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Exploring the Way to Harmonize Sustainable Development Assessment Methods in Article 6.2 Cooperative Approaches of the Paris Agreement

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Abstract: Article 6 of the Paris Agreement provides countries with two market-based approaches to meet their mitigation targets in a cost-efficient manner. Countries engaged in Article 6 need to simultaneously pursue greenhouse gas emission reduction and sustainable development (SD). To assess mitigation activities' contribution to SD, under a newly introduced Article 6.4 mechanism, SD assessment tools are to be developed until 2023. However, for cooperative approaches based on Article 6.2, there is a lack of a specific direction to formulate a tool or a guideline for SD assessment. Furthermore, though some scholars mentioned necessity to harmonize SD assessment methods across divergent cooperative approaches, there is a lack of analysis of the SD assessment practices under cooperative approaches. This study probes what kinds of SD assessment methods are in use in the current experimental cooperative approaches and explores ways to harmonize these methods. To this end, based on previous studies, three essential elements for the design of SD assessment methods are enumerated: (i) principles and parameters, (ii) assessment criteria and indicators, and (iii) process. This paper applies these elements to two exemplary cases, Japan's Joint Crediting Mechanism and Switzerland's bilateral agreement, and finds they have divergent SD assessment methods along the three dimensions of SD assessment. This paper concludes with policy suggestions to formulate a general guideline for SD assessment for cooperative approaches.

Keywords: sustainable development, article 6, Paris Agreement, cooperative approaches, harmonization

1. Introduction

In the face of the challenges in tackling climate change, market-based approaches came to the fore to undertake mitigation actions to generate mitigation outcomes and trade them for cost-efficiency in greenhouse gas (GHG) reduction efforts. An exemplary approach is the Clean Development Mechanism (CDM), which was established under the Kyoto Protocol in 1997 but now almost stops operating due to its replacement by new market-based approaches under the Paris Agreement. Under the CDM, developed countries as project developers participated in mitigation projects in developing countries to generate mitigation outcomes and to utilize them to comply with their legally binding quantified emission reduction targets (Kyoto Protocol, 1997). Originally, this CDM approach aimed to accomplish the dual objectives of responding to climate change and ensuring sustainable development (SD). Here, the CDM project/program's contribution to SD was decided to be developing countries' prerogative (United Nations Framework Convention on Climate Change, 2001). However, there has been criticism that the CDM's aim to achieve SD has been sidelined (Boyd et al., 2009; Olsen, 2007). This means that there is a "trade-off between monetized carbon emission activities and non-monetized sustainable development" (Hultman et al., 2020). In order to realize the CDM's potential in contributing to SD, there were arguments to formulate an internationally accepted common method to assess the contribution of mitigation actions to SD, but it was not formulated (Olsen & Fenhann, 2008; Sterk et al., 2009). Although the CDM SD co-benefits tool was created (International Institute for Sustainable Development, 2012), it was voluntarily applied by project developers. Besides the CDM SD co-benefits tool, there are diverse SD assessment methods that are set and operated on their own by other voluntary flexible mechanisms (Olsen et al., 2018).[1]

Reasons behind the diversity of SD assessment methods are both technical and political. Technically, the internationally common definition of SD is absent, without which, it is difficult to frame SD assessment criteria, indicators, and procedures. A plethora of scientific definitions of sustainability impedes the formulation of a common method for SD assessment.

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[1]The Gold Standard is a label for CDM projects intended to yield higher SD benefits with three more screening processes in terms of i) project type, ii) additionality and baseline, and iii) sustainable development. SD screening contains three elements of i) SD matrix application, ii) environmental impact assessment, and iii) increased stakeholder participation. The Gold Standard-labeled CDM projects are found to be associated with higher potential local SD benefits than the representative portfolio of unlabeled CDM projects (Drupp 2011).

Furthermore, measuring the contribution to SD is complex and costly apart from the considerable cost of GHG reduction projects (Olsen et al., 2018). Politically, developing countries regard the definition of SD as their sovereign rights and worry about the interference of international SD assessment tools with their own development pathways, while other players worry that carbon markets only serve the singular objective of mitigation outcomes and disregard other objectives, including contribution to SD (Ibid.).

