

ASEAN Cooperation Project Proposal

1. PROJECT DETAILS

Project Identification Code (to be completed by the ASEAN Secretariat): ACC/ACC/19/001/REG

Project Title: Development of ASEAN Open Data Dictionary for ASEAN Connectivity

Brief Project Description:

There is a great potential in open data as they create economic values, expand citizen engagement and improve public services; therefore, open data can be an important element that would significantly contribute to strengthening the network among ASEAN Member States (AMS) in terms of the regional development and interoperability enhancement.

There are different definitions used around the globe to describe open data. At its core, open data share the following characteristics: (i) *Accessibility*: a wide range of users is permitted to access the data; (ii) *Machine readability*: data can be processed automatically; (iii) *Cost*: data can be accessed free or at negligible cost; and (iv) *Rights*: limitations on the use, transformation, and distribution of data are minimal. While open data includes both government and private sector data, the proposed project seeks to focus on government data as that is where the largest perceived opportunity is. The data concerned would consist of qualitative as well as quantitative data which would include data beyond those produced by the National Statistical Offices (NSOs) in AMS and ASEAN Statistics.

Considering AMS' different levels of maturity in terms of data production as well as open data policy and practice, it would be very important to conduct constant survey and analysis on open data development and readiness.

Open data for the ASEAN regional and national statistics is recognised as a key initiative in the ASEAN Community Statistical System (ACSS) Strategic Plan 2016-2025, Component 2 on 'Improvement of the Response to Greater ASEAN Data Needs'. Thus, the ACSS Committee has developed the ACSS Open Data Index and assessment tool based on the openness and coverage of ASEAN statistics released on the websites of the AMS' national statistical offices and the ASEAN Statistics. The ACSS has also identified one of the 5 openness principles for its ACSS Open Data Index as metadata availability. The metadata is to include information on (i) definition, (ii) frequency, (iii) unit of measure, (iv) level of disaggregation; (v) data source, (vi) availability (start & end periods), (vii) URL for direct access to data series/ statistical table, (viii) formats for download, and (xi) URL to terms of use.

According to the 2016 Open Data Barometer, a global assessment on the open data readiness, the scores of the ASEAN countries (43 points in average) were significantly lower than that of the leading countries in open data, such as Korea, the US, and the UK. In order to improve the overall readiness for open data in the ASEAN countries, it is necessary to develop ASEAN

open data dictionary that enables sharing of the data owned by each AMS that reflects the conditions of each AMS, along with continued review and activities for improvement. The proposed project aims to improve government service efficiency, support private sector innovation, and establish the foundation for the open data network in the ASEAN region. Moreover, the project aims at supporting (i) the Master Plan on ASEAN Connectivity 2025 (MPAC 2025) to achieve Initiative 6 under the Strategic Area of Digital Innovation on 'Establish an ASEAN Open Data Network'; and (ii) the ASEAN ICT Master Plan 2020 (AIM2020) to achieve its open data objective (Action Point 3.1.2) To achieve the objective, the project will carry out the following activities: (1) Develop a Framework of ASEAN Open Data Network (2) Develop and publish an 'ASEAN Data Dictionary' that will be available online; (3) Organise two 'ASEAN Forums on Open Data' for discussion and capacity building. **Recurring Project: Yes** No No If Yes, Previous Project Identification Code: **Project Classification:** Master Plan on ASEAN Connectivity 2025 (MPAC 2025) Scope: Single Sector Cross-Sector ⊠ Pillar: (Main) Blueprint: Connectivity X IAI 🗌 Strategic Area: Digital (Main) Characteristic: Innovation Action Line(s): **Key Action(s): Initiative 6** Action(s): Information below to be completed by the ASEAN Secretariat: Nature of Confidence Building Coopera-Harmonisation ⊠ tion: Special Assistance Joint Effort Regional Integration / Expansion Policy Initiative Type of Establishment of Institutional Mechanisms Interven-Human Capacity Building tion: Project Duration: < 6 months ☐ 6-12 months ☐ > 12 months ⊠ **Proposed Commencement Date: Proposed Completion Date:** August 2020 October 2021 Participating ASEAN Member States: all If not all (or not all in the same way), please indicate reason: Sponsoring ASEAN Body Sectoral Committee/Main Body: The ASEAN Connectivity Coordinating Committee (ACCC) Meeting Number/Date: ad-referendum on 28 April 2020 Working Group/Sub-Committee: n/a

