

ASSESSMENT

7 April 2023



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Japan International Cooperation Agency

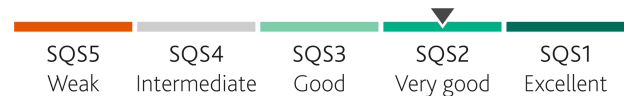
Second Party Opinion – Social and Sustainability Bond Framework Assigned SQS2 Sustainability Quality Score

Summary

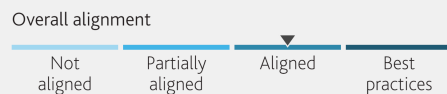
We have assigned an SQS2 Sustainability Quality Score (Very good) to Japan International Cooperation Agency's ('JICA' or 'the agency') social and sustainability bond framework dated 4 April 2023. JICA's use-of-proceeds framework has been established with the aim to finance projects across nine social categories and six categories with combined social and environmental objectives. The framework is aligned with the four core components of the International Capital Market Association's (ICMA) Green Bond Principles 2021 (including June 2022 Appendix 1), Social Bond Principles 2021 (including June 2022 Appendix 1) and Sustainability Bond Guidelines 2021. The framework also demonstrates a significant contribution to sustainability.

Sustainability quality score

SQS2



Alignment with principles USE OF PROCEEDS



FACTORS ALIGNMENT



Contribution to sustainability



Expected impact
Relevance and magnitude

ADJUSTMENTS

ESG risk management No adjustment
 Coherence No adjustment

Scope

We have provided a Second Party Opinion (SPO) on the sustainability credentials of JICA's social and sustainability bond framework, including the framework's alignment with the ICMA's Green Bond Principles 2021 (including the June 2022 Appendix 1), Social Bond Principles 2021 (including the June 2022 Appendix 1) and Sustainability Bond Guidelines 2021.

Under its framework, the agency plans to finance projects comprising nine social categories and six categories with combined social and environmental objectives, as outlined in Appendix 2 of this report, using use-of-proceeds social and sustainability bonds. The framework applies to JICA's Fiscal Investment Loan Program Agency (FLIP) bonds and government-guaranteed bonds.

Our assessment is based on the last updated version of JICA's framework dated 4 April 2023, and our opinion reflects our point-in-time assessment of the details contained in this version of the framework and other public and non-public information provided by the agency.

We produced this SPO based on our [Framework to Provide Second Party Opinions on Sustainable Debt](#), published in October 2022.

Issuer profile

Established in 2008 as an Incorporated Administrative Agency based on the Act of the Incorporated Administrative Agency, Japan International Cooperation Agency (Act of JICA¹) is the country's official development assistance (ODA) institution and is administered by the Minister of Foreign Affairs and Minister of Finance.

JICA provides bilateral assistance in the form of technical cooperation, ODA loans and private sector investment finance, and grant aid to contribute to the promotion of international cooperation and the sound development of the Japanese and global economy by supporting the socioeconomic development, recovery efforts or economic stability of developing regions.

The total scale of operations in fiscal year ended 31 March 2022 (fiscal 2021) was ¥1,536.1 billion (approximately USD 13 billion), of which finance and investment cooperation accounted for ¥1,274.7 billion². JICA's activities primarily focus on Asian countries — 76.6% of fiscal 2021 finance and investment cooperation commitment amounts channeled into the region³ — with a particular focus on South and Southeast Asia.

Strengths

- » Well-established project selection process that will support the long-term contribution to sustainability and provide transparency to stakeholders
- » Commitment to transparency and accountability, reflected in publicly available ex-ante and ex-post evaluation reports and sector-specific papers detailing the agency's objectives and approaches
- » Management of proceeds commitments are in line with market best practice, including a commitment to allocate proceeds within 24 months

Challenges

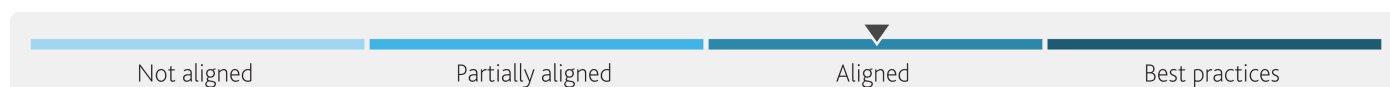
- » Inclusion of projects that may have high negative externalities⁴ or locked-in effects, such as natural gas power generation
- » Eligibility criteria are not clearly defined for some categories, although ex-ante evaluation reports detailing in-depth project information will be publicly available on JICA's website for all projects

Alignment with principles

JICA's social and sustainability bond framework is aligned with the four core components of the ICMA's Green Bond Principles 2021 (including June 2022 Appendix 1), Social Bond Principles 2021 (including June 2022 Appendix 1) and Sustainability Bond Guidelines 2021:

- Green Bond Principles (GBP)
- Social Bond Principles (SBP)
- Green Loan Principles (GLP)
- Social Loan Principles (SLP)
- Sustainability-Linked Bond Principles (SLBP)
- Sustainability Linked Loan Principles (SLLP)

Use of proceeds



Clarity of the eligible categories – ALIGNED

The agency aims to finance the assets in its finance and investment account, which is dedicated to providing ODA loans and private sector investment finance, and is divided into 15 different eligible categories. The ODA will be provided to countries included in the list of "Potential Loan Recipient Countries Classified by Income Categories"⁵, created based on the Organisation for Economic Co-operation and Development (OECD)'s Development Assistance Committee (DAC) List of ODA Recipients⁶. While the eligible categories cover a broad range of activities targeting developing countries, JICA will exclude the financing of coal-fired power generation. In addition, JICA will finance only designated activities and/or exclude financing activities that are on its negative list.

The definitions of the eligible categories are generally broad and include a wide range of activities described through examples with few standardized thresholds defined, reflecting the agency's highly diversified operations. The lack of detail in the framework is compensated by the transparent selection and evaluation process, which includes the publication of all ex-ante and ex-post evaluation results on the agency's website. The agency also publishes various sector-specific guidelines detailing its approaches to and objectives for each sector, such as its Global Agendas, Position Papers and Thematic Guidelines⁷.

The eligible expenditure includes private sector investment finance, which involves loans and equity investments to private enterprises. The inclusion of equity or investment funds in the use-of-proceeds bonds is unconventional because of various challenges, such as the effective tracking of proceeds. However, most of the agency's investments in this regard relate to project finance or two-step loans to microfinancing institutions, enhancing traceability. In addition, JICA's rigorous evaluation process strongly supports the delivery of material social and, where relevant, environmental impacts.

The eligible expenditure also includes program loans⁸, which will be disbursed upon the achievement of the predetermined objectives. While such loans are commonly used by development agencies, the funds are not directly tied to specific expenditures. However, the disbursement of such loans can be considered a form of refinancing of the projects to achieve their targeted objectives. Furthermore, JICA will also ensure social impacts through the evaluation process.

Clarity of the environmental or social objectives – BEST PRACTICES

The social and environmental objectives are clear and relevant. In addition, they are coherent with international standards, including the United Nations' (UN) Sustainable Development Goals (SDGs). While all the eligible categories target social objectives, there are several which will also look to merge environmental aims with social objectives, such as the energy and public transportation categories.

Clarity of expected benefits – BEST PRACTICES

The expected benefits identified are clear, relevant and measurable for all categories. In addition to reporting on the expected benefits listed on the framework, the agency will evaluate the expected benefits during the selection process. Furthermore, the expected benefits for each project will be disclosed in the ex-ante and ex-post evaluation reports.

The agency expects refinancing to account for most of the allocation, reflecting the long-lasting nature of JICA's projects. Therefore, the average lookback period is relatively long at around six years. The agency plans to disclose the expected share of refinancing to the investors prior to issuance if requested.