The political contestation over the assessment of contribution to SD persists in the formulation of new market-based approaches that are shaped by the Paris Agreement adopted in 2015. *Cooperative approaches* based on Article 6.2 of the Paris Agreement involve the use of internationally transferred mitigation outcomes (ITMOs) (Paris Agreement, 2015). Parties can achieve their national mitigation targets through cooperative approaches that can be established in any form by national, regional, or global entities. As a part of cooperative approaches, the mechanism to contribute to the mitigation of GHG emissions and support SD, briefly called the *sustainable development mechanism* (SDM), was established on the ground of the Article 6.4 under the centralized authority of the Conference of the Parties to the Paris Agreement (Ibid., Article 6.4). Being the successor of the CDM, the SDM bears some similarity with the CDM in terms of governance and operation. There are studies arguing that the SDM should reflect the lessons learned from the CDM in terms of the application of SD principle and SD assessment method (Ugochukwu, 2020). Therefore, in the implementation of the Paris Agreement, the Supervisory Body of the SDM was given a mandate to review the CDM SD co-benefits tool and other tools and safeguard systems in use in existing market-based mechanisms to promote SD to formulate similar SD tools for the SDM by the end of 2023 (United Nations Framework Convention on Climate Change, 2021a). Despite the mandate, the formulation of SD tools for the SDM was deferred due to other urgent negotiation items to be specified and negotiated on SDM for the time being. Anyhow, whether a newly formulated SD tool should be applied mandatorily or voluntarily is not yet determined. Nevertheless, inheriting the legacy of the CDM SD co-benefits tool, the SDM's SD assessment tool will work as a standard to assess SD contribution in the activity cycle.

Meanwhile, parties also shall promote SD in their engagement with Article 6.2 cooperative approaches. According to the recently formulated Paris rule book of Article 6.2, parties should report how their cooperative approaches will (i) minimize and avoid negative environmental, economic, and social impacts; (ii) promote and consider human rights, the right to health, the rights of indigenous peoples, local communities, and so forth and the right to development as well as gender equality, and (iii) be consistent with the SD objectives of the participating party as national prerogatives (United Nations Framework Convention on Climate Change, 2021b).[2] It is notable that cooperative approaches cover all possible types of cooperation at all levels (local, national, regional, and global), as long as they involve engaging parties' authorization and use of ITMOs (Marcu, 2016). This means that there can be a diversity of cooperative approaches and that the quality of mitigation outcomes from different cooperative approaches can vary in terms of SD. Therefore, the "harmonization of SD assessment methods across cooperative approaches" is necessary (Olsen et al., 2018). Accordingly, this study attempts to examine how SD assessment methods are divergent in use in the current experimental cooperative approaches and explore ways to harmonize SD assessment methods across cooperative approaches, particularly offset mechanisms. The next section sets an analytical approach to examine the SD assessment methods. Thereafter, an analysis is conducted with two distinctive examples of cooperative approaches. Finally, this study ends with discussion points and policy suggestions.

[2]These reporting rules are applied in the preparation of Article 6.2 initial report in conjunction with the next biennial transparency report (United Nations Framework Convention on Climate Change, 2021b).

2. Literature Review

Previous studies on the assessment of the CDM's contribution to SD, though different, have commonalities: (i) there is no internationally agreed working definition of SD, (ii) there is a trade-off between low-cost GHG emission reduction and SD benefit achievement, and (iii) an international standard for SD assessment is needed (Olsen, 2007; Olsen & Fenhann, 2008; Sterk et al., 2009). Despite the lack of the working definition of SD, previous studies unfold their approaches in the assessment of a trade-off in CDM mitigation projects by setting environmental, economic, and social (equity) development as three pillars of SD, specifying indicators for each pillar, and applying these indicators (Kolshus et al., 2001; Sutter & Parreño, 2007).

As a distinctive study along this line, Kolshus et al. (2001) formulate SD assessment indicators with three SD categories of environment, development, and equity. Each category has more specified criteria. These formulations are applied to two case studies of four potential energy response options in Brazil and the coal industry's six abatement options in China. Research results reveal that cost-effective project options in terms of GHG emission reductions are not scored high in SD assessment categories and criteria. This means there is a trade-off between the dual aims of the CDM. Also, this study emphasizes the importance of a qualitative assessment tool with both core and selectable indicators. In advance, Sutter and Parreño (2007) apply a more intricate analytical SD assessment method, called multi-attributive assessment of CDM (MATA-CDM). SD is categorized into environmental, economic, and social development. A specific criterion is selected for each category. For example, the category of environmental development has the criterion of air quality with an indicator of change in air pollutant emissions relative to the baseline. The results of the analysis conducted with 16 CDM projects strongly support the notion that there is a trade-off such that the cost-efficient GHG emission reduction objective is much more favored and that the SD contribution objective is neglected. These studies not only confirm the trade-off but also suggest the necessity and possibility to apply a common method for SD assessment.

Hence, beyond the notion of trade-off, recent studies have unfolded ways to design generalized SD assessment methods, and these studies can be grouped into two aggregates: (i) studies exploring the extent to which the concept of SD is applied and (ii) studies questioning the overall institutional design elements to assess SD contribution.