Meeting Number/Date: n/a

Proponent's Name and Address: (1) Name: National Information Society Agency (NIA) (2) Address: 53, Cheomdan-ro, Dong-gu, Daegu, Republic of Korea (41068) (3) Main contact person: Mr. Sukjoo Kim, Senior Manager (Tel: +82-64-909-3057, email: sk2925@nia.or.kr) Implementing Agency's Name and Address (if different from above): N/A Date of Proposal Submission: March 18, 2019 Proposed Funding Source(s): ASEAN-ROK Cooperation Fund (AKCF) Proposed Project Budget (total in USD): USD 650,508.10 Information below to be completed by the PCMPD **Recommendation of the ASEAN Secretariat** Meeting No./Date : Ad-referendum on 17 April 2020 Not Endorsed Approval of Committee of Permanent Representatives to ASEAN (CPR) Meeting No./Date : Ad-referendum on 22 May 2020 Not Endorsed

2. Project Justification, Regionality and Beneficiaries

(a) Current Problem

With the coming of the big data era, advanced countries such as those in Europe and the US have been actively promoting open data development and use in a variety of areas within bounds in which such activities do not raise copyright or security concerns, whereas many countries in Asia, including AMS have yet to see tangible achievements in terms of open data.

In many countries around the world, there have been studies¹ that the government-led open data policies have led to ripple effects and diverse benefits in many sectors like farming, transport, education, and energy. However, due to different understanding towards open data given its many definitions, as well as AMS' different levels of open data development and differences in readiness, the region is challenged by problems such as data quality, lack of supply, and use of open data which further prevents both public and private sector innovation.

In this regard, it would be urgently needed to establish the foundation for the open data network in the ASEAN region by developing an open data dictionary that would enable sharing of the data owned by each AMS as well as the data already made open; and organizing open data-related forums for mediating different interests of the member states and sharing experiences. AMSs' NSOs and relevant agencies have been providing data on key ASEAN statistics on trade, investment, national accounts, SDG indicators and other key indicators through their respective working groups to ASEANstats. In this regard, to avoid duplication of efforts, official statistics that are already made available on the ASEANstats website can be utilised.

¹ Verhulst, S.G. & Young, A. (2017). Open Data in Developing Economies:Toward Building an Evidence Base on What Works and How. Cape Town: African Minds.

(b) Regionality

The European Union Open Data Portal established by EU in regional scope provides public access to open data published by EU institutions and bodies. All the data in this catalogue are free to use and reuse for commercial or non-commercial purposes. The catalogue in this portal includes several industry data by countries such as 'agriculture, fisheries and food', 'economy and finance', 'education, culture and sport, 'Energy', 'environment', 'health', and 'government and public sector' statistical data.

In the EU's case, the procurement data is going popular in the Open Data Portal. It gives more real-world opportunities to suppliers to join the biddings in the EU region as the data is processed in agreed format by the member countries and the regional portal is providing the gathered data with public accessibility. Considering this, there is strong necessity for ASEAN countries to establish and apply the dictionary as in the case of EU's Open Data Portal.

According to the 4th edition of the Open Data Barometer published in May 2017, the readiness of the seven ASEAN countries was significantly lower than the leading countries in open data, such as Korea, the US, and the UK².