Best practices identified

- » Objectives set are defined, relevant and coherent for all project categories
- » Relevant benefits are identified for all project categories
- » Benefits are measurable and quantified for most projects, either ex-ante with clear baselines or with a commitment to do so in future reporting
- » Commitment to transparently disclose the share of proceeds used for refinancing where feasible
- » Commitment to transparently communicate the associated lookback period(s) where feasible

Process for project evaluation and selection



Transparency and quality of process for defining eligible projects – BEST PRACTICES

JICA's project evaluation and selection process is well established, and roles and responsibilities are clearly defined and include relevant expertise. JICA conducts pre-project evaluation following its evaluation guidelines⁹, which is based on the OECD-DAC evaluation criteria¹⁰. At the same time, the project will go through the agency's internal selection process. The Japanese government will also be involved in the process and ODA loans need to be approved by the Cabinet before they can sign a loan agreement. The results of the appraisal and selection process will be published as ex-ante evaluation reports on JICA's website¹¹, ensuring transparency for relevant stakeholders. Furthermore, the Advisory Committee on Evaluation, comprised of external experts, will provide advice to improve the process of project evaluation.

Environmental and social risk mitigation process – BEST PRACTICES

JICA has established a comprehensive environmental and social risk mitigation process. Each project will be screened, reviewed and monitored based on JICA's environmental and social consideration guidelines¹². According to the guidelines, any project that may have significant negative externalities will be classified as a 'category A' project and will undergo a rigorous review and monitoring process. While the agency requests the project owners to proactively manage negative externalities, JICA will closely monitor to ensure that all the projects comply with the guidelines and appropriate measures are taken in case any issues are identified.

Best practices identified

- » The roles and responsibilities for project evaluation and selection are clearly defined and include relevant expertise
- » There is evidence of continuity in the selection and evaluation process through the life of the financial instrument(s), including compliance verification and procedures to undertake mitigating actions when needed
- » The process for project evaluation and selection is traceable
- » Material environmental and social risks for most project categories are identified
- » Presence of corrective measures to address environmental and social risks across projects
- » ESG controversies are monitored

Management of proceeds



Allocation and tracking of proceeds – BEST PRACTICES

JICA has defined a clear process for the management and allocation of proceeds in the framework. The net proceeds will be deposited in the finance and investment account, but will be separately tracked by JICA's finance division. The agency will ensure that the amount of net proceeds for the bonds issued, is at least equal to or less than the financing provided to the eligible projects, on a fiscal year basis. It also commits to reaching full allocation within 24 months, in line with market best practice.

Management of unallocated proceeds – BEST PRACTICES

Unallocated proceeds will be invested in cash and cash equivalents. Furthermore, in case of the termination of a project, the agency will reallocate the proceeds to appropriate projects in line with its eligibility criteria. Based on the Act of JICA, the agency is only allowed to direct unallocated proceeds to highly liquid investments, such as cash, deposits at the Bank of Japan and certificates of deposits. This will help ensure that unallocated proceeds are not invested in environmentally and socially harmful activities.

Best practices identified

- » Broad disclosure of a clearly articulated and comprehensive management of proceeds policy to external stakeholders; bondholders or lenders at a minimum
- » Short allocation period, for example typically less than 24 months
- » Disclosure on temporary placement and presence of exclusion criteria toward environmentally or socially harmful activities
- » Commitment to reallocate proceeds to projects that are compliant with the framework

Reporting



Transparency of reporting – BEST PRACTICES

JICA will report on the allocation of proceeds and the impact of its projects annually, and in case of any significant changes, until the proceeds are fully allocated. The selected reporting indicators are clear, relevant and exhaustive, with the detailed calculation methodologies disclosed. The reporting will also include material developments, issues or controversies related to the projects, as appropriate. In addition, the ex-ante and ex-post evaluation reports that are publicly available will include an in-depth analysis of the projects' impacts.

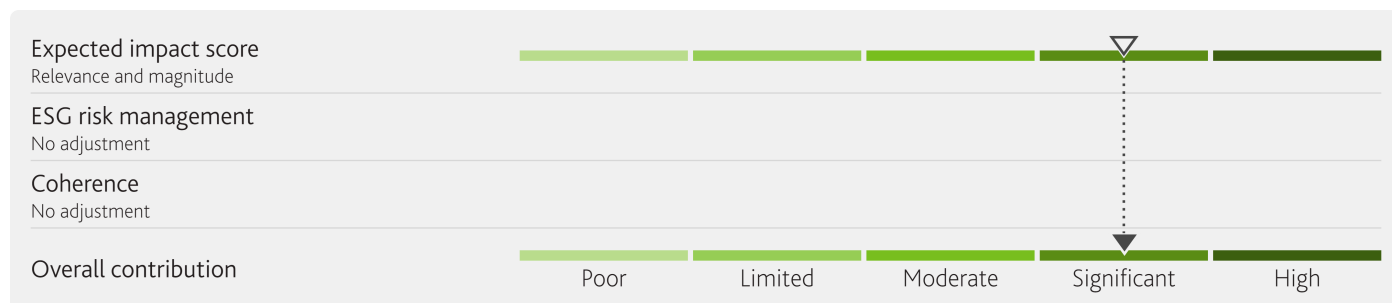
While the agency does not commit to engaging an independent auditor to verify the allocation and impact reports, the ex-post evaluation reports will be prepared by an independent third party to ensure accuracy and accountability. In addition, the entire finance and investment account will be audited, which helps ensure the accuracy of the allocation reporting, as eligible expenditure will be used to finance the projects included in this account.

Best practices identified

- » Reporting until full bond maturity or loan payback
- » Reporting covers material developments and issues related to the projects or assets
- » Reporting on allocation of proceeds and benefits done at least at eligible category level
- » Exhaustive allocation reporting – balance or % of unallocated funds, types of temporary investments (e.g. cash or cash equivalent) and share of financing vs re-financing
- » Clear and relevant indicators to report on the expected environmental/social impact of all the projects, where feasible, or eligible categories
- » Disclosure of reporting methodology and calculation assumptions to bondholders or lenders at a minimum
- » Independent audit of the tracking and allocation of funds at least until full allocation and in case of material changes
- » Independent impact assessment on environmental benefits by a qualified third-party reviewer at least until full allocation and in case of material changes and/or case studies to report on the social impact/benefits

Contribution to sustainability

The framework demonstrates a significant overall contribution to sustainability.



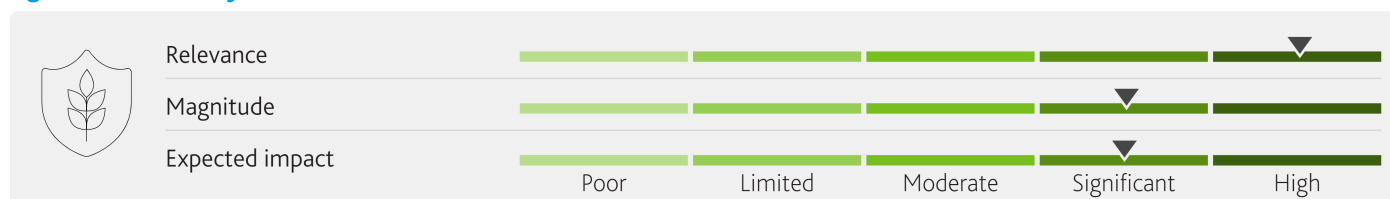
Expected impact

The expected impact of the eligible project categories is significant. Based on information provided by JICA and the agency's historical expenditure, we have assigned higher weights to the public transportation; transportation; water supply, sewerage and sanitation; and energy categories among the 15 categories.

JICA's characteristics as a development agency, including its strong selection and evaluation process, led to the relevance scores for all the categories to be high. However, the magnitude scores of each category vary, reflecting in part inherent negative externalities or locked-in effects, or the generally broad definitions of target populations or category descriptions.

A detailed assessment by eligible category is provided below.