The first line of studies concerns the extent to which sustainability concept is applied for the SD assessment in the generation of mitigation outcomes under the Article 6 of the Paris Agreement. Sven et al. (2019) suggest the reporting elements of SD assessment in terms of safeguards by (i) no environmental harm, (ii) the avoidance of negative social and economic impacts, and (iii) respects for human rights for Article 6.2 cooperative approaches. Kachi et al. (2019) suggest three scenarios to incorporate SD assessment into the guidance of the Paris

Table 1
Institutional design elements for SD assessment

Design Elements		Design options
SD as a principle		– SD serves as an objective
		– Existence of a working definition of SD
		Application of a common method of SD
		Recognition of SD as a national prerogative
Criteria and indicators	SD criteria and indicators	Positive checklist with indicators
		Safeguards against negative SD impacts (negative lists with exclusion criteria)
		Checklist on human rights and other rights[6]
		Quantification method
	Other criteria	Host countries' competition strategies to attract investment
Process	Documentation	Ex-ante documentation of SD for project design and selection
		Ex-post documentation of SD on monitoring and for approval
	Local stakeholder consultation	Guideline on stakeholder identification, stakeholder meeting, and project material in local languages
	Monitoring and reporting	Implementation of monitoring and reporting on SD
		Validation and verification on SD by independent 3rd party or by project developers
		SD Certification
	Approval	SD assessment results considered
	Grievance mechanism	Grievance mechanism

Agreement's cooperative approaches by (i) promoting and monitoring both positive and negative SD impacts, (ii) promoting and monitoring only negative impact (referred to as safeguards) by avoiding, minimizing, and mitigating negative impacts, and (iii) deferring the interpretation of what constitutes SD to host countries. Hence, Michaelowa et al. (2020) consider the link with sustainable development goals (SDGs) and suggest a SD assessment guidance for Article 6 by (i) creating both positive and negative impacts in environmental, social, and economic dimensions, (ii) redefining impacts in relation to SDGs and targets, and (iii) identifying monitoring and verification indicators. For the quality control of mitigation outcomes from divergent crediting schemes from a sustainability standpoint, Broekhoff and Spalding-Fecher (2021) suggest two indicators of (i) whether standards, criteria, and procedures are provided to ensure that mitigation activities do not result in negative social or environmental externalities and (ii) whether standards, criteria, and procedures are provided to ensure mitigation activities' positive contribution to SDGs. Along the line of safeguards, mandatory social safeguards to avoid the risk of human rights violation are suggested with a particular attention onto indigenous people and their related property rights (Schade & Obergassel, 2014; Obergassel et al., 2017). Because more specific rules for the operation and integrated management of the Article 6.2-based cooperative approaches and Article 6.4-based SDM were negotiated and proposed as a part of the formulation of Paris Rulebook from 2016 to 2021 (Deng et al., 2022), divergent scenarios in the application of SD assessment were considered.

The second line of studies concerns the formulation of overall design elements for SD assessment. Olsen and Fenhann (2008) suggest a taxonomy for measuring and monitoring positive SD impacts with SD criteria and indicators in the four dimensions of environmental, social, economic, and other benefits for a qualitative verification check. Furthermore, Olsen et al. (2018) create a matrix to compare institutional design elements for SD assessment on the basis of nine different flexible mechanisms.[3] Design elements include (i) SD co-benefits indicators with a positive checklist approach, (ii) existence of a quantification method, (iii) safeguards against negative SD impacts, (iv) monitoring and reporting, (v) independent 3rd party validation and verification, (vi) certification, and (vii) guidelines for stakeholder consultation. The analytical results suggest ways to enhance the existing CDM SD co-benefits tool, which can assist in the institutional design of SDM (Olsen et al., 2018). Hence, Braden and Olsen (2019) also formulate six design elements for the assessment of SD contribution to the negotiation of specific rules of implementation of Article 6 of the Paris Agreement. These include (i) governance (including the SD assessment as a national prerogative of host country), (ii) safeguards, (iii) stakeholder inclusivity (including grievance mechanism), (iv) SD indicators, (v) SD assessment (ex-ante and ex-post assessment and quantification of SD contributions), and (vi) transparency and reporting.

