Chapter 6

Key Accounting Issues in Developing Countries for the Use of Market-based Mechanisms

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Key Messages

- Accounting for the use of market-based mechanisms under the framework for various approaches (FVA) to contribute to the 2°C target in a post-2020 climate regime should contain two key aspects: one is to ensure environmental integrity, and the other to incentivise mitigation actions by both developing and developed countries. An accounting framework for the FVA should be designed under a post-2020 regime to enable the realisation of these aspects, taking into account different national capacities and needs.
- Using the example of the Joint Crediting Mechanism (JCM), currently being discussed under the FVA, it is evident that developing countries are likely to encounter unique challenges at different stages of accounting, namely issuance of credits, transactions of credits, and accounting towards a country's nationally determined contributions (NDCs). Major obstacles highlighted in this chapter are related to their varying capacities and the provision of the current reporting framework for developing countries under the United Nations Framework Convention on Climate Change (UNFCCC).
- In this regard, the accounting framework for the FVA should accommodate the needs and capacities of developing countries and promote support provided for them. More concretely, we propose: (1) capacity building should be included as an essential element for various mechanisms under the FVA; (2) review/coordination by a team of experts of the FVA to avoid a risk to environmental integrity and enhance a country's capacity; (3) simplified registry systems for countries without sufficient capacity; (4) synergies with other market mechanisms; and (5) enhanced reporting on the use of credits through Biennial Update Reports (BURs) in a gradual manner.
- It is recommended that accounting of the FVA should consider these points so that all developing countries can have the opportunity to choose market-based mechanisms as an instrument to mitigate climate change, while ensuring environmental integrity. In this regard, progress in the UNFCCC negotiation on the FVA and its accounting framework is vital for developing countries to make decisions on whether to utilise market-based mechanisms under the FVA for their fulfilling NDCs.
- Capacity building is necessary to enable the accounting of market-based mechanisms in developing countries. It can also help to reduce emissions, which otherwise could not be achieved. Emissions reduction through capacities that have been built under the FVA should be considered as additional, contributing to the achievement of net emissions reduction for global climate.

1. Introduction: diversification of market-based mechanisms

Market-based approaches are one of the essential policy instruments in the international response to climate change. Under the Kyoto Protocol (KP), Clean Development Mechanism (CDM), Joint Implementation (JI) and International Emissions Trading (IET), were established as market-based mechanisms. All of them were governed by the bodies established under the United Nations Framework Convention on Climate Change (UNFCCC). It was only Annex I Parties to the Kyoto Protocol which applied the mechanisms to meet their commitments. The Kyoto accounting rules were developed for assessing their use of the Kyoto market-based mechanisms towards their commitments (UNFCCC 2002).

Since the 2007 Bali Action Plan, there has been diversification of market-based approaches, including discussion on the 'Framework for Various Approaches (FVA)' (UNFCCC 2007). The FVA consists of bottom-up approaches, including those market-based, that Parties "individually or jointly propose to implement to enhance the cost-effectiveness of, and to promote, mitigation actions" (UNFCCC 2011). Modalities and procedures under the FVA are currently being discussed, with the expectation of decisions to be adopted at the 21st Conference of the Parties (COP21) in December 2015. Other than those centrally governed by the UNFCCC, the FVA would enable all Parties, regardless of their development stage, to use various market-based mechanisms to meet their emissions reduction targets. These targets are known as "intended nationally-determined contributions ((I)NDCs)" in the context of "a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties from 2020" (UNFCCC 2013a).

Developing countries may encounter unique challenges in accounting for the use of market-based mechanisms towards their NDCs for two major reasons. First, the reporting framework for developing countries under the UNFCCC is not currently prepared for assessing either their achievement of national targets or their use of instruments in fulfilling those targets. Second, lack of capacity in developing countries could be an obstacle for them to respond to the international accounting rules, if those rules are commonly applied to all under a post-2020 climate regime.

This chapter aims to contribute to the on-going discussions in the FVA by addressing two questions:

(1) What are the issues around the accounting of market-based mechanisms in the FVA for developing countries?

(2) What could be possible solutions for resolving those issues in designing an accounting framework for the FVA?

