Third Thematic Workshop of the Infrastructure Financing and Public-Private Partnerships (PPP) Network of Asia and the Pacific

Increasing access to cost-effective digital healthcare through ICT infrastructure in rural and remote areas: The role of PPP

Virtual Meeting on MS Teams
30 September 2021

OUTCOME DOCUMENT

ESCAP organized the third thematic workshop of the Infrastructure Financing and Public-Private Partnerships (PPP) Network of Asia and the Pacific on “Increasing access to cost-effective digital healthcare through ICT infrastructure in rural and remote areas: The role of PPP” held virtually on 30 September 2021. ESCAP partners with the China Public-Private Partnerships Center (CPPPC) under the Ministry of Finance and Asian Development Bank (ADB) to realize the promise of telemedicine in rural and remote areas via more resilient Information and communication technology (ICT) infrastructure development. ESCAP is committed to addressing key challenges in preparing bankable infrastructure projects and implement concrete solutions to financing quality infrastructure that is inclusive, sustainable, and resilient.

The main sessions of this workshop presented project case studies in healthcare and ICT sectors and exchanged of views on best practices accounting for unique characteristics and environments to enhance PPP project preparation. The workshop attracted participants from 19 countries in Asia and the Pacific and beyond, gathered total 85 participants online, including heads of PPP units, infrastructure financing specialists and healthcare and ICT experts.

Based upon the feedbacks and suggestions made by participants of the second thematic workshop, ESCAP plans to organize the third thematic workshops in the first quarter of 2022 to further enhance the operational capacity of member States’ PPP units and other network members. The future workshop could cover such thematic topics as PPP unit establishment and operation, PPP project identification, and PPP strategies for selected priority sectors or subsectors according to the preferences of the network members.

Background

Sustainable and resilient infrastructure development is a critical pillar for achieving and maintaining the Sustainable Development Goals (SDGs) by 2030. Public resources alone will be insufficient to meet the region’s significant infrastructure development needs. At the 4th High-Level Dialogue on Financing for Development (Bangkok, 28-29 April 2017), participants underscored that mobilizing private financing through public-private partnerships (PPP) would be essential to increase financing for sustainable and resilient infrastructure. However, preparing bankable and feasible high-quality infrastructure projects remain a significant challenge in developing PPP projects.

Opening Remarks

Ms. Tientip Subhani, Chief of Investment and Enterprise Development, ESCAP

The commitment to leave no one behind is a fundamental principle of the 2030 Agenda for Sustainable Development. Since the start of the COVID-19 pandemic, we have come to realize how indispensable technology and innovation are in our lives. Therefore, access to new technologies, such as telemedicine is of particular interest, considering rural and remote populations. In this regard, Public Private Partnerships (PPP) must lead the transformation of infrastructure today to ensure inclusive and
affordable health care for all. It is a cooperation between governments and the private sector through the ESCAP Sustainable Enterprise Network or ESBN. In this context, three important points are emphasized: firstly, governments must incentivize financing that supports the rapid and critical transformations needed to bring health care to underserved communities, secondly, projects that advance health infrastructure through ICT innovations in particular ought to be financed, and thirdly, the private sector should leverage his expertise.

Opening Session

*Mr. Eric Roeder, Network Coordinator, ESCAP*

- The presentation "Why we are here and what we expect to accomplish", highlighted making infrastructure projects more resilient and sustainable, and bankable.
- Where doctors are in short supply, equipment scarce and expensive to maintain, as well as limited facilities, innovations in telemedicine can make a healthcare / hospital development infrastructure proposal more viable to investors. To ensure that no-one is left behind, telemedicine can provide healthcare services in low-resource settings that include telediagnosis and telepathology.
- The other part of the equation is the vital need for resilient ICT infrastructure to advance telemedicine benefits and ensure that no one is left behind.

