

**2<sup>nd</sup> Call for Participation**  
**Collaborate with a National Government Agency of Bangladesh**  
**in order to**  
**Research and Produce a Policy-Relevant Paper on “AI for Social Good: Strengthening Capabilities and Government Frameworks in Asia and the Pacific” that can help inform AI policies and strategies in Bangladesh**

**A United Nations ESCAP-APRU-Google Collaboration**

The APRU International Secretariat is calling for scholar participation *to develop research that can help inform policies* on AI for Social Good in particular country-specific contexts as part of a collaboration between United Nations ESCAP, APRU and Google.

*Applications for participation should be sent to the APRU Secretariat by April 24, 2022.*

**Background**

The project title is “**AI for Social Good: Strengthening Capabilities and Government Frameworks in Asia and the Pacific**”. It aims to draw on expertise from research centers and universities in Asia and the Pacific *to provide active research support in the development of country-specific AI governance frameworks and national capabilities*, to empower transparent AI ecosystems, and to develop AI solutions that tackle socio-economic challenges.

Researchers with AI-related expertise from a range of disciplines – including, but not limited to, computer science, politics/political science, philosophy, international relations, sociology, statistics, public policy, and law – are very welcome to apply. **Participants will respond to one research question/problem, which has been identified by a national government agency of Bangladesh.** (As part of the application process, candidates are asked to specify how they would draw on their own area of expertise to respond to one of the questions.)

**Project Overview**

- *Particular AI-related research and analysis needs have been identified by the Bangladesh Aspire to Innovate (a2i) Programme of the ICT Division and Cabinet Division of Bangladesh. Applicants are asked to choose one research question/problem, under either ‘Continuous Assessment’ or ‘Pregnancy Monitoring’, to respond to in a **policy research paper**. (Representatives from the relevant government agencies will provide guidance to the researchers as they develop their papers.)*

Up to two lead scholars will be selected for this call to:

- conduct research and develop a research paper responding to one of the identified AI-related research needs and a corresponding research question, with the aim of responding to the particular Bangladesh context and helping to inform policy.
- participate in up to two country workshops (the 1<sup>st</sup> workshop will help further define the country needs, the second workshop will discuss how research findings may be translated into policy action)
- attend a regional summit to disseminate findings and insights at the regional level.

***The research will help to inform policies by addressing identified research and analysis gaps.***

Participants will share their findings with government agencies and their key stakeholders to support the development of policies promoting and enabling AI policy frameworks and building AI capabilities for social good.

## **AI-related Research and Analysis Needs**

### **1. Continuous Assessment**

**Rationale and problem statement:**

Continuous assessment can be regarded as a method of ascertaining what a student gains from schooling in terms of knowledge, industry, and character development, taking into account all their performances in tests, assignments, projects, and other educational activities during a given period of term, year, or during the entire period of an educational level. In contrast, a traditional assessment system would have a single exam at the conclusion of the semester or curricular unit. Continuous and formative assessments can help students to assess their own learning level and seek support. In short, it helps them to take ownership of their own learning experience.

The Bangladesh Examination Development Unit (BEDU) of the Department of Secondary and Higher Education has conducted a pilot with the technical support of Aspire to Innovate Programme (a2i) where 64 Head Teachers and 64 teachers and academic supervisors were trained and 8000+ students were registered. The pilot has been supervised by BEDU. With the technical support of a2i, a continuous assessment app has also been created through which teachers have assessed all the students online. During this piloting phase, students' performance data were collected, but these data have not been analyzed. The authority has planned to scale this up by including 100k+ primary and secondary schools, 40 million students, 1 million teachers. In this context, AI can be used to analyze the student's data and develop unique student profiles. The logic is that unique profiles would make it possible to identify the weaknesses of the student through performance analysis and provide them with corrective measures which cannot be done in aggregate evaluation.

**Research questions:**

- a. What are the advantages and disadvantages of AI being applied to continuous assessment in Bangladesh, and how could one enhance the benefits and minimize the risks of this application?
  
- b. How might the introduction of AI in continuous assessment positively or negatively impact the lives of teachers, and what can be done to mitigate negative effects?

