

A “Measurable, Reportable and Verifiable (MRV)” Framework for Developing Countries

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KEY MESSAGES:

- The existing greenhouse gas (GHG) inventory system and the National Communications (NATCOMs) could form the basis for a new framework for measuring and reporting developing country's Nationally Appropriate Mitigation Actions (NAMAs) under the future climate regime. Differentiating reporting frequency and content requirements for developed countries, emerging economies, and developing countries should be considered when constructing this new framework.
- To establish a comprehensive verification system and build trust among countries, all GHG reductions from developing country NAMAs should be verified quantitatively. Introducing third-party verification such as a peer-review system by neighboring developing countries could provide a more flexible verification system than the review process used for Annex I Parties. In the interim, developing low carbon, sustainable development strategies would help mainstream climate policies into national development plans and facilitate the monitoring and verification of unilateral NAMAs.
- Building a comprehensive information sharing scheme that improves access to information and registers information on bilateral and multilateral financial aid flows could reduce fragmentation of financial assistance and improve aid effectiveness.
- Strengthening a framework for South-South cooperation, such as exchanging human resources and sharing best practices for NAMAs, is also crucial for developing a comprehensive, effective information sharing scheme on NAMAs and international support. Developing a regional registry for NAMAs would facilitate regional cooperation, and build trust at the regional level through the exchange of best practices and lessons learned.

Introduction

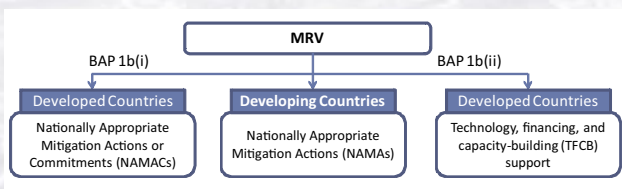
Creating a measurable, reportable, and verifiable (MRV) framework for the future climate change regime is one of the most vigorously debated issues in the lead up to the 15th Conference of the Parties (COP15) in Copenhagen. At the most fundamental level, MRV serves as an accounting tool to quantify GHG emission reductions as well as the

international support to implement those actions. The establishment of an MRV framework is also anticipated to build confidence and trust among Parties to the United Nations Framework Convention on Climate Change (UNFCCC). But constructing an MRV framework that is amenable to developed and developing countries requires resolving several unsettled issues. This briefing note addresses several of the most important issues.

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As defined in the Bali Action Plan (BAP) and summarized in Figure 1¹, MRV applies to three elements of the future climate regime: Nationally Appropriate Mitigation Actions or Commitments (NAMACs) by developed countries; Nationally Appropriate Mitigation Actions (NAMAs) by developing countries; and international support, including technology, financing, and capacity building (TFCB) provided by developed countries.

Figure 1 : The scope of MRV based on the Bali Action Plan



This briefing focuses chiefly on the MRV framework for the second component, NAMAs from developing countries. More specifically, it concentrates on three challenges related to the MRV of NAMAs: 1) strengthening the measurement and reporting framework by using the existing GHG reporting framework, 2) creating a verification framework, and 3) constructing a matching system for NAMAs and international support. For each of these three issues, the briefing provides necessary background, outlines competing stakeholder perspectives and concludes with a way forward. The briefing draws upon the views of participants to the Institute of Global Environmental Strategies (IGES) fifth round of consultations on a future climate regime held in Beijing, China and New Delhi, India during September and October of 2009, respectively.

¹ The scope of MRV is defined in Chapter 1 article 1 of the Bali Action Plan December;

1 (b) Enhanced national/international action on mitigation of climate change, including, inter alia, consideration of:

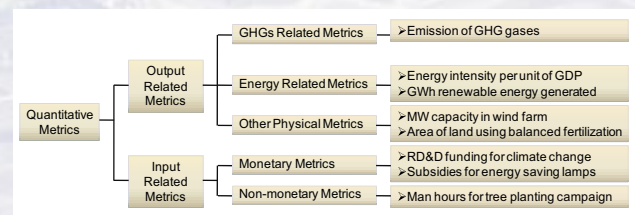
(i) Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances; (ii) Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner;

² The NAMAs implemented in developing countries are diverse; some can easily quantify contribution to mitigation (e.g. GHG emission reductions), while others may have indirect impacts on mitigation (e.g. investment for research and development for climate change and provision of subsidy for introduction of energy efficient infrastructures)

Issue 1 : Strengthening the systems for measurement and reporting under the current framework

A concrete measuring and reporting system is essential to a credible MRV framework for NAMAs. In considering the measurement and reporting system, one of the key challenges is creating quantitative metrics for measuring diverse mitigation actions taken by developing countries.² While the selection of metrics itself could be an issue (since the selection metrics could play a role in defining the scope of MRV in the future climate regime), this paper concentrates on a measuring and reporting system.

