Article

Centralization of the Global REDD+ Financial Network and Implications under the New Climate Regime

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Abstract: With the institutionalization of 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 (REDD+), the global REDD+ financial network has been formed to support the implementation of REDD+ in developing countries. Although the rapid expansion of the network made it decentralized, it is still a highly centralized network in terms of the distribution of financial resources, revolving around only a few major actors. While the source of financing was diversified due to an increase in influential donors, the majority of financing still came from a few constant major donors, and a few constant major developing countries received most of the financial support. Although increases in donor numbers and the amount of finance received can provide more chances to support developing countries, it may cause inefficiency due to overlaps and duplications. Also, over-centralization of financial resources can be ineffective in terms of achieving maximum greenhouse gas (GHG) reduction, and can broaden gaps between developing countries' ability to cope with climate change and deforestation. Lack of coordination among donors and the differing capacity of developing countries may have caused centralization of financial resources in the global REDD+ financial network. To minimize this problem, a comprehensive monitoring system and platforms for information sharing are needed.

Keywords: REDD+; Global Governance Network; global REDD+ financial networks; network structure; decentralization; centralization

1. Introduction

1.1. Background

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 (REDD+) is a greenhouse gas (GHG) emission mitigation scheme for conserving and enhancing biodiversity and the function of forests as a carbon sink. The REDD+ scheme can also contribute to achieving multiple sustainable development goals (SDGs) by conserving the various ecosystem services of forests: a forest itself can be classified into SDG 15, Life on Lands, which is itself directly related to several SDGs such as SDG 13 (Climate Action) and SDG 2 (Zero Hunger) [1].

Since developing countries do not generally have sufficient resources or the necessary capacities required for their implementation, a global agreement, through the thirteenth and subsequent Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC), was reached for the provision of adequate and predictable means of support—including

financial resources and technical support in accordance with national circumstances and respective capabilities—for developing countries to aide their REDD+ progress [2]. Accordingly, multilateral and bilateral support for the REDD+ scheme in developing countries have been continued with the evolution of the scheme. Many related initiatives and institutions, such as the Forest Carbon Partnership Facility (FCPF) and the United Nations REDD+ (UN-REDD), were established to provide financial and technical support to developing countries. Developed countries such as Norway, Germany, and Japan have also been bilaterally supporting developing countries for the REDD+ scheme [3].

As support for the REDD+ scheme is an important factor that can determine the success of its implementation in many developing countries, it is important to ensure that support is provided in such a way that can meet their needs. However, there have been arguments that the current means of support for the REDD+ scheme do not sufficiently reflect the requirements and situations of developing countries. Some have argued that many developing countries have difficulty in accessing funds [4], and representatives of developing countries such as Fiji, Ghana, and Peru have argued that national circumstances are not being sufficiently considered. Furthermore, countries with limited communication capabilities and with low REDD+ implementation capacity are experiencing limited access to REDD+ financial resources [5–7].

Regarding modes of support for the REDD+ scheme, some studies have already reviewed the global status and gaps in REDD+ finance. For example, a study on types, amounts, and major donors to REDD+ finance discussed possible REDD+ finance mechanisms, such as result-based finance and carbon markets for effective and fair REDD+ support [8]. Other examples include an analysis on the total amount of pledged REDD+ finance from 2006 to 2014, in terms of who and which sector pledges came from [9], and an analysis of REDD+ related projects from 1989 to 2012 using social network analysis (SNA) to determine which institutions in developed countries were major contributors for supporting REDD+ [10]. Although these studies have produced meaningful findings, it is somewhat difficult to understand in detail which countries have received support for REDD+ because previous studies have mainly focused on the donors as opposed to the recipients.

Thus, it is the goal of this study to make a comprehensive review of the support available for REDD+ on a global scale in order to investigate whether the previously detailed problems are in fact observed. Adopting network perspectives, we attempt to determine the major donors and recipients, and the characteristics of the global REDD+ financial support network in terms of centrality. The analysis aims to provide a basis for understanding whether REDD+ financial supports were equitably distributed to meet their goals.