I. Experience from Member States

*Mr. Kartik Argawal, Deputy Director, Private Investment Unit, Department of Economic Affairs, Ministry of Finance, INDIA*

- Healthcare has become one of the largest sectors of the Indian economy, with an annual growth rate of 22%. It’s also one of the largest employments generating sectors in the country and employs around 4.7 million people directly and many more indirectly.
- However, only 2% of GDP is spent on healthcare and a low health care insurance penetration exists in the country with high expenses by citizens. Moreover, 75% of healthcare infrastructures is only based in major urban areas and there is a lack of qualified personnel in the field.
- There is a need to further innovate to attract PPP investments into the healthcare sector, by financing hospitals and supportive infrastructure, expanding biotechnology research, supplying and developing telemedicine and other related healthcare services.
- PPP provisioning for healthcare should have the following characteristics: the contract should be sufficiently long term (minimum 15 years), the performance indicators should be the KPI’s and the asset ownership should be clearly defined. In addition to the need for a PPP framework in the health sector, which is contained in the Green Book elaborated by the Department of Economic Affairs (DEA), there is a need to ensure eligibility criteria to guarantee the sustainability of the financing project.

*Mr. Fogapoa Samoa, Assistant CEO for PPP and Privatization Division, Ministry for Public Enterprises, SAMOA*

- The current health system has to follow the government planning system: from the national plan, to the health sector plan, to the government organization’s plan which implements the PPPs.
- SAMOA has one main hospital, one national kidney foundation and one medical university which is a PPP with a Florida-based company. It has six district hospitals across the country and 16 private clinics connected with the main hospital.
- A huge problem faced is the shortage of medical professionals and most of the equipment being in the main hospital.
• That is why PPPs are a huge opportunity for district hospitals. They could engage private doctors, purchase new equipment, continue, and increase the use of ICT to improve the medical information system.

Dr. Ifrad, Senior Health & PPP Specialist, PT Sarana Multi Infrastruktur (Persero), Ministry of Finance, INDONESIA

• PT Sarana Multi Infrastruktur is an entity of the ministry of finance whose mandate is to provide financial and management services to infrastructure projects. It delivers financing, investments, advisory and PPP project development. It contributes to the acceleration of infrastructure building in Indonesia and helps to achieve the SDGs.
• 3.5 points of the Indonesian GDP is spent on healthcare and continue to grow but a large inequality still remains across the country, particularly because of the decentralization of health services covering the country’s 17,000 islands. In contrast, the National Healthcare insurance has made progress in covering 82% of the population since its creation in 2014.
• Accelerating the implementation of Hospital Management Information Systems (HMIS) and optimizing the use of digital health innovations are key long-term investments in Indonesia. 85% of hospitals in Indonesia owned HMIS.
• Indonesia has a framework for PPPs in healthcare and its advantages are the transfer of knowledge from the private sector, the risk sharing, the certainty of the project’s implementation and the growth of the investment potential.

Q&A: Mr. Xie Fei, Director of Information Management Department, CPPPC:
- Asked Mr. Fogapoa SAMOA for more information about the medical education PPP with the Florida-based company.
- Mr. Fogapoa SAMOA answered that doctors from the United States’ company provide online courses to students at the medical university in SAMOA to compensate for the lack of doctors available in the country.

II. The Importance of Telemedicine and Its Innovations

Dr. Ronan Daly, Senior Lecturer, Department of Engineering, Cambridge University

• Rethinking telemedicine by breaking down bioscientific processes and simplifying them to deliver products more cheaply is needed. This rethinking comprises the entire life cycle of telemedical products, particularly the development, clinical trials, primary and secondary manufacturing and use.
• A powerful example is using a smartphone screen’s electric field. Similar to its interaction with our finger, it can interact with water and detect its quality, if the software can code the structures and share it with those to interpret it.
• Another example is the simplification of liquid tests. Expensive and complex processes may be simplified and thereby cheapened if combined in single flasks. This reduces complexity and time significantly.
• The PPP is hereby characterized by high initial public sector spending due to outcome uncertainty of the attempted simplification, but over time private investment increases and becomes the main source of funding.

Ms. Natalia Korchakova-Heeb, Global Lead for PPP and Greenfield Hospitals, Siemens

• Healthcare needs to be digitized to move towards a holistic, value-based approach, concentrating on the best results for the patient instead of a focus on purchasing prices.
• The Siemens family, ranging from its specializations in infrastructure, financial services and digitalization, ought to help cover the entire life cycle of the digitalization.
• Digital healthcare ought to question the importance and need for physical facilities as is. The unique challenges faced by the sector today are evolving patient expectations, growing experience, lack of qualified staff, and digitalization itself. These are best addressed by four main innovations and four core strategies. The innovations lie within data (AI, IoT, etc.),
products (e-health and digital twins of bodies and buildings), services (remote scanning, technological banding), and concepts (healing environment, smart hospitals). Precision medicine, care delivery, patient experience and digitalization are the strategic channels.