In doing so, we use the Joint Crediting Mechanism (JCM) as an example currently being discussed under the FVA. The JCM is the mechanism that Japan and a partner country develop and implement to reduce emissions by introducing low-carbon technologies and that partially uses the reductions as credits to meet their targets. As of September 2015, 15 developing countries have signed a bilateral document to initiate the JCM with Japan (JCM 2015). If it is decided that the JCM is included in the FVA and the FVA is operationalised as a means for Parties to achieve their targets (UNFCCC 2014a), it will be the Governments of Japan and partner developing countries that can utilise credits through the JCM to meet their NDCs.

2. Market-based mechanisms under the FVA in the context of NDCs

To highlight issues related to accounting of market-based mechanisms under the FVA towards NDCs, it is important to understand how the two can be related in the context of a post-2020 regime for developing countries.

2.1 What are market-based mechanisms under the FVA?

Various approaches, including opportunities for using markets, appeared in the UNFCCC negotiations for the first time as part of the Bali Action Plan in 2007 within the process for long-term cooperative action, notably under the Ad Hoc Working Group on Long- term Cooperative Action (AWG-LCA) (UNFCCC 2007). At COP16, Parties agreed to establish one or more market-based mechanism to enhance the cost- effectiveness of, and to promote, mitigation actions and decided on seven principles to guide their implementation (UNFCCC 2010). Two possible approaches emerged at the following COP17: the FVA, consisting of bottom-up approaches proposed and implemented by countries; and the new market-based mechanism (NMM) based on a more top-down approach overseen by COP (UNFCCC 2011). The decision adopted at COP17 stresses that approaches under the FVA must meet standards that ensure the environmental integrity of mitigation outcomes (UNFCCC 2011).

After COP18 in Doha, a work programme to elaborate the FVA was implemented under the Subsidiary Body for Scientific and Technological Advice (SBSTA). Five elements are currently considered as part of that work programme,: (1) the purposes of the framework; (2) the scope of approaches; (3) a set of criteria and procedures to ensure the environmental integrity of approaches; (4) technical specifications to avoid double counting; and (5) the institutional arrangements for the framework (UNFCCC 2012a).

It has therefore not yet been decided which approaches, including the ones that are market-based, are to be included in the FVA. It is also not clear what the set of criteria and procedures is that candidate approaches must meet so that they can be recognised under the FVA. Further, whether mechanisms, once recognised under the FVA, could be used for Parties to achieve their NDCs needs to be elaborated along with the work of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP).

The UNFCCC document supporting the SBSTA work programme provides options to define the scope of the FVA: those adopted under the Convention and its instruments (e.g. CDM, JI); and those developed by Parties. Those developed by Parties can be further classified into ones crossing borders of countries (e.g. JCM, linked emission trading system (ETS)) and ones domestically operated (e.g. non-linked ETS) (UNFCCC 2013b). Among the Party submissions in response to a call at SBSTA40 in 2014, there were only two submissions that introduced existing real-life mechanisms, developed and implemented by Parties, for consideration: one is the JCM through the submission by Japan, and the other is provincial cap-and-trade systems in Canada (UNFCCC 2015a).

Nonetheless, it should be noted that both developed and developing countries are increasingly engaged with market mechanisms through regional, national and sub-national schemes and voluntary carbon schemes (Kossoy et al. 2015). This trend suggests the possibility that more mechanisms implemented by Parties could have influence on domestic policy implementation in developing countries (Klein et al. 2015). The FVA could be one channel to connect these efforts with a country's compliance with NDCs. To this end however, progress in UNFCCC negotiations is required, along with technical clarifications on several issues. Among these is accounting for mitigation outcomes of various mechanisms towards NDCs (UNFCCC 2014a).

2.2 JCM

As mentioned above, the JCM is the only mechanism that appeared in the Party's submissions to the FVA negotiation and involves developing countries as a joint implementing country. The JCM started operations in 2013. Since then, 15 countries have signed the bilateral document to implement the JCM with Japan, and seven JCM projects have been registered (as of September 2015). An overview of the JCM is summarised below, based on Schneider et al. (2014a). The JCM is a bilateral mechanism so, precisely speaking, the JCMs between Japan and one country and another are not exactly the same. The box below is based on the JCM between Japan and Indonesia.