These studies commonly assist us to identify what can be considered in the design of an SD assessment of mitigation activities for market-based approaches. This leads to the formulation of possible institutional design elements for SD assessment in three aspects: (i) principles and parameters, (ii) assessment criteria and indicators, and (iii) process, as summarized in Table 1 which shows Institutional design elements for SD assessment (Braden & Olsen, 2019; Olsen et al., 2018; United Nations Framework Convention on Climate Changes, 2021b). In the principled aspect, design elements can include whether there is a working definition of SD, whether SD is recognized as a national prerogative, whether SD-related standards are commonly applied to all mitigation activities, and what kinds of SD parameters are concerned. Regarding SD criteria and indicators,

[3]The flexible mechanisms include i) CDM SD tool, ii) Social Carbon Methodology, iii) Climate, Community, and Biodiversity Standards, iv) CDM gold standard, v) Thailand's Crown Standard, vi) UN REDD Programme's social and environmental principles and criteria, vii) United Nations Development Programme NAMA SD Tool, viii) Asian Development Bank's safeguard policy, and ix) International Finance Corporation's sustainability framework.

design elements can include a positive checklist for SD benefits, a negative checklist for safeguards, a checklist on human rights and other rights, and the existence of a quantification method. Finally, regarding process, documentation, local stakeholder consultation, monitoring and reporting, approval processes, and grievance mechanisms can be considered.

With these potential design elements, this study considers two distinctive cases of cooperative approaches of Japan and Switzerland. There are many experimental cooperative approaches such as Japan's Joint Crediting Mechanism (JCM), Switzerland's Article 6 bilateral agreement, Swedish Energy Agency's Article 6 Virtual Pilot, World Bank's Standardized Crediting Framework, and the African Development Bank's Adaptation Benefit Mechanism (Greiner et al., 2019). The selection of cases is based on i) whether there is an SD assessment method and ii) whether the case is beyond the pilot stage and is currently in operation. The next section will explore how Japan's JCM and Switzerland's (hereinafter Swiss) bilateral agreement designed their SD assessment methods.

3. Results

3.1. Japan's approach

In 2011, Japan unveiled its plan to launch a bilateral offsetting credit mechanism as an alternative to the CDM (Ministry of Foreign Affairs, 2011). This new market mechanism, called the JCM, commenced operations in 2013 for bilateral cooperation between Japan and developing countries. The JCM bears both similarities and differences in comparison with the CDM. A similarity lies in the way that investments in emission reduction projects are made and that mitigation outcomes are transferred bilaterally. The difference is that procedural stringency is relieved. The Joint Committee between Japan and a partner developing country, which corresponds to the Executive Board of the CDM, administers the entire process of project development and approval, project monitoring, and mitigation outcomes' verification, approval, and issuance (Government of Japan, 2021). The application of standardized baseline methodologies, such as the best available technology baseline method, also reduces transaction costs in comparison with the CDM's historical emissions or business-as-usual baseline methodologies. Additionally, bilateral agreements with 22 developing countries as of November 2022 help balance project investment across regions and countries (Joint Crediting Mechanism, 2022a), which contrasts with the CDM whose project investment is concentrated on China and India (United Nations Framework Convention on Climate Change, 2023).

Like the CDM, JCM is also designed to assess SD contribution in the mitigation project. Based on the afore-mentioned Table 1 on institutional design elements for SD assessment, JCM's SD assessment approach is more specifically analyzed. First, regarding a principled approach, Japan formed a bilateral low-carbon development partnership with developing countries, and partnership document contains contribution to the SD of partner countries (Ibid., p. 2). A specific working definition of SD is not prepared. Instead, what is noteworthy is that the JCM formulates its own formats and guidelines on the assessment of SD contribution, which comprises Sustainable Development Contribution Plan (SDCP) and Sustainable Development Contribution Report (SDCR) (Joint Crediting Mechanism, 2022b). SDCP and SDCR provide standardized indicators to check both positive and negative impacts of mitigation projects. Negative impacts are checked in social, economic, environmental, and technological parameters. Indicators in each parameter are commonly applied to partner developing countries. However, the SDCP and SDCR formats can be revised by the Joint Committee, which comprises representatives from Japan and a partner country (Joint Crediting Mechanism, 2022b). This means that standardized indicators, though commonly applied, can be reformatted by the request of the partner country. Additionally, when preparing the SDCP, project participants ensure compliance with national and local regulations of developing countries (Ibid., p. 6). These indicate that national prerogatives are implicitly retained and exercised by developing countries. This runs the risk of simplifying the indicators, narrowing onto specific parameters, or deleting some parameters by the partner country with the preference for hosting mitigation projects. Also, it has the opportunity to further add and strengthen the SD assessment items and indicators by the partner country in favor of SD.

