level is the Assembly, and although this may be influenced or persuaded by programme directives of this kind, the fact remains that control of resources is largely in the hands of the legal members of these communities (i.e. just the ejidatarios or comuneros). It is difficult to say what would happen if the Assembly did not agree to sharing the REDD+ resources with e.g. women or the landless people within the community.

As noted above, distribution within communities has long been regulated by community customs and norms which are rooted in tradition, and these may be different from those of modern democratic ideals. In fact, some ejidatarios are female and they at least should have full rights (Almeida, 2009).

The REDD+ resources will in the long run be revenues generated as a result of performance against the REL, which will in turn be distributed among participating states on the basis of their individual contribution to the national achievement (against state level baselines), transferred through state level trust funds (fideicomisos) to ensure transparency and to uphold fiscal propriety. However, distribution of these benefits to the stakeholders and participants within states will follow a different logic and will be input-based.

In a number of national Early Action Areas (the three states of the Yucatán Peninsula, Jalisco, Chiapas) a pilot program is being undertaken (CONAFOR, 2015c). The approach is territorial, that is to say, the basic decision making units would be ejidos and comunidades indígenas, and the basic areas over which their decisions would be made would include all the land area within their territories, through a planning process somewhat akin to what are known as ordenamientos territoriales. Investment Programs (IPs), which will include estimated budgets for REDD+ activities to be carried out, are being prepared with the assistance of organizations known as Public Agents for Territorial Development\textsuperscript{4,5}, which are semi-governmental in nature (examples are the Juntas Intermunicipales of Jalisco). These will take the lead in approaching ejidos and comunidades indígenas and helping them to draw up IPs that will stimulate and improve more holistic management of natural resources within community boundaries. These investments will come in the first instance (i.e. before performance-related revenues can be generated at national level) from existing regular government programmes and subsidies, from different ministries, although coordinating these to promote carbon savings may be difficult. The role of the Public Agencies will be partly to help communities access these more efficiently but also very much to streamline these flows such that coherent rather than counterproductive investments are made (in other words, to prevent situations in which one ministry is paying for forest clearance for pasture while another is paying for PES), although the final choice of activities should strongly reflect the priorities of the ejidos and comunidades. A Public Agency could be engaged to assist a group of ejidos/comunidades within a given geographical area, but participation is always voluntary. After two years of implementation, performance (reduction in emissions due to deforestation, since it is on this that the national REL is based) will be assessed not at the local but at the regional level, and if positive, funds from the Carbon Fund would be made available via the state to support further ‘additional’ investments in the area. The government has made clear however that international funds will not be sufficient to cover the total investment needed; even though it has pledged to use 100% of these funds as investments at local level, and has been suggested indeed that four times as much needs to be brought in from internal sources to support the programme in the long run (Sergio Graf, personal communication). For instance, according to an early

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\textsuperscript{3}Metodología para guiar el proceso de construcción participativa de los arreglos de distribución de beneficios a nivel local en el contexto de la Iniciativa de Reducción de Emisiones (IRE) de México.

\textsuperscript{4}Agencias Públicas para el Desarrollo Territorial.

\textsuperscript{5}They can be found as Programas de Inversion in the following link: http://www.conafor.gob.mx/web/temas-forestales/iniciativa-de-reduccion-de-emisiones/.
but undated draft of the proposal to the World Bank (ER-PIN, CONAFOR, n.d.) the FCPF will contribute up to $60 US million dollars over five years for the implementation of the IRE, this represents around 14% of the $7900 million pesos required to implement the IRE as suggested by the investment programmes.

The policy choice for a system of investments as incentives or input payments to support efforts to reduce emissions is both politically expedient and socially necessary. As pointed out above, payment by performance is difficult and costly to administer at the local level and could easily result in a system which rewards those with an already greater share of the resources and those who have in the past been profligate in their management of resources. In the system Mexico has selected, the government will have some say, through the Public Agencies, over what kinds of activities can be considered eligible for REDD+, although by no means all activities will have direct measurable impacts in terms of carbon. For example, it is widely considered that alternative employment activities for poor people should be supported under REDD+ to reduce pressure on forests (for example, diverting people from charcoal production or firewood sales, by providing them with training for other activities). It is necessary for the strategy to be as socially inclusive as possible to ensure widespread public approval, even if this means that some investments are not very efficient in terms of greenhouse gases mitigation.

As regards growth in carbon stock at the local level (forest enhancement), this is considered by the ENAREDD+ (CONAFOR, 2015a) and the IRE (CONAFOR, 2016a) to be property which is at the full disposal of each owner, and should ejidos/comunidades wish, they may in principle register any such removals with carbon credits and sell these on voluntary markets, either international or national. To this end the government has created as set of Mexican Norms (Secretaría de Economía, 2015) to standardize the eligibility conditions for projects and make crediting easier. Moreover, the law now allows Mexican parastatal companies to offset part of their energy tax bills by buying certified carbon credits from these kinds of projects (up to now, from projects which comply with standards set by the Clean Development Mechanism). There have been a number of other local level carbon projects in the past in Mexico (e.g. ScolelTé, under the Plan Vivo system in Chiapas) which have been credited under other standards and have sold credits to international voluntary carbon markets, but no agrarian nuclei in the early action areas have started to engage with the market sector as a result of the new REDD+ opportunities: time will tell whether it is worth their while (there are usually heavy administrative procedures and costs involved, and if the forests are relatively small, the annual increases of carbon stock may not justify the overheads involved).

CONCLUSIONS

Mexico has found a way to resolve the highly-charged issue of carbon rights, which is still much under debate in other parts of the world, by using this dual system of carbon accounting, sometimes known as ‘two can tango’ (Balderas-Torres and Skutsch, 2012). By using input payments as investments in a broad range of environmental and social activities, and claiming rights to all the related reductions in emissions, the state can ensure that at least some of the benefits will come the way of poorer people in agrarian nuclei. However, this disconnects the money paid from the carbon savings gained, and does not guarantee any particular level of performance. By allowing communities to sell carbon credits for removals (i.e. for increases in carbon stock within their territory), for which performance measurement would be required, it allows a certain level of freedom for forest owners to manage their own affairs and profit directly from such activities, while contributing to national aims even though these gains are not covered by the national REL. What remains to be seen therefore is (1) how effective the government investments are in terms of greenhouse gases mitigation; detailed studies will be needed at the local level to assess this, probably with local monitoring of carbon stock changes to assess the impacts of the interventions and investments; (2) whether agrarian nuclei will feel it worthwhile to enter their increased carbon stocks into newly developing markets (there have been not moves towards this yet). The question of how benefits will be re-distributed remains a concern. It will be some time before the participatory process encouraged by government regarding the formation of local rules for benefit distribution can be evaluated. It will be important to monitor this to determine to what extent it succeeds in producing social progressive outcomes in terms of who participates in REDD+ activities and who, within the communities, receives benefits.
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REFERENCES


CONAFOR. 2015b. México’s proposed reference emission level (revised). Submitted to UNFCCC.


CONAFOR. 2016a. Documento de la Iniciativa de Reducción de Emisiones (IRA), Draft for consultation.

CONAFOR. 2016b. Metodología para guiar el proceso de construcción participativa de los arreglos de distribución de beneficios a nivel local en el contexto de la Iniciativa de Reducción de Emisiones (IRE) de México. Comisión Nacional Forestal, Zapopan, Jalisco, México.