Box 6.1 Overview of the JCM scheme

Type of mechanism: Project-based mechanism

Scope (sectors): 15 sectors, including energy, industry, transport, waste, forestry (afforestation, reforestation, REDD+[1]), and agriculture.

Participation requirements (Project level): Eligibility criteria are defined in an approved methodology for the JCM, which cover requirements for the project to be registered as a JCM project (JCM Indonesia – Japan 2015b).

Regulatory authority: Joint Committee (JC), consisting of representatives from both governments.

Third party assessment: The JC appoints entities accredited under ISO 14065 or designated operational entities (DOEs) or operational entities accredited by the Executive Board under the CDM are considered for designation as a Third Party Entity (TPE) for the JCM (JCM Indonesia – Japan 2015).

Length of crediting: Until the operationalisation of a new international framework under the Convention (i.e. 2020) with possible extension, taking into account the progress of negotiations under the Convention (JCM Indonesia – Japan 2015c).

Additionality assessment: For the project to be registered as a JCM project, its methodology has to be approved by the JC, and that methodology should contain eligibility criteria. The eligibility criteria cover requirements for the project to be eligible for a JCM project (JCM Indonesia – Japan 2015b). Examples of such criteria include specification of design efficiency of a particular technology (e.g. output/kWh) or a particular technology (e.g. air conditioner with inverter, photovoltaics combined with battery).

Baseline setting: emissions reduction to be credited is defined as the difference between reference emissions, calculated to be below business-as-usual (BAU) emissions, and project emissions. Reference emissions may be derived from examples such as the current situation and performance, average historical performance, or best available technology in a partner country (JCM Indonesia – Japan 2015b).

2.3 How are international market mechanisms related to submitted (I)NDCs of developing countries?

This sub-section reviews how market-based mechanisms under the FVA are incorporated into the submitted (I)NDCs of developing countries. As mentioned above, to date, it is only the JCM that involves developing country Parties, and the JCM that appears in FVA discussion as a concrete example. Therefore, the submitted (I)NDCs of JCM host countries are surveyed. As of September 2015, 34 Parties have made submissions on their (I)NDCs to the UNFCCC secretariat. Among them, three JCM host countries were included: Ethiopia; Kenya; and Mexico (Table 6.1). In addition, Parties only formally began preparation of (I)NDCs after COP19 in December 2013. Therefore it is enough to find out how the host countries refer to international market mechanisms in general, rather than specifically to the FVA or JCM, in their (I)NDCs.

All of these three countries indicated their intention to use international market mechanisms towards their (I)NDCs. None of them specified that the mechanisms cover the JCM, although Mexico mentioned the mechanisms include bilateral ones for its achievement of conditional goal (i.e. 40% reduction for the year 2030).

Nationally appropriate mitigation actions (NAMAs) or mitigation actions in general are an instrument for developing countries to achieve (I)NDCs (Boos et al. 2015). Among the JCM host countries, Viet Nam stated that the JCM is an instrument as part of its NAMAs in its first Biennial Update Report (BUR) submitted in December 2014. It also mentioned implementation of voluntary carbon schemes, such as Verified Carbon Standard (VCS) and Gold Standard (GS), as its NAMAs (Ministry of Natural Resources and Environment 2014).

Some developing countries foresee the use of international market mechanisms towards their NDCs. This includes international market mechanisms as the way to receive international support for their mitigation actions. The mechanisms might fall in categories of the FVA, like the JCM or other regional, bilateral, national or sub-national mechanisms with possibility of credits crossing borders. Accounting of credits from these mechanisms is important to assess the fulfilment of and progress towards NDCs by developing countries. It is also crucial for developed countries, because credits from these mechanisms may be shared and used by both developing and developed countries.