Second, regarding the criteria and indicators, the SDCP, which project developers are to prepare in the project development stage, provides both negative and positive checklists. A negative checklist is prepared to screen and prevent any negative impacts. This list contains eight items and 22 indicators. Items include (i) policy alignment with host country's domestic policies or programs, (ii) environmental impact assessment (EIA), (iii) pollution control (air, water, waste, noise, ground subsidence, odor), (iv) safety and health, (v) natural environment and biodiversity, (vi) economy, (vii) social environment and community participation, and (viii) technology (Joint Crediting Mechanism, 2022b). In each item, there are more specific questions (corresponding to criteria) for project participants to check for a yes or no. If the answer is no, no other actions are required. If the answer is yes, project developers must describe action plans to complement or correct negative impacts (Joint Crediting Mechanism, 2022b). Notably, this negative checklist assesses the JCM's SD contribution to technological improvement as well as the environment, economy, and social conditions (Amellina, 2017). In terms of technology, project developers should check whether mitigation projects fail (i) to include activities such as technology transfer, training, and technical assistance for project operation and maintenance, (ii) to provide technology-related information, and (iii) to plan capacity-building activities, including the construction and installation of technology (Joint Crediting Mechanism, 2022b). In addition to safeguards (assessment on negative impact), there is a separate positive checklist based on 17 SDGs. Project developers are supposed to check if there are any potential benefits identified in each goal of the SDGs and to describe potential contributions by referring to UN SDG indicators (Ibid., pp. 7–8).[4] Before the project competition, project developers are also supposed to prepare SDCR by utilizing the same negative and positive checklists. They are to check whether negative and positive impacts are identified and describe corrective actions in case both impacts are identified (Ibid., pp. 10–13). Both the SDCP and SDCR use qualitative methods.

Third, regarding the process, project developers prepare the SDCP for an ex-ante assessment in the pre-registration stage and submit it to the secretariat (Joint Crediting Mechanism, 2022b; Joint Crediting Mechanism, 2022c). The secretariat conducts a review process on the receipt of the SDCP (Joint Crediting Mechanism, 2022c). Afterward, upon the completion of mitigation projects, project developers prepare the SDCR as an ex-post

[4]The exact title of SDG indicator is global indicator framework for the SDGs and targets of the 2030 agenda for sustainable development (United Nations, 2017).

document in the stage of pre-issuance of mitigation outcomes and submit it to the Joint Committee through the secretariat alongside the monitoring report (Joint Crediting Mechanism, 2022b; Joint Crediting Mechanism, 2022c). Here, the monitoring of the SD contribution is undertaken by project developers and not by third-party evaluators. The secretariat conducts a completeness check, and if the check results are positive, the Joint Committee evaluates the SDCR, including on-site visits where necessary (Ibid., paras 72 and 73). If negative impacts are identified without a description of corrective action, then project developers may submit revised SDCR with additional documents to explain revisions to the Joint Committee for re-evaluation, which is repeated until corrective actions are confirmed (Ibid., paras 77–80). This means that the grievance mechanism is instilled in the reporting and evaluation system of the Joint Committee. However, the grievance mechanism is driven by the Joint Committee and not by local stakeholders. Additionally, project developers "may," not "should," prepare the revised SDCR for corrective actions on identified negative impacts, so this grievance mechanism does not assure stringency. Finally, there are no specific guidelines for local stakeholder consultation, though consultation takes place in the stage of project planning in actual project implementation.

3.2. Swiss approach

Swiss government by the Federal Office for the Environment designed a bilateral agreement as a legal framework for ITMO purchase on the ground of Article 6.2 of the Paris Agreement. On the ground of bilateral agreements between Swiss government and partner developing countries, the Foundation for Climate Protection and Carbon Offset (hereinafter KliK Foundation) forms an ITMO purchase agreement (Minas, 2022). The KliK Foundation was established under the Swiss CO_2 Law, which mandates mineral oil companies to compensate for related emissions exceeding a volume of more than 1,000t CO_2e/year by offsetting domestically and abroad the CO_2 emissions which amount to 54 Mt of CO_2e (Greiner et al., 2020; Klik, 2021; United Nations Development Programme, 2020).

The Swiss government formed bilateral implementation agreements with Peru and Ghana in 2020, with Senegal, Georgia, Vanuatu, and Dominica in 2021, and Thailand and Ukraine in 2022 (Swiss, 2022). Mitigation project proposals from partner countries need to go through competitive tendering process and bilateral authorization of KliK Foundation (Greiner et al., 2020). The KliK Foundation formulates the Mitigation Outcome Purchase Agreement to procure eligible ITMOs from project proponents in the private sector, and payment to mitigation activity implementers is made upon the delivery of ITMOs to KliK Foundation (Klik, 2021). Swiss provides financial support with amounts ranging from USD 2M to 20M to the contractor in partner developing countries (Ibid.). Bilateral agreements require partner country governments to authorize the transfers of ITMOs and guarantee recognition in the application of three distinctive rules. These rules are i) defined corresponding adjustment methods for avoidance of double counting, ii) operational and procedural rules, including the production of ITMOs, and iii) the set of criteria for environmental integrity and SD (Elgart, 2021). This is a non-exhaustive list of minimal criteria United Nations Development Programme, 2020). Thus, from this bilateral agreement, SD is found to be an essential element in the generation and transfer of ITMOs.