			Component of Readiness Scores											
Country	Tota Readir Scor	ness	mana	ies and lata igemer oaches	nt	Gove actior natior subnation	at tl al al	he nd	th	rights e role citizen:	of		ess an reneur ip	
Singapore	73		82	2		73			39			8	5	
Philippines	58		69			52			6	2		48		
Malaysia	53		66			50			34			58		
Indonesia	51		41			61			6	5		37		
Thailand	40		44			40			29			48		
Vietnam	25		34			23			1	8		31		
Myanmar	2		8			3			1 ⁻			0		
Korea	95		9	6		93	3			91		88	5	
USA	96		9	3		92				31			100	
UK	99			100		9:	5			86			97	

In addition, the 2018 Open Data Inventory(ODIN) score³, which assesses the coverage and openness of official statitstics based on NSOs' websites, is showing a considerable gap in readiness among the AMS as following:

Country	2018 ODIN Rankings		
Singapore	1		
Phillipines	41		
Indonesia	49		

Note that Brunei, Lao PDR and Cambodia are excluded from the 4th Open Data Barometer assessment of the 10 ASEAN countries.

³ Open Data Watch, 18/19 OPEN DATA INVENTORY, Note that Brunei is exculded from Open Data Inventory assessment.

Malaysia	69
Myanmar	78
Vietnam	106
Thailand	125
Cambodia	154
Lao PDR	162

Among the 10 ASEAN countries, only 6 have built the open data portal for operation as follows:

Country	Website	
Brunei Darussalam	https://www.data.gov.bn	
Cambodia	-	
Indonesia	https://data.go.id	
Lao PDR	-	
Malaysia	www.data.gov.my	
Myanmar	-	
Phillipines	https://data.gov.ph	
Singapore	https://data.gov.sg	
Thailand	https://data.go.th	
Viet Nam	-	
ASEAN Stats	https://data.aseanstats.org	

Each AMS has different classification systems for providing open data as well as has different agencies to operate the open data portal. Based on this, it calls for systemized categorization fits into the international standards, which could represent ASEAN Open Data objectives/outcomes, and also for developing the open data classification framework and data dictionary, so that the open data service in the ASEAN region would remain consistent and interoperable in the future. The ASEAN Open Data Dictionary also can provide a single point of access to provide general public with datasets from 10 AMS that are expected to support more-efficient government delivery and private sector innovation.

(c) Project History

Regionally, there are several initiatives that support open data. These include the following:

- (1) Initiative 6 Establish an ASEAN Open Data Network of 'Master Plan on ASEAN Connectivity 2025';
- (2) Initiative 3.1 Promotion of New Technology and Policy Approaches (Action Point 3.1.2 Develop Guides and Applications for Open and Big Data) of 'THE ASEAN ICT Master Plan 2020';
- (3) ACSS Strategic Plan 2016-2025 under Component 2 on 'Improvement of the Response to Greater ASEAN Data Needs'. The 9th Session of the ASEAN Community Statistical System Committee (ACSS9) held in October 2019 in Bangkok, Thailand, endorsed the implementation framework for the ACSS Open Data Initiative for Statistics. The framework detailed the ACSS Open Data implementation plan covering: (i) key ASEAN statistical indicators from the four statistical domains of Socio-Demography, Macroeconomics, Trade and Investment, and Connectivity and Environment, (ii) an assessment methodology for the ACSS Open Data Index in line with internationally recognised Open Data

indices, and (iii) an assessment tool for monitoring the Open Data progress of ASEANstats as well as AMS; and based on the openness and coverage of statistics available on the websites of the AMS' national statistical offices and that of the ASEAN Statistics.

(4) Action 4 Connectivity of the ASEAN-ROK Plan of Action (2016-2020). This proposed project seeks to support and complement the above-mentioned initiatives by focusing on government-level open data beyond data produced by the National Statistical Offices (NSOs) in AMS.

Added Value of the ROK Experience

On the other hand, Korea has already established the open data governance including legal framework by enacting and enforcing the law on open data development and use (Act on Promotion of the Provision and Use of Public Data), based on which Korea has selected 36 data categories to be first released and provided technical support for their release, use, and continuous optimization at the government level.

