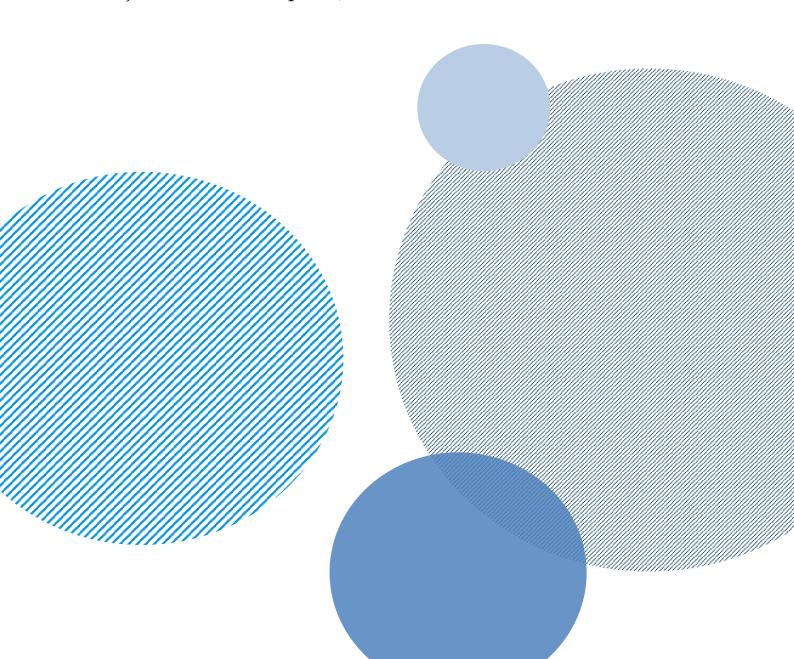


Strengthening connectivity for the implementation of the Asia Pacific Information Superhighway

Project evaluation report | March 2020





Strengthening connectivity for the implementation of the Asia Pacific Information Superhighway

United Nations project evaluation report February 2020

Prepared by Hon. David Butcher

Commissioned by
ICT and Disaster Risk Reduction Division,
ESCAP

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List of Acronyms

ADB Asian Development Bank

ADBI Asian Development Bank Institute

AP-IS Asian Pacific Information Superhighway
ASD Agenda for Sustainable Development
ASEAN Association of South East Asian Nations

BRI Belt and Road Initiative

CAICT China Academy of Information & Communication Technology

CRSM Circuit Resource Sharing Mode

DCI Data Centre Interconnect
DRM Disaster Risk Management
DRR Disaster Risk Reduction

ESCAP Economic and Social Commission for Asia and the Pacific

ICT Information Communications Technology

IFC International Finance Corporation

IS Information Superhighway

ITU The International Telecommunication Union

LEO low-Earth orbiting

PRC People's Republic of China

SC Steering Committee

SG Steering Group (at subregional level)

UN United Nations
WB World Bank

WSIS World Summit on the Information Society

XUPT Xi`an University of Post and Telecommunication

Executive summary

Introduction

This report outlines the evaluation of the project on 'Strengthening connectivity for the implementation of the Asia Pacific Information Superhighway (AP-IS) which was implemented by the Information and Communications Technology and Development Section (IDS) of the Information and Communications Technology and Disaster Risk Reduction Division (IDD) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).

The objective of the project was to enhance regional broadband connectivity through improved capacity, regional dialogue and cooperation in support of the achievement of the SDGs through the AP-IS and the Belt and Road Initiative (BRI).

The project delivered the following outputs:

- 1) Technical studies (The Operation of Cross-Border Terrestrial Fibre-Optic Networks in Asia and the Pacific,' and 'Research Report on the Network Planning for the Greater Mekong Subregion'
- 2) Meetings for sharing of studies and facilitating regional dialogue and consensus at the Third Session of the Asia-Pacific Information Superhighway Steering Committee and WSIS Regional Review, held 26-30 August 2019, at UNCC, Bangkok¹ (abbreviated to AP-IS SC3 08-2019).

The project implementation and results were assessed according to the standard evaluation criteria of effectiveness, relevance, efficiency, sustainability, and gender & human rights.

Evaluation approach

The evaluation used a mix of data sources collected through multiple methods, with analysis of both quantitative and qualitative data. Results were triangulated where possible. Data collection included the following: document review process (see Annex 3, list of documents reviewed) and administering an online survey to beneficiaries of the project's activities covering the issues raised in Annex 2. Online interviews were undertaken and were analysed along with other information.

As an indirect check on the practicality of the proposals and the need for the AP-IS, independent telecommunications experts² have been consulted on technical matters. The evaluator held a fruitful discussion with Tiziana Bonapace, Director and Officer-in-Charge of the ICT and Development Section Information and Communications Technology and Disaster Risk Reduction Division (IDD).

With the support of the secretariat, the consultant initiated an online survey (questionnaire for those participating in the meetings) (Annex 5) held under the auspices of the project to ascertain the extent to which member countries were turning their plans into actions. Review of results on feedback evaluation after the project's meetings, as well as outcome document/summary reports of meetings, was also undertaken to assess the impact of the project's activities.

¹ The WSIS Regional Review comprised one session of the Meeting in August 2019

² Peter Biedermann, Germany and John de Ridder, Australia

Effectiveness

The project was effective in meeting the expectations and priorities of countries benefitting from the project. Project participants rated highly that the project's activities facilitated a regional policy dialogue on appropriate mechanisms for tackling ICT challenges deemed useful to national contexts. In addition, the project effectively facilitated discussions among countries on best practices and potential ICT connectivity subregional cooperation issues. In particular, ESCAP member States through the 3rd session of the AP-IS Steering Committee in August 2019 agreed to the establishment of three expert working groups on: (1). a trans-multi-country terrestrial cable sharing model for AP-IS interested subregions; (2). ICT research collaboration via an AP-IS academic network; and (3). Internet traffic management in Pacific island countries, and Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV).

Relevance

The project proved to be highly relevant to the needs and requirements of countries to enhance regional broadband connectivity in the region through the implementation of the AP-IS initiative. The AP-IS Steering Committee meeting received very positive feedback on project's alignment with subregional and national priorities. The AP-IS meeting also built consensus on regional cooperation in this area which led to a regional mandate (an ESCAP resolution). In particular, member States expressed support to the AP-IS initiative and requested ESCAP to continue its support in the implementation of the AP-IS initiative through resolution 75/7.

Efficiency

The project was delivered at a high level of efficiency. Project's activities were implemented within the allocated budget and in a timely manner. A good level of coordination between stakeholders involved in the project ensured that the project's activities were delivered successfully. More attention to the issue of settlement and charging would have increased the efficiency of the project and expanded the participants' knowledge of the issues involved.

Sustainability

The project contributed to the implementation of the AP-IS initiative. The AP-IS initiative has been endorsed by ESCAP's intergovernmental forums (such as ESCAP Commission resolutions and Committees on Information and Communications Technologies, Science, Technology and Innovations). In particular, the AP-IS initiative is integrated in the ESCAP programme of work and continue to be supported by additional funding support from other sources (extra-budgetary (XB) and regular programme of technical cooperation (RPTC)). As a result, the long-term sustainability of the project's interventions is ensured.

Gender and Human Rights

The project's activities recognised gender perspectives in its implementation process, though it may be limited. The focus and scope of the project, including the delivery framework may play a part in the limited mainstreaming of gender perspective and human rights into the project.

Recommendations

Based on project evaluation, the following recommendations are provided:

- 1. ESCAP should consider assessing the impact of its projects through an ex-post evaluation (12 to 18 months after project completion). Evaluations would be more informative if data collection methods could be reviewed to establish sufficient data baselines at the beginning of the project where knowledge enhancement is a project goal. For projects, where the impacts of the project will appear in months or years, provision for an ex-post review after 12 or 18 months could be a useful innovation. Modifications along these lines may provide more informative data on the projects impacts.
- 2. ESCAP should conduct capacity training of governments to formulate and negotiate corridor agreements involving multiple countries on ICT connectivity issues. Project research shows cross-border, terrestrial fibre-optic cable projects, have not expanded beyond two neighbouring countries, with this failure partly caused by the absence of international agreement on broadband fibre-optic network transit charges and settlement rates methodologies. It is therefore recommended that capacity training of government officials be undertaken in this area, in order to equip countries in this subregion with appropriate evidence for reaching a consensus on moving forward 2020, particularly with the publication of the ITU report on charging and settlement for broadband cables expected in April 2020. When the ITU Study on settlement and charging is completed, ESCAP could commission a further study on its relevance to countries agreeing on charging for transit on multi country cables, thereby removing a further barrier to AP-IS.
- 3. ESCAP should continue to facilitate all stakeholders' participation and discussions (including private sectors such as the OneWeb consortium and other companies) to assist Pacific countries' on identifying the best connectivity option. In the Pacific, even countries where cables are rapidly becoming available, the cost of connecting small remote both continental and oceanic places with few people could be addressed more cheaply by the proposed LEO satellites already under construction. ESCAP is therefore recommended to open discussions with relevant stakeholders such as the OneWeb consortium and other companies offering LEO Satellite options, to assess the timetable for their service to be available in remote parts of the ESCAP region so the most cost-effective deployments can be agreed.
- 4. ESCAP should integrate gender and human rights issues in its projects. While recognising the scope and focus of the project may limit the opportunity for elevating gender and human rights, there is room for improvement. Particularly, if the project design and objective include gender and human rights issues, it is therefore guaranteed that it will be allocated resources, measured and evaluated. It is therefore recommended that gender and human rights issues are considered in the design of new ICT projects, to the extent possible.

1. Background, Purpose and Scope

1.1 Background to the Evaluation

This report evaluated the project titled "Strengthening connectivity for the implementation of the Asia Pacific-Information Superhighway" (AP-IS). Its strategic focus is to deliver on the UN's 2030 Agenda for Sustainable Development. ESCAP's Information and Communications Technology and Disaster Risk Reduction Division (IDD) promotes SDGs by supporting high quality, resilient regional connectivity. AP-IS is relevant because while Asia and the Pacific have made significant progress expanding ICT connectivity recently, the progress has been unevenly distributed across ESCAP sub-regions and Member countries.