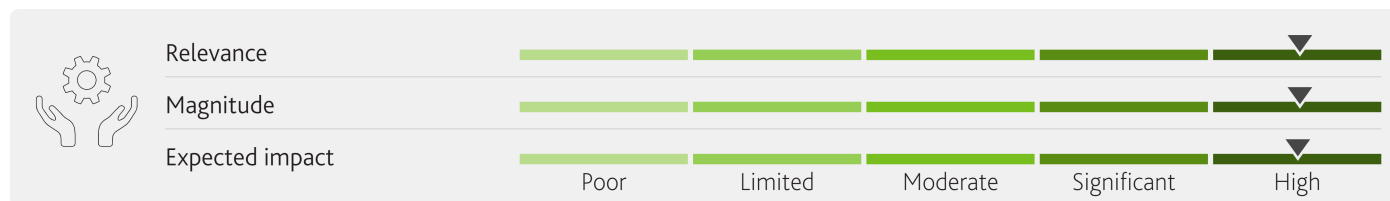
Agriculture, forestry and fisheries



The project category has high relevance overall, since water shortages and lack of access to water resources, forestry degradation and marine resource depletion are all respective key challenges faced in the agriculture, forestry and marine sectors of developing economies. Most of the proceeds will fund projects aimed at addressing a social need by supporting basic infrastructure development of irrigation facilities and the procurement of irrigation materials and equipment to increase access to water by smallholder farmers engaged in sustainable agriculture.

We expect the projects in this category to have a significant magnitude in project locations, given that projects will aim to increase the productivity of the agriculture, livestock and fisheries industries by developing and disseminating production technologies and effective distribution systems, and through training programs for smallholder farmers and fishermen in relation to sustainable farming and fishing practices to enhance productivity. However, the category lacks specific details on eligible technological thresholds for irrigation systems and on the types of excluded agriculture and fisheries practices. As the projects do not focus exclusively on smallholder farmers and small-scale fisheries, they may not target the most vulnerable groups.

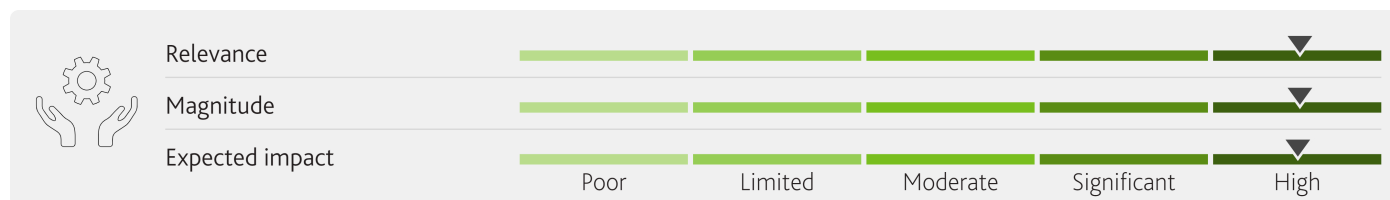
Healthcare



Projects under this category are highly relevant because universal health coverage remains a critical challenge for most target countries. At the same time, emerging health challenges, such as the coronavirus pandemic, have proven to be increasingly challenging on existing healthcare systems. For low-income and lower-middle income countries, the average health service coverage in 2019 was around 40% and 60% respectively, compared with a level near 80% for high-income countries, with low income and limited availability of proper healthcare contributing significantly to this disparity¹³.

We expect the projects to have a highly positive impact on addressing unequal access to healthcare services by improving both access and quality of healthcare. JICA will mainly work with government agencies and will ensure that the affordability for the target population will be assessed during the project pre-evaluation stage.

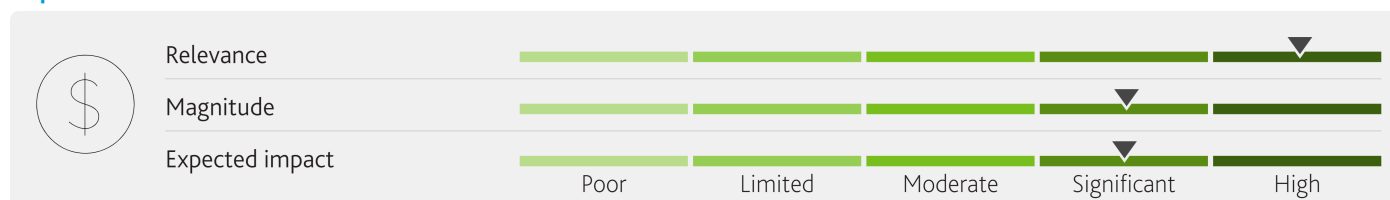
Education



The projects in this category are highly relevant. Government expenditure on education tends to be lower in low-income countries (at an estimated 3.0% of GDP in 2020) than the global average (4.3%)¹⁴. School enrollment rates are also lower, particularly at the tertiary level¹⁵. Furthermore, in low- and middle-income countries, the literacy level of a large number of students is below the minimum proficiency¹⁶.

These expenditures will have a high magnitude because both the share of school enrollment and the quality of education systems will improve. The projects will provide access to educational institutions, improve the quality of education provision and lower the financial hurdle of accessing education abroad for highly vulnerable populations.

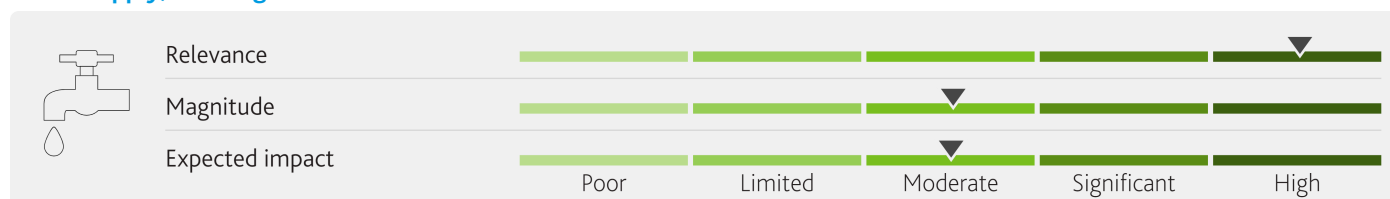
Improvement of access to finance for women



The project category has high relevance overall, given the importance of gender-based equality in economic participation globally. More than 70% of women-owned micro, small and medium-sized enterprises (MSMEs) lack access to financial services on a global level¹⁷, while in developing countries, women-owned businesses account for 32% of the MSMEs funding gap¹⁸.

We expect this category to have a significant magnitude in target locations because projects will target improving access to finance for female-owned MSMEs through the disbursement of financial loans, and also aim to integrate a broad approach to support the financial inclusion of women through promoting women's entrepreneurship, leadership and employment. However, the extent to which the projects contribute to the social objectives is somewhat constrained because there is a lack of visibility around the traceability of proceeds for end-use. In addition, while JICA offers financial literacy training if deemed necessary, it does not guarantee that the borrowers would receive the training.

Water supply, sewerage and sanitation



The project category has high relevance overall as it addresses a critical need in low-income countries where limited access to safely managed drinking water can have severe repercussions on human health through lower sanitation levels and spread of diseases. This challenge is further exacerbated by climate change which will continue to disproportionately impact water supplies across regions, further highlighting the importance of access to sustainable water supplies to help developing and least-developed countries that are most prone to the impacts of climate change.