The 2016 Open Data Barometer, which assesses the level of open data development and use, found that Korea stands on the 5th place among 115 countries surveyed, which implies that Korea has accumulated experiences and know-how regarding open data provision and use enough to contribute to build the ASEAN open data network.

(d) Beneficiaries

Beneficiaries(Producers / Users) of the project will include :

- (1) Beneficiaries as Producers : Relevant public officials from each AMS to improve their planning, implementing, and providing open data
- (2) Beneficiaries as Users:
 - Government agencies who use open data to improve the delivery of public services; and
 - local firms, academia, and general public who use open data to improve their business productivity, produce the necessary products and services, make better-informed decisions on travel modes and routes, etc.

3. PROJECT RESULTS

Project Objective/Outcome:

To improve the efficiency of government service delivery, support private sector innovation, and establish/improve the foundation for the open data network in ASEAN and AMS.

Results	Indicators (to measure the project's achievements)	Means of Verification
Results / Output 1: Comprehensive report on	-guiding principles for open data in ASEAN is identified;	-report is published; -recommendations
open data development in ASEAN that captures	-priority sectors are selected;-data collection form/template	on the guiding principles on open

definition of open data,
identification of principles of
open data, findings and
analysis on current open
data policies and practices
in AMS, as well as
government-led activities to
support open data, two
priority sectors, and
guidelines for developing
ASEAN open data
dictionary. The report is to
include open data policies
and practices, e.g., open
data license/ open set of
terms, download data in
machine readible format.

is developed;
-detailed guidelines for
developing ASEAN open
data dictionary is identified.

data, priority sectors, data collection form, guidelines for developing the dictionary are approved by AMS.

Main Activities:

1.1 Prepare inception report

Prepare an inception report for early identification of the overall approach to the study. This includes the conceptual framework, overall design and modalities of the study, scope of open data dictionary, and detailed work plan.

- 1.2 Develop a framework for ASEAN open data network
- 1.2.1 Define open data, identify guiding principles for open data, conduct a review on and stocktake of the current landscape of open data in ASEAN

Align open data definition, identify guiding principles of open data, and conduct a review on and stocktake of AMS open data policies (including the laws and regulations) and practices per sector, overall alignment, public engagement, and O&M issues, as well as the list of data that are already made available or that are potentially made available for sharing among the AMS. Such a list could include the following datasets: map data, land ownership, government budget and expenditure, company registration, legislation, public transport timetables, crime statistics, national environmental statistics, national election results, monetary statistics, investment report, upcoming national projects, etc.

1.2.2 Analyse major approaches for measuring open data performances

Analyse assessment approaches that are internationally used for measuring the open data level, such as the Open Data Barometer (ODB), Global Open Data Index (GODI), Open, Useful and Reusable (OUR) Data Index, and Open Data Inventory (ODIN). Analyse the results of open data performance of AMS measured by the major approaches. This analysis would inform the development of an ASEAN open data performance index, should the need arise.

1.2.3 Select priority sectors for open data dictionary development

Analyse the findings from the review/stocktake and select two candidates for priority sectors⁴ for ASEAN open data dictionary development. A set of criteria needs to be identified in order to select the sectors, e.g. sectors that are likely to have large influence or impact based on the feedback from AMS. ASEAN Data Dictionary is an online publicly available source which would include available data sets and details of the data such as collection and calculation methodology, frequency of collection, fields, responsible agencies and software platform among others⁵.

1.2.4 Develop the data collection form/template

There will be a process of collecting feedback from AMS regarding the data items and data collection form, and guidelines to developing data dictionary (see Section 1.3 for details). After the form is confirmed through this process, it will be distributed to each AMS. The data collection will be done in consultation with AMS and if necessary, visits will be made to countries in need of help with the data collection along with the required technical assistance and capacity building activities.