The Swiss approach to SD assessment in its bilateral agreement is also analyzed in three aspects. First, regarding a principled approach, Swiss expresses that it will intend to use voluntary cooperation under Article 6 and promote SD, including the protection of human rights, toward the achievement of its nationally determined contribution for 2030 (Swiss, 2020a). In the example of the joint statement for bilateral cooperation between Switzerland and Peru, the promotion of SD and respect for human rights are mentioned, and Switzerland and Peru agreed to exhibit their intention to operationalize these principles (Swiss, 2020b). Based on this, an implementation agreement was additionally formed where the promotion of SD is indicated as an objective (Swiss, 2020c). In the implementation agreement, six general SD criteria are indicated by i) alignment with SD and national strategies and policies, ii) alignment with long-term low emission development strategies and the promotion of low emission development, iii) prevention of environmentally related negative impacts, iv) respect for national and international environmental regulations, v) prevention of social conflict, and vi) respect for human rights (Swiss, 2020c). Here, alignment-related criteria can lead us to infer that the national prerogative of the host countries is retained. Furthermore, three SD parameters of economic development, environmental protection, and social conflict are indicated. This principled approach to SD is commonly applied to cooperating partners (Swiss, 2020c; Swiss, 2020d). However, it is noteworthy that prevention of social conflicts and respect for human rights are part of SD promotion, but the way to assess them is not clearly specified.

Second, regarding criteria and indicators, in the calls for proposals as a pre-selection process, there are eligibility criteria that exclude project types related to nuclear energy and the lock-in of fossil fuels (Klik, 2021). Additionally, in this process, project developers need to prepare the assessment results of positive contributions onto SDGs, which also includes safeguards against negative impacts onto SDGs. (Ibid.). Here, notable is that safeguards are part of SD and that the assessment is made at the center of SDGs. For the assessment of human rights violation, the risk of violating international human rights treaties is to be checked (Ibid, p. 6). However, specific human rights treaties are not indicated. Considering that there are many human rights treaties and that even the Universal Declaration of Human Rights has set out 30 basic rights along political, civil, economic, and social dimensions, how many human rights are considered and which human rights should be mandatorily checked are not specified. Therefore, specific assessment methods for SD contribution (including safeguards) and human rights violation risk are not clearly indicated (Ibid.).

Regarding specific guidelines for SD assessment, they are delegated to partner countries. In the example of bilateral agreement with Ghana, overall requirements are set in a way that project developers can utilize appropriate SD assessment tools in the international crediting standards that are recommended in the Ghana's framework document on international carbon markets and non-market approaches (Ghana, 2022). If there is an absence of SD assessment tools in international crediting standards, then project developer can propose a new way of assessing and monitoring SD of the project (Ibid.). Moreover, project developers need to acquire national environmental permits under the Environmental Impact Assessment Legislation of Ghana to meet the SD criteria (Ghana, 2022; Swiss, 2020c). Furthermore, project developers need to undertake consultation with local and affected stakeholders and also an established independent grievance process (Ibid.). That is, there is a flexibility in the choice and utilization of SD assessment tools. The assessment can be conducted in a qualitative manner. Unlike the JCM, there are no

specific guidelines on criteria and indicators on its own, and Swiss sets general criteria and hands over the design of specificity of SD assessment to partner developing countries.