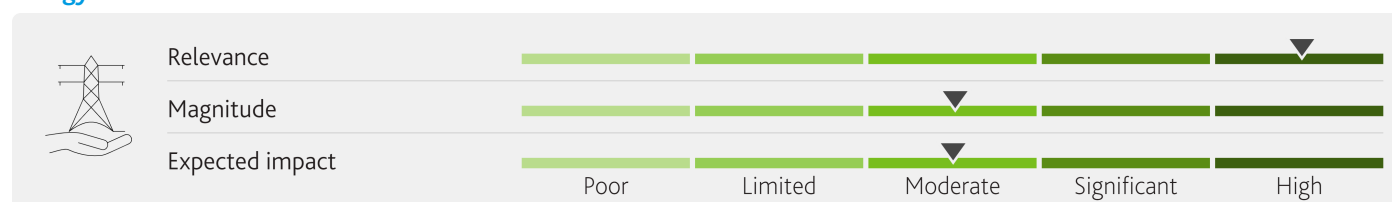
We expect this category to have a moderate magnitude because projects in this category will provide long-term access to drinking water and sanitation for populations that currently lack such infrastructure, while projects may come with significant negative externalities. Eligible expenditures in this category include sewage treatment facilities and drainage networks, water utilities, desalination plants and combined water, wastewater and waste management projects. JICA has not defined additional eligibility criteria

and thresholds for water quality and energy consumption for eligible water supply and wastewater treatment projects. However, JICA will reference the World Health Organization guidelines as well as local regulatory requirements when setting target thresholds at the project level.

The eligible expenditures include desalination plants, which will generate positive social impacts especially for target populations that are not able to access sufficient clean water without the use of desalination technology. However, material negative externalities exist for such assets because desalination plants are highly energy intensive and discharge harmful residue. While brine management plans are in place for the planned desalination projects and reverse osmosis technology will be used, there can be potential negative externalities since specific standardized requirements for water recovery and energy efficiency have not been defined. We note, however, that JICA expects only a small allocation to such projects.

Landfills may also be financed as part of waste management projects, although JICA also expects this to make up a minor proportion of the proceeds. While landfills improve the sanitation level of local communities and JICA has committed to follow the waste hierarchy to minimize resource loss, landfills can have negative environmental and social externalities pertaining to air, soil and water quality, and is a significant contributor of greenhouse gas (GHG) emissions.

Energy

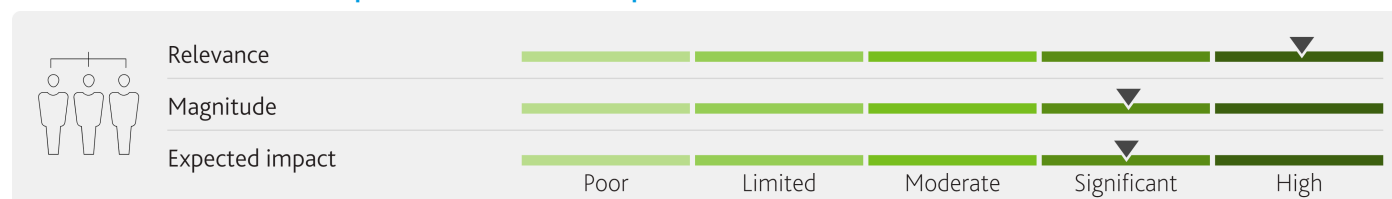


Increasing access to electricity is highly relevant, given access to a stable electricity supply is a critical economic enabler, being closely linked to the provision of other essential services such as healthcare and education. Over half of the population in least-developed countries still lacked basic access to electricity as of 2019, representing about two-thirds of the world's population¹⁹. As such, the projects in this category will have a significant positive impact in terms of increasing the stable provision of electricity across target countries.

We expect the category to have an overall moderate magnitude. This reflects the projects' expected contribution to securing stable and adequate supply of electricity for the target populations as well as material negative externality concerns. While most power generation projects in this category will involve renewable energy facilities, JICA will also finance a few existing natural gas power generation projects, leading to locked-in negative effects. However, these projects were signed more than seven years ago, and JICA will follow the Japanese government's policy to end new direct public support for the international unabated fossil fuel energy sector.

Furthermore, as JICA has not set additional eligibility criteria for some of the projects under this category, this can result in negative environmental and social externalities that can impact the extent of the category's contribution to sustainability. For instance, a small proportion of the total financing under this category is expected to go towards large-scale hydropower projects, making it difficult to fully assess the associated negative externalities in the absence of standardized requirements. Additionally, while the targeted outcome of transmission and distribution grid projects is energy efficiency improvement, we note that the grids of several developing countries still largely supply fossil-fuel based electricity which can have negative externalities.

Small and medium-sized enterprises / industrial development

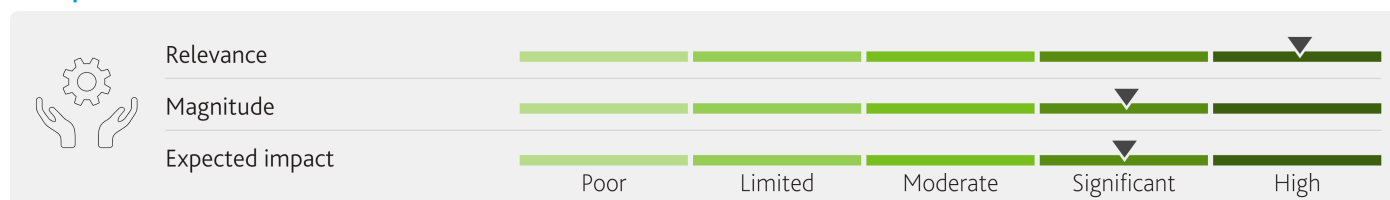


Increasing the provision of financing for MSMEs is highly relevant because of limited access to financing in many of JICA's target countries²⁰. MSMEs play a key role in a country's economic development and employment. However, lack of access to financing is

often an inhibitor of growth. While borrowers in high-income countries typically access borrowing through formal means, families or friends constitute the most common source of credit in low- and middle-income countries.

We expect eligible projects to have a significant positive impact. Projects will improve access to finance for MSMEs, targeting an increase in the profit of eligible MSMEs and higher output. JICA may also support the growth of the companies by developing their production management and business management competencies. Loans will be provided to the target population by mostly partnering with government entities or public-owned financial institutions. However, as all MSMEs are included under this category, loans to this sector do not ensure that the most vulnerable groups within the population are targeted. Furthermore, the extent to which the projects contribute to the social objectives is somewhat constrained because there is a lack of visibility around the traceability of proceeds for end-use. In addition, while JICA offers financial literacy training if deemed necessary, it does not guarantee that the borrowers would receive the training.

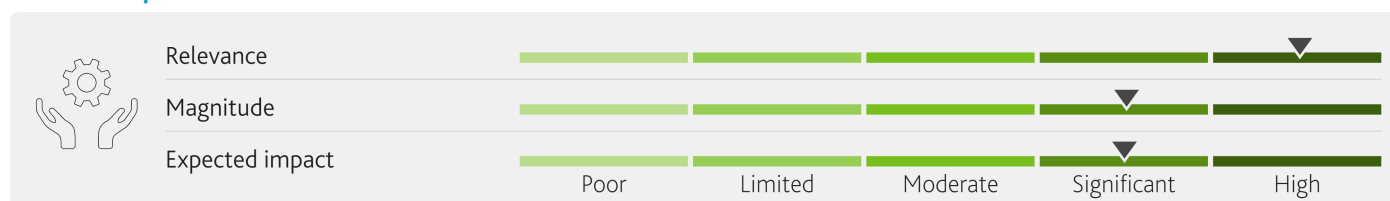
Transportation



Projects in this category are highly relevant. Transportation infrastructure is critical for connectivity and mobility of populations and supply chains, and can be a significant driver of economic growth and poverty alleviation in developing countries. Inadequate access to basic transport infrastructure continues to inhibit connectivity in several developing countries, where an estimated 1 billion people still do not have access to usable roads within 2 kilometers of their homes²¹.

We expect the overall magnitude of the projects to be significant, both strengthening connectivity within the country through roads and bridges, and facilitating the inclusion of target countries in the global network through ports and airports. Although we expect the transport connectivity projects in this category to enable economic outcomes, thereby delivering socioeconomic benefits for the target population, infrastructure construction could result in inherent negative environmental externalities. Similarly, the operation and increased use of such infrastructure can contribute to increased air pollution and carbon emissions. Furthermore, while airports are an important driver of economic development, the direct social benefit of airports is likely to be disproportionately higher for higher-income groups.