1.3 Create guidelines for open data dictionary development

Identify the management items needed for developing the data dictionary and make guidelines for data dictionary development. The management items include collection method, managing body, provider, provision method, provision cycle, data categories provided (properties), provision form (format), and copyright among others.

Results / Output 2:

ASEAN Open Data Dictionary is developed which would enable sharing of the data owned by each AMS as well as the data already made open.

- Data for the agreed priority sectors are collected from all AMS using the agreed data collection form
- ASEAN Open Data Dictionary with web-based data visualisation facility is developed as a pilot

ASEAN Open Data Dictionary is approved by AMS and launched.

AMSs' NSOs and agencies have been providing data on key ASEAN statistics on trade, investment, national accounts, SDG indicators and other key indicators through their respective working groups to ASEANstats. Thus, ASEANstats could assist in providing official statistics that are already made available in the ASEANstats website to avoid duplication of efforts.

Main Activities:

2.1 Develop open data dictionary

Share the agreed data collection form with AMS, collect data on the selected sectors from AMS, and populate the forms. Confirm the two selected data sectors agreed by

⁴ Data sectors may include farming, education, land management, finance, industry, social welfare, culture and tourism, and healthcare among others. Currently, some AMS have defined about 10 data sectors.

⁵ ASEAN, Master Plan on ASEAN Connectivity 2025 (MPAC 2025), 2017, p.54

AMS for initial visualization considering data availability and compliance with the relevant laws and regulations of AMS. Identify core functions of the embedded visualization tool, such as (i) time visualization providing bar graphs, accumulated bar graphs, and point graphs, (ii) distribution visualisation providing pie charts, donut charts, tree maps, cumulative continuous graphs, (iii) relational visualization providing scatter plots, bubble charts, and histograms, (iv) comparative visualization providing heat maps, star charts, and multi-dimensional scalings, (v) spatial visualization providing basic spatial mapping functions, according to the characteristics of the data presented. Refine the collected raw data considering fit to the identified core functions of the Dictionary. Develop ASEAN Open Data Dictionary with data visualisation facility powered by feasible commercial software/platform on a designated web page as a scalable pilot. Produce a mid-to-long-term operation and management plan including in-depth technical reviews on the legacy open data systems of AMS and further scalability of the pilot program.

2.2 Identify issues of data dictionary development and opportunities for improvement

Identify problems and issues regarding data dictionary development, such as (i) data coverage, quality and openness; (ii) methods of compiling statistics from big data and crowd-sourced data; (iii) model of operations of data service providers, taking into consideration of their roles and responsibility and data sovereignty issues; and find opportunities to solve the problems for improvement. An ASEAN Open Data Forum can be used as a platform to discuss the issues of open data, data dictionary development and potential solutions. (see Output 3)

Results / Output 3:

Two open data-related forums are organised to:

- facilitate discussions and gather inputs and feedback on open data dictionary development
- provide information on the progress of the open data dictionary development.
- provide capacity building at both technical and strategic levels for the open data dictionary development.

-at least 100 participants from relevant/appropriate workinglevel and high level officials participate in the two Forums.

- feedback from participants on the development of open data dictionary on the forum Submission of Forum reports. Survey reports from the participants

Main Activities:

3.1 Organise a forum on ASEAN Open Data Dictionary Development

As part of the consultative process in developing the open data dictionary, a forum will be convened with the following objectives:

- a. To inform the participants about the project:
- b. To solicit inputs from the participants on the proposed guiding principles for open data in ASEAN, priority sectors, data collection form/template, and detailed guidelines for developing the open data dictionary;

- c. To allow AMS to share progress of their open data development;
- d. To increase the participants understanding on international open data assessment methodology. Ideally, representatives from ODB, ODIN and GODI will be invited to give training/presentations;
- e. To discuss and agree on a cooperative framework to support the project implementation; and
- f. To share the best practice from other regions on open data. Representatives from ASEAN Dialogue Partners, relevant international organizations, and the other external parties could be invited.