ESCAP connectivity studies³ have shown that seventy-five percent of the fixed broadband subscriptions in Asia and the Pacific are from East and Northeast Asia. China alone accounts for more than fifty percent of the region's total fixed broadband subscriptions. At the other end of the spectrum there are 18 ESCAP member countries, mostly from the Pacific and Oceania subregions (excluding Guam) with less than 2 per cent of fixed broadband subscriptions per 100 inhabitants (2016). By contrast the Republic of Koreas recorded over 40 per cent for the same indicator⁴.

This is evidence of a digital divide between the developed and the developing nations. ESCAP's goal is to reduce and eliminate the divide. This Project advances AP-IS's goal of Member countries, rich and poor all having high quality access to broadband.

1.2 Purpose, Objectives and Scope of Evaluation

Purpose: ESCAP will use this Evaluation to promote accountability and learning, and support results-based management. Evaluations are to review project design and implementation, improve future project planning, inform management on programming and budgeting and report on achievements and results of ESCAP's work to member States and donors. ESCAP evaluations, are subject to a management response and follow-up action plans to address the findings and recommendations. The target users of the evaluation results include the ESCAP management and staff, donors and Member countries of ESCAP.

Objectives: This Evaluation assesses the project design and implementation, as well as the processes and mechanisms put in place for functioning, management and monitoring (see Annex 2 for detailed terms of reference). It assessed the relevance of the project outcomes as well as determining the achievement of the expected outcomes. The evaluation will contribute to ESCAP organizational learning and improving future project design and implementation. ESCAP's evaluation objectives are to:

- assess the relevance and effectiveness of the Project results and partnership arrangements;
- make recommendations from the Evaluation's findings for improving design, implementation of future projects and identify gaps for future projects to address; and

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³ For example:Towards a more integrated telecom market in the Pacific: Strengthening the statistical evidence for implementation of the Asia-Pacific Information Superhighway, ESCAP IDD, 19-23 November 2018 Nandi, Fiji

⁴ Op cit

• formulate recommendations relating to the Evaluation's findings on follow-up activities to be undertaken by ESCAP and its partners.

The Project commissioned research on how to address the digital divide; how to stimulate countries to move collectively in their own interests to improve regional and sub-regional connectivity, based on quality research and by reinforcing the knowledge and experience of countries' officials and interested parties.

These activities are to stimulate creative policies, projects and cooperation in accordance with the objectives of AP-IS. The principal resource provider in the project was the government of the People's Republic of China, which provided the funds for research. The principal partner, the China Academy of Information & Communication Technology (CAICT), was engaged to report on Cross-Border Terrestrial Fibre-Optic Networks in Asia and the Pacific⁵. The Xi`an University of Post and Telecommunication (XUPT), was commissioned to report on Network Planning for the Greater Mekong Sub-region (GMS).

Scope: This evaluation started from 15 October 2019 to 30 November 2019. Additional time was needed to revise the evaluation report based on ESCAP's comments. The project implementation time was from 1 May 2018 to 30 April 2020 as per approved project document. The evaluation scope of work is listed in the table below.

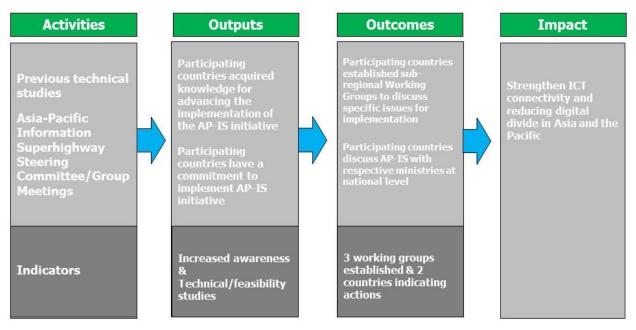
Table 1: Scope of evaluation (updated)

	'
Preliminary consultation and desk review	15-31 October 2019
Data collection, meet with ESCAP staff including briefing by ESCAP's Strategic Programme and Monitoring Division (SPMD), & development and administer of online survey questionnaire.	1-30 November 2019
Prepare preliminary draft and submit to ESCAP	23 January 2020
Prepare final draft based on feedback by SCAP on preliminary draft	26 February 2020

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2. Methodology

Figure 1: Theory of Change



Based on the theory of change outlined in Figure 1, evaluation questions were developed and selected to extract assessments in line with the five areas of effectiveness, relevancy, efficiency, sustainability, and gender & human rights. The details on the questions under each key area, with indicators of measurement, are outlined in the evaluation matrix below (Table 2).

With the expected project's impact of improved regional broadband connectivity in Asia and the Pacific, the project required the necessary outputs listed, to deliver activities that focussed on technical studies and meetings for disseminating the findings of the studies. As a result, participants from countries that benefitted from the project are informed by the technical studies on how to facilitate cross-border connectivity in South-East Asia, as well as exchanging of best practices and dialogue on addressing these challenges at the regional level.

Subsequently, these regional dialogues have led to several ESCAP countries: Cambodia, the People's Democratic Republic of Laos, Myanmar and Viet Nam (i.e. the CLMV) to establish a Working Group to discuss further the findings of the study and to explore policy options of addressing this challenge). These Working Groups are expected to discuss and agree on the technicalities of cross-border connectivity and facilitate the subregional cross-border connectivity accordingly.

Table 2: Evaluation Matrix

Assumptions/Sub-Questions to be assessed: – agree/disagree	Substantiating Evidence/ Indications of Change	Sources of information	Methods for data collection
and priorities.The project activities cooperation for accesPlease provide comm	were relevant to your departments to affordable broadband connects	ject to your country/department	noting regional
Alignment with country needs in participating countries	ESCAP Commission Resolution adopted on AP-IS initiative;	ESCAP Commission Resolutions; IDD staff; Project focal points; Project technical specialists	Desk review Online survey questionnaire
Relevance of project's outputs	Working Groups established;	Project documents & progress reports; summary reports of project activities; evaluations of project activities; feasibility studies; & IDD staff;	Desk Review Online survey questionnaire
 The project activities opportunities relevantly departments of the project of the project activities opportunities relevant follow up to the project activities opportunities of the project activities opportunities of the project activities opportunities oppor	were effective in raising your and to your country. nent has initiated actions to enhance.	ital divide challenges in my count wareness and knowledge on regio ance and promote regional broadb the project's activities that you atte	onal ICT challenges and pand connectivity as
Effectiveness of project's capacity building activities/outputs	Evaluation of feedback questionnaires from project's meetings, focusing on enhanced knowledge or awareness	Feedback questionnaires of project activities	Desk review Online survey questionnaire
Room for improving the project's capacity building approach	Evaluation of feedback questionnaires from project's meetings, focusing on enhanced knowledge or awareness	Feedback questionnaires of project activities	Desk review Online survey questionnaire
National/subregional level follow-up actions	Responses from email- administered questionnaire on follow-up activities	Government participants who benefitted from the project's outputs.	Online survey questionnaire
deviations, if any, in	budget and timeframe?	project activities were efficient. W	/hat were the causes of
Please provide sugge	Planned activities delivered on time and within budget as per project document	Project documents & progress reports; summary reports of project activities; evaluations of project activities; & feasibility studies; IDD staff; Project focal points; Project technical specialists	Online survey questionnaire Desk review
	Deviations to project timely delivery encountered (if any)	Project documents & progress reports; summary reports of project activities; evaluations of project activities; & feasibility studies; IDD staff; Project focal points; Project technical specialists	Online survey questionnaire

Assumptions/Sub-Questions to be assessed: – agree/disagree	Substantiating Evidence/ Indications of Change	Sources of information	Methods for data collection
• What national level a up to the project (out		ESCAP Intergovernmental Committee Reports; Project focal points; Project technical specialists; IDD staff	Desk review Online survey questionnaire
 GENDER AND HUMAN RIG What measures were the project? Were these measures 	adopted to mainstream gender	and human rights into the design	and implementation of
Gender mainstreaming	Gender aspects included in design and implementation of the initiatives at the regional and subregional level	Project documents & progress reports; summary reports of project activities; evaluations of project activities; & feasibility studies; IDD staff; Project focal points; Project technical specialists	Desk review
Human rights	Human rights aspects included in design and implementation of the initiatives at the regional and subregional level	Project documents & progress reports; summary reports of project activities; evaluations of project activities; & feasibility studies; IDD staff; Project focal points; Project technical specialists	Desk review

Source: Author's consolidation of basic concepts.

Data collection included but was not limited to the following:

- 1. The Project's theory of change comprises technical research followed by subregional and regional events to discuss the findings and encourage those attending to support actions identified by the research that will support achievement of the AP-IS;
- 2. The primary source of evaluation information was a desk review of documents, including the Project Document, progress and conclusion reports, reports by Project contractors and presentations, the results of participant survey questionnaires, relevant resolutions and published documents related to the Project. Other background material relevant to the Project from 2010 onwards has been consulted;
- 3. The second source of information for the evaluation was the meetings with ESCAP officials listed in Annex 5.
- 4. The quantitative and qualitative research was achieved from the evaluation documents completed at the conclusion of each of the relevant meetings and an online survey administered to evaluate the outcomes accomplished by the project's outputs based on the target audience of the project (principally government officials). Officials from 30 ESCAP member States who participated in the project activities were invited to complete the online survey. Eighteen (19) member States responded which was a 63% response rate (see Annex 4 for full list).

Data analysis assisted the formulation of evidence-based findings, the conclusions and recommendations of this Report. Details can be found Annex 6.

3. Limitations of the Methodology, Scope and Problems Encountered

Budget constraints did not make possible face-to-face interviews with participants that attended the AP-IS Steering Committee meeting in August 2019. In addition, the evaluation data collected as the Project progressed was not very detailed.

It would be helpful if data collection methods could be reviewed to ensure that data collection systems establish data baselines at the beginning of projects where required. For Projects like this, where the impacts of the Project will appear in months or years, provision for an ex-post review after 12 or 18 months would be a useful innovation. Modifications along these lines may provide more informative data on the Project's impacts.