Figure 2 : Examples of Quantitative Metrics for Measuring and Reporting of NAMAs



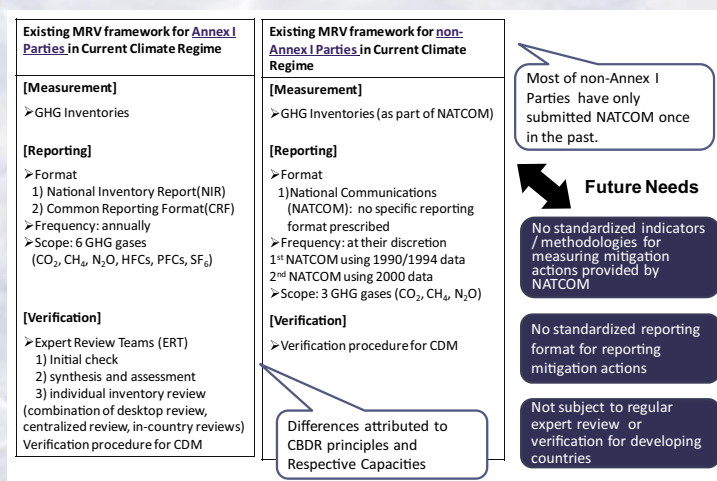
Reference : Fei et.,al. 2009

In the current climate regime, a GHG inventory and NATCOMs have been introduced and implemented for all the UNFCCC Parties. Moreover, the tools used for inventories and NATCOMs could serve as the institutional foundation for a measuring and reporting system for the future climate regime.

But, as displayed in Figure 3, one of the key sticking points is the substantial deviation on

submission frequency and coverage of GHG gases included in GHG Inventories and NATCOM between developing countries (Annex I countries) and developed countries (Non-Annex I countries). The deviation reflects the principle of the Common but Differentiated Responsibilities and Respective Capacities (CBDR) in Article 12 of the UNFCCC. Corresponding to this principle, non-Annex 1 Parties receive financial support from the Global Environmental Facility (GEF) to help with the preparation of inventories and NATCOMs. Also reflecting the CBDR principle, developing countries are subject to more flexible reporting and measurement requirements. The different requirements, however, lead to a number of issues. These include that non-Annex I Parties are not required to prepare GHG Inventories on a regular basis nor develop current and time-series emission data needed to understand emission trends. Another issue is that the current reporting frequency does not lead to the accumulation of domestic expertise required to prepare GHG inventories or NATCOMs. A final issue is that the lack of regular and standardized reporting leads to difficulties selecting and identifying NAMAs and setting national baselines for emission reductions.

Figure 3 : Gap between Existing Measuring and Reporting Framework and Future Needs



1-2 Stakeholder Perspectives

While a general consensus exists among the Parties over the importance of preparing GHG Inventories and NATCOMs more consistently, Annex I Parties and non-Annex I Parties hold divergent views over the actual reporting frequency, the coverage of GHG gases to be included and the necessity of external review for GHG Inventories. As for the reporting frequency, Annex I Parties favor shortening the reporting intervals for non-Annex I Parties. This is exemplified, for instance, by the EU and US claims that annual inventories should be provided by all Parties no later than 2011. It is also illustrated by Australia's support for changing the reporting frequency to every two years. In contrast, most non-Annex I Parties prefer introducing less demanding reporting requirements, again based on the CBDR principle. As for the coverage of the GHG gases to be included, many Annex I Parties contend that common reporting requirements are needed by all the Parties to cover major GHG gases. In contrast, developing countries insist on continuing the existing reporting system of three GHG gases (CO₂, CH₄, N₂O) in the future climate regime and different reporting requirements from Annex I Parties based on the CBDR principle.