Public transportation

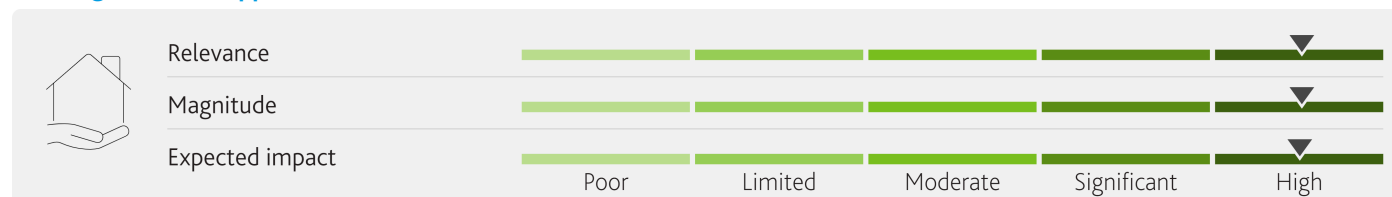


Eligible projects in this category are highly relevant. The development of mass public transportation systems in areas with inadequate transportation systems will boost mobility and shorten commutes for large segments of the population. JICA also aims to provide transportation systems that are safe for all users, including for vulnerable groups such as women and people with physical disabilities, to promote socioeconomic advancement. Clean modes of transport are also critical to countries' efforts to address environmental challenges, given the transport sector's significant contribution to global GHG emissions.

We consider the projects to have a significant magnitude because they will provide connectivity in areas with insufficient public transportation through mass rail, bus and ferry transport systems. The expansion of public transportation systems will also reduce the potential for reliance on personal vehicles with internal combustion engines as a mode of land transport, facilitating the alleviation of traffic congestion and reduction of air pollution. Importantly, as JICA integrates technical consulting into project implementation, projects may also involve supporting the planning of transportation systems, enabling proper infrastructure planning, management and maintenance for the sustainable operation of transport systems.

The agency expects most of the proceeds to be used to finance electric rail projects. Fossil fuel dedicated facilities or transport modes solely for transporting fossil fuels will be excluded. However, two diesel-electric rail projects in Southeast Asia may be financed under this category, though these would make up only a small proportion of the total proceeds disbursed under this category. While the projects involve critical refurbishment of aging infrastructure that lacked proper maintenance, and will improve the safety, efficiency and usage of the railways, the projects are not implementing the best available technology for rail, that is, electrification, and the use of diesel-electric rail may have long-term locked-in negative environmental effects.

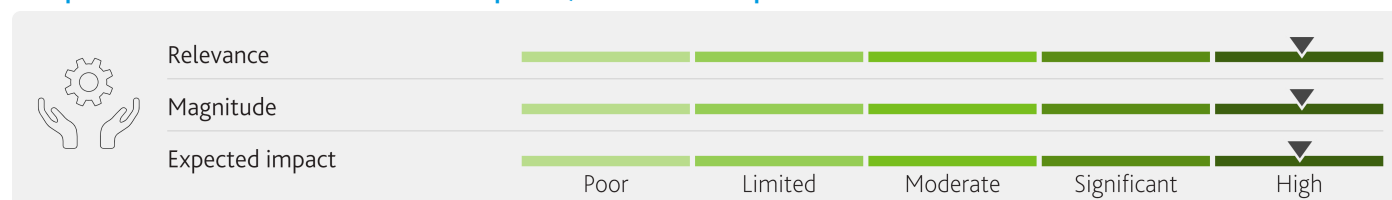
Housing financial support for low-income class



The project category has high relevance overall, especially because obtaining affordable financing for housing is a particularly pressing need in low-income countries, where access to proper housing can be a significant driver in improving living standards and promoting the socioeconomic advancement of vulnerable populations.

We also expect the category to have a high magnitude in project locations as financing for housing loans will mainly target low-income borrowers, who are largely an underserved segment in developing and least developed countries and are unable to obtain financing from major banks, and hence, make them exposed to significantly higher interest rates from private predatory lenders. To prevent overindebtedness of the borrowers, JICA typically partners with experienced policy banks to provide two-step loans, ensuring that they assess the creditworthiness of the borrowers before providing the loan, as well as on a continued regular basis even after loan issuance.

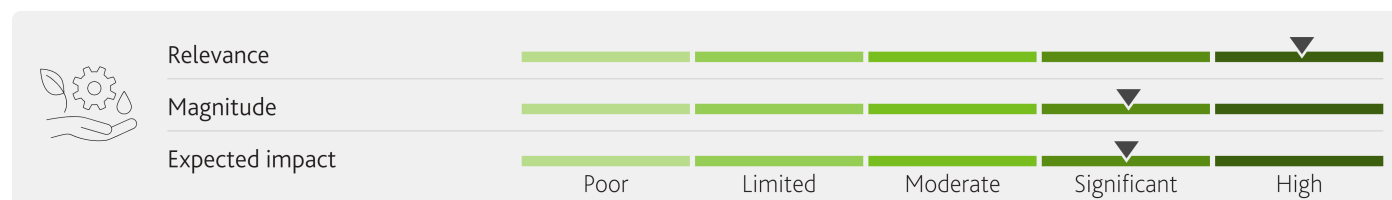
Comprehensive basic infrastructure development, reconstruction post-disaster



The project category has high relevance overall, especially given the pressing need for comprehensive infrastructure provision across urban, rural and regional sectors in developing countries. Additionally, vulnerable populations in these countries are less prepared and more likely to be exposed to disaster risks. Thus, there is a strong need for critical disaster prevention infrastructure.

We expect the category to have a high magnitude in project locations given the comprehensive approach to strengthening resilience to natural disasters, which can lead to long-term savings for countries and reduce the need for and extent of related disaster recovery efforts. While there is a lack of detail on the types of projects that would be eligible, we expect the projects to target basic infrastructure such as schools and hospitals, based on projects JICA has financed in the past relating to this category.

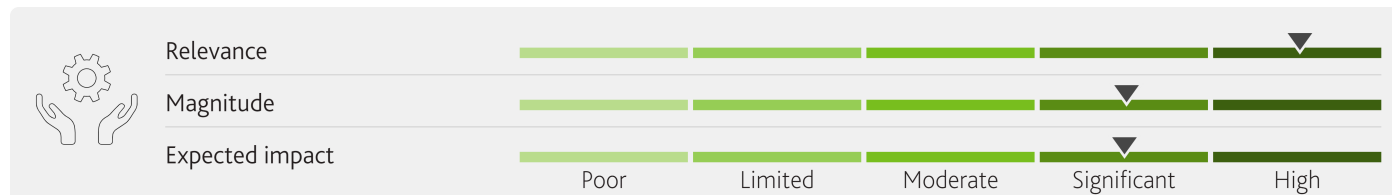
Flood control



The project category has high relevance overall because projects aim to address a pressing environmental issue in developing and least-developed countries that are especially prone to water-related disasters.

The category will have a significant magnitude in project locations by implementing structural measures to prevent and control floods and landslides, such as dredging and warning systems, given the current level of investment in these mitigant measures in developing countries is typically extremely low, and the stated measures are important actions that can significantly minimize initial shocks to vulnerable marginalized groups. However, the projects may include large scale constructions which can lead to environmental and social negative externalities, such as resident resettlement, that can impact the extent of the category's contribution to its social objective.