4. Findings

4.1 Project overview

Notwithstanding Pacific subregional cables constructed and under construction since 2008, the Project addresses the concern that additional action is required to end the broadband divide in the whole Asia-Pacific region. Without urgent measures, the negative economic and social consequences in the member states falling behind, particularly the landlocked and small island states, will be grave. At risk is their capability to implement initiatives promoted to support implementation of the Sustainable Development Goals (SDGs) and the World Summit on the Information Society WSIS) goals. The Evaluation focuses on the contribution by the Project.

At its core, the AP-IS envisages the creation of a seamless regional network of fibre optic cables to provide both intra-regional and intercontinental connectivity. This enhanced regional fibre network would:

- Drive international bandwidth prices down and improve affordability;
- Increase resilience by increasing redundancy (alternative access routes);
- Decrease latency across the region;
- Enhance the digital inclusion.

The Project has promoted an ongoing dialogue among regional member countries that has helped to create an awareness of the costs of inadequate cross-border and regional connectivity, traffic management issues, infrastructure vulnerabilities and areas of greatest need. The strategy has been to bring together the affected parties, exposing to recent relevant research, aimed at them planning and implementing the necessary system improvements, themselves thereby contributing to a narrowing of the digital divide. In this way, the project has applied pressure on the parties to come to amicable agreements. Five sets of activities (See Figure 1) were implemented including sponsoring research towards a regional and sub-regional management and settlement model (Activity 1.1), and a prefeasibility study for network planning for the Greater Mekong Sub-region GMS (Activity 1.2).

For Activity 1.1 the CAICT, was asked to report on Cross-Border Terrestrial Fibre-Optic Networks in Asia and the Pacific⁶. The CAICT report's recommendations were summarised in a presentation to the August 2019 meeting, called "Introduction to a new operation model of trans-multi-country terrestrial cable".

For Activity 1.2, the XUPT, was commissioned to report on Network Planning for the Greater Mekong Sub-region (GMS) China and reported in November 2019. The findings of the study were presented in an AP-IS meeting in November 2019.⁷

Delivering on activity 1.3 the third activity, was about the Secretariat organising the AP-IS Steering Committee and Subregional Steering Group Meetings to review the findings of the technical studies and pre-feasibility studies. These took place on Day 1 of each (Steering

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https://www.unescap.org/sites/default/files/Study%20on%20the%20Network%20Development%20in%20the%20Greater%20Mekong%20Sub-region%2C%20ESCAP.pdf

Committee) SC and Steering Group (SG) meeting in 2018 and 2019. A workshop on 20 November 2019, for East and North-East Asia in Ulaanbaatar, Mongolia, was held and participants were informed of the findings of the pre-feasibility study on "network topology towards inter-corridor and intra-corridor ICT connectivity in South-East Asia" from the AP-IS subregional group meeting for South East Asia.

Activities 2.1 & 2.2 were to stimulate meetings at the subregional level and contacts among target countries towards the promotion of a dialogue on implementing AP-IS. Activity 2.1 was designed to promote the meetings of the AP-IS SC and member country meetings at the subregional level. Activity 2.2 was to organise meetings of the regional and subregional Steering Groups (SG) to implement the AP-IS. This included an AP-IS meeting for Pacific island countries in December 2019 and Mongolia (November 2019).

4.2 Initiation

The Project was initiated on 1 May 2018 until 30 May 2020. The total budget of the project was \$250,000. Based on ESCAP analysis and inputs from member countries and partners such as the International Finance Corporation (IFC), World Bank (WB), Asian Development Bank Institute (ADBI) and other UN Agencies, the Steering Committee's priority was to obtain pre-feasibility and feasibility studies at subregional level for the Project's agenda. Factual information was to stimulate action.

The ASEAN pre-feasibility study⁸ has provided information required to fine tune the AP-IS implementation and permitted rolling it out to other sub regions. Similar reports are planned for South Asia and North & Central Asia, although they did not receive funding from this project.

4.3 Technical Studies

The technical studies and their presentation were the substance of the project. The CAICT and XUPT case studies showed that cross-border terrestrial fibre-optic cable projects have so far not expanded beyond operation and interconnection to more than two neighbouring countries.

This is may be due to the lack of incentives to cooperate in creation of multi-country networks. However, negotiations often stall when transit charges and settlement rates for cross-border circuits must be set. If no agreement is reached the affected countries resort to bilateral negotiations to set circuit charges, which are difficult, inefficient and time-consuming and often led to excessive transit charges, especially for landlocked countries unable to access submarine cables.

XUPT made a useful contribution by estimating traffic density in the SE Asian Region and therefore, establishing that the transmission business is likely to be very profitable for participating entities as traffic increases. This removes one barrier to AP-IS.

The CAICT study made a valuable contribution to the discussions by analysing previous efforts to expand connectivity regionally. The conclusions were that:

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^{8 2016-02-01} A Pre-Feasibility Study on the Asia-Pacific Information Superhighway in the ASEAN Subregion: Conceptualisation, International Traffic & Quality Analysis, Network Topology Design and Implementation Model; Prepared by Yeong Ro Lee of the National Information Society Agency (NIA) of the Republic of Korea and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), with the funding from the Ministry of Science, ICT and Future Planning of the Republic of Korea.

- The cost of submarine cables is largely buying and laying cables; terrestrial cables need to gain access to possibly hundreds or thousands of individual rights of way.
- Submarine cables are invariably constructed by consortia focused entirely on transmission.
- With terrestrial cables the parties involved often include companies with investments in both transmission and customer service, potentially creating a conflict of interests and a barrier to competition.

Transmission only companies address the problem of guaranteed access to all competitors as a "cable only company" has a financial interest in maximising traffic on the cable and is has no incentive to block access and minimising the need for regulation.

Both studies recommended a governance model called "A new operational model of transmulti-country terrestrial broadband cable".

- CAICT also noted that the point at which most proposals for regional connectivity fail is the absence of an agreed basis for settlement and charging;
- It is not clear how the proposed solution to the problem, advanced by both consultants, would address settlement and charging issue;
- Charging for transit and settlement remains the biggest stumbling block to expanding connectivity for the AP-IS project.

Neither of the consultants analysed the range of options for charging and settlement. In a footnote, the XUPT referred to "ITU-T SG3 Q.13", an ITU Study Group, currently underway, investigating options for charging and settlement for sub-regional cross-border transmission of broadband signals. It is due to report in April 2020.

When the ITU Study on settlement and charging is completed, ESCAP should commission a further study on its relevance to agreement on charging for transit on multi country cables, thereby removing a further barrier to AP-IS.

4.4 Performance assessment

Relevance

The assessment against the relevance criterion focussed on the following questions:

- The project activities were designed and implemented in consultation with my country/department needs and priorities.
- The project activities were relevant to your department's/ministry's priorities on promoting regional cooperation for access to affordable broadband connectivity.
- Please provide comments on the relevance of the project to your country/department and suggestions on how to improve relevance of follow-up activities of this project?

These questions were put forward in a survey questionnaire to the 30 ESCAP government representatives that attended the AP-IS meeting in August 2019. In addition, these key questions also set the scope of the desk analysis on project documents, meetings report and evaluations.

The evaluation found evidence the project's implementation was relevant in delivering its objectives. For example, regional cooperation in broadband connectivity through the AP-IS initiative was recognised by ESCAP member States as important in bridging the

digital divide through the Asia-Pacific Information Superhighway (AP-IS) initiative⁹. In addition, the ESCAP Commission's 75th session in May 2019, adopted resolution 75/7, on "Advancing the implementation of the AP-IS initiative through regional cooperation (ESCAP/RES/75/7)"¹⁰. The resolution mandated the secretariat to continue supporting the implementation of the AP-IS initiative.

The secretariat was asked to support member countries with policy advice, technical studies and capacity-building, when requested, in relation to the development and implementation of subregional implementation plans for the AP-IS initiative. This mandate reflects the members' views on the importance and relevance of the AP-IS initiative to bridging the digital divide in the region and the alignment with country needs in participating countries.

In addition, at the 'Third Session of the Asia-Pacific Information Superhighway Steering Committee and WSIS Regional Review' (26-30 August 2019, UNCC, Bangkok), 8 ESCAP member States agreed to be included in a feasibility study on establishing a Pacific Internet Exchange Point (IXP) (Papua New Guinea, Solomon Islands, Vanuatu, Kiribati, Tuvalu, Samoa, Tonga, & Timor-Leste). As a way forward, these 8 ESCAP member States supported the establishment of a working group to review the findings of the feasibility study.

The CAICT Model 'Trans-multi-country terrestrial cable sharing model' was presented in the Third Session of the Asia-Pacific Information Superhighway Steering Committee and WSIS Regional Review (AP-IS SC3 08-2019¹¹). In response, China supported the principal findings of the study and requested the secretariat to establish a working group to cooperate on this issue. The Islamic Republic of Iran raised its interest to participate in such working group, if established. Furthermore, the People's Democratic Republic of Lao supported the proposal for establishing a neutral Internet Exchange Point (IXP) for Cambodia, the People's Democratic Republic of Lao, Myanmar, and Viet Nam (CLMV), for improved Internet traffic management. The secretariat was requested to support the establishment of a working group to bring together these countries for discussion on the details of such proposal.

Furthermore, 4 ESCAP member States (Timor-Leste, Maldives, Bangladesh & the Islamic Republic of Iran) supported the establishment of a working group on an AP-IS Academia Network, in order to promote innovative researches from academia in different countries to contribute and inform regional/subregional dialogue on the AP-IS initiative ¹².

The theme of 'relevance' with specific questions was also circulated as an online survey to 30 ESCAP government representatives who attended the AP-IS SC3 08-2019. The respondents of the online survey (19 out of 30 responded) were asked of any national level actions taken to enhance to promote regional broadband connectivity in follow-up to the project:

Majority of respondents (71%) strongly agree that the project activities were relevant to their department's/ministry's priorities on promoting regional cooperation for access to affordable broadband connectivity.

⁹ Section 0, outlines the depth of the digital divide in the ESCAP Region. ESCAP, with its focus on both economic and social issues is involved in seeking solutions.