1-3 Way Forward

Considering that GHG Inventories and NATCOMs in the current climate regime are integral to establishing a numerical basis for measuring and reporting emissions by developing countries, building a system with the existing tools and reframing the system in a more systematic manner to meet MRV needs for NAMAs in the future climate regime is arguably the most efficient option.

Improving the existing measuring and reporting tools should ultimately result in the accumulation of quantitative data for GHG emissions and more standardized assessments, management and disclosure of information. It should also result in the accumulation of expertise on reporting and monitoring. Both the volume and quality of data as well as measurement and reporting of GHG emission reductions should grow stronger with the

continued application of these tools to NAMAs. In strengthening existing tools, however, the following two considerations should be taken into account.

First, the reporting requirements for Annex I Parties and non-Annex I Parties should be ensured based on the principle of CBDR. In the meantime, differentiation between non-Annex I Parties should also be considered. Differentiation is becoming increasingly important because non-Annex I Parties include emerging economies and Least Developing Countries (LDCs) with varying measurement and reporting capacity. The briefing therefore suggests moving from the current grouping of Annex I Parties and non-Annex I Parties into differentiation among developed countries, emerging economies and developing countries. Differentiation is justified because some emerging economies have high economic growth rates and are large emitters of GHG emissions, and emerging economies include countries already acquiring capacity building support to measure and report emissions from six GHG gases.³

Second, given more resources will be required to establish and strengthen the measuring and reporting system based on new groupings, Annex I Parties should provide commensurately greater capacity building support, including financing for constructing better measurements and reporting frameworks.

Issue 2 : Development of Verification Systems

An MRV system does not only include measurement and reporting; the "V" in MRV or verification is another critical element of the framework. As pointed out by Fei et al, the lack of verification procedures for non-Annex I Parties both at national and international levels makes quantitative assessment of developing countries NAMAs difficult (2009). While developing a verification system is a crucial step toward the quantitative assessment of NAMAs, reaching consensus on how and

by whom verification should be conducted requires more discussion and coordination among the Parties.

At the moment, two broadly different verification systems have been proposed: domestic verification by developing countries of their own NAMAs; and international verification conducted by a Party other than the developing country.

Domestic verification envisages verification for unilateral NAMAs financed domestically by developing countries based on internationally agreed guidelines. While this approach is desirable from the perspective that it can strengthen the ownership of non-Annex I Parties, the domestic institutions and capacity for verification may vary from one non-Annex I Party to the next.⁴ For successful implementation of the domestic verification system in the future climate regime, setting uniform standards to demonstrate verifying capacities of non-Annex I Parties, including criteria to determine whether there are domestic institutions capable of verifying reductions as well as a system to ensure quality of verification, is an essential prerequisite.

On the other hand, a major advantage of the international verification approach is that it can build on experiences and frameworks developed in the current climate regime, such as the Expert Review Team that works on Inventory Review procedures and validation processes for CDM projects. Nonetheless, some design issues need to be resolved to operationalise the international approach. As argued by many of non-Annex I Parties, paragraph 1(b) section ii of BAP could be interpreted as suggesting that the scope of international verification may be limited to NAMAs receiving international support and exclude unilateral NAMAs. Likewise, consensus among the Parties is required on whether the verification process should incorporate qualitative assessments of a NAMA's contribution to reduced GHGs or be limited to numerical assessments.

³ For instance, some participants to IGES consultations commented that China has acquired the capability to measure and report to the level currently required by the Annex I countries.

⁴ Implementation of national verification system requires certain prerequisites to be met, including development of institutional framework for monitoring and a verification for NAMAs which are implemented at various levels (e.g. national, regional, and project level), and few non-Annex I Parties meet such prerequisites at moment.