Table 6.1 INDCs and use of international market mechanisms in three JCM host countries (as of September 2015)

Country	INDC	Use of international market mechanisms
Ethiopia[1)]	To limit its net GHG emissions in 2030 to 145 Mt CO_2e or lower	Intends to sell carbon credits during the period to contribute towards achieving its Green Economy Strategy.
Kenya[2)]	To abate its GHG emissions by 30% by 2030 relative to the BAU scenario of 143 $MtCO_2eq$	Does not rule out the use of international market-based mechanisms in line with agreed accounting rules.
Mexico[3)]	• To reduce unconditionally 25% of its GHGs and Short Lived Climate Pollutants emissions (below BAU) for the year 2030 • To make a 40% reduciton in a conditional manner, subject to a global agreement	Its unconditional INDC commitment will be met regardless of such mechanisms, although these would assist cost-effective implementation. Achieving its conditional goal will require fully functional bilateral, regional and international market mechanisms.

Source: 1) Federal Democratic Republic of Ethiopia (2015), 2) Ministry of Environment and Natural Resources (2015), 3) Mexico (2015)

3. Elements of an accounting framework

3.1 Defining the framework

The UNFCCC technical paper refers to accounting as "rules for how a Party's fulfilment of a commitment, pledge or contribution under the Convention and its instruments is assessed" (UNFCCC 2014a). In this chapter, we define an accounting framework as a series of accounting elements, systems and procedures, which are necessary to implement these rules for the use of market-based mechanisms with credits transferable across borders.

We will use the JCM as a case study to explain the accounting framework, which is considered in the context of a post-2020 framework. Based on Prag et al. (2013), we divide the structure of the framework into three parts: (1) issuance of credits; (2) transaction of credits; and (3) accounting of credits towards NDCs.

We focus on three elements that are necessary in the JCM host country (Figure 6.1).

- **Joint Committee (JC):** The executive body of the JCM, consisting of representatives from two governments, Japan and a host developing country. Each host country has a separate JC. The JC plays an important role in making a number of decisions, including the ones relevant for credit issuance.

- **Registry:** A necessary system to be constructed in the JCM to record credits issued to both countries (JCM Indonesia - Japan 2015c). The JCM registry in host countries is currently under development (Government of Japan 2015).

- **Biennial Update Reports (BURs):** Parties agreed that developing countries would prepare BURs to enhance their reporting in national communications on mitigation actions and their effects and supports received (UNFCCC 2010, 2011). BURs should also provide information on international market mechanisms.

There are other elements that need to be considered in the framework, including national greenhouse gases (GHG) inventories and assessment of NDCs against mitigation efforts, including the use of market mechanisms. Although these elements are vital in consideration of the accounting framework, they are relevant to the accounting of any types of mitigation actions and their effects, not limited to the FVA. Hence, these elements are separately discussed in Section 3.4.

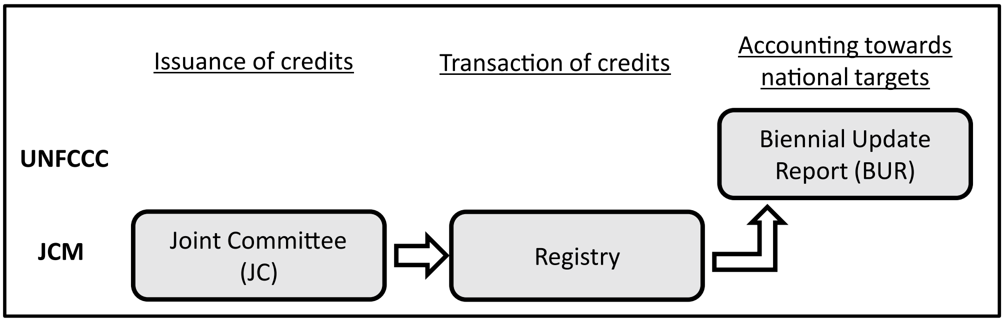

Figure 6.1 ***Elements of the accounting framework adopted for the JCM in a host developing country, based on Prag et al. (2013)***

3.2 Functions of the framework

Once the accounting framework is defined, it is important to clarify its functions in this study. To do this, it is useful to review what has been discussed on the principles of the FVA, from which emerges the essence of the accounting framework.