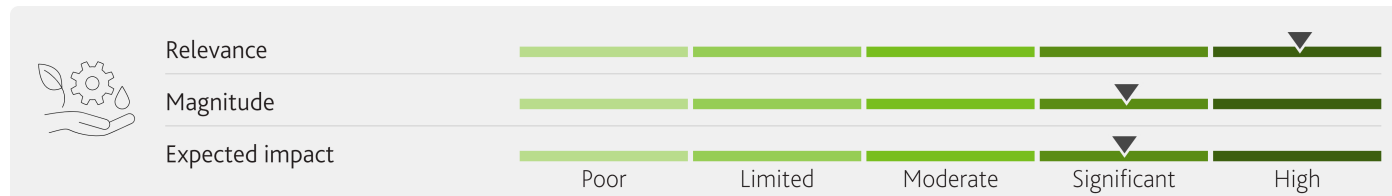
Communication, broadcast



The project category has high relevance overall because developing and least-developed countries currently face many difficulties in building appropriate infrastructure to support information communication technologies (ICT). Inadequate access to proper information channels and infrastructure leads to a widening of the "digital divide" between individuals, households, businesses and other stakeholders. The eligible projects will focus on improving infrastructure for telecommunications network and broadcasting, and any other related measures as part of the agency's strategy to develop the foundations for digitalization in developing countries.

We expect the category to have a significant magnitude in project locations as most vulnerable groups are located in remote areas that lack proper ICT infrastructure. The projects will enable the target population to gain increased access to proper information channels, which can also help promote socioeconomic development in these areas. However, the types of programs broadcasted do not fall within the eligible project scope and may not necessarily result in high public value.

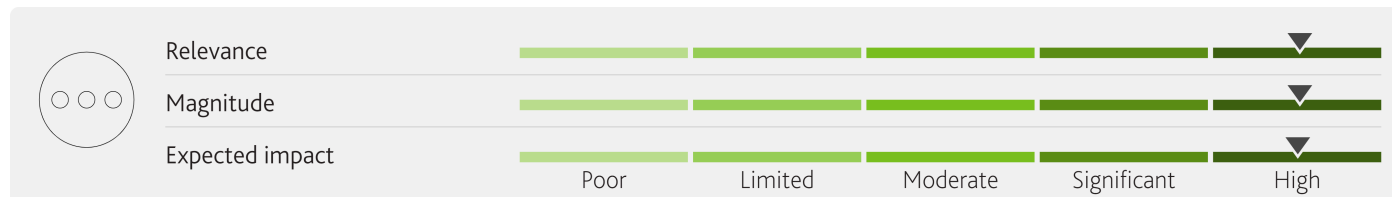
Comprehensive environmental conservation



The project category has high relevance overall since degradation of the natural environment continues to be a critical environmental issue in many regions, especially in developing countries, where most of the vulnerable population depend on the natural environment to sustain their residence and as a source of income. The target population is also especially vulnerable to shocks caused by natural disasters.

We expect the category to have a significant magnitude given that projects will focus on preventive rather than corrective conservation measures across multiple sectors, and will support comprehensive environmental conservation activities such as forest conservation, watershed conservation and ecosystem conservation, including mangroves, corals and wetlands. However, since the category lacks specific details on the technological thresholds and types of businesses and activities that would be eligible for financing, this somewhat limits visibility into the extent of the category's contribution to sustainability.

Peace building



The project category has high relevance overall since vulnerable populations in countries prone to civil instabilities and social conflicts have a considerable need for assistance in terms of measures to maintain and restore peace. By supporting projects that contribute to peacekeeping, stability, and restoration and development of basic infrastructure in countries and regions that were affected by (or are at a risk of) conflicts and civil wars, and neighboring countries that receive an influx of refugees and forcibly displaced populations, investments in this category are likely to have a high long-term impact on target project locations.

ESG risk management

We have not applied a negative adjustment for environmental, social and governance (ESG) risk management to the expected impact score. JICA has a strong ESG risk management procedure in place to minimize the negative externalities from the projects. As an ODA loan provider, JICA requires project owners to have appropriate ESG risk management procedures in place and adhere to JICA's ESG standards, and in case these are not met, JICA will consider withdrawing from the project.

Coherence

We have not applied a negative adjustment for coherence to the expected impact score. The projects to be financed under the framework align with the sustainability priorities of JICA, which focuses on providing ODA. In addition, as a government-owned entity, JICA's project selection process involves the Japanese government to ensure projects are coherent with the government's policies.

Appendix 1 - Mapping eligible categories to the United Nations' Sustainable Development Goals

The 15 eligible categories included in JICA's framework are likely to contribute to 15 of the United Nations' (UN) Sustainable Development Goals (SDGs), namely:

UN SDG 17 Goals	Eligible Category	SDG Targets
GOAL 1: No Poverty	<i>Agriculture, forestry & fisheries</i> <i>Housing financial support for low-income class</i>	1.1: Eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day 1.4: Ensure all have equal rights to economic resources, access to basic services, property ownership and finance
GOAL 2: Zero Hunger	<i>Agriculture, forestry & fisheries</i>	2.A: Enhance agricultural capacity in emerging markets through investment in rural infrastructure, research and technology
GOAL 3: Good Health and Well-being	<i>Healthcare</i>	3.8: Achieve universal health coverage with access to quality and affordable essential health-care services and medicines for all
GOAL 4: Quality Education	<i>Education</i>	4.1: Ensure that all children complete quality primary and secondary education leading to relevant and effective outcomes 4.5: Eliminate gender disparities in education and ensure equal access to education and training for vulnerable persons
GOAL 5: Gender Equality	<i>Agriculture, forestry & fisheries</i> <i>Improvement of access to finance for women</i>	5.A: Establish women's equal rights to economic resources, access to ownership and control over property and financial services
GOAL 6: Clean Water and Sanitation	<i>Water Supply, Sewerage and Sanitation</i>	6.1: Achieve universal and equitable access to safe and affordable drinking water for all 6.2: Achieve access to adequate sanitation and hygiene for all and end open defecation
GOAL 7: Affordable and Clean Energy	<i>Energy</i>	7.B: Expand infrastructure and upgrade technology for sustainable energy services to all in emerging markets
GOAL 8: Decent Work and Economic Growth	<i>Agriculture, forestry & fisheries</i> <i>Improvement of access to finance for women</i> <i>Small and medium-sized enterprises / Industrial development</i>	8.3: Promote policies that support productivity, job creation, entrepreneurship, innovation, and encourage the growth of SMEs 8.4: Improve global resource efficiency and endeavour to decouple economic growth from environmental degradation 8.5: Achieve full, productive employment and decent work for all women and men, and equal pay for work of equal value 8.10: Strengthen the capacity of domestic financial institutions to expand access to insurance and financial services for all
GOAL 9: Industry, Innovation and Infrastructure	<i>Small and medium-sized enterprises / Industrial development</i> <i>Transportation</i> <i>Public transportation</i> <i>Communication, Broadcast</i>	9.1: Develop sustainable infrastructure to support economic development and human well-being, focusing on equitable access 9.3: Increase SMEs' access to finance, and their integration into value chains and markets, particularly in emerging markets 9.A: Facilitate sustainable infrastructure development in emerging markets through financial and technical support 9.C: Increase access to information and communications technology and provide universal and affordable access to the Internet
GOAL 10: Reduced Inequality	<i>Improvement of access to finance for women</i>	10.2: Empower and promote the social, economic and political inclusion of all

UN SDG 17 Goals	Eligible Category	SDG Targets
GOAL 11: Sustainable Cities and Communities	<i>Flood control</i> <i>Water Supply, Sewerage and Sanitation</i> <i>Transportation</i> <i>Public transportation</i> <i>Housing financial support for low-income class</i> <i>Comprehensive basic infrastructure development, Reconstruction post-disaster</i> <i>Communication, Broadcast</i>	11.1: Ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums 11.2: Provide access to safe, affordable, accessible and sustainable transport systems for all 11.5: Reduce deaths, people affected and economic losses caused by disasters, particularly for people in vulnerable situations 11.6: Reduce the adverse per capita environmental impact of cities, with special attention to air quality and waste management 11.A: Support economic, social and environmental links between urban and rural areas by strengthening development planning 11.B: Increase number of cities with plans towards inclusion, resource efficiency, and climate change and disaster resiliency 11.C: Support least developed countries, including through financial and technical assistance, in building sustainable buildings using local materials
GOAL 13: Climate Action	<i>Agriculture, forestry & fisheries</i> <i>Flood control</i> <i>Energy</i> <i>Public transportation</i> <i>Comprehensive environmental conservation</i>	13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries 13.3: Improve awareness and human and institutional capacity on climate change mitigation, adaptation and impact reduction
GOAL 14: Life Below Water	<i>Agriculture, forestry & fisheries</i> <i>Comprehensive environmental conservation</i>	14.1: Prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities 14.2: Sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts
GOAL 15: Life on Land	<i>Agriculture, forestry & fisheries</i> <i>Comprehensive environmental conservation</i>	15.2: Promote the implementation of sustainable management of all types of forests 15.3: Combat desertification and restore degraded land and soil 15.5: Reduce the degradation of natural habitats and biodiversity loss, and prevent the extinction of threatened species 15.6: Promote equitable sharing of the benefits from genetic resources and promote appropriate access to such resources 15.B: Mobilize resources to finance sustainable forest management and provide adequate incentives to emerging markets to advance such management
GOAL 16: Peace and Justice Strong Institutions	<i>Peace building</i>	16.1: Significantly reduce all forms of violence and related death rates everywhere