¹⁰ https://www.unescap.org/commission/75/document/E75_Res7E.pdf

¹¹ The WSIS Regional Review comprised one session of the Meeting in August 2019

¹² www.unescap.org/sites/default/files/Summary%20Report%20-%20Third%20AP-IS%20SC 0.pdf

Effectiveness

The assessment against the effectiveness criterion focussed on the following questions:

- The project contributed to the policy dialogue on digital divide challenges in my country.
- The project activities were effective in raising your awareness and knowledge on regional ICT challenges and opportunities relevant to your country.
- My country/department has initiated actions to enhance and promote regional broadband connectivity as follow up to the project.
- What could be done to improve the effectiveness of the project's activities that you attended?

These questions were put forward in a survey questionnaire to 30 ESCAP government representatives that attended the AP-IS meeting in August 2019. In addition, these key questions also set the scope of the desk analysis on project documents, meetings report and evaluations.

The evaluation found evidence the project's implementation was effective in delivering its objectives. Facilitating information sharing, best practices and regional dialogue through the AP-IS Steering Committee was one of the key outputs of the project on enhancing capacity of government officials. Hence, evaluation against this criterion was predominantly dependent on the feedback evaluation and online questionnaire administered to participants that attended the meeting.

In addition, majority of participants (80%) indicated that they agreed or strongly agreed that 'the meeting's policy discussions, presentations, and sharing of experience provided useful information for national policy discussions on subregional ICT cooperation and enhance awareness, skills and knowledge of relevant regional/ subregional ICT issues for sustainable development'. Also, 67% of respondents indicated they agreed or strongly agreed that the meeting raised their awareness and knowledge on regional ICT challenges and opportunities relevant to their respective countries. The findings of the survey highlighted that half (53%) of participants surveyed, agreed or strongly agreed that the meeting the project activities were designed and implemented in consultation with my country/department needs and priorities.

When participants were asked of what could be done to improve the effectiveness of the project's activities, the following selected online responses are worthy to note:

Respondents #1: "One of our many priorities goal is to lower the internet cost and improve the connectivity's experiences for our citizens. This project will provide a platform that can change the whole dynamic of how users experience with the performance of the internet connection as well as it would be an instrument in driving the internet cost down."

Respondents #2: "Mongolia is shortest route for Asia to Europe and has flat land area covered most of the route. Therefore, Mongolian governments always seek any possible way to increase transit traffic through the country. Private and public companies are now mostly working on their own with the 2 neighbour country carrier companies. It needs to support them with large scale trans-boundary projects."

Respondents #3: "The project overall is very important for the Solomon Islands for efficient, sustainable and affordable broadband connectivity"

Respondents #4: "The project is more relevant to the countries in the Asia region rather than the countries in the Pacific region. The context in terms of broadband connectivity are different in these sub-regions and the way I see it is that the project tends to focus more on the Asia region. There are number of reports presented during the meeting in Bangkok which showed the results and findings of the studies made for the Asia region and little on the Pacific region. With that, I would kindly suggest to ESCAP to consider deploying more studies in the Pacific region, so the issues are more understandable and visible to attract attentions."

Respondents #5: "The project response to Cambodia government policy and strategies on information and communication technology such as improving the education methodology among the schools, narrowing digital device gap between the city and rural areas and Network for rural development."

Respondents #6: "Lowering cost of interconnection between countries is very essential. This project addresses this. Exchanges of information is basic need of society."

These findings suggest that the project was effective in identifying problems and stimulating a dialogue. As noted above more detail on core issues of settlement and charging would have increased its relevance. In addition, ESCAP member States through the 3rd session of the AP-IS Steering Committee in August 2019 agreed to the establishment of three expert working groups on: (1). a trans-multi-country terrestrial cable sharing model for AP-IS interested subregions; (2). ICT research collaboration via an AP-IS academic network; and (3). Internet traffic management in Pacific island countries, and Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV).

Efficiency

The assessment against the efficiency criterion focussed on the following questions:

- The administrative and logistical arrangement of the project activities were efficient.
- Please provide suggestions on how to make ESCAP project activities more efficient?

These questions were put forward in a survey questionnaire to the 30 ESCAP government representatives that attended the AP-IS SC3 08-2019. In addition, these questions also set the scope of the desk analysis on project documents, meetings report and evaluations.

The evaluation found evidence the project's implementation was efficient in delivering its objectives. Respondents of the online survey were asked of their assessment if the administrative and logistical arrangement of the project activities were efficient. In response, majority (73%) of the respondents strongly agreed that it was efficient.

In addition, when asked to provide suggestions on how to make ESCAP project activities more efficient, respondents stated the following suggestions:

Respondents #1: "Need for follow-up meetings to monitor the progress of the project and its impact"

Respondents #2: "Need to set up of working groups to look into specific issues of interest"

Respondents #3: "Provide the presentations and other documentations of the meeting in advance of meetings will be useful".

The AP-IS meetings that were funded through the project's budget have proper online mechanisms for disseminating of meeting's dialogue to the general public. For example,

the 3rd Session of the AP-IS Steering Committee has a meeting's website.¹³ It provided participants with agenda¹⁴ of the meeting, as well as information note¹⁵ for participants on logistical arrangements while attending the meeting. A contact detail with email address is also included for participants to contact the secretariat was also included in the meeting's website. The meeting's website included a link to online registration for participants. All necessary documentation and presentations of the meeting was made available from the meeting's website.

Budget management is another facet of efficiency. Project expenditure was modestly under budget. With a total budget of US\$250,000, a remaining balance of US1,832 (99.3% implementation rate) at the time of finalising this report.

Sustainability

The assessment against the sustainability criterion focussed on the following question:

• What national level actions you have taken to enhance or promote regional broadband connectivity in follow-up to the project (outcome results)?

This question was put forward in a survey questionnaire to the 30 ESCAP government representatives that attended the AP-IS meeting in August 2019. In addition, the question set the scope of the desk analysis on project documents, meetings report and evaluations for this criterion.

The evaluation found evidence of the project's implementation was sustainable in delivering its objectives. Respondents of the online survey (19 out of 30 responded) stated that majority of respondents (87%) strongly agree that they have shared the outcome of the project's activities, such as meetings (including presentations of studies), with Head of Department and co-workers. In addition, they have discussed internally within the Department/Ministry on potential policy changes in light of the opportunities discussed and outcome of the project's activities.

Reviews of other project documentations shows that project's activities (studies and meetings) have online websites which allows for public access and future reference. As alluded to in earlier sections, strong support from ESCAP member States of the AP-IS initiative (to which this project contributes) has been reflected through the adoption of ESCAP Commission resolution on AP-IS implementation in 2019 and endorsement of the Committee of Information and Communications Technology, Science, Technology and Innovation (CICTSTI) of the AP-IS Master Plan 2019-2022 and Regional Cooperation Framework 2019-2022. In addition, the AP-IS initiative is integrated in the ESCAP programme of work and continue to be supported by additional funding support from other sources (extra-budgetary (XB) and regular programme of technical cooperation (RPTC)).

The AP-IS Steering Committee session in 2019 also supported the formation of Working Groups to facilitate subregional/corridor subgroupings of countries to discuss specific ICT challenges is an encouraging sign that countries recognises the AP-IS platform as appropriate to addressing their respective ICT cross-border challenges.

¹³ https://www.unescap.org/events/third-session-asia-pacific-information-superhighway-ap-steering-committee-and-wsis-regional

¹⁴ https://www.unescap.org/sites/default/files/Concept%20note%20and%20agenda 2.pdf

¹⁵ https://www.unescap.org/sites/default/files/Information%20for%20participants 7.pdf

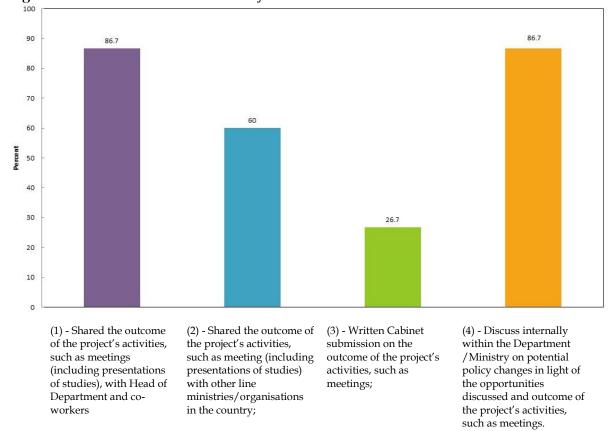


Figure 2: What national level actions you have taken?

Source: Author's analysis based on the results of the online survey questionnaire.

Gender and Human Rights

The assessment against the gender and human rights criterion focussed on the following questions:

- What measures were adopted to mainstream gender and human rights into the design and implementation of the project?
- Were these measures effective?

This question set the scope of the desk analysis on project documents, meetings report and evaluations for this criterion.

The evaluation found limited evidences of the project's implementation against gender and human rights concerns mainstreamed into the project.

Reviews of project's documents and discussion with ESCAP revealed that attempts were made to mainstream gender and human rights into the design and implementation. These were limited, due to the nature of the project. For example, the AP-IS SC3 08-2019 dedicated a session on broadband for inclusive development of which an ESCAP speaker shared their project on gender and ICT with participants. Other speakers in the session discussed other issues such as rural development through transformation and assessing quality of Internet in schools.

The project's two studies were focused on technical Internet challenges giving limited opportunity for gender to be elevated. However, it is to be noted that once these technical challenges are addressed, it is expected that access to affordable and quality Internet

connectivity will be improved in countries, which will affect all citizens in both rural and urban settings. Similarly, the project's aim of improving regional broadband connectivity also contributes indirectly to all citizens accessing the Internet, considered to be a human right. In 2016, a United Nations Human Rights Council declared access to the internet to be a basic human right.¹⁶

While ESCAP has encouraged the participation of men and women alike to the project's activities, it has been limited. It should be noted that female researchers were part of the team of researchers that conducted the two respective studies for the project. In terms of the participants to the AP-IS Steering Committee, out of the total 173 participants from various stakeholders that attended, only 39 were women (23%). Out of the 30 ESCAP member governments represented, only one ESCAP member State was represented by a female representative. As a result, the measures put in place for mainstreaming gender appeared to be ineffective.