### **2. Pregnancy Monitoring**

**Rationale and problem statement:**

Pregnancy is a natural process that results in a series of physiological and psychological changes in a pregnant woman. As a result, even a normal pregnancy may end in potentially life-threatening maternal and fetal complications. Most women do not experience emergencies during pregnancy, but any woman could. Continuous pregnancy monitoring should be ensured during this challenging time for the safety and well-being of both the

pregnant woman and neonates. It could provide significant opportunities for health care professionals to observe the health-related parameters of their patients and detect pregnancy complications early, which increases the chance of a normal pregnancy and the birth of a healthy baby. Furthermore, it could also enhance a woman's self-management because it disseminates behavior change communication messages to women about the importance of maternity care. Also, continuous pregnancy monitoring is essential in achieving the Sustainable Development Goal-3 - transforming the method of treatment and diagnosis as well as the relationship between health professionals and patients, which can be ensured by continuous monitoring.

Currently in Bangladesh, healthcare service providers perform this monitoring during a scheduled visit in maternity care units or at home visits. However, the utilization of maternity care provided by health professionals during and after delivery is alarmingly low in Bangladesh, and monitoring is not performed systematically yet. Besides, a large number of pregnant women do not have access to this service due to a shortage of health workforce, lack of knowledge, and some socio-cultural factors that hinder women's access to adequate health care services during pregnancy. All of these factors highlight the need for personalized and continuous monitoring of pregnant women to improve health outcomes. Moreover, continuous monitoring can help in acquisition of data if interactive systems such as phone-based, internet-based, Interactive Voice Response (IVR), wearable devices etc. are used for monitoring. Most importantly, AI could provide a better understanding of pregnancy through analyzing the data collected from a variety of sources, or through the development of an interactive pregnancy assistant/monitoring system.

**Research questions:**

- a. What new insights and competitive advantages can be obtained by incorporating AI into continuous pregnancy monitoring in Bangladesh?
- b. How can AI be leveraged either to analyze the data collected through continuous pregnancy monitoring or to develop an interactive voice assistant system for continuous pregnancy monitoring? (Please chose one to address in response to this question.)
- c. What are the likely challenges in perceptions and reception amongst both the pregnant population and service providers of incorporating AI into continuous pregnancy monitoring systems?
- d. What are the technological challenges that Bangladesh would need to prepare for to embed AI into the continuous pregnancy monitoring system?

**Funding**

The project is funded by Google.org, supported by United Nations ESCAP and organized by the APRU International Secretariat.

Funding of US\$ 10,000 is available to support the development of each policy research paper. This funding is to cover the participation costs, including flights, accommodation, and local transport to attend one country workshop and the final summit in Canberra, Australia.

Please note that while an individual academic *or* a team of academics can work on the development of a paper, the total grant amount awarded per paper will not increase with the number of academics contributing.

### **Expected Participant Contributions**

- Participation in two country workshops (1<sup>st</sup> workshop is expected to be held in virtual mode and the 2<sup>nd</sup> face-to-face, COVID restrictions allowing)
- Virtual participation in two project meetings (with lead and participating academics)
- Submission of a paper outline, followed by the 1<sup>st</sup> draft of the paper, and then the final version of the policy research paper
- Participation in a regional summit, (face-to-face COVID restrictions allowing) to take place in mid-2023 in Canberra, Australian (date tbc).

### **Key Dates and Timeline**

- Applications for participation to be sent to [Tina.Lin@apru.org](mailto:Tina.Lin@apru.org) by **April 24, 2022**.
- Selected research teams will be notified by **early May 2022**
- The 1<sup>st</sup> country workshop to define country needs, **late May 2022** (exact date tbc)
- Submission of first outline of paper by **early August 2022** (date tbc)
- Submission of 1<sup>st</sup> draft of paper by **late Nov 2022** (date tbc)
- Submission of final paper by **late March 2023** (date tbc)
- Participation in 2<sup>nd</sup> country workshop, **May 2023** (date tbc)
- Participation in regional summit, to take place at the Australian National University in Canberra, Australia (COVID restrictions allowing), **July 2023** (date tbc).

### **Eligibility**

Scholars employed at APRU member universities will be eligible to apply to participate in the project. Applicants from non-APRU universities are also welcome, based on recommendations from APRU, Google, or United Nations ESCAP.