The working-level officials are expected to participate in this forum. The venue will be in Bangkok, Thailand.

3.2 Organise a forum on *Progress of ASEAN Open Data Dictionary*

After the dictionary is launched, another forum will be convened with the following objectives:

- a. To inform the participants of the mid-term progress of the project for developing the ASEAN Open Data Dictionary; and
- b. To discuss challenges in the data dictionary development as well as discuss opportunities for solutions.

The high-level officials are expected to participate in this forum. The venue will be in Jakarta, Indonesia.

4. PROJECT MANAGEMENT ARRANGEMENTS

(a) Management Arrangements

1. Sponsoring Body

Possible sponsoring body for the project will be the ASEAN Connectivity Coordinating Committee (ACCC) and will be responsible for overseeing the project's overall implementation. The ASEAN Digital Senior Officials Meeting (ADGSOM) and the ASEAN Community Statistical System (ACSS) will also be closely consulted throughout the project. The progress of the project will be addressed and presented at the ACCC, ADGSOM, ACSS Committee Meetings, and the relevant sectoral working-group level meetings as appropriate, or through email circulation.

2. ASEAN Secretariat

The ASEAN Secretariat will be involved in the development of project proposals during the appraisal and approval process. The relevant sectoral divisions, i.e. the ICT Division, Statistics Division, and Connectivity Division will facilitate the consultation process with the ADGSOM, ACSS Committee, and ACCC and ensure that the project is aligned with ADGSOM and ACSS Committee priorities as well as the 'Master Plan on ASEAN Connectivity 2025 (MPAC 2025)'.

3. Implementing Agency

• The NIA (the Implementing Agency) is responsible for the following:

- (1) Planning all of the activities including development of ASEAN Open Data Dictionary as well as organisation of two ASEAN Open Data Forums;
- (2) Carrying out those activities with support from additional experts of other government entities, industry, academia as needed;
- (3) Reporting the project outputs to the relevant ASEAN bodies;
- (4) Coordination with all of the relevant sectoral bodies and stakeholders for successful implementation of the project.
- (5) Share the progress of open data dictionary as well as the development of the intended web-page to the ASEAN Secretariat. This could include: design execution; HTML execution, web development front end and back end; user acceptance test; migration to ASEAN server; webpage management.
- Given the multi-stakeholder nature of open data, the NIA will closely work with the following government offices/agencies of AMS, including but not limited to:

Country	Offices/Agencies	
Brunei Darussalam	National Statistics	
Cambodia	Ministry of Economy and Finance	
	National Institute of Statistics	
Indonesia	Office of Presidential Staff	
	Ministry of National Development Planning (BAPPENAS)	
	Statistics Indonesia	
Lao PDR	Lao Statistics Bureau	
Malaysia	Malaysian Administrative Modernisation and	
_	Management Planning Unit (MAMPU)	
	Department of Statistics	
Myanmar	Central Statistical Organization	
Phillipines	Office of the Presidential Spokesperson	
	Presidential Communications Development and Strategic	
	Planning Office (PCDSPO)	
	Department of Budget and Management (DBM)	
	Phillippine Statistics Authority	
Singapore	Smart Nation and Digital Government Office (SNDGO)	
	Government Technology Agency (GovTech)	
	Singapore Department of Statistics	
Thailand Ministry of Digital Economy and Society		
	National Statistical Office	
Viet Nam	General Statistics Office	

- Relevant ASEAN Secretariat divisions, AKPMT, and NIA will conduct regular meetings for seamless communication and coordination.
- The Ministry of Science and ICT of the Republic of Korea is responsible for ensuring the success of the project's implementation and providing consultation on Open Government Data policy.

(b) Human Resource Inputs

The NIA will execute the project mainly through its current staff with support from additional experts from other government entities, industry, academia as needed.

The project team is composed of NIA's internal and outside experts including, but not limited to the following experts.