At COP16 in Cancun in 2010, Parties agreed on the principles to guide the implementation of market-based mechanisms in the FVA. These principles include:

- ensuring voluntary participation, supported by the promotion of fair and equitable access for all Parties;
- complementing other means of support for Nationally Appropriate Mitigation Actions (NAMAs) by developing countries;
- stimulating mitigation across broad segments of the economy;
- safeguarding environmental integrity;
- ensuring a net decrease and/or avoidance of GHGs;
- assisting developed countries to meet their targets; and
- ensuring good governance and robust market functioning and regulation (UNFCCC 2010).

From the perspective of accounting in developing countries, it is possible to highlight two outstanding features out of these seven guiding principles:

(1) On the one hand, it is clear that the environmental integrity of emissions reduction needs to be ensured and strengthened by all participating Parties. COP17 in 2011 emphasised that various approaches in the FVA "must meet standards that deliver real, permanent, additional and verified mitigation outcomes, avoid double counting of effort, and achieve a net decrease and/or avoidance of GHGs" (UNFCCC 2011). The accounting framework to be designed under the FVA ought to ensure that all countries, including developing countries, are able to fulfil this requirement at a satisfactory level.

(2) On the other hand, the accounting framework for the FVA should be formed to incentivise mitigation actions by developing and developed countries. In the previous section, it was highlighted that market-based mechanisms are expected to be part of mitigation efforts by developing countries through mitigation actions or NAMAs and towards NDCs. The accounting framework in the FVA should encourage mitigation actions by developing countries, taking into consideration existing capacities and needs in each country.

In summary, it is our view that the accounting framework for the use of market-based mechanisms under the FVA should serve a minimum of two functions. One is ensuring environmental integrity, and the other is incentivising mitigation actions of developing countries with varying capacities and needs. If adequately applied, the second function of the accounting framework could lead to additional reductions in emissions, because actions that lead to those reductions could not have occurred otherwise.

Clearly, the FVA as a framework under the UNFCCC and individual mechanisms to be included in that framework should work together to serve these functions (Figure 6.2). It is important to consider what the respective roles of the FVA and individual mechanisms are and what they ought to cover in the accounting framework, as well as whether existing arrangements are sufficient to fulfil those roles.

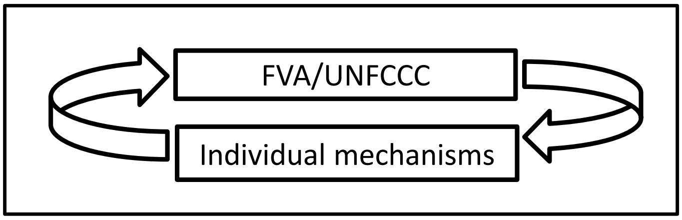

***Figure 6.2* Roles of FVA and individual mechanisms in accounting**

4. Key issues around accounting elements: the case of the JCM

In this section, we will look carefully at each element in turn to discover what kind of issues are likely for developing countries, concentrating on risks for environmental integrity and incentives for mitigation actions. We will use the JCM as a case study.

4.1 Joint Committee (JC)

The JCM, like other market mechanisms, has a number of design components that affect the quantity and quality of credits, ranging from governance, project cycles and regulations to methodologies used and involvement of third party entities (see for example, Klein et al. 2015). When it comes to an accounting element necessary particularly in a host developing country, it is the decision of the JC, an institution represented by the governments of both countries. The JC takes on a number of important decision-making functions relevant for issuing credits, including:

- adopting rules and guidelines;
- approving methodologies;
- appointing a Third Party Entity (TPE);
- registering projects; and
- notifying credits, issued by the governments, from the JCM (JCM Indonesia - Japan 2015).

The technical capacity of the JC needs to be sufficient to cope with all of these decisions. The JC also has an influence on the smooth operation of a JCM project cycle. Depending on how the JC is structured and managed, the number of projects to be considered for registration and how fast they are registered is likely to be affected. Assuming the outputs of the JC are derived from inputs from both countries, there may well be differences in the effectiveness of procedures to issue credits through JCs, depending on JC capacity.