Source: Moody's Investors Service, Japan International Cooperation Agency

The UN's SDGs mapped in this SPO consider the eligible project categories and associated sustainability objectives/benefits documented in the agency's financing framework, as well as resources and guidelines from public institutions, such as the ICMA SDG Mapping Guidance and the UN SDG targets and indicators.

Appendix 2 - Summary of eligible categories in JICA's framework

Eligible Category	Description	ICMA SBP Project categories	Reporting indicators - social	ICMA GBP Project categories	Reporting indicators - environmental
Agriculture, forestry & fisheries	Support for agricultural production facilitates and irrigation systems; agricultural technical guidance based on meteorological and geographical conditions; marine resource conservation or sustainable fishery; forest preservation; or promotion of agroforestry, etc.	Socioeconomic advancement and empowerment, Food security	<p><Quantitative></p> <p>【Agriculture】 Crop production (tons/ yr), crop yield (tons/ha), farmer's income, number of farmers benefitted from agricultural technical guidance/training, etc.</p> <p>【Fishery】 Annual gross landing volume, annual gross billing, etc.</p> <p>【Afforestation】 Increase of income in targeted villages through agroforestry or other measures for improvement of economic situation; Increase of households with access to water source; Participation rate of local people including women in sustainable forest management, livelihood improvement activities or trainings on institutional capacity building</p> <p><Qualitative></p> <p>【Agriculture, Fishery】 Food security, regional economic development, livelihood improvement of producers, etc.</p> <p>【Fishery】 Prevention of marine resource depletion, etc.</p> <p>【Afforestation】 livelihood improvement for local people, economic empowerment for women, etc.</p>	Environmentally sustainable management of living natural resources and land use, environmentally sustainable forestry	<p><Quantitative></p> <p>【Agriculture】 Irrigation coverage, etc.</p> <p>【Fishery】 Number of annual research voyage days with research ships newly constructed for research of marine resource conservation; Number of marine environment maps newly developed; Frequency of updates for marine resource assessment reports, etc.</p> <p>【Afforestation】 Forest coverage rate, survival rate, afforested area with recovery from saline soil, recovery area from desertification, improvement of soil moisture rate, decrease of soil erosion rate, number of targeted nature reserves, number of local development committees to participate in activities related to biodiversity conservation, reduction of greenhouse gas, etc.</p> <p><Qualitative></p> <p>【Agriculture】 Enhancement of resilience against climate change</p> <p>【Fishery】 Early detection or control of marine pollution</p> <p>【Afforestation】 Reduction of greenhouse gas, forest ecosystem / biodiversity conservation, etc.</p>

Eligible Category	Description	ICMA SBP Project categories	Reporting indicators - social	ICMA GBP Project categories	Reporting indicators - environmental
Healthcare	Support for healthcare facilities or equipment, training and capacity building of healthcare workers, or other required measures to improve healthcare in a project country, etc.	Access to essential services	<p><Quantitative></p> <ul style="list-style-type: none"> • Number of hospital beds in newly constructed / repaired healthcare facilities, number of hospitalized patients / outpatients, hospital bed occupancy rate, number of operations • Vaccination rate • Medical examination rate of pregnant women • Increase of healthcare workers with training on midwifery • Number of healthcare workers with training on patient care, medical technologies, hospital management, etc. <p><Qualitative></p> <ul style="list-style-type: none"> • Enhancement of community healthcare system, promotion of Universal Health Coverage (UHC), improvement of quality of healthcare education, etc. 		
Education	Support for educational facilities or equipment, development of curriculums or teaching materials, international scholarships, or other required measures to improve education in the project country	Access to essential services	<p><Quantitative></p> <ul style="list-style-type: none"> • Number of students • Net enrollment rate or graduation rate in primary / secondary education (by gender, by farm village unit) • Degree acquisition rate in higher education, number of students studying abroad (by gender, by farm village unit), employment rate within 1 year after graduation • Number of trained teachers • Number of released academic papers, etc. <p><Qualitative></p> <ul style="list-style-type: none"> • Reducing disparities between urban / rural areas or gender, improvement of quality of education / research environment, etc. 		

Eligible Category	Description	ICMA SBP Project categories	Reporting indicators - social	ICMA GBP Project categories	Reporting indicators - environmental
Improvement of access to finance for women	Improvement of access to finance for women or women entrepreneurs of small and medium-sized enterprises	Employment generation, Socioeconomic advancement and empowerment	<p><Quantitative> Loan balance for women or women entrepreneurs of small and medium-sized enterprises, number of borrowers, etc.</p> <p><Qualitative> Improvement of access to finance or promotion of employment for women</p>		
Water Supply, Sewerage and Sanitation	Support for water supply and sewerage, water treatment plants, sewage treatment plants and waste treatment facilities including compost, etc.	Affordable basic infrastructure	<p><Quantitative> [Water treatment facility, water supply] Served population / number of served households for water supply, coverage ratio of water supply, amount of water served [Wastewater treatment, sewerage] Served population, amount of sewerage treated, coverage ratio of sewerage, improvement of water quality (level of Biochemical Oxygen Demand), etc. [Waste treatment] • Served population, amount of waste collection, waste collection rate, amount of compost produced, etc.</p> <p><Qualitative> Sanitary and livelihood improvement of local people</p>	Sustainable water and wastewater management, Pollution prevention and control	<p><Quantitative> [Water treatment facility, water supply excluding desalination] Served population / number of served households for water supply, usage rate of water supply, amount of water served [Wastewater treatment, sewerage] Sewered population, amount of sewerage treated, usage rate of sewerage, improvement of BOD (Biochemical Oxygen Demand), etc. [Waste treatment] • Target population of waste collection, amount of waste collection, waste collection rate, amount of compost produced, etc.</p>
Energy	Support for renewable power generation and transmission facilities; other types of power generation and transmission facilities (excluding coal-fired thermal power plants); improvement of energy efficiency; or other required measures to improve access to energy in the project country (including gas development)	Affordable basic infrastructure	<p><Quantitative> [All types] • Annual electricity output, net electricity amount at sending-end, household electrification rate in targeted region, etc.</p> <p><Qualitative> [All types] • Improvement in quality of life of local people, development of local economy, etc.</p>	Renewable energy Energy efficiency	<p><Quantitative> • Annual electricity output, net electricity amount at sending-end of renewable energy (solar, wind, geothermal and hydropower excluding large-scale projects) • Reduction of greenhouse gas of the renewable energy • Transmission and distribution loss rate of the renewable energy, etc.</p>