- The integration of the innovations is changing the project design via virtual experiences that allow for flexible planning and predictions.

Mr. Alap Adeshara, founder of Relox Virtual Lab

- Relox Virtual Lab aims to make telepathology widely available to reach the ‘last human standing’ and provide medical services quickly and cheaply. The gap between telemedicine and the patient is to be filled and the lack of diagnostic centers and pathologists in rural parts addressed. ‘All areas, all people, 24/7’.
- Relox shares data, not samples, connecting the patient, technician, doctors and others involved via cloud real-time sharing. Mobile laboratories connect to all doctors in the database to find available experts.
- In a collaboration with TATA, mobile laboratories were set up in Uttar Pradesh, India, covering villages under 2,000 people, conducting tests and providing the medicine. This allows for better resource allocation, due to reduced demand in major centers.
- An innovative feature is, due to the cloud backbone, the ability to geo-map disease developments and spreads in real-time, offering tremendous scientific insights for epidemic prevention and health policy adjustment.

Q&A: Mr. Mr. Akash Bhavsar, Managing Director, Skyquest

- Asked Dr. Daly about the typical time window for commercialization and what challenges he foresees from an adoption standpoint.
- Dr. Daly replied that this depends on the seriousness of the medical decision at hand and the level of investment needed to get through this phase and verify its safety.

III. Innovative and Resilient Infrastructure to Deliver the Promise of Telemedicine: The Role of Innovations

Mr. Stefan Videv, Director of Engineering, LiFi Research & Development Center, Department of Electronic & Electrical Engineering, University of Strathclyde

- LiFi is a bidirectional high-speed and fully networked wireless communication technology. It is a form of visible light communication and attempted to be established as a major global industry to bridge the digital divide.
- Data is encoded in laser light signals and received by photodetectors powered by photovoltaic. Data can therefore be transmitted cheaply and self-powered.
- A trial on the Orkney Islands has shown LiFi works with strong sunshine, heavy rain and fog, and is therefore suitable for a variety of different regions and latitudes.
- As a wall stops the travelling signal, data security is granted to a considerable degree, which is particularly important when dealing with sensitive personal medical data.

Ms. Yoonee Jeong, Senior Digital Technology Specialist (Digital Connectivity), Digital Technology for Development Unit, Sustainable Development and Climate Change Department, Asian Development Bank (ADB)

- Satellites, particularly Low Earth Orbit (LEO) Satellites and other technologies, could well address the around 50% of the Asia Pacific Region that remain offline, and the 3bn that remain outside the 10-mile range of high-capacity fibre infrastructure.
- The connectivity problem consists of four interrelated factors. Beyond current reach and access is secondly the policy and regulation factor, constituting the market efficiency gap. Thirdly, PPP and business limitations constitute the smart subsidy and business model zone. Fourthly, ongoing support provision constitutes the true access gap.
- Key considerations are the transmission rates of wireless technologies and the distance covered, ranging from microwaves’ 2 GB/s to fibre optic cables 9.6 TB/s.
The LEO satellites are particularly promising due to their declining cost and rapidly increasing bandwidth capacity (from 2.2 TB/s in 2019 to expectedly 25-40 TB/s in 2015).

The ADB helps bridging the digital divide by firstly, investing into connectivity, such as submarine cables to remote islands or greenfield investment into 4G rollout, secondly, by providing knowledge and advisory, including working papers on achieving universal LEO coverage and government advisory, and thirdly by advocating shared infrastructure via webinars inter alia.

Mr. Kin Chan, Office of PPP, ADB
- The ADB provides full life-cycle support ranging from concept development, including public needs and market interest analysis, over facilitating the enabling environment via roadmaps, including legal- and institutional capacity research, to project selection, helping with screening criteria and assessing short-list readiness, and project implementation, including refining projects, run competitive tender processes to identify private sector partners and plan the contract management of said partners.
- Key considerations include assessing the scope for public sector investment, scale, duration of the PPP contract and pro-actively managing dependent interfaces.