To cope with this high demand for JC capacity, some partner developing countries decided to establish additional institutions to the JC. For example, Indonesia created a dedicated JCM Secretariat for Indonesia (JCM Indonesia Secretariat 2015). Viet Nam set up a technical advisory board, consisting of experts from various sectors, to support the technical role of the JC (Tuan 2015). In other countries, it is still not clear whether extra institutional settings will be likewise made, except for a few government officers assigned to be responsible for the JCM.

The Government of Japan, through its Ministry of the Environment (MOE) and Ministry of Economy, Trade, and Industry (METI), has provided a number of capacity-building activities related to the JCM. Among others, supporting model projects and feasibility studies is central to those capacity-building programmes (Government of Japan 2015). Although these programmes have directly or indirectly contributed to the enhancement of capacities of the JC, their effects are not clearly identified nor is reporting on the effects of capacity building mandated under the FVA.

4.2 Registry

Each side of the JCM establishes a registry, and project participants who wish to hold credits issued open an account in the registries of both sides. Credits are issued to the respective account of the two registries (JCM Indonesia - Japan 2015d). Allocation of credits between the two accounts is determined by project participants, depending on how much each project participant contributed to the realisation of a project. The registries for the JCM of the two countries become the basis for avoiding double issuance and double use (Schneider et al. 2014b).

A registry for the JCM is currently under development. Its technical features will be based on the national registry under the Kyoto Protocol (Government of Japan 2014). One interpretation of this is that the JCM registries are required to conform to detailed technical standards, such as data format, data exchange and communication between registries, data security, and serial numbers of credits issued (UNFCCC 2008).

As an Annex I Party to the Kyoto Protocol, Japan has an established national registry, while most of the JCM partner countries do not currently have the relevant experience to set up such a registry. One possible approach is to start developing a simplified registry system, which has basic functions on the basis of common specifications to be agreed under the JCM (Government of Japan 2015). Further functions could then be added, as needs arise and the country’s capacities grow.

Exceptions would be JCM countries with domestic market-based mechanisms, such as Thailand and Indonesia. These countries likely have experiences which are relevant to the establishment of registries for market-based mechanisms. In addition, market mechanisms can also be applied to other mitigation actions, such as reducing emissions from deforestation and forest degradation (REDD+). If countries are to introduce market-based mechanisms under REDD+, synergies among different mechanisms should be identified to efficiently use existing resources. Similarly, utilisation of the CDM registries for recording credits could also be possible, though this would require arrangements to interlink and connect with other registries.

For countries without experience in setting up registries, there needs to be substantial support provided both institutionally and technically. It is likely that the Government of Japan will offer support for building up a registry for the JCM in partner countries and also provide capacity building on to how to manage it. As mentioned earlier however, even if support is provided, how this support is linked with emissions reduction is recognised only bilaterally.

4.3 Biennial update reports (BURs)

Those countries choosing to use credits through the JCM towards their NDCs must transparently report the amount of claimed credits at the international level. Currently, only biennial reports (BRs) of developed countries have a respective reporting section for the use of units from market-based mechanisms, including the Common Tabular (UNFCCC 2012b). Similar specifications ought to be made for BURs of developing countries, so that developing countries can report on the use of credits to the UNFCCC in an explicit manner. In addition, countries should report any support provided to achieve reductions through the JCM in BURs. It is necessary to clearly distinguish reductions claimed as reductions by JCM host countries with support from reductions claimed as reductions by Japan to avoid double purpose (Schneider et al. 2014b).

BURs are subject to the international consultation and analysis (ICA), including the technical analysis of BURs (UNFCCC 2011). The accountability and transparency of information provided on the use of market-based mechanisms can be enhanced through ICA. Reporting on the use of credits and support provided by both developed and developing country sides can help to ensure that double claiming is avoided by the two Parties (Prag et al. 2013).

It is important to note that developing countries are at different stages of preparation for BURs. Only 10 developing countries were able to follow the agreed timeline for submitting their first BURs to the UNFCCC by December 2014 (UNFCCC 2015b), while others are in the process of acquiring funds for their preparation of BURs (UNFCCC 2014b). There is a considerable gap between required reporting by the UNFCCC and the existing capacity of developing countries.