Eligible Category	Description	ICMA SBP Project categories	Reporting indicators - social	ICMA GBP Project categories	Reporting indicators - environmental
Small and medium-sized enterprises / Industrial development	Two-step loans for small and medium-sized enterprises and/or support for growth and promotion of employment for local industries, etc.	Employment generation, Socioeconomic advancement and empowerment	<p><Quantitative></p> <ul style="list-style-type: none"> • Loan balance for small and medium-sized enterprises, number of loan borrowings, revenue and profit of targeted small and medium-sized enterprises • Output or revenue with production facilities newly constructed / repaired through the project <p><Qualitative></p> <ul style="list-style-type: none"> • Improvement of access to finance for small and medium-sized enterprises, employment generation, development of local industries / economy, etc. 		
Transportation	Support for road, bridge, airport, port infrastructures (including rehabilitation/ restoration), or other measures to improve transportation infrastructure in a project country	Affordable basic infrastructure, Access to essential services	<p><Quantitative></p> <ul style="list-style-type: none"> • [Road, bridge] Annual average traffic volume per day • [Airport] Number of passengers, volume of cargo handled • [Port] volume of cargo handled <p><Qualitative></p> <ul style="list-style-type: none"> • Improvement of logistics system, mitigation of traffic congestion (road, bridge), promotion of economic development 		
Public transportation	Support for metro/railway or other public transportation; or other required measures to improve public transportation in the project country	Affordable basic infrastructure, Socioeconomic advancement and empowerment	<p><Quantitative></p> <ul style="list-style-type: none"> • Number of passengers, passenger transportation volume, cargo volume, travelled distance of women-only carriage, etc. <p><Qualitative></p> <ul style="list-style-type: none"> • Mitigation of traffic congestion, development of local economy, promotion of social involvement of female, poor, or vulnerable people, etc. 	Clean transportation	<p><Quantitative></p> <ul style="list-style-type: none"> • Reduction of greenhouse gas emissions by electrified public transportation projects <p><Qualitative></p> <ul style="list-style-type: none"> • Mitigation of air pollution, improvement of urban environment by electrified public transportation projects

Eligible Category	Description	ICMA SBP Project categories	Reporting indicators - social	ICMA GBP Project categories	Reporting indicators - environmental
Housing financial support for low-income class	Housing financial support for low-income class, etc.	Affordable housing	<p><Quantitative></p> <ul style="list-style-type: none"> Housing loan balance, number of housing loan borrower, ratio of female borrowers, etc. <p><Qualitative></p> <p>Improvement of access to housing loan f for low-income class</p>		
Comprehensive basic infrastructure development, Reconstruction post-disaster	Cross-sectoral support for basic infrastructure for (re-) development of cities, rural villages, regions (small scale infrastructure such as road or housing, etc.); project for recovery/reconstruction from major natural disasters such as earthquakes, or other comprehensive support required to improve the general living foundation in the project country	Affordable basic infrastructure, Access to essential services, Socioeconomic advancement and empowerment	<p><Quantitative></p> <ul style="list-style-type: none"> Annual average traffic volume per day on roads Number of electrified households, electrification rate Served population / number of served households for water supply Beneficiary area of newly constructed / repaired irrigation facilities, crop production, income of farmers in the target areas Required time accessing to a market Number of villages with sanitary facility services Number of newly constructed / repaired houses with higher earthquake / fire resistance Capacity of newly constructed evacuation shelter, etc. <p><Qualitative></p> <p>Promotion of local economy, reduce disparities between regions, poverty reduction, mitigation of damage from natural disasters</p>		
Flood control	Support for river basin improvement, dredging and warning systems for flood control	Affordable basic infrastructure	<p><Quantitative></p> <ul style="list-style-type: none"> Flood control area Decrease of flooded area and/or number of flooded houses <p><Qualitative></p> <ul style="list-style-type: none"> Improvement of economic conditions in project area, vitalization of local economy, employment generation through enhancement of resilience against natural disasters, etc. 	Sustainable urban drainage system, Flood mitigation by river improvement or other measures	<p><Quantitative></p> <ul style="list-style-type: none"> Decrease of flooded area or number of flooded houses <p><Qualitative></p> <ul style="list-style-type: none"> Enhancement of resilience against climate change or natural disaster
Communication, Broadcast	Support for communication network infrastructure or broadcasting facilities; or other measures to improve communication and broadcasting in the project country	Affordable basic infrastructure	<p><Quantitative></p> <ul style="list-style-type: none"> Improvement rate of communication speed, decrease rate of communication failure, etc. <p><Qualitative></p> <ul style="list-style-type: none"> Increase in economic activity with reliable communication network, improvement for convenience, etc. 		

Eligible Category	Description	ICMA SBP Project categories	Reporting indicators - social	ICMA GBP Project categories	Reporting indicators - environmental
Comprehensive environmental conservation	Support for comprehensive environmental conservation, such as climate change mitigation, air or water pollution control, or waste management; or other cross-sectoral support for comprehensive environmental conservation	Affordable basic infrastructure	<p><Quantitative></p> <ul style="list-style-type: none"> Increase of annual household income of community members, decrease of collision accident with wild animals, etc. <p><Qualitative></p> <p>Improvement of local people's economic conditions alongside biodiversity conservation, social empowerment of women, poor and vulnerable people</p>	Climate Change Adaptation, Waste water management, Natural resource conservation	<p><Quantitative></p> <ul style="list-style-type: none"> Increase of carbon accumulation through afforestation in urban and surrounding area, area of coral reef restoration, number of species and their population size inhabiting in wetlands, decrease rate of collision accident with wild animals or the damage from it, etc. Number of engineers acquired expertise in data processing of meteorological satellite, acquisition rate of appropriate data from meteorological satellite, etc. <p><Qualitative></p> <p>Enhancement of resilience against climate change and natural disasters, etc.</p>
Peace building	Projects which contribute to building resilient states and societies, and thereby realizing a peaceful and just society in developing countries affected by violent conflicts.	n/a	<p><Quantitative></p> <ul style="list-style-type: none"> Quantitative indicator regarding basic infrastructure developed for peace, stability and reconstruction (e.g. Installation or reconstruction of water purification facility or water supply, population served and or amount of water supplied, coverage ratio usage rate of water supply) <p><Qualitative></p> <ul style="list-style-type: none"> Social stability in host community, etc. 		

Source: Moody's Investors Service, Japan International Cooperation Agency

Moody's related publications

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Endnotes

1 [Japan International Cooperation Agency](#) (Act No. 136, 2002).

2 [JICA 2022 JAPAN INTERNATIONAL COOPERATION AGENCY ANNUAL REPORT](#), December 2022.

3 [JICA 2022 JAPAN INTERNATIONAL COOPERATION AGENCY ANNUAL REPORT](#), December 2022.

4 negative externalities here refer to those that are inherent to the nature of the project and those that, even if managed in the best way, would continue to have a negative impact

5 [Official Development Assistance Loans](#), accessed on 30 March 2023

6 [DAC List of ODA Recipients](#), accessed on 23 March 2023

7 JICA's [Thematic Issues](#) website.

8 [Types of ODA Loans](#)

9 [JICA Guidelines for Operations Evaluation](#), May 2014

10 [OECD's Development Assistance Committee Evaluation Criteria](#)

11 [Search Page for Evaluation Reports](#)

12 [Japan International Cooperation Agency \(JICA\) Guidelines For Environmental and Social Considerations](#), January 2022

13 [World Health Organization; World Bank: Tracking Universal Health Coverage: 2021 Global Monitoring Report](#), 2021

14 [World Bank: Government expenditure on education, total \(% of GDP\)](#).

15 [World Bank: Higher Education: Understanding demand and redefining values](#), 15 November 2022

16 [World Bank: Quality Education](#). Accessed on 6 March 2023.

17 [International Finance Corporation: Bridging the Gender Gap in Access to Finance](#). Accessed on 7 March 2023.

18 [SME Finance Forum: MSME Finance Gap](#). Accessed on 7 March 2023.

19 [United Nations Conference on Trade and Development: Over half of the people in least developed countries lack access to electricity](#), 1 July 2021

20 [SME Finance Forum: MSME Finance Gap](#). Accessed on 7 March 2023.

21 [World Bank: Transport](#). Accessed on 6 March 2023

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