1.2. Conceptual Background: Global Governance Network and the Global REDD+ Financial Network

1.2.1. Global Governance Network

Governance refers to the coordinated management of a diverse set of actors, including states, Non-Governmental Organizations (NGOs), civil societies, and others, with the purpose of managing common affairs and for producing certain policy outcomes [11,12]. It involves a prominent form of problem-solving and decision-making on global environmental issues such as climate change, pollution, and deforestation. These global governances are realized through policy networks and the collaboration of actors, and is termed a “Global Governance Network” (GGN) or “Global Governance Architecture”. While a GGN is defined as institutionalized interactions between multiple interdependent but independent actors for a specific issue or policy area [13], global governance architecture is defined as “networks of institutional activities and relationships on the basis of discourses and norms of a given issue area” [14]. Although both terms can be used interchangeably [14], the term “GGN” was used in this study to stress the network relationships between actors.

With respect to actors participating in a GGN, the extent of their importance is not same: actors have different degrees of power and influence, and there can be several actors that serve as centers or hubs, making a GGN a multicentric governance [13]. Centers involved in a GGN are defined as actors who have far greater influence than that of others [13]. The mode of multicentricity determines the

structural characteristics of a GGN, which can have a great impact on the performance of the actors' interaction [13,15]. While a decentralized GGN refers to the state of existence of multiple centers in a network, a centralized GGN refers to a state in which there is a single or a very few network centers. In line with changes in actors and their pattern of interaction over time, a GGN structure also changes; while an increase in the number of centers indicates that the GGN is being decentralized, the opposite indicates that the GGN is being centralized.

Centralization or decentralization of a GGN can have certain consequences on the pattern of interaction between actors and their outcomes. With respect to decentralization, while mutually-reinforcing governance organizations can make the policy outcomes more productive and make participation easier by reducing entry cost, lack of coordination between institutions and duplication of similar activities can increase the cost of cooperation [16]. In the case of centralization, however, the participation of a diverse set of actors can be limited, and less overlap and conflict can make cooperation more efficient.

1.2.2. Global REDD+ Financial Networks

Introduced to UNFCCC negotiations in 2005 as RED (reducing emissions from deforestation), the scheme evolved to REDD+ through discursive-institutional interaction on the concept, which created new actors, ideas, and institutional arrangements [17,18]. Accordingly, the GGN on REDD+ was formed, within which diverse actors actively transfer funds and exchange information to support and achieve progress on the REDD+ scheme in developing countries. Within this, focus was given to the networked flow of REDD+ finance, which was defined as the “global REDD+ financial network” in this study.

Actors: Donors and Recipients

Actors participating in the global REDD+ financial network can be largely divided as either donors or recipients: donors are actors that mainly provide financial and technical resources, and recipients are those who receive these. Donors include developed countries and non-state international institutions, whereas recipients are developing countries that are currently implementing the REDD+ scheme or have the will to initiate it. As the objective of the research was to analyze the global transactions of REDD+ finance, the actors were defined in the level above a state; subnational, jurisdictional, or local entities were integrated into a given country, and the financial transaction made by these entities were regarded as the financial transaction of their respective country.

Non-state organizations can be classified into multilateral and regional institutions by their member constituencies and by the spatial scale of their operation. For multilateral institutions, representative ones are the FCPF and UN-REDD. The FCPF, which was officially launched in 2007 by the United Nations Framework Convention on Climate Change (UNFCCC) high-level climate negotiations, is currently supporting 47 developing countries through its Readiness Fund and Carbon Fund [19]. UN-REDD, a REDD+ scheme support program run by the United Nations, supports the REDD+ scheme readiness phase of 65 partner developing countries [20]. Also, several regional institutions are supporting the development of the REDD+ scheme in certain regions. For example, the Central African Forest Initiatives (CAFI) and the Commission of Central African Forests (COMIFAC) both support African countries [21,22], and the International Centre for Integrated Mountain Development (ICIMOD) supports Southern Asian countries located in the region of the Himalayan mountains [23]. Developed countries are supporting developing countries bilaterally, and some provide support through their own REDD+ scheme initiatives. For example, Norway has been supporting more than 80 REDD+ projects through its International Climate and Forest Initiative (NICFI) [24], and Germany has been supporting Latin American countries through its REDD+ Early Movers (REM) program [25].