4.4 Other issues

National GHG inventories would be the basis for accounting whether NDCs have been ultimately attained by countries, including the use of market-based mechanisms. The national GHG inventories of developing countries are currently considered less accurate than those of developed countries, mainly for two reasons. First, it is not mandatory for developing countries to apply the most recent IPCC guidelines. Second, national inventories of developing countries are not subject to the international review process. Instead, their BURs are subject to ICA, which is conducted in a non-intrusive, non-punitive manner, respecting national sovereignty (UNFCCC 2010). This lack of accurate national inventories makes it difficult to track the progress of mitigation actions in a comprehensive manner in developing countries.

Another issue is a link between NDCs and the impacts of mitigation actions. Developing countries prepare their NDCs as capacity permits. It is anticipated that developing countries with advanced capacity will determine their NDCs in the form of economy-wide emissions reduction goals, while others may choose to select NDCs as a collection of policies, programmes and mitigation activities, which generally are sector-specific and can be counted in non-GHG forms (e.g. capacity of renewable energy installed, land use area avoided from deforestation and forest degradation) (Boos et al. 2015). Accounting of credits from market mechanisms towards NDCs is meaningful when both are comparable. In this regard, a clearer link needs to be made between NDCs and different mitigation actions taken in developing countries (e.g. scope, assumptions and methodologies, unit, time frame).

4.5 Summary

Based on the above paragraphs, Table 6.2 below summarises key issues around the three accounting elements of market-based mechanisms, from a developing country's perspective. The issues are identified as possibly having risks for ensuring environmental integrity and incentivising developing countries to engage with mitigation actions through market-based mechanisms.

Table 6.2 ***Key issues in the accounting of market-based mechanisms in developing countries***

Issue	Risk	Response
Insufficient capacities of the executive body	An increased risk for lowering the quality of credits issued. Fewer emission reductions due to a smaller number of projects and the slower pace of procedures.	• Identification of capacity needs • Incentive for supporting capacity building
Lack of an appropriate registry	Emissions reduction could be claimed twice by Japan and a partner country. If due to a lack of an appropriate registry, participation in a mechanism is prevented, developing countries without registries or capacities to build registries are likely to be discouraged to participate in market mechanisms.	• Incentive for supporting capacity building • Use existing systems, if any • Proposal for intermediate solutions
Lack of international reporting via BURs	Unclear picture of the use of credits towards NDCs. This could lead to an increased risk of double claiming at the international level. Given a considerable gap between requirements to prepare for BURs and existing country's capacities, it would not be feasible to depend only on BURs for international reporting of use of credits.	• Enhance reporting requirements in BURs • Propose intermediate solutions

5. Proposed solutions

The above sections have shown that there are potential issues around accounting elements due to both varying capacity in developing countries and also the existing accounting framework. Without addressing these issues, it is possible there would be increased risks to the environmental integrity of achieved emissions reductions and their use in fulfilling NDCs. At the same time, there is an increased risk that developing countries might limit their participation, because only a handful of developing countries are able to meet the requirements that are commonly set for all.

The role of the FVA could be to provide options for accounting from which countries with different capacities can choose, while ensuring environmental integrity. In this section, we will propose possible solutions for the FVA accounting framework to strengthen this role.

(1) **Capacity building as an essential element for various mechanisms under the FVA:** Clearly, engagement of developing countries in the use of market-based mechanisms requires support as necessary. In accounting, this should include support for the establishment of the executive body, registries, and for international reporting through BURs. With a bilateral agreement, such as the JCM, it is the implementing country which mainly provides such support. If the support is recognised as an essential part of the mechanisms to be included in the FVA, it can encourage implementing countries and ensure that developing countries with limited capacities can receive necessary support.

(2) **Review/coordination by a team of experts of the FVA:** A technical review of individual mechanisms is needed in order to avoid risking environmental integrity, due to insufficient capacity of the executive body of a mechanism in a developing country, for example. The review can also assess how a country's capacity is enhanced through its engagement with the mechanism, as well as identify additional needs. Moreover, the expert team can coordinate with other market mechanisms, if any, in the country to bridge institutions (e.g. registries) and know-how. The technical review can be arranged under the UNFCCC and its team members can be composed of market mechanism experts from UNFCCC roster of experts. The role of validation and verification bodies in this review process can be further considered.