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¹⁶ https://www.vice.com/en_us/article/3kxmm5/the-case-for-internet-access-as-a-human-right

5. Conclusions

The project successfully delivered its activities, outputs and outcomes through the AP-IS initiative. The two technical studies have not only informed ESCAP government officials' dialogue on the technical challenges on cross-border connectivity, but these dialogues has resulted in the formulation of Working Groups by ESCAP member States to discuss the technicalities of these challenges further.

At the same time, ESCAP's work and expertise in this area has been further strengthened allowing for further work and support to member States. Additional financial resources for ESCAP could also ensure effective follow-up on project's outputs.

The following conclusions are drawn from the evaluation assessment this discussed in earlier sections:

Effectiveness

The project was effective in achieving the expectations and priorities of countries benefitting from the project. Participants of meetings rated highly that the project's activities facilitated a regional policy dialogue on appropriate mechanisms for tackling ICT challenges deemed useful to national contexts. In addition, countries exchanged best practices and beginning to discuss in subgroups issues of common interest that can be addressed collaboratively. In particular, ESCAP member States through the 3rd session of the AP-IS Steering Committee in August 2019 agreed to the establishment of three expert working groups on: (1). a trans-multi-country terrestrial cable sharing model for AP-IS interested subregions; (2). ICT research collaboration via an AP-IS academic network; and (3). Internet traffic management in Pacific island countries, and Cambodia, Lao PDR, Myanmar, and Viet Nam (CLMV).

Relevance

The project proved to be highly relevant to the enhancing regional broadband connectivity in the region through the implementation of the AP-IS initiative. The AP-IS Steering Committee meeting received very positive feedback on project's alignment with subregional and national priorities. The AP-IS meeting also build consensus on regional cooperation in this area which led to regional mandate (ESCAP resolution). In particular, member States expressed support to the AP-IS initiative and requested ESCAP to continue its support in the implementation of the AP-IS initiative through resolution 75/7.

Efficiency

The project was delivered at a high level of efficiency. Project's activities were implemented within the allocated budget and in a timely manner. A good level of coordination between stakeholders involved in the project ensured that the project's activities were delivered successfully.

Sustainability

The project contributed to the implementation of the AP-IS initiative. The AP-IS initiative has been endorsed by ESCAP's intergovernmental forums (such as ESCAP Commission resolutions and Committees on Information and Communications Technologies, Science, Technology and Innovations). In particular, the AP-IS initiative is integrated in the ESCAP programme of work and continue to be supported by additional funding support from

other sources (extra-budgetary (XB) and regular programme of technical cooperation (RPTC)). As a result, the long-term sustainability of the project's interventions is ensured.

Gender and Human Rights

The project's activities recognised gender perspectives in its implementation process, though it may be limited. The focus and scope of the project, including the delivery framework may play a part in the limited mainstreaming of gender perspective and human rights into the project.

In summary, the project's activities have contributed positively to the implementation of the AP-IS initiative. The project's two studies generated by the project provided new insights on the challenges of investing in cross-border ICT connectivity projects. These new insights informed government officials in selected corridors of South-East Asia. As a result, there are plans for establishing AP-IS Working Groups between interested countries in South-East Asia to discuss these issues and take it forward.

6. Recommendations

In light of the key conclusions and findings of this evaluation report, the following recommendations put forward:

- 1. ESCAP should consider assessing the impact of its projects through an ex-post evaluation (12 to 18 months after project completion). Evaluations would be more informative if data collection methods could be reviewed to establish sufficient data baselines at the beginning of the project where knowledge enhancement is a project goal. For projects, where the impacts of the project will appear in months or years, provision for an ex-post review after 12 or 18 months could be a useful innovation. Modifications along these lines may provide more informative data on the projects impacts.
- 2. ESCAP should conduct capacity training of governments to formulate and negotiate corridor agreements involving multiple countries on ICT connectivity issues. Project research shows cross-border, terrestrial fibre-optic cable projects, have not expanded beyond two neighbouring countries, with this failure partly caused by the absence of international agreement on broadband fibre-optic network transit charges and settlement rates methodologies. It is therefore recommended that capacity training of government officials be undertaken in this area, in order to equip countries in this subregion with appropriate evidence for reaching a consensus on moving forward 2020, particularly with the publication of the ITU report on charging and settlement for broadband cables expected in April 2020. When the ITU Study on settlement and charging is completed, ESCAP could commission a further study on its relevance to countries agreeing on charging for transit on multi country cables, thereby removing a further barrier to AP-IS.
- 3. ESCAP should continue to facilitate all stakeholders' participation and discussions (including private sectors such as the OneWeb consortium and other companies) to assist Pacific countries' on identifying the best connectivity option. In the Pacific, even countries where cables are rapidly becoming available, the cost of connecting small remote both continental and oceanic places with few people could be addressed more cheaply by the proposed LEO satellites already under construction. ESCAP is therefore recommended to open discussions with the OneWeb consortium and other companies offering LEO Satellite options, to assess the timetable for their service to be available in remote parts of the ESCAP region so the most cost-effective deployments can be agreed.
- 4. ESCAP should integrate gender and human rights issues in its projects. While recognising the scope and focus of the project may limit the opportunity for elevating gender and human rights, there is room for improvement. Particularly, if the project design and objective include gender and human rights issues, it is therefore guaranteed that it will be allocated resources, measured and evaluated. It is therefore recommended that gender and human rights issues are considered in the design of new ICT projects, to the extent possible.

	Signature	Date
Ms. Armida Salsiah Alisjahbana Executive Secretary ESCAP	Lile	4 May 2020
Mr. Kaveh Zahedi Deputy Executive Secretary ESCAP	K:08	
Mr. Adnan Aliani Director, Strategy and Programme Management Division, ESCAP	AMAhani	
Ms. Tiziana Bonapace Director, Information and Communications Technology and Disaster Risk Reduction Division, ESCAP	Tiwan Sanjau.	

General Remarks by Management

Management welcomes the overall positive assessment of the project effectiveness, efficiency, sustainability and relevance. The interventions undertaken by the project were found to have contributed to enhanced regional broadband connectivity through improved capacity, regional dialogue and cooperation in support of the achievement of the SDGs through the Asia-Pacific Information Superhighway (AP-IS). The AP-IS activities were found effective in building consensus on regional cooperation which led to a regional mandate (ESCAP resolution 75/5) for further cooperation between member States on the subregional implementation of the AP-IS Master Plan. Also, member States recommended for the establishments of four working groups to discuss corridor-specific issues in all ESCAP subregions at the third session of the Asia-Pacific Information Superhighway Steering Committee in August 2019. One expert working group held its first meeting in December 2019 (Pacific Internet exchange point), while the remaining three (Greater Mekong Subregion terrestrial cable sharing model; Cambodia-Lao PDR-Myanmar-Viet Nam internet exchange point; and Academia Network) are planned for 2020. ESCAP's knowledge products were produced and disseminated for policy recommendations in AP-IS meetings.

The Management supports the recommendations to further strengthen the implementation of the AP-IS initiative in the region. In particular, under the AP-IS pillars on e-resilience and broadband for all, and drawing from the region's emerging body of experience in dealing with the COVID-19 pandemic, further strengthen member States' broadband connectivity capacity for enhanced preparedness to natural disasters and pandemic outbreaks and other emergencies. These recommendations are valuable to improve ESCAP's design and implementation of new technical cooperation projects on ICT. ESCAP Management therefore supports the follow-up actions outlined below to address the respective recommendations.

Recommendation	Management Response	Follow-up Action	Lead Unit/Collab orating Units	Expected completion date	Indicator of completion of follow-up action ¹
1. ESCAP should consider assessing the impact of its projects through an ex-post evaluation (12 to 18 months after project completion). Evaluations would be more informative if data collection methods could be reviewed to establish sufficient data baselines at the beginning of the project where knowledge enhancement is a project goal. For projects, where the impacts of the project will appear in months or years, provision for an ex-post review after 12 or 18 months could be a useful innovation. Modifications along these lines may provide more informative data on the projects impacts.	Management generally supports the recommendation for assessing the impact of its work including through strengthening of project data collection and methodology, for ensuring that sufficient baseline information and data are established at the beginning of the project. As a result, more effective assessment of the project's intervention could be undertaken at the completion of the project, or if required, at a later stage. On the recommendation of ex-post evaluation, ESCAP's approach is to undertake periodic evaluation of the work of each division/office which covers an assessment of results/impact of the entire division/office's work	IDD will assess the impact of its capacity building activities (trainings, seminars and workshops) using ESCAP standard questionnaires. IDD, with support from Evaluation Unit/SPMD, will conduct an in-depth stakeholders' (including experts) survey questionnaire on strengthening the effectiveness and impact of AP-IS initiative in 2022. The result of this questionnaire will form part of the indepth review of the implementation of the Asia-Pacific Information Superhighway Master Plan 2018-2022 & Regional Cooperation Framework Document beyond 2022.	IDD with support from Evaluation Unit, SPMD	30 December 2022	Report on the results of the stakeholder's survey on the AP-IS initiative.