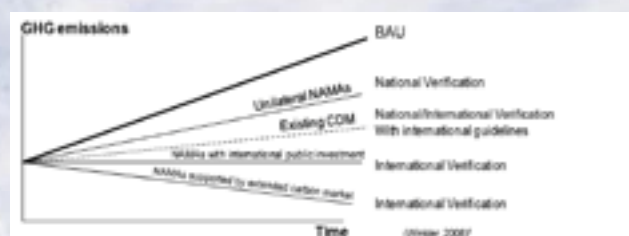
2-1 Stakeholder Perspectives on a Verification System

While there appears to be a consensus among the Parties that NAMAs receiving international support would be subject to international verification, there is no agreement between developed countries and developing countries with regard to the treatment of unilateral NAMAs financed domestically and implemented by developing countries. While many non-Annex I Parties claim that unilateral NAMAs should be excluded from MRV requirements, some countries such as China highlight the importance of building verification capacity and verifying actions domestically. Many Annex I Parties, on the other hand, support verification of all NAMAs with a view toward assessing the overall contribution of NAMAs to GHG emission reductions and building trust among the Parties. Australia, for example, proposes reviewing all the mitigation actions registered in a proposed national schedule, whereas Canada and South Korea support reviewing NAMAs on a regular basis. At the same time, third-party verification of NAMAs has also been advocated by some stakeholders.

2-2 Way Forward

Researchers have proposed several options for a verification system in the future climate regime. As shown in Figure 4, Winkler (2008) suggests a dual track approach. This dual track approach combines a national verification system for unilateral NAMAs and international verification system for NAMAs receiving international support.

Figure 4 : Composition of the Proposed Dual Track Approach



Source : Winkler 2008

Another suggested approach is the introduction of a peer-review system among neighboring countries for verifying NAMAs. The peer-review system envisages verification of NAMAs by domestic institutions of non-Annex I Parties followed by third-party verification by other neighboring developing countries. Because neighboring developing countries would conduct third-party verification instead of developed countries, this approach may be more acceptable politically. This peer-review system could also be integrated into regional registry for NAMAs and matching support discussed later in the issue briefing.

In sum, whether or not NAMAs receive international support, it is desirable that all NAMAs be quantitatively verified to ensure GHG reductions and build trust among the Parties. As far as implementation of domestic verification is concerned, as previously mentioned, demonstrating verifying capacities of non-Annex I Parties is essential to reaching agreement in the negotiations. Finally, third-party verification could incorporate a more flexible verification system compared to the existing review process adopted by the Annex I Parties and could be based on a potential peer-review system among neighboring countries.

In the meantime, integrating a domestic verification system into the development of low carbon, sustainable development strategies by developing countries would help simplify the verification process. To reinforce the verification process for unilateral NAMAs, the development and introduction of sustainable low carbon development strategies by non-Annex I Parties has been suggested for the future climate regime.⁵

The main advantage of developing and implementing low carbon strategies is that they will help mainstream climate policies into national development plans and facilitate the monitoring and verification of unilateral NAMAs. But for many developing countries constructing low carbon development strategies might be a time-consuming and a resource intensive

⁵ In the future climate regime, similar concepts for the formulation and introduction of low-carbon strategies have been proposed by various Parties. For example, EU proposes Low Carbon Development Strategies, Japan proposes National Action Plan, the U.S proposes Low Carbon Strategies, the Republic of Korea proposes Low Carbon Development Roadmap, and AOSIS proposes Low Carbon Path or Clean Development Path, and Indonesia proposes Sustainable Development Strategies.

process, especially for countries with low levels of GHG emissions. Moreover, creating these strategies could be perceived as a step closer to accepting emissions targets. However, with a similar differentiation between non-Annex 1 Parties, designing a verification system in the future climate regime and establishing a framework to promote mainstreaming of climate change into national development plans among the non-Annex I Parties could become an important step toward a credible verification system.

Issue 3 : Developing International Matching System between NAMAs by Developing Countries and International Support

Ensuring information sharing between developed countries and developing countries is crucial for providing support to NAMAs implemented. From the perspective of developing countries, collecting and assessing information on supporting tools and access to such tools is essential to strengthen the implementation of NAMAs. Likewise, from the perspective of developed countries, an overall picture of the NAMAs developing countries intend to implement is required for them to provide support. To meet the needs of both sets of countries, establishing an International Registry has been proposed by Australia, South Africa and South Korea. The registry would serve as a system to collect and link information on NAMAs and international support. The Australia, South Africa and South Korea proposal envisages that developing countries register their NAMAs on voluntary basis and in non-binding manner. The registry would then grant international recognition to the NAMAs and link NAMAs with finance, technology transfer and capacity development building support.

Designing a matching system for NAMAs and international support has been discussed in the negotiations, and different architectures for the registry have been proposed as shown in Table 1.