The majority of developing countries are participating in Global REDD+ financial networks. More than 80 countries are engaging in REDD+ activities [26] and more than 60 countries are forming cooperative relationships with multilateral REDD+ scheme donor institutions such as the UN-REDD initiative and the FCPF.

Centralization or Decentralization of Global REDD+ Financial Network

Actors that provide or receive a considerable amount of financial resources relative to others can be considered as centers in the global REDD+ financial network. In a situation where the majority of the total financial resources of the network come from just a few central donors and flow to just a few central recipients, the network can be considered as centralized. On the contrary, when the sources of finance are diverse and the distribution is relatively even, the network can be considered as decentralized. As financial transactions in the global REDD+ financial network change, so do the centers and their numbers. This may decentralize the network with greater number of centers, or centralize the network with fewer number of centers.

REDD+ Phases and Financial Support

Developing countries who are willing to receive REDD+ finance apply to multilateral REDD+ support initiatives or make a bilateral contract with developed country donors. Support is provided according to the implementation capacity of developing (REDD+) countries, which is largely divided into three phases as: readiness (phase 1), implementation (phase 2), and result-based finance (phase 3).

The readiness phase includes developing Warsaw Framework elements, which are: National REDD+ Strategy or Action Plan, National Forest Reference Level/Reference Emission Level (FRL/FREL), National Forest Monitoring System (NFMS), and Safeguard Information System (SIS). Once a developing country fulfils the requirements of the readiness phase, they move to the implementation phase, which involves implementing national REDD+ policies and strategies that include capacity building and demonstration. Countries that achieve phase 2 can receive incentives according to the result of their REDD+ activities, which is referred to as result-based finance [27].

Much of the financial support from REDD+ scheme donors is provided according to the aforementioned phases [28]. For example, the FCPF's Readiness Fund is designed to support countries at the readiness phase, while the Carbon Fund operates for result-based finance. Figure 1 illustrates some examples of how different programs and funds can be classified by their target phases.

Figure 1. 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 (REDD+) phases and support programs (modified from [29]).

2. Materials and Methods

2.1. Data Sources

The Food and Agricultural Organization (FAO)'s Voluntary REDD+ Database (VRD) was used to obtain and arrange data on REDD+ governance networks. It is a REDD+ database that contains information on 2119 cooperation cases from 2006 to 2016, gathered by the FAO through annual reporting by actors of the governance networks [30]. The data include project title, duration, description and details, names of supporters and recipients, and the amount of fund committed and disbursed per case. To increase the accuracy of the data, we referred to the additional information sources of the Forest Trends and the UNFCCC. The Forest Trend's reports on REDD+ finance flows include information on REDD+ cooperation cases between 2009 and 2014, both for donors and recipients and the amount of fund committed and disbursed [31–36]. The UNFCCC's reports on Fast-Start-Finance (FSF) include information on the flow of FSF on the REDD+ scheme from FSF donors to recipients between 2011 and 2013 [37,38]. Using these, the VRD was cross-checked and an adjusted dataset was constructed by adding additional cases from reports. For each case, information on the duration and the amount of committed funds were used for the analysis. Although the adjusted dataset included 2326 cooperation cases, some were excluded from the analysis because the duration of the cases was not specified. Thus, 2143 cases were included in the final analysis.

2.2. Social Network Analysis

To identify the central actors and structural characteristics of global REDD+ financial networks, SNA was applied. By depicting actors as nodes and the interrelation between nodes as links, SNA is a useful method to visualize and analyze the patterns of interaction at work in a complex network [39]. Similar studies applying SNA can be found in global environmental and forest governance networks research [10,40,41].

The centrality of a network node shows its importance or the extent of its influence within a network [42]. Of the three types of centralities—degree, closeness, and betweenness—degree centrality and betweenness centrality of the nodes were calculated for the network. Degree centrality indicates the amount of access that a particular node has to the other nodes in the network, and can be divided into in-degree and out-degree centrality by the direction of the resource transaction. While in-degree centrality means receiving resources from other nodes, out-degree centrality means providing resources to other nodes. Nodes that have both in-degree and out-degree centrality have betweenness centrality, which indicates the extent of the particular node's intermediary role in the network [39].