¹* This information provides evidence of completion of action. Examples include issuance of an official memo, completion of a study or report, launching of a website, etc.

	achieved over a period of about five years.				
2. ESCAP should conduct capacity training of governments to formulate and negotiate corridor agreements involving multiple countries on ICT connectivity issues. Project research shows cross-border, terrestrial fibre-optic cable projects, have not expanded beyond two neighbouring countries, with this failure partly caused by the absence of international agreement on broadband fibre-optic network transit charges and settlement rates methodologies. It is therefore recommended that capacity training of government officials be undertaken in this area, in order to equip countries in this subregion with appropriate evidence for reaching a consensus on moving forward 2020, particularly with the publication of the ITU report on charging and settlement for broadband cables expected in April 2020.	Management recognizes that capacity building in this area is an important component of the project going forward. Management further recognizes the importance of leveraging synergies of sharing knowledge, experiences and lessons learnt, generated from AP-IS expert working groups, particularly in the areas of e-resilience and broadband for enhanced preparedness to natural disasters, pandemics such as COVID-19 and other emergencies	ESCAP will conduct capacity trainings of governments to formulate and negotiate corridor agreements involving multiple countries on ICT connectivity issues. The first capacity training will focus on establishing a subregional internet exchange point involving Cambodia, Lao PDR, Myanmar, and Vietnam. This training will be organized in 2020 and in collaboration with the National Information Society of the Republic of Korea. In addition, ESCAP will collaborate with the Internet Society to conduct a capacity training for Pacific island countries on operationalization of a subregional Internet exchange point in the Pacific If physical meeting is not feasible, the trainings will be delivered virtually.	IDD	30 December 2020	At least two capacity training of governments on ICT connectivity issues completed during 2020

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When the ITU Study on					
settlement and charging is					
completed, ESCAP could					
commission a further study					
on its relevance to countries					
agreeing on charging for					
transit on multi country					
cables, thereby removing a					
further barrier to AP-IS.					
3. ESCAP should continue to	Management agrees on this	ESCAP will continue to	IDD	30 December	Outcome document
facilitate all stakeholders'	recommendation to	engage relevant		2020	of the Asia-Pacific
participation and discussions	continue engaging the	stakeholders including			Information
(including private sectors	relevant stakeholders	satellite operators in the			Superhighway
such as the OneWeb	(particularly private sectors	implementation of the Asia-			Steering Committee,
consortium and other	including satellite	Pacific Information			indicating attendance
companies) to assist Pacific	operators) in the	Superhighway initiative by			of private sector
countries' on identifying the	implementation of the Asia-	facilitating their			representatives in
best connectivity option. In	Pacific Information	participation to share			the Committee.
the Pacific, even countries	Superhighway initiative.	insights in the next session			
where cables are rapidly		of the Asia-Pacific			
becoming available, the cost		Information Superhighway			
of connecting small remote		Steering Committee.			
both continental and					
oceanic places with few					
people could be addressed					
more cheaply by the					
proposed LEO satellites					
already under construction.					
ESCAP is therefore					
recommended to open					
discussions with relevant					
stakeholders such as the					
OneWeb consortium and					
other companies offering					
LEO Satellite options, to					
assess the timetable for					
their service to be available					
in remote parts of the ESCAP					

region so the most cost- effective deployments can be agreed. 4. ESCAP should integrate	Management agrees on this	IDD staff will participate in	IDD	30 December	Participation of IDD
gender and human rights issues in its projects. While recognising the scope and focus of the project may limit the opportunity for elevating gender and human rights, there is room for improvement. Particularly, if the project design and objective include gender and human rights issues, it is therefore guaranteed that it will be allocated resources, measured and evaluated. It is therefore recommended that gender and human rights issues are considered in the design of new ICT projects, to the extent possible.	recommendation that ESCAP should integrate gender and human rights issues in its projects. In this respect, ESCAP has launched several initiatives to further support gender mainstreaming, including the issuance of the Gender Equality Policy and Implementation Plan in November 2019 and the launch of the ESCAP Gender Marker designed to support the integration of gender issues at the project design and formulation stage.	capacity building activities on gender mainstreaming in ESCAP projects to be organized by ESCAP gender focal point and HRMS learning unit as part of the roll out of the newly launched ESCAP gender marker and apply the learning in new project proposals developed by IDD.		2021	staff in capacity building activities on gender mainstreaming in ESCAP projects and evidences of gender mainstreaming in new project proposals developed by IDD.

Annex 2: Terms of Reference

1. BACKGROUND

Evaluation at ESCAP complies with the regulations and rules of the United Nations Secretariat as put forth by the Secretary-General,¹⁷ which mandate that all programmes shall be evaluated on a regular, periodic basis. The present evaluation is undertaken in accordance with the ESCAP Monitoring and Evaluation Policy and Guidelines¹⁸ that requires each capacity development project funded from extrabudgetary sources to allocate a dedicated budget for evaluation.

ESCAP is implementing a project entitled "Strengthening connectivity for the implementation of the Asia-Pacific Information Superhighway initiative", funded by the Government of the People's Republic of China. The project aims to enhance regional broadband connectivity through improved capacity, regional dialogue and cooperation in support of achievement of the SDGs through the AP-IS.

The project proposed a multi-layered strategy highlighted to capitalize on the aforementioned assets of stakeholders, partnerships and existing regional and subregional initiatives, cooperation frameworks and platforms for replicability and sustainability. The total budget of the project is \$250,000, and implementation period is from 1 May 2018 to 30 April 2020.

2. PURPOSE, OBJECTIVES AND SCOPE

2.1 Purpose

The purposes of evaluation are to promote accountability and learning, and support results-based management. Evaluations are used to enhance future project planning, inform programming and budgeting and report on achievements and results of ESCAP's work to member States and donors. The use of evaluations for accountability and organizational learning is facilitated through the development of a management response and follow-up action plan to the findings and recommendations of each evaluation. The target users of the evaluation results include the ESCAP management and staff, donor and member States of ESCAP.

2.2 Objectives

The objectives of the evaluation are:

1) To assess the level of achievement of both expected and unexpected results at the outcome level¹⁹ by examining the results chain, processes, contextual factors and causality using standard evaluation criteria, including effectiveness, relevance, efficiency, sustainability, and gender and human rights mainstreaming.

¹⁷ Secretary-General's Bulletin, "Regulations and rules governing programme planning, the programme aspects of the budget, the monitoring of implementation and the methods of evaluation", ST/SGB/2016/6.

¹⁸ Available on the ESCAP webpage at http://www.unescap.org/partners/monitoring-and-evaluation/evaluation

¹⁹ Outcomes are the likely or achieved short-term and medium-term effects of an intervention's outputs. They can be either intended or unintended, and desired (positive) or un-wanted (negative). They reflect the changes in the behavior or practices of the target group(s) that ESCAP intends to influence, including through actions taken collectively with its development partners. They describe how the target groups use the outputs delivered by a project/subprogramme.

2) To formulate lessons learned and action-oriented recommendations to inform management decision-making and improve future project design and implementation.

2.3 Scope and evaluation criteria

In line with above objectives, the evaluation will cover all the activities implemented and outputs produced by the project. It will assess the following elements:

- Actual progress made towards project objectives.
- The efficiency with which outputs were delivered.
- The strengths and weaknesses of project implementation.
- The validity of the strategy and partnership arrangements as well as coordination among the different implementing partners.

As part of the analytical process, the evaluator will need to develop the **theory of change** to illustrate the links between the project's actual activities and outputs and expected outcome(s), within the bigger picture of the project's objective. Applying the theory of change to the evaluation will provide a framework for assessing how the various elements of the project fit into the wider change processes that it sought to achieve.

The following evaluation criteria and questions to assess the results of the project will be addressed:

Evaluation criteria	Evaluation questions
Effectiveness The extent to which the project's outcome has been achieved.	 The project contributed to the policy dialogue on digital divide challenges in my country. The project activities were effective in raising your awareness and knowledge on regional ICT challenges and opportunities relevant to your country. My country/department has initiated actions to enhance and promote regional broadband connectivity as follow up to the project.
	 What could be done to improve the effectiveness of the project's activities that you attended?
Relevance The extent to which the project's outputs met the	The project activities were designed and implemented in consultation with my country/department needs and priorities.
specific needs and requirements of the target groups.	The project activities were relevant to your department's/ministry's priorities on promoting regional cooperation for access to affordable broadband connectivity.
	 Please provide comments on the relevance of the project to your country/department and suggestions on how to improve relevance of follow- up activities of this project?
Efficiency The extent to which human and financial resources were	 The administrative and logistical arrangement of the project activities were efficient. What were the causes of deviations, if any, in budget and timeframe?

Evaluation criteria	Evaluation questions
used in the best possible way to implement activities and deliver outputs.	 Please provide suggestions on how to make ESCAP project activities more efficient?
Sustainability The likelihood that the benefits of the project will continue in the future.	What national level actions you have taken to enhance or promote regional broadband connectivity in follow-up to the project (outcome results)?
Gender and human rights mainstreaming The extent to which gender and human rights considerations have been incorporated in the project design and implementation.	 What measures were adopted to mainstream gender and human rights into the design and implementation of the project? Were these measures effective?

3. METHODOLOGY

3.1 Overall approach and data collection

The evaluation will use a mix of data sources collected through multiple methods, with analysis of both quantitative and qualitative data. Results will be triangulated where possible. Data collection will include but not be limited to the following:

- 1. A desk review of relevant documents, including the project document, progress and terminal reports, activity reports, results of survey questionnaires, relevant official correspondences with stakeholders, any strategic documents related to the project.
- 2. Development of the project's **theory of change** through a participatory and consultative process involving key project stakeholders.
- 3. Online survey questionnaire.

Data will be disaggregated by sex and other relevant social categories. The evaluation will undertake a transparent and participatory evaluation process that will involve male and female stakeholders identified in the stakeholder analysis, including: the reference group, development partners and target beneficiaries in all key evaluation tasks.

In analyzing the data, the evaluation will use qualitative and quantitative approaches, and provide charts and direct quotations. Using the data to assess evaluation against the selected criteria. Gender and human rights mainstreaming are essential components of data analysis in all ESCAP evaluations and take place on three levels: 1) project design; 2) project conduct; 3) project outcomes. Data analysis will enable useful, evidence-based findings, the conclusions and recommendations.

4. ROLES AND RESPONSIBILITIES

4.1 Evaluation manager

The evaluation will be directly managed by the ICT and Development Section, ICT and Disaster Risk Reduction Division, ESCAP.

4.2 Reference group

ESCAP uses an evaluation reference group to enhance stakeholder participation. Participants are selected by the evaluation manager and can include stakeholders and peers, internal and external to the project and ESCAP. The group should be gender balanced and have an appropriate mix of skills and perspectives. It provides technical and methodological guidance to the evaluation process; reviews and approves the selection of the consultant, terms of reference and inception report; provides quality control of the evaluation report and validation of recommendations; and ensures adherence to ESCAP Evaluation Policy and Guidelines and the use of evaluation outputs, including the formulation of the evaluation management response and follow-up action plan.