Table 1 : Functions and Issues over Proposed Matching Systems

	Centralized matching system	Decentralized matching system
Envisaged functions	<ul style="list-style-type: none"> • The UNFCCC handles and channels information for NAMAs and international support • All financial support is channeled through the matching system 	<ul style="list-style-type: none"> • The system simply disseminates information on various financial tools and NAMAs. The existing financial institutions provide support based on the information
Issues	<ul style="list-style-type: none"> • While the matching system under the UNFCCC makes the MRVing process easier, it may conflict with bilateral assistance on different mandates and objectives. 	<ul style="list-style-type: none"> • Requires standardized criteria on which portion of assistance is subject to MRV as well as a uniform reporting system • Potential for cherry picking

References : Based on Fransen et al.

The centralized matching system emphasizes the role of the UNFCCC for monitoring and verifying the implementation of mitigation measures, collecting and channeling support to match with the NAMAs. The centralized matching system also envisages all financial support, including bilateral and multilateral financial flows, are channeled through the system by registration. Managing information on various financial tools with fragmented sources from multiple donors could help streamline information and address the possible fragmentation of support, making the MRV of support itself easier.⁶

Nonetheless, as each of donor countries or multilateral financial institutions provides financing based on different focal areas and support strategies, the allocation of financial resources under the authority of the UNFCCC might lead to conflicts. Moreover, as long as the registry remains voluntary and non-binding, there is a risk of financial flows outside of the system. To prevent these problems, therefore, a scheme coordinating aid flows between the UNFCCC and donors as well as earmarking financial resources for specific purposes might be necessary.

On the other hand, the decentralized matching system envisages disseminating various sources of information about NAMAs and international support, and letting stakeholders, donors and developing countries, match their support to NAMAs by themselves. Because this approach leverages existing bilateral and multilateral institutions for matching support and NAMAs, it has the

⁶ As an example of actions taken at national level, Indonesia has recently launched Indonesian Climate Change Trust Fund (ICCTF) in 2009 to uniformly manage financial resources for implementing domestic mitigation and adaptation actions, and the Fund envisages pooling financial resources from bilateral and multilateral donors. In addition, the Roadmap of Integration of Issue on Change of Climate into Indonesian National Development Plan (Roadmap) attempts to streamline information by listing up mitigation and adaptation measures. Through developing domestic framework for managing financial resources and domestic action, the ICCTF aims to synchronize the framework with international Registry scheme.

advantage of making the transition from the existing assistance scheme into the decentralized system in the future climate regime relatively easy. However, the potential drawback of this approach is that it does not fully address the fragmentation of assistance, which might complicate the MRV process for financial support in the future climate regime. To realize the decentralized approach, standardized criteria must also be developed to define which portion of assistance is subject to MRV, as well as on the reporting system on international support that donors provide. In addition, as pointed out by McMahon (2009), letting stakeholders match NAMAs and international support by themselves could lead to cherry picking, wherein donors pick and choose which NAMAs to support depending on their potential contribution to GHG emission reductions.⁷

3-1 Stakeholder Perspectives

Annex I Parties and non-Annex I Parties again hold divergent views on the preferred structure to match NAMAs and international support. Developing countries represented by G77 favor a centralized matching system wherein the UNFCCC is responsible for monitoring and verifying actions as well as collecting and channeling support to match NAMAs. On the other hand, developed countries generally support a decentralized approach, leveraging existing institutions to match NAMAs and international support. In addition, while claiming support for establishing matching system between NAMAs and international support, developed countries such as Norway warn that the registry should not replace the existing national sector-wide GHG Inventories but rather become a complementary system to help construct a database for developing countries in the future climate regime.

3-2 Way Forward

While different design structures of the matching system between NAMAs and international support have been proposed and discussed, from the perspective of efficiency and cost-effectiveness, building on the existing framework

under the decentralized approach has a comparative advantage over establishing a new matching system under the UNFCCC. Considering the issues related to the decentralized approach, it is imperative that the matching system in the future climate regime ensures the following:

- Improved access to information through the development of a comprehensive information-sharing system (database on NAMAs and supporting tools)
- Improved effectiveness of assistance and limited fragmentation of financing by reporting and registering bilateral and multilateral donors.
- Utilization of an information sharing system by diverse stakeholders

At the same time, while the international support for NAMAs tends to highlight the contributions of developed countries, it is equally important to strengthen South-South cooperation and reinforce regional cooperation through the exchange of human resources and information sharing. In this respect, developing a regional registry system with links to regional development banks such as the Asian Development Bank would facilitate regional cooperation, and build trust at the regional level through the exchange of best practices and lessons learned.