Name Affiliation / Position Remarks	
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Yoonseok Ko	NIA / Vice President	Project Manager
Sukjoo Kim	NIA / Senior Manager of Global ICT Consulting Team	Project Coordinator (Focal Point)
Yongho, Lee	NIA / Director of Global ICT Consulting Team	Internal Expert/ Open Data Platform
Woonsuk Suh	NIA / Executive Principal of Global ICT Consulting Team	Internal Expert/ Visualization SW Mgmt.
Daehoon Oh	NIA / Manager of Global ICT Consulting Team	Assistant Project Coordinator
Jongyoul Jeong	NIA / Director of Open Data Platform Team	Internal Expert/ Open Data Platform
Jaewon Lee	NIA / Executive Principal of Open Data Platform Team	Internal Expert/ Open Data Platform
Wonjae Park	NIA / Vice President	Internal Expert/ ICT Policy
Kwangsok Oh	KDS (Korea Institute for Development Strategy) / Vice President	External Expert/ Open Data Framework
Hakchul Kim	KN Consulting / Managing Director	External Expert/ ICT Policy
Kwangseop Song	KN Consulting / Associate Director	External Expert/ ICT Policy
Daeyong Kim	2e Consulting / Senior Consultant	External Expert/ Open Data Policy
Jonghyuk Oh	TG Consulting/ Director	External Expert/ Open Data Policy
Boyeol Yoon	TG Consulting/ Executive Principal	External Expert/ Open Data Policy
Kyungryul Park	KAIST(Korea Advanced Institute of Science & Technology) / Professor	External Expert/ Open Data Framework
Jina Lee	Freelancer for translation/interpretation	External Expert/ Translation, Interpretation

(c) Monitoring and Evaluation Arrangements

The NIA will be responsible for monitoring and evaluation of the project with the assistance and cooperation of the ASEAN Secretariat. The progress will be reported accordingly to the ACCC, ADGSOM, and ACSS Committee.

The NIA will submit the project progress and interim financial reports with information regarding the progress which is made regarding the project's implementation within 30 days after the end of 1st calendar year. Moreover, the NIA will submit the project completion and final financial reports within 60 days of the project's final activity being completed.

On the other hand, the project will be evaluated within 30 days after the end of 1st calendar year and within 60 days of the project's final activity being completed, through survey questionnaires which will be designed to assess the progress of the project's implementation.

5. PROJECT SUSTAINABILITY

The open data projects led by countries like the UK and the US, having higher levels of open data development and use, are reported to bring consistent performances of open data use in the project stakeholders.⁶

As for the ASEAN region, considering each AMS' unique status⁷ in the category of open data readiness, implementation, and impact, the open data gap among the countries is large, with the open data development level being relatively lower than other regions. This project is expected to minimize the gap among AMS and continue to produce visible achievements of open data use through constant efforts for improvement.

During the project implementation, the project participants from each AMS will have opportunities to learn how to develop open data dictionary and to measure open data performance. In addition, they will be provided with chance to learn other countries' open data policies, best practices, and some skills to produce and use open data. This will support the project participants effectively and efficiently design the government-led open data policies which will lead to improved government service, private sector innovation, and the firm foundation for the open data network in the ASEAN region. Under each AMS's open data policies, innovative programs such as ASEAN Regional Apps Challenge or Open Data Hackathon will be organized to improve and nurture Government-Private collaboration in national and regional level. In addition, follow-up projects funded by Korean TFs for scaling up the visualization facility made through this project will be considered. And through developmental education for ASEAN Open Data Dictionary, further sustainability would be ensured with wide participation of each AMS Data agency.

According to the 'Master Plan on ASEAN Connectivity 2025 (MPAC 2025)', ASEAN is supposed to establish a forum on ASEAN open data that can enable government policymakers in key sectors to engage on how to prioritise data to be released and agree on interoperability standards. The NIA will help planning of the establishment and operation of the forum in order to ensure the project sustainability. Apart from this, the NIA will continue to act as a window for sharing open data policies, technologies, best practices and issues among AMS and the Republic of Korea.