4.3 Evaluator

The evaluator will assume overall responsibility for carrying out the evaluation. This includes, among other activities, managing the work, ensuring the quality of interviews and data collection, preparing the draft report, presenting the draft report and producing the final report after comments have been received in line with standard templates provided by ESCAP. The evaluator must have:

- Knowledge of the United Nations System; principles, values, goals and approaches, including human rights, gender equality, cultural values, the Sustainable Development Goals and results-based management;
- Professional and technical experience in evaluation (application of evaluation norms, standards and ethical guidelines and the relevant organizational evaluation policy and promotion of evaluation and evidence-based learning).²⁰
- They should also have a good technical knowledge in the Asia-Pacific region, including major development trends and issues, particularly in the areas of sustainable development of ICT infrastructure.

ESCAP adheres to the UNEG Ethical Guidelines and Code of Conduct in evaluation and all staff and consultants engaged in evaluation are required to uphold these standards. To this end, ESCAP has developed a Consultants Agreement form (Annex IV) that evaluators are required to sign as part of the contracting process.

5. OUTPUTS

The following outputs will be delivered to the project manager at ESCAP:

- 1. Inception report detailing the approach of the evaluator, workplan and evaluation logical framework (see Annex I)
- 2. First draft of evaluation report (see Annex II)
- 3. Final evaluation report

The draft evaluation report will be shared with key stakeholders prior to finalization. The final report, which will include a management response from the Executive Secretary of ESCAP,

²⁰ See Standard 3.1. Competencies, UNEG. 2016. Norms and standards for evaluation.

will be submitted to the donor in the correct format. The final evaluation report will also be circulated within the ESCAP secretariat and posted on ESCAP's public website.

6. WORKPLAN

The evaluation will commence in October 2019 and requires an estimated one and a half months to complete. The evaluation budget includes a consultancy fee to be determined based on professional qualifications and duration of contract plus the cost of airfares and daily subsistence allowance. The following tasks will be undertaken:

TASKS	Schedule
Preliminary consultations and desk review	15 October 2019
Develop an evaluation inception report, including an evaluation	21 October 2019
plan	
Prepare a draft evaluation report and obtain preliminary	10 November 2019
feedback from the evaluation reference group	
Presentation of preliminary findings to ESCAP and key	20 November 2019
stakeholders	
Incorporate final comments and finalize the evaluation report	30 November 2019

Annex 3: List of Documents Reviewed

Date	Title	Author/Company
2019-08-26	2nd AP-IS SC, meeting report, final	ESCAP
2019-08-22	Network Planning for the Greater Mekong Sub-region	Research Report
2019-08-01	New model of trans-multi-country terrestrial cable	CAICT Presentation
2019-06-01	Operation of Cross-Border Terrestrial Fibre-Optic Networks in Asia and the Pacific	CAICT Report
2019-05-29	Digital Platform + imagination	ESCAP EGM
2019-05-01	Resilient digital economy fostering SMES central Asia	ESCAP
2019-05-01	ICT Co-Deployment Electricity Infrastructure Bhutan	Sonam Dukda
2019-03-11	Satellite Communications in Pacific Island Countries	ESCAP
2019-03-01	E-resilience for Digital Economy in Central Asia	ESCAP Pamphlet
2019-01-01	Financing Infrastructure for Sustainable Development	ESCAP
2019-01-01	Survey Asia-Pacific Report	UNTF
2018-11-18	Pacific AP-IS Subregional meeting Report	ESCAP
2018-11-07	Artificial Intelligence and Broadband Divide in A&P	ESCAP
2018-10-24	Fibre-optic co-deployment along the Asian Highways and Trans-Asian Railways for e-Resilience: Case of India and Bangladesh	ESCAP
2018-08-01	White Paper - China International Optical Cable	CAICT
2018-07-16	AP-IS Regional Cooperation Framework 2019-2022	ESCAP
2018-07-16	ESCAP - AP-IS Masterplan	WSCAP
2018-02-27	Belt and Road Initiative BRI Enhancing ICT Connect	Okuda et al./ESCAP
2018-02-12	Space Applications for Sustainable Development	ESCAP (2018-2030)
2018-01-01	State of ICT Asia and Pacific 2017 - AI	ESCAP
2018-01-01	Belt & Road Initiative BRI Enhancing Connectivity	Okuda et al./ESCAP
2018-01-01	Integrating Geospatial Dimensions - applications	ESCAP Presentation
2017-10-01	Universal Access and Universal Service Funds	ESCAP
2017-04-01	Promoting investment in the AP-IS	PB No.48
2017-02-01	International Gateways and Broadband Connectivity	ESCAP
2016-12-07	Asia-Pacific IS Internet Traffic Management	Bhutan Workshop

Date	Title	Author/Company
2016-12-01	Asia-Pacific ICT and DRR Gateway	Leaflet ESCAP
2016-10-01	Updated Country Analysis of Broadband Infrastructure	Michael Ruddy
2016-09-09	Master Plan for Asia-Pacific Information Superhighway	WSCAP
2016-09-01	Asia-Pacific Information Superhighway Leaflet	ESCAP
2016-08-16	State of ICT in Asia and the Pacific	Okuda, 'Ofa et al./ESCAP
2016-04-01	AP-IS Private Sector Consultative Meeting Report	Seminar
2016-02-01	A Pre-Feasibility Study on the Asia-Pacific Information Superhighway in the ASEAN Sub-region: Conceptualization, International Traffic & Quality Analysis, Network Topology Design and Implementation Model	NIA Korea
2013-09-01	Broadband Infrastructure in the ASEAN-9 Region	Ruddy, Ozdemir Terabit
2012-09-05	UNESCAP Colombo	Abu Saeed Khan/Lirneasia
2012-08-08	ChCh Quake Impact on Library services	Moira Fraser
2011-05-09	Satellites to support activities of mankind	Butcher/Railton DBA

Annex 4: List of Government Officials who responded to online survey (19 out of 30)

Azerbaijan

Mr. Emil Ahmadov, Leading adviser, Department of International Cooperation, Ministry of Transport, Communications and High Technologies, Baku, email: emil.ahmadov@mincom.gov.az.

Bangladesh

Mr. Mohammad Fazlur Rahman, Joint Secretary, ICT Division, Dhaka, email: fazlu@ictd.gov.bd.

Bhutan

Mr. Jigme Tenzing, Director, Department of IT and Telecom, Ministry of Information and Communications, Thimphu, email: jtenzing@dit.gov.bt.

Cambodia

Mr. Khema Van, Director of E-learning and Education Technology Department, National Institute of Posts, Telecom & ICT, Ministry of Posts and Telecommunications, Phnom Penh, email: khema.van@niptict.edu.kh.

India

Mr. Suresh Kumar, Executive Director, Northern Region, RailTel Corporation of India Ltd., New Delhi, email: suresh@railtelindia.com.

Iran (Islamic Republic of)

Mr. Javad Momani, Director, Division for UNESCO and International Scientific cooperation, Department of Sustainable Development, Ministry of Foreign Affairs, E-mail: javadmomeni2012@gmail.com.

Kiribati

Mr. Kanaan Ngutu, Senior ICT Officer, Ministry of Information, Communication, Transport & Tourism Development, Tarawa, email: kanaan.ngutu@micttd.gov.ki.

Kyrgyzstan

Mr. Begmatov Myrzakmat, Head of External Affairs, Department of State Committee of Information Technology and Communications of the Kyrgyz Republic, Bishkek, email: mbegmatov@gmail.com.

Lao PDR

Mr. Thavisak Manodham, Director General of E-Government Center, Ministry of Post and Telecommunication, Vientiane, email: thavisak@mpt.gov.la; thavisak@gmail.com.

Mongolia

Mr. Odkhuu Tsolmondelger, Chief Strategy Officer of Information Communications Network LLC, Ulaanbaatar, email: odkots@gmail.com.

Myanmar

Mr. Than Htun Aung, Deputy Director General, Posts and Telecommunications Department, Ministry of Transport and Communications, Nay Pyi Taw, email: htunaung.than@gmail.com.

Pakistan

Mr. Adeel Aijaz Shaikh, Joint Director (Business), Ministry of Information Technology & Telecommunication, Islamabad, email: adeel.shaikh@moitt.gov.pk.

Papua New Guinea

Mr. David Bonjui, Tariff Analyst, National Informational Communicational Technology Authority, Port Moresby, email: dbonjui@nicta.gov.pg.

Samoa

Mr. Talatalaga Matau Matafeo, Chief Executive Officer, Ministry of Communications & Information Technology, Apia, email: t.matau@mcit.gov.ws.

Solomon Islands

Mr. Wilson Leguvaka, Director Regulatory Resources, Telecommunications Commission, Honiara, email: wilson.leguvaka@tcsi.org.sb.

Timor-Leste

Mr. Nicolau Santos Celestino, Director General of Transport and Communications, of the Government of Timor Leste, Dili, email: nicolau.celestino@nic.tl.

Tonga

Mr. Anitelu Toimoana, Director of Information and Technology, Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications, Nukuʻalofa, email: atoimoana@mic.gov.to.

Tuvalu

Mr. Opetaia Simati, Director of ICT, Ministry of Communication & Transport, Funafuti, email: osimati@gmail.com.

Viet Nam

Ms. Nguyen Hong Van, PhD. Computer and Systems Sciences, Director, National Database Center for Science and Technology Information, National Agency for Science and Technology Information (NASATI), Ministry of Science and Technology (MOST), Hanoi.