Third, regarding the process to undertake SD assessment, in the project selection process, project developers should prepare a Mitigation Activity Idea Note where the promotion of SD is included as one of pre-selection criteria. At this stage, assessments are made on positive and negative impacts to the SDGs (Klik, 2021). Project developers of pre-selected activities then prepare a Mitigation Activity Design Document (Ibid.). Here, the promotion of SD should be described in terms of (i) consistency with SDG priorities of the ITMO transferring country, (ii) compliance with environmental and social requirements and the standards specified in policies and frameworks of the transferring country, (iii) respect for human rights, (iv) avoidance of corruption and bad governance, (v) SD indicators, (vi) stakeholder engagement, and (vii) activity's transition to a self-sustaining mode after Article 6.2 engagement completion (Ghana, 2022). Local stakeholder consultations are included as part of obtaining an environmental permit or the validation of the Mitigation[5] Activity Design Document (Ibid., p. 138). Noteworthy is that respect for human rights is included as one of the constituents of SD promotion. Then, in the stage of monitoring and verification, before the verification, Mitigation Activity verification checklist is utilized for completeness check. SDG (promotion of SD) and safeguard requirements are included in the checklist (Ghana, 2022). Then, the project host country examines the violation of human rights or of national legislation at this stage (Swiss, 2020d). In the stage of approval of ITMOs, meeting SD requirements is checked by the relevant Ministry of the host country. The grievance mechanism depends on the decisions of the host country. In the case of bilateral cooperation between Swiss and Ghana, it is checked what kinds of partnerships or legal means (appeals or grievances) are in place to ensure the fundamental rights of stakeholders (Ghana, 2022). In the stage of reporting to the UNFCCC secretariat in the form of a Biennial Transparency Report, participating parties have an obligation to provide information on the criteria and provisions for promoting SD (Swiss, 2020c). Furthermore, the UNDP is planning to provide technical assistance on the conduct of qualitative and quantitative SDG impact assessments to ensure that Ghana's mitigation projects with Swiss comply with the UNDP's Social and Environmental Standards and demonstrate co-benefits through UNDP's Climate Action Impact Tool (United Nations Development Programme, 2020).

3.3. Discussion

Case studies on two exemplary cooperative approaches offer the following policy implications on the ground of the Paris rule book on Article 6.2. First, a general guideline for SD assessment for cooperative approaches, at least for project-based approaches, is necessary. There can be divergent cooperative approaches including direct transfers of ITMOs between governments, linkage of emissions trading systems, policy-based cooperation across two or more Parties, sectoral or project-based crediting mechanisms, and other forms of cooperation involving public or private entities, or both (Mehling, 2020). The JCM and Swiss approaches are the examples of project-based approaches with intricate design elements for SD assessment. However, even these two approaches differ in SD assessment. Currently, the Paris rule book on Article 6.2 contains SD-related guidance, but it is not specific. With an expectation that more cooperative approaches are going to emerge, it will be very difficult for host countries to adapt to and go through different SD assessment methods of different cooperative approaches. Therefore, a general guideline on (i) the working definition of SD, safeguards, and human rights, (ii) specific criteria and indicators, and (iii) assessment procedures will aid countries to readjust and harmonize themselves in cooperative approaches. International organizations can also harmonize SD assessments through capacity-building support with this general guideline, not with their own SD assessment tools or methods.

Second, the working definition of SD needs to be formulated. The universally accepted definitions of SD exist in two lines: one by "Brundtland report" and the other by "three pillars of sustainability" in economic, social, and environmental dimensions. These two definitional approaches are generally accepted but vague to be applied at the working level (Abrahams, 2017). However, at a working level, SD can be defined in terms of concepts, goals (what-to-achieve), indicators (how-to-measure), values (what should be desirable or avoided), and practices (Robert et al., 2005). From this perspective, there is an internationally accepted working definition of SD by the SDG goals, targets, and indicators. A working definition of SD for cooperative approaches can start from SDGs.

Third, relationship among the concepts of SD, safeguards against negative impacts, and human rights needs to be defined. Paris rule book on Article 6.2 has reporting rules on safeguards, human rights, and SD, respectively (United Nations Framework Convention on Climate Change, 2021b). The JCM differentiates between safeguards and positive SD impact, but it does not explicitly check the violations of human rights. This is seemingly driven by the fact that human rights are an integral part of both SD and safeguards. In the Swiss approach, SD is conceptually inclusive of i) positive contributions to SDGs, ii) safeguards, and iii) human rights. However, the fact that only the violation of human rights is examined at the stage of monitoring and verification by the host party leads us to extrapolate that the non-violation of human rights is not only the ultimate end result of SD but also the minimum requirement. Along this line, it is important to clearly define the relationship between human rights and SD: (i) whether human rights are an integral part of SD, (ii) whether human rights are the end result of SD, or (iii) whether human rights and SD are on a par and combined for inclusive SD. The preamble of Agenda 2030 states that SDGs seek to realize the human rights of all (UN General Assembly, 2015). Human rights are foundational principles for economic development, social development, and environmental protection, which are three pillars of SD. Furthermore, harms in economic, social, and environmental aspects interfere the full enjoyment of human rights (Knox, 2015). Therefore, defining human rights as an integral part of SD is a proper approach.

Fourth, a general guideline can suggest two separate guidelines on safeguards and SD benefits, respectively. In order to prevent trade-off between mitigation actions and SD, a guideline for safeguards needs to be formulated with core and optional indicators to minimize and avoid negative environmental, economic, and social impacts, including the indicators related to the risk of violation of core human rights. Seventeen SDGs can be grouped into three pillars of environmental, economic, and social impacts. The selection of optional indicators can be delegated to host countries. Meanwhile, in order to encourage synergies between mitigation actions and SD, a guideline for SD benefits can also utilize 17

[5]Arts (2017) sees human rights as a pre-requisite of development and as the end-result of development.