Ms. Pamela Wyatt, Principal Public Management Specialist, Pacific Regional Department, ADB
- Tonga has the highest prevalence of obesity in the world. A better information system, continuity of care, targeted health awareness programme and high impact targeted health investments were clearly needed to start reversing this trend.
- The introduction of a digital health project including gender equality was implemented by the government of Tonga, approved in 2019 and is linked to the Civil Registration and Vital Statistics System (CRVS).
- This project addresses the topic of digital health development with a focus on gender statistics, including data on gender-based violence, to enable policy making, gender sensitive decision making and alignment with the Sustainable Development Goals. It is also part of Tonga's national strategic health plan.
- Attention must now be paid to the protection of personal data, which is the subject of a draft of a personal Health Information Protection Act.

Q&A: Ms. Samantha Hung, Chief of Gender Equality Thematic Group, Sustainable Development and Climate Change Department, ADB
- Asked Ms. Wyatt how she engages with and attracts government support when pushing for gender equality in particularly sensitive environments and issue areas.
- Ms. Wyatt answered that it is necessary to talk about gender issues as much as possible to reach a wide audience, even if this proves difficult at times.

Closing Remarks

Mr. Eric Roeder, Network Coordinator, ESCAP
Remarking the challenges and opportunities of telemedicine, particularly basic training-aspects such as the need for IT professionals to maintain the IT infrastructure and digital literacy to capitalize on said infrastructure are emphasized. Moreover, agency-aspects regarding the need for private sector confidence that its government partner is investing in fruitful projects and the dynamic of their relationship per se are of importance. Overall, the sheer breadth and depth of what is involved in telemedicine and digital health care is tremendous, and potential benefits reach far beyond this sector alone.

Suggested Future Topics by Member States

As ESCAP remains committed to enhancing member States’ PPP units on practical issues related to PPP project implementation through this thematic workshop series and other activities, participants
were invited to provide their suggestions for topic coverage for the following thematic workshops. Several member States expressed their interest to focus on capacity building and knowledge sharing on particular topics. ESCAP will carefully consider these recommendations when planning the upcoming Sixth Network Meeting (the fourth quarter of 2021) and subsequent fourth thematic workshop (the first quarter of 2022).

**Meeting Evaluation and Feedbacks**

The workshop demonstrated the growing demand and appreciation by the members of the Network for the practical capacity-building support to developing sustainable and resilient PPP infrastructure projects to build back better in the post COVID-19 era. Based on the feedback evaluations, the participants were generally satisfied with the virtual format and the overall quality of the workshop. Moreover, the participants expressed that the workshop achieved its stated objectives and that it has increased their knowledge on best practices of PPP infrastructure projects in the healthcare and ICT sector. Additionally, the majority of the participants considered that the workshop was clearly presented, and the contents of the workshop were useful for their future policy action.
Annex I: Results of Workshop Evaluations

**Figure 1**
Gender distribution

![Gender distribution chart]

**Figure 2**
General feedback

![General feedback chart]
Figure 3
Quality of contents

Feedback from the contents of the Meeting

Meeting was clearly presented
Adequate time for presentation and discussions
The Meeting were useful for policy-action
All questions are addressed in Q&A Session
Infrastructure financing and PPP knowledge increased

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Figure 5
Priority sectors by rank for future capacity-building workshops

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<td>Education</td>
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<td>Others</td>
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Annex 1
Feedback from participants

- Everything was fine. Time management would be good to allow some questions from audience.
- More forward information and guidance for panelists.
- More alignment/flow of contents of individual presenters under a discussion topic.
- It would be wonderful to have a breakout session to discuss specific topics or challenges set by the Chair, to report back thoughts to the broader group. This would be good to bring a range of viewpoints together but also give a chance for some additional networking. It was an excellent event, I found it very revealing and thank you again for the invitation.
- The duration of nearly 4 hours without break time is decrease in concentration on meeting. So, as the organizer of ESCAP should be careful of this.
- May have a breather in between sessions. For example, interact with your audience using real-time voting (e.g., using Mentimeter app.) about the topics discussed in the meeting. This activity somehow gauges the audience's participation in the meeting.
- Organize more presentations on case studies for health PPPs in the region for developing countries like PNG to emulate.
- More case study discussion should be presented.
- Suggest focusing on capacity building and knowledge sharing in future virtual meeting. For its annual meeting, the topics could be broader, and the length could be longer. For thematic meeting, it is better to focus on in-depth teaching and discussion no more than 2.5 hours.