6. Gender And Other Cross Cutting Issues

The project will ensure the gender participation and equal opportunity. Gender balance will be sought in all the consultation processes and the project activities, as well as within information and knowledge sharing.

The project supports ASEAN Connectivity which cuts across various aspects of ASEAN Community. This project will make reference, where relevant, to measures and initiatives of the following ASEAN strategic documents:

- (i) ACSS Strategic Plan 2016-2025 Component 2 on 'Improvement of the Response to Greater ASEAN Data Needs';
- (ii) Concept note on the ACSS Open Data Initiative for Statistics as well as ACSS

⁶ Deloitte. (2012). Open Data – Driving Growth, Ingenuity and Innovation. A Deloitte Analytics White Paper. Deloitte, UK.

⁷ Canares, M. (2019) Open Data Around the World - South, East, and Southeast Asia. In T. Davies, S. Walker, M. Rubinstein, & F. Perini (Eds.), The State of Open Data: Histories and Horizons. Cape Town and Ottawa: African Minds and International Development Research Centre.

Open Data Implementation Framework, covering the ACSS Open Data Index and the assessment tool.

- (iii) Initiative # 6 of the Master Plan on ASEAN Connectivity (MPAC) 2025 Establish an ASEAN Open Data Network;
- (iv) Initiative 3.1 Promotion of New Technology and Policy Approaches (Action Point 3.1.2 Develop Guides and Applications for Open and Big Data) of 'THE ASEAN ICT Master Plan 2020'; and

The project also will require coordinated efforts from various sectors and stakeholders involved, including Information, Communication, and Technology (ICT). This project would contribute to (i) enhance the transparency of the government; (ii) private sector innovation; and (iii) increase the progress of scientific research.

7. POTENTIAL RISKS

Risk / Threat	Mitigation strategy
There may be different priorities among AMS in selecting priority data sectors for open data dictionary development.	The differences will be resolved through consultative process during the forum on ASEAN Open Data Development. If not resolved, the ACCC, ADGSOM, and ACSS and/or the ASEAN Secretariat may need to coordinate the selection of priority data sectors.
2. Considering the fact that the project involves multi-sector, it is critical for appropriate officials from relevant ministry/organisation(s) from each AMS to actively participate the project. Otherwise, the project outputs may not adequately reflect the requirements and differences in focal points at regional and national levels.	At the inception of the project, the ACCC, ADGSOM and ACSS and/or the ASEAN Secretariat will be consulted regarding the composition of so-called 'ASEAN Open Data Working-group' which consists of focal points from AMS. Also, the relevant sectoral bodies will be consulted with strong support from the ACCC, ADGSOM and ACSS and/or the ASEAN Secretariat during the project implementation.
3. Basically, most of the project activities will be conducted in English. However, there may be some difficulties in communication as each AMS uses different languages.	To ensure smooth communication, English interpreter/translator(s) may be hired during the project implementation as needed.
4. Some delays may occur if the ASEAN does not provide appropriate web environment in a timely manner to provide ASEAN Data Dictionary online.	It would be necessary for the ASEAN secretariat to make the ASEAN web portal or other web environment available for ASEAN Data Dictionary.
5. Some of AMS may need a legal basis to make their open public data available on the ASEAN web portal	The development of ASEAN open data dictionary observes the provisions under the national law and/ or national legal framework to safeguard the confidentiality of information.

6. There will be difficulties in collecting needed data from AMS, especially data sets to be included in ASEAN Open Data Dictionary.

For collecting needed data in a timely manner, local consultants will be hired from each AMS. Working groups in charge of the specific domains, which have been compiling relevant data, are to be consulted on the ASEAN Open Data Dictionary.

Annex 1 – Budget Proposal

Annex 2 – Indicative Work Plan

Annex 3 – Tentative Schedule & Agenda of ASEAN Open Data Forums