SDGs in the preparation of qualitative reports to check and describe potential synergistic contribution to SDGs in consideration of transaction costs and practical difficulties. Participating countries can select preferred optional indicators from the safeguard guideline, and they can also prioritize certain SDGs from the SD benefit guideline. This can lead SD to be preserved as a national prerogative. Furthermore, if a comprehensive list of indicators for SDGs for each of mitigation actions or technologies, for example, such as biogas technologies, can be formulated (Obaideen et al., 2022), it can be helpful for participating countries to refer to in their decision to assess mitigation actions' SD contribution.

4. Conclusion

Based on a scholarly argument that the harmonization of SD assessment methods across cooperative approaches is needed, this study attempted to see how SD assessment methods are designed in existing cooperative approaches by analyzing the two exemplary cases of Japan's JCM and the Swiss' bilateral agreement. The analytical results reveal that both cases institutionalized SD assessment, but their institutional designs for SD assessment are divergent along three dimensions of SD assessment. Japan and Swiss approaches are the exemplary cooperative approaches that were designed before Paris rule book on Article 6.2 was formulated in 2021. Paris rule book on Article 6.2 includes three respective and general reporting rules on i) safeguards, ii) the promotion and consideration of human rights, and iii) consistency with SD objectives of the participating party, but these are general rules which can lend themselves in the spectrum of divergent applications. Accordingly, a specific guideline for the SD assessment is needed to harmonize the assessment of contribution to SD across different Article 6.2 cooperative approaches.

What follows is the points to be considered in the preparation of a general guideline. First, the guideline needs to formulate the working definition of SD. The utilization of the SDG targets and indicators will be an easy solution.

Second, in advance, the guideline needs to conceptually define the relation among three reporting rules of (i) safeguards, (ii) human rights, and (iii) contribution to SD. This is a determinant point in the design of what to assess and how to assess the SD overall. As a suggestion, conceptually, human rights need to be conceptualized as the integral part of SD. Safeguards (negative impact on SD) and positive impact on SD need to sit on a par and be separately approached. Human rights concern needs to be inserted specifically as a part of safeguards.

Third, regarding the criteria and indicator setting, criteria of both safeguards and positive impact on SD need to be aligned with SDGs that can be grouped into three sustainability pillars of economic, social, and environmental development. For safeguards, the set of core and selectable indicators to minimize or avoid negative social, environmental, and economic impact need to be formulated. Hence, for positive impact on SD, the set of the UN SDG indicators can be utilized.

In advance, specific indicators can be formulated for particular mitigation actions (e.g. waste management project) or particular technology applications in terms of 17 SDGs on the basis of literature review, project implementation experiences, and expert views, and this will help participating parties to refer to in an institutional design for SD assessment for particular projects.

Fourth, at least project-based crediting forms of cooperative approaches need a guideline. SD assessment method for other forms of cooperative approaches such as policy-based cooperation also needs to be further studied.

Fifth, in the guideline, specific exemplary options to choose for each of procedural elements such as documentation, monitoring, local stakeholder consultation, and grievance mechanism need to be explored and provided.

Sixth, balance between ex-ante and ex-post SD assessment needs to be considered.

Lastly, this guidance needs to be intended for harmonization, not for the uniform application of a standardized assessment tool. If the SDM's SD assessment tool on the ground of Article 6.4 is formulated, it will be a standard straitjacket to all SDM mitigation activities. Meanwhile, divergent forms of cooperative approaches need a guideline with an overall direction and specific options for parties to refer to, choose, and utilize with flexibility.

In comparison with previous studies that provide insights for SD assessment guideline and tools on the ground of CDM experiences, this paper makes contribution by exploring the actual SD assessment methods of the exemplary cases of Article 6.2 cooperative approaches and providing directions for the formulation of a specific guideline for cooperative approaches.

Recommendations

The finding revealed three key policy insights. First, a general guideline for designing SD assessment methods under cooperative approaches of Article 6.2 of the Paris Agreement is necessary to ensure the harmonization and quality control of mitigation outcomes. Second, a general guideline needs to be formulated with the working definition of SD in relation to SDGs and in a way to help participating countries to refer to on their discretion. Third, a general guideline needs to define the relation among safeguards, the promotion of human rights, and consistency with SD objectives of the participating party, which are three reporting rules of the Paris rule book and specify assessment methods for safeguards and SD benefits, respectively.

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Conflicts of Interest

The author declares that she has no conflicts of interest to this work.

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