Actors in the global REDD+ financial network are nodes, and financial cooperation cases between these actors are links based on which centralities of each node are calculated. By investigating changes of these properties over time, it is possible to track the changes in influential actors and the structure of the global REDD+ financial network: convergence of network resources to a few center nodes measured by the degree and betweenness centralities may indicate that the network is centralized, and the tendency towards an even distribution of the centralities may indicate that the network is decentralized.

In order to visualize and track the transformation of network structures over time, a network map of the global REDD+ financial network was drawn annually from 2006 to 2015. Annual datasets on financial cooperation cases were first constructed for this end, and cases with duration of more than one year were counted multiple times. For example, if the duration of a case ran from 2006 to 2008, the case was included in the dataset of 2006, 2007, and 2008. Nodes of the maps were weighted by in-degree and out-degree centrality to show the influence of nodes more clearly, and the maps were drawn in a Kamada–Kawai layout. Then, changes in degree centrality of major donors and recipients, which was defined in this research as the top 10 actors measured by degree centrality and can be considered as centers of each network, were shown. As some actors had betweenness centrality because they were

both donors and recipients in the same year, changes in betweenness centralities of these actors were also tracked.

It should be noted that in annual SNA, all cases of cooperation were regarded as having equal weight. At first, we tried to value all cases by the amount of funds, however, many cases had missing information on committed or disbursed amounts of fund. In addition, while the duration of most cooperation cases was longer than one year, the dataset only had total fund information on each case, and it was not possible to exactly identify how much funds were committed or disbursed to recipients per year. Because this may have introduced bias when analyzing the extent of influence of network centers and network structural characteristics, a frequency analysis on fund information was added in all cases to clarify the problem. For data analysis, Netminer 4 and R 3.5.1. [43,44] were used.

3. Results

A total of 342 actors were identified as having participated in global REDD+ financial networks from 2006 to 2015. There were 26 donor countries, 209 donor institutions, and 107 recipient developing countries.

3.1. Network Graph

Figures 2 and 3 show the in-degree and out-degree network graphs in 2006, respectively. Due to space limitations, only graphs for 2006, 2011, and 2015 are displayed, depict the beginning, middle, and end of global REDD+ financial networks in the analysis. The size of the network was relatively small (four donors and twenty-three recipients) because this was the beginning phase of the global REDD+ financial network. While Japan was the largest donor, the contributions of other supporters such as Canada, Denmark, and Norway were much smaller. Network links were relatively equally distributed, and institutions such as the International Timber Trade Organization (ITTO) and the Global Environment Facility (GEF) were recipients rather than donors.

Figure 2. In-degree centrality in global REDD+ financial network in 2006.

Figure 3. Out-degree centrality in global REDD+ financial network in 2006.

Figures 4 and 5 show the in-degree and out-degree network graphs in 2011, respectively. This illustrates the huge expansion in the network that occurred by 2011 (67 donors and 209 recipients). Donations from developed countries other than Japan, such as Sweden, Germany, Norway, and the United States of America (USA), increased considerably in relation to 2006. Although there had been a large increase in the number of recipients (i.e., developing countries), donations of financial resources were concentrated only to some countries, e.g., Ghana, Indonesia, and Colombia. Donor institutions such as the FCPF and the GEF were both donors and recipients, which shows that they played intermediary roles between donors and recipients; receiving financial resources from donor countries and distributing them to developing countries.

Figure 4. In-degree centrality in global REDD+ financial network in 2011.

Figures 6 and 7 show the in-degree and out-degree network graphs in 2015, respectively. This illustrates that although the size of the network was downsized in comparison to 2011 (46 donors and 185 recipients), the overall tendency was similar. Only a few donor countries such as Norway and Germany were leading in the majority of contributions. Also, the contributions of donor institutions such as the FCPF, the European Commission (EC), and the GEF had become larger. Regarding recipients, the majority of support was still concentrated on a few developing countries such as Brazil, Colombia, and Ghana.

3.2. Centralities

By calculating the degree centralities, major donors and recipients of each network were clarified, and the annual changes in centralities of these nodes were analyzed. Even in the cases where a node was identified as being a major actor in a certain network but dropped out from the major actors in the networks of other years, the annual changes in centralities of the node were still tracked.