Annex 5: List of ESCAP Officials Consulted

Ms. Tiziana Bonapace, Director, Information and Communications Technology and Disaster Risk Reduction Division

Mr. Siope Vakataki Ofa, Economic Affairs Officer, ICT and Development Section, Information and Communications Technology and Disaster Risk Reduction Division

Mr. Edgar Dante, Chief, Evaluation Unit, Strategy Policy and Management Division

Ms. Patricia Bi Yi Wong, Associate Programme Affairs Officer, Strategy Policy and Management Division

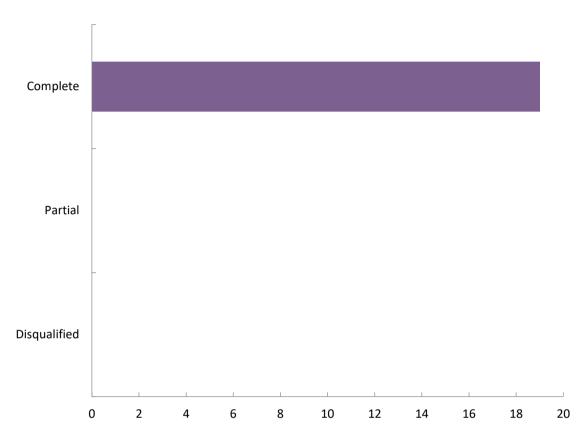
Dr. Aida Karazhanova, Economic Affairs Officer, ICT and Development, ICT and Development Section, Information and Communications Technology and Disaster Risk Reduction Division

Alexey Kravchenko, UNESCAP, Trade Division

Annex 6: Results of Online Survey Questionnaire

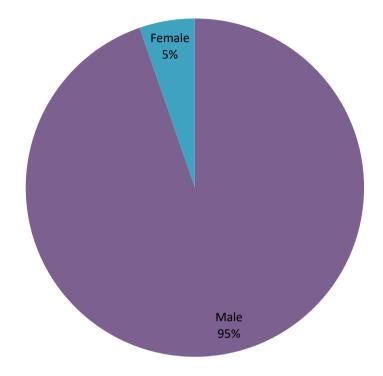
Evaluation of the Project on "Strengthening connectivity for the implementation of the Asia-Pacific Information Superhighway initiative"

Response Statistics



	Count	Percent
Complete	19	100
Partial	0	0
Disqualified	0	0
Totals	19	

7. Gender:



Value	Percent	Count
Male	94.7%	18
Female	5.3%	1
	Totals	19

3. Rate your agreement of the following statements

	Lowes t (1)		(2)		(3)		(4)		Highe st (5)		Respo nses
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
a) The project activities were designed and implemented in consultation with my country/department needs and priorities.	0	%	1	5.9%	2	11.8%	5	29.4%	9	52.9%	17
b) The project activities were relevant to your department's/ministry's priorities on promoting regional cooperation for access to affordable broadband connectivity.	0	%	1	5.9%	1	5.9%	3	17.6%	12	70.6%	17

4. Please provide comments on the relevance of the project to your country/department and suggestions on how to improve relevance of follow-up activities of this project?

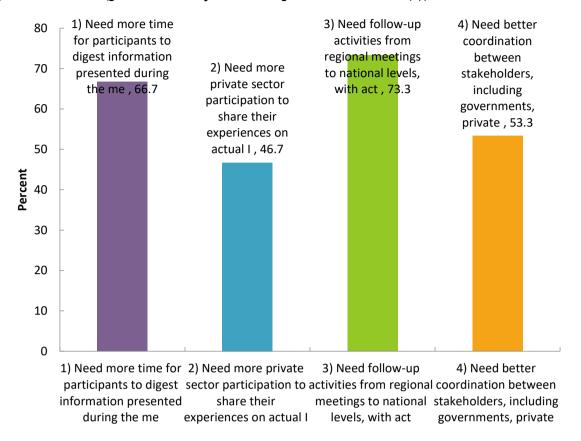
ResponseID	Response
110	One of our many priorities goal is to lower the internet cost and improve the connectivity experiences for our citizens. This project will provide a platform that can change the whole dynamic of how users experience with the performance of the internet connection as well as it would be an instrument in driving the internet cost down.
113	Mongolia is shortest route for Asia to Europe and has flat land area covered most of the route. Therefore, Mongolian governments always seek any possible way to increase transit traffic through the country. Private and public companies are now mostly working on their own with the 2 neighbor country carrier companies. It needs to support them with large scale trans-boundary projects.
115	The project overall is very important for the Solomon Islands for efficient, sustainable and affordable broadband connectivity
116	The project is more relevant to the countries in the Asia region rather than the countries in the Pacific region. The context in terms of broadband connectivity are different in these sub-regions and the way I see it is that the project tends to focus more on the Asia region. There are number of reports presented during the meeting in Bangkok which showed the results and findings of the studies made for the Asia region and little on the Pacific region. With that, I would kindly suggest to ESCAP to consider deploying more studies in the Pacific region so the issues are more understandable and visible to attract attentions.
121	very relevant
122	The project response to Cambodia government policy and strategies on information and

	communication technology such as improving the education methodology among the schools, narrowing digital device gap between the city and rural areas and Network for rural development.
124	Tuvalu is the smallest of the member countries and any objective that will enhance connectivity issues will be of utmost importance to us. We join Kiribati sentiments in requesting support on any capacity activities to assist our developments with such regional undertakings as this.
125	It would be great if govt representatives of all relevant countries attended these forums.
126	Lowering cost Interconnection of countries is very essential. These project aim at this. Exchange of information is basic need of society.
127	should have the activities on applications using broadband connectivity

5. Rate your agreement of the following statements

	Lowest (1)		(2)		(3)		(4)		Highest (5)		Responses
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
a) The project contributed to the policy dialogue on digital divide challenges in my country.	0	%	0	%	2	13.3%	1	6.7%	12	80.0%	15
b) The project activities were effective in raising your awareness and knowledge on regional ICT challenges and opportunities relevant to your country.	0	%	0	%	1	6.7%	4	26.7%	10	66.7%	15
c) My country/department has initiated actions to enhance and promote regional broadband connectivity as follow up to the project.	0	%	0	%	2	13.3%	5	33.3%	8	53.3%	15

6. What could be done to improve the effectiveness of the project's activities that you attended? (please select your most preferred answer(s))



Value	Percent	Count
1) Need more time for participants to digest information presented during the meeting as well as to discuss and share policy experiences between countries, meeting as well as to discuss and share policy experiences between countries.	66.7%	10
2) Need more private sector participation to share their experiences on actual ICT projects on the ground.	46.7%	7
3) Need follow-up activities from regional meetings to national levels, with actual training and policy advisory	73.3%	11

service on ICT challenges of particular countries.		
4) Need better coordination between stakeholders, including governments, private sectors, among others.	53.3%	8

7. Other, please specify:

ResponseID	Response
113	If there is possible to invite Rostelecom, Transtelecom, China Unicom, China telecom, NTT communications etc. Such as big companies already have so much experience on this field. Sharing information with them will give us much more opportunity to bring our vision in real life.
124	It is always the case that we do not follow up on the sharing bit after regional meets. Either we are asking the wrong questions or members are not sharing the relevant experiences. Then again, Tuvalu is an extreme case with peculiar needs, and we are looking forward to further developments after the submarine cable project is fully implemented.
125	I think more sub-regional meetings will be helpful
126	funding of such projects is issue. Some pilot project may be considered by some one, or by some international organisation.
127	no

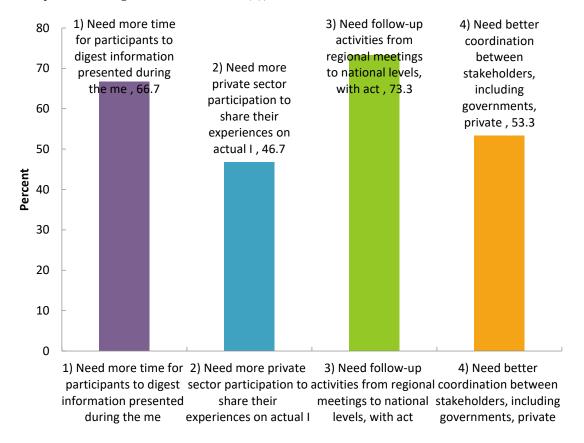
8. Rate your agreement of the following statements

	Lowest (1)		(2)		(3)		(4)		Highes t (5)		Respon ses
	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count
a) The administrative and logistical arrangement of the project activities were efficient.	0	%	0	%	1	6.7%	3	20.0%	11	73.3%	15

9. Please provide suggestions on how to make ESCAP project activities more efficient?

ResponseID	Response
110	it will be good to keep up with follow-up meetings to monitor and the progress of the project and its impact on each island nation.
121	all good
122	Moreover setting up working group is strong recommended.
124	I thought this was a no hassles activity that was beautifully organised and executed.
125	This may be difficult but if the slides could be posted online before the event started it would be very helpful

10. What national level actions you have taken to enhance or promote regional broadband connectivity in follow-up to the project (outcome results)? (please select your most preferred answer(s))



Value	Percent	Count
1) Shared the outcome of the project's activities, such as meetings (including presentations of studies), with Head of Department and coworkers.	86.7%	13
2) Shared the outcome of the project's activities, such as meeting (including presentations of studies) with other line ministries/organisations in the country.	60.0%	9
3) Write Cabinet submission on the outcome of the project's activities, such as meetings	26.7%	4

4) Discuss internally within the Department/Ministry on	86.7%	13
potential policy changes in light of the opportunities discussed and outcome of the project's		
activities, such as meetings		

11. Other, please specify:

ResponseID	Response
124	All of the above really.
125	We have also opened dialogues with the ministry of Works and Human Settlement to adopt a policy of common utility ducts along Urban Roads to begin with.

12. Any other remarks or suggestions?

Response ID	Response
105	UNESCAP initiatives has complemented all the efforts, developments and programmes executed by other DPs and Organisations. As long as it supports different Jurisdictions priorities rather than driven from externally.
108	Its need to support the expert to support the development countries or small country specially in preparing the policy, law and regulation
110	Thank you for providing opportunities to discuss this important project in our region.
115	Follow up meetings for the steering committee is essential going forward to achieve the final outcome
116	Nil

124	I believe it is to re-iterate our big thank you to ESCAP and partners for the most useful training and guidance for moving forward. Merry Christmas and God Bless
125	I think most important would be to try and get relevant officials of all related countries to attend.
126	We should continue the efforts. It will generate desired results.