(3) **Simplified registry systems:** A simplified registry system can support countries that do not have the experience and capacity to develop a standardised registry by themselves. For those countries, a simplified registry system, for example, using spreadsheets, can be useful and simpler to manage. Making it possible to use simplified systems and integrating these to the accounting of the FVA would enable countries with less capacity to participate in market mechanisms.

(4) **Synergies with other market mechanisms:** Market-based mechanisms are expected to play a role in other mitigation actions, such as REDD+, in the context of NDCs. In accounting under the FVA, it is essential to create synergies among these various market-based mechanisms both technically and institutionally, thereby helping countries to use existing resources efficiently. Further research is necessary to identify what the common elements are among those mechanisms in terms of accounting and how a developing country can be prepared in a post-2020 framework.

(5) **Enhanced reporting on the use of credits through BURs in a gradual manner:** Transparently reporting the use and transfer of credits needs to be done by both the developing and developed country. In this way, the risk for double claiming at the international level can be minimised. Specifications for reporting, including the use of the Common Tabular, need to be made for BURs. However, there exists a gap between international requirements for BURs and a country's available capacity to respond to those requirements. It is therefore important not to make BURs a necessary condition for participation in market-based mechanisms by developing countries. Rather, it is reasonable and realistic to focus on the establishment of a registry, while reporting through BURs can be gradually enhanced. The technical review proposed above can serve to ensure that registries function in countries without deteriorating the environmental integrity of emissions reductions achieved.

In our view, the FVA negotiation process focusing on accounting needs to consider these five points as a way to enable the wider participation of countries (especially developing countries) and to ensure environmental integrity of each mechanism. Such progress will help developing countries to organise their NDCs, including an option to use market-based mechanisms, because they can get a clearer idea about how it is possible for them to utilise market-based mechanisms, given their national conditions, and how that utilisation affects other parts of their mitigation actions, e.g. REDD+, with respect to accounting under a post-2020 climate regime.

6. Conclusions

Market-based mechanisms are a work in progress. It is important to continue to consider how these different approaches can be harmonised under the FVA to ensure environmental integrity and incentivise mitigation actions by both developing and developed countries. This chapter has focused on the accounting framework for the FVA, concentrating on key issues for developing countries.

It is likely that developing countries will encounter unique challenges when carrying out accounting of their use of market-based mechanisms towards NDCs. These challenges are derived from the current reporting framework and varying capacities of developing countries. This means that unless these deficiencies are appropriately addressed under a post-2020 framework, there is a chance that environmental integrity of credits cannot be safeguarded and mitigation actions by developing countries cannot be promoted.

Therefore we propose several points: (1) the accounting framework for the FVA should identify the needs of capacity building and incentivise support provided for developing countries; (2) a team of experts in the FVA should technically review the mechanisms both for environmental integrity and capacities that have been built; (3) the team should also play a role in coordinating among different market mechanisms, which are expected to operate in a developing country such as REDD+; and (4) the FVA should allow for simplified registry systems, so developing countries with limited capacities can participate in the mechanisms. At the same time, reporting on the use of credits needs to be reflected in BURs. Together with BRs of developed countries, this will avoid double claiming at the international level. However preparation for BURs by some developing countries takes time, so enhancement of reporting on the use of market mechanisms through BURs should be seen as part of the gradual improvement.

It is recommended the accounting elements of the FVA should consider these points so that all developing countries can have the opportunity to choose market-based mechanisms as an instrument to mitigate climate change. In this regard, progress in UNFCCC negotiations on the FVA and its accounting framework is vital for developing countries to make a choice on whether to utilise market-based mechanisms under the FVA.

It is clear that capacity building is necessary to enable accounting of market-based mechanisms in developing countries. Without it, it would be difficult for countries to jointly develop and implement mechanisms and share credits towards NDCs. Capacity building can also assist with emissions reduction, which otherwise could not be achieved. Emissions reduction through capacity that has been built under the FVA should be considered as additional, contributing to the achievement of net emissions reduction for global climate.

Notes

1. REDD+ : Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

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