Figure 8 illustrates the annual changes in out-degree centrality of major donors between 2006 and 2015. In total, 12 donor countries and 12 donor institutions were identified as being major donors. With respect to donor countries, Norway and Germany were constantly the largest donor countries after 2009. While the degree centralities of Norway, Germany, and France showed clear increasing trends, Japan, Canada, and Sweden showed clear decreasing trends. Regarding institutions, it can be seen that the degree centrality of non-state organizations such as the FCPF, the GEF, and the UN-REDD showed increasing trends.

Figure 8. Annual changes in out-degree centrality of major donors between 2006 and 2015 (y-axis break between 0.3 and 0.7 was applied to improve visualization). (IUCN: International Union for Conservation of Nature, WWF: World Wildlife Fund, CI: Conservation International, WCS: Wildlife Conservation Society, CBFF: Congo Basin Forest Fund).

Figure 9 describes the annual changes in in-degree centrality of major recipients between 2006 and 2015. In total, 29 countries were identified as major recipients. Countries such as Ghana, Indonesia, and the Democratic Republic of Congo have constantly higher degree centralities relative to that of other countries. Over time, the difference between centralities of these countries became smaller. In-degree centralities of most countries showed decreasing trends because there had been a large increase in the number of recipient countries over time and the resources were more distributed. However, the centralities of Colombia, the Congo, and Kenya showed increasing trends.

Figure 9. Annual changes in in-degree centrality of major recipients between 2006 and 2015 (y-axis break between 0.08 and 0.14 was applied to improve visualization). (Lao PDR: Lao People's Democratic Republic, DRC: Democratic Republic of the Congo).

Figure 10 describes the changes in centralities of all nodes that have betweenness centralities. Some donor institutions such as the FCPF, the GEF, the ITTO, and the UN-REDD had remarkably higher betweenness centralities than that of others. While the betweenness centrality of the GEF showed a clear decreasing trend since 2010, that of the FCPF showed a clear increasing trend. The FCPF was the node with the largest betweenness centrality since 2010, and the percentage of its betweenness centrality also increased over time since 2010, occupying more than half of total betweenness centrality from 2014.

Figure 10. Annual changes in betweenness centrality from 2007 to 2015. (IWGIA: International Work Group for Indigenous Affairs, UNDP: United Nations Development Programme, UNEP: United Nations Environment Programme, FIP: Forest Investment Program, EFI: European Forest Institute, GLOBE: Global Legislators for a Balanced Environment, VCS: Verified Carbon Standard, GGGI: Global Green Growth International).

3.3. Analysis of Total Committed Fund

Analysis of the total funds committed between 2006 and 2015 showed more clearly the overall major donors and recipients in the networks. In total, we identified that 16.7 billion U.S. dollars were committed. Figure 11 depicts the ratio of the amount of donation made by each donor to the total funds committed. Donors who made contributions totaling less than 100 million dollars were classified as “others”. Norway was the largest donor overall, representing 26% of the total funds committed. Japan and Germany were the second and third largest donors, representing 13% and 9%, respectively. Institutions such as the GEF, the Forest Investment Program (FIP), the FCPF, and the UN-REDD were also listed as significant donors.

Figure 12 depicts the ratio of the amount of finance received by each recipient countries to the total amount received by all recipients. The amount of finance received by donors from other donors were excluded from analysis. Thus, 9.69 billion U.S. dollars among total committed funds were analyzed. Recipient countries who received less than 100 million dollars were classified as “others”. Although Brazil did not have the largest in-degree centrality, it was actually the largest recipient, receiving 24% of all financial donations. Indonesia was the second largest recipient, receiving 14% of the total committed funds. While many other major recipients had comparatively larger or similar in-degree centralities to that of Brazil or Indonesia, the amount of funds they received were actually much less.

Figure 11. Amount of REDD+ finance (as a percentage of a total of 16.7 billion U.S. dollars) given by donors between 2006 and 2015.

Figure 12. Amount of REDD+ finance (as a percentage of a total of 9.69 billion U.S. dollars) received by recipient countries between 2006 and 2015.