In addition, while the current discussion over the matching system between NAMAs and international support centers on GHG mitigation, the inclusion of adaptation into the matching system is also suggested to strengthen the system's environmental integrity⁸. Therefore, a more comprehensive analysis with additional components might be required for designing of such a matching system for the future climate regime.

Conclusion

In the final analysis, this paper analyzes three different issues with regard to designing of an MRV framework for future climate regime, as summarized in Table 2.

⁷ Cherry picking is also prominent in CDM projects. As investment concentrated on cost-effective, large scale projects which generates large amount of carbon credits, leaving behind small and medium sized projects with relatively small amount of carbon credit in the market.

⁸ Based on discussion at IGES-TERI Asia Pacific Policy Dialogue in New Delhi on Sustainable Low-Carbon Development in Asia: Prospects for a Successful Future Climate Regime held on October 2009.

Table 2 : Summary of Issues and Stakeholder Perspectives on an MRV Framework

Issues	Challenges	Stakeholder Perspectives	Way Forward
Measuring and Reporting Framework	<ul style="list-style-type: none"> Deviation on submission frequency and coverage of GHG gases included in GHG Inventories and NATCOM between Annex I and non-Annex I Parties 	<p>Annex I Parties</p> <ul style="list-style-type: none"> Shortening of reporting intervals of non-Annex I Parties Unification of coverage of GHG by all Parties <p>Non-Annex I Parties</p> <ul style="list-style-type: none"> less demanding reporting requirement Continuation of existing coverage of GHG gases based on the CBDR principle. 	<ul style="list-style-type: none"> strengthening existing tools to develop GHG emissions database, and accumulate expertise on reporting and monitoring. Ensuring the principle of CBDR in designing the framework. New grouping of the Parties based on the size of economy and capacity should be considered Greater provision of capacity building and financial support to strengthen the framework.
Verification System	<ul style="list-style-type: none"> Two different approaches for verification system are being proposed 	<p>General consensus on NAMAs supported internationally to be subject to international verification</p> <p>Annex I Parties</p> <ul style="list-style-type: none"> unilateral NAMAs to be excluded from MRV <p>Non-Annex I Parties</p> <ul style="list-style-type: none"> support verification of all NAMAs 	<ul style="list-style-type: none"> Third-party review by neighboring countries could provide flexible verification system Developing low carbon, sustainable development strategies by non-Annex I Parties would help mainstream climate policies into national development plan, and facilitate verification of unilateral NAMAs
Matching System for NAMAs and International Support	<ul style="list-style-type: none"> Two different matching systems are being proposed. 	<p>Annex I Parties</p> <ul style="list-style-type: none"> supports decentralized matching system <p>Non-Annex I Parties</p> <ul style="list-style-type: none"> supports centralized matching system 	<ul style="list-style-type: none"> Decentralized approach seems to have comparative advantage from efficiency and cost-effectiveness perspectives Comprehensive information sharing scheme should ensure improved access, addressing fragmentation of finance. Regional registry may enhance south-south cooperation

To establish an effective and robust MRV framework, quantify the GHG mitigation contribution of NAMAs and build trust among the Parties, it is crucial that each Party recognizes its own interest in overcoming institutional and operational barriers outlined in this briefing.

For developing countries, this will involve recognizing the benefits from mainstreaming climate policies into national development plans and strategies, developing

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robust measuring and reporting of NAMAs, and securing human resources for the implementation of national policies. All of these benefits serve as important steps to creating the domestic foundation for implementing NAMAs as well as an MRV system. In the meantime, a platform for promoting South-South cooperation, such as the exchange of human resources and sharing of best practices related to NAMAs, would help reinforce these advantages.

For developed countries, aside from a more credible system to track GHG reductions, stronger coordination among donor countries to reduce the fragmentation of financial assistance could save costs and resources. A more credible system would also help to build trust and confidence that could pay dividends in other areas of international cooperation cooperation.

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