4. Discussion and Conclusions

Over time the global REDD+ financial network has experienced considerable quantitative growth, with an increase in donors and recipients, thus making the network somewhat decentralized. In particular, the participation of influential non-country institution donors such as the FCPF, the ITTO, and the GEF have contributed to a diversification of the sources of REDD+ finance. However, in terms of allocation of financial resources, it can be said that the global REDD+ financial network is still a highly centralized network. Throughout the period studied here, major actors in the network were quite constant both in terms of being donors and recipient, which shows that the majority of financial resources actually came from a few constant major donors, and a few major developing countries constantly received most of the financial support. Thus, it is reasonable to say that the global REDD+ financial network is currently revolving around only a few central actors.

These characteristics of the global REDD+ financial network may have both positive and negative impacts on the global REDD+ scheme performance. Increases in the number of donors and the amounts of mobilized REDD+ finance can be positive for developing countries in so much as they receive more support for their REDD+ scheme progress. However, a larger number of similar donors also signifies a higher likeliness of overlaps and duplications in similar modes of support for the REDD+ scheme in developing countries, which may cause inefficiency in terms of cost-output both at national and global levels: donors may provide unnecessary support for REDD+ projects or phases that have already been supported, and which would have been more efficient in terms of the use of financial resources if utilized by other developing countries.

A lack of coordination among donors and the different capacities of recipient countries may have contributed to the centralization of financial resources. Developing countries to whom the financial resources were most centralized, such as Brazil and Indonesia, seems to have favorable conditions for REDD+ scheme mitigation effectiveness, such as relatively large amounts of tropical forests or high deforestation rates. Considering that support for REDD+ schemes in developing countries have similar aspects to developmental assistance [45], donors may have invested their resources more to countries that seem to have a higher possibility for successful outcomes. Thus, without intentional coordination, different modes of support from different donors would have converged to these few countries. Besides this, under the current financial support mechanism, recipient countries must make bilateral or multilateral contracts with donors. However, it can be difficult for countries that have a limited capacity to prepare for the requirements that precede the contract, which effectively drives them away from REDD+ financial sources.

Considering that a considerable amount of deforestation is occurring in the territories of developing countries that are isolated from REDD+ finance, over-centralization of financial resources to a few countries can be ineffective in terms of achieving maximum GHG reductions on a global scale. Loss of forest cover in least developed country (LDC) groups, which are vulnerable to climate change and have limited REDD+ capacity, make up a high percentage of the total forest losses: 29% of total forest losses between 2005 and 2010 occurred in these countries [46]. However, with the exception of a few countries such as the Democratic Republic of Congo, Lao People's Democratic Republic (PDR), and Nepal, most of the countries in these groups received less than 100 million dollars in total and never emerged as attractive recipients. Gaps between the ability of developing countries to cope with climate change and deforestation will be broadened under the current tendency of centralization of REDD+ financial resources.

While the significant part of earlier studies on REDD+ finance was performed with more focus on the sources of funds and the contributions of donors [8–10], this study attempted to make a detailed analysis also on the recipients with a focus on the distributional aspect of the REDD+ finance. It has become much clear, through this study, that the coordination of finance is imperative for ensuring the even development of REDD+ capacities in the developing world and for enhancing the effectiveness of the REDD+ scheme.

With the adoption of the Paris Agreement in 2015, it is expected that more REDD+ financial resources will be mobilized, and that more REDD+ scheme cooperation initiatives will be established based on the cooperative approaches of article 6.2 in the agreement. However, under the current tendency of allocation of financial resources, inefficiency and inequity will continue. Therefore, it seems that the global society should find ways to both relieve excessive centralization and to provide more support to isolated developing countries by strengthening monitoring and coordination. Various REDD+ financial support programs that are in operation have standards and evaluation procedures according to their own goals and objectives. These diversity and complexity in standards and procedures may make it difficult for developing countries to prepare and apply for REDD+ finance support. Therefore, programs that can share and introduce detailed information on various REDD+ financial support programs to developing countries should be established. In addition, consulting and capacity building programs that are especially designed for countries that are isolated from REDD+ financial networks, such as LDCs, would be positive for enhancing accessibility to REDD+ finance by diverse developing countries. In addition, a comprehensive monitoring system that can track and monitor the needs and progress of the REDD+ schemes of all developing countries, as well as the status of mode of support for REDD+ schemes should be constructed. Finally, systems of information sharing among donors should be established in order to promote their coordination. These systems would help donors to consider the national circumstances of recipient countries in advance of providing support.

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