



Maldives Atolls Education Development Project (AEDP: P177768)
Ministry of Education
Republic of Maldives

TERMS OF REFERENCE

CONSULTANT TO IMPLEMENT STEM EDUCATION IN THE MALDIVES

MV-MOE-332433-CS-INDV

INTRODUCTION

The Maldives Atoll Education Development Project (AEDP) is organized under five components: (a) enhancing curriculum delivery; (b) continuing teacher development; (c) measuring and enhancing system performance; (d) coordination, monitoring, capacity building and technical assistance; and (e) contingent emergency response. These components and the activities under them were prepared through a process of consultation and collaboration with the Ministry of Education (MoE); the Ministry of Finance and Treasury (MoFT); the atoll education agencies; public and private employers; academics and school principals, teachers, parents and students. The components and activities are also based on the knowledge and experience gained through the implementation of the Learning Assessment and Measurement (LAMP) Global Partnership for Education (GPE) trust fund.

The Government of Maldives (GoM) is implementing the “Maldives: Atoll Education Development Project (AEDP) Project. The project is funded by the World Bank. The objective of the project is to increase access to education and enhance the quality of secondary education. The four components of this project are:

Component 1: Enhancing Curriculum Delivery and Increasing Higher Secondary Participation

The general objective of this component is to promote strategic initiatives at the country level to strengthen and develop the general education system with a special focus on access and quality at the secondary level. Under this component, procurement activities would include purchasing of teaching/learning materials to enhance literacy skills of English language and Numeracy skills of Mathematics, Promote STEM education and ICT in education as well as promote the efficient delivery of the curriculum by strengthening vocational education in selected secondary schools of Maldives.

Component 2: Continuing Teacher Development

The general objective of this component is to develop the schools to strategically implement the initiatives under component 1 (one) by building the capacity of teachers. Under this component in service support for teachers (professional developments of teachers) are planned. This includes developing curriculum materials, addressing pedagogical practices, promoting project-based learning etc. This component also includes activities to support effort of teaching/learning of students with complex learning needs.

Component 3: Measuring and Enhancing School and System Performance

The general objective of this component is to measure the performance of the school system through quality assurance activities and national assessments of learning outcomes. This component would provide support to academics in higher education institutions to undertake policy analyses using the information and data from the Quality Assurance activities planned as we all the National Assessments conducted under AEDP. Under this component the main procurements would be consultancies and human resource development at the atoll level.

Component 4: Coordination, Monitoring, Capacity Building and Technical Assistance

The general objective of this component is to assist the GoM to administer the project and develop institutional capacity. This component will assist GoM to carry out coordination, operations and monitoring support, capacity building and technical assistance, and communications in relation to the Project. Under this component the schools also get grants towards activities conducted by the schools to improve their learning outcomes.





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STEM EDUCATION

Science Technology Engineering and Mathematics (STEM) education aims to incorporate four specific disciplines, namely Science, Technology, Engineering and Mathematics as an interdisciplinary and applied approach in students learning and development. Instead of teaching the four subject areas separately STEM aims for a cohesive learning paradigm based on a modern, practical and a real-world application approach.

STEM Education which is also an essential aspect of the National Curriculum of Maldives, helps to foster ingenuity and creativity in students, assists in building resilience, encourages teamwork, collaboration & adaptation, develops problem solving skills, creates a platform for knowledge application, develops tech skills in students and prepare them for future job markets and meet the demands of the dynamic and evolving workforce of the nation.

Under this component the Project will assist NIE to:

- Establish STEM Labs with fully integrated learning environment where everything from the furniture and technology to curriculum and assessment work together to support STEM learning.
- Pilot STEM education project, conduct community awareness and capacity building of teachers from 28 schools and key personnel from NIE/MOE.
- Implement STEM education in strategically selected 28 schools.
- Implement a system to manage and continue teacher trainings, resources and effective communication to improve and carry STEM education forward.

Objectives of this Assignment

Even though some components of STEM education are randomly taught in few schools and learning institutions, it is a relatively new concept in the Maldives Education System. Both, Ministry of Education and National Institute of Education lack the expertise needed to develop and implement STEM Education in Maldives.

Hence, National Institute of Education is seeking a qualified expert as a consultant to implement STEM education in the Maldives.

Scope of Services

- Develop a plan on carrying out the pilot phase of STEM education.
- Collect data and analyse to determine the acceptability, practicability, implementation process, integration and adaptation of the project.
- Conduct trainings, awareness and other necessary activities for Ambassadors and key personnel from NIE/MOE based on the findings.
- Develop the implementation plan of STEM education in 28 schools.
- Identify and establish a system to improve the quality of STEM education.
- Any other related tasks assigned by the component coordinator of NIE/MOE.

Schedule of Deliverables

Deliverable	Payment %
1. Design pilot study of STEM integration in the selected 28 schools. - Develop a plan on pilot study of STEM integration. - Decide on appropriate data collection methods and develop materials needed for data collection. - Establish roles and responsibilities of carrying out pilot study. Deliverable: - A document on step by step process of pilot study plan, data collection methods and assigned roles and responsibilities of coordinators at central level, principals and ambassadors.	10%
2. Carryout pilot phase, collect data and analyse to determine the acceptability, practicability, implementation process, integration and adaptation of the STEM education. Deliverable: - A brief report on the analysis of acceptability, practicability, implementation	40%





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process, integration and adaptation of the STEM education and training requirements.	
3. Develop a plan on implementing STEM education in the selected 28 schools. - Analyse curriculum and current teaching and learning practices developing an integrated approach for STEM education. Deliverables: - A document on step by step process of implementation plan, necessary curriculum documents, STEM education strategy, roles and responsibilities of all STEM ambassadors and coordinators.	10%
4. Develop training modules, resources and provide training for professional staff of NIE/MOE, STEM ambassadors. Deliverables: a. Final training package for STEM ambassadors and coordination team of STEM implementation at central and school level. This will contain power point presentations, a facilitator guide, recording of any virtual sessions, model lesson plans, a guideline for STEM coordinators, model video lessons and reference documents that are used in the trainings. b. Conduct trainings for STEM ambassadors and coordination team of STEM implementation at central and school level.	30%
5. Identify a system to improve the quality of STEM education. - Analyse and identify training needs, manage resources, identify challenges and improve the quality of STEM education. Deliverables: A document on how to improve the quality of STEM education; training, observations and resources.	10%

Required Qualifications and Experience

- The candidate must have at least a Bachelor's degree or equivalent in STEM education or in the field of disciplines related to STEM education.
- The candidate must have at least 3 years of work experience in the field of STEM education or disciplines related to STEM education.
- The candidate must have at least 3 years of leadership experience in schools or educational institutions.

Other Competencies

- Excellent communication skills and strong competency in English language skills.
- Experience in strategic planning and strong organizing capability.

Institutional Arrangements and Reporting

The Consultant will be working in National Institute of Education and should report directly to the Component Coordinator (eg: STEM Coordinator at NIE, or the title of the reporting person). The Consultant will be based at National Institute of Education.

Duration of Services and Terms of Payment

The service is for a period of 6 months. The agreement could however be extended should the need arise and the conduct of the assigned is found to be acceptable. The Consultant will be paid based on the agreed rate by both parties in writing.

Confidentiality, Ethics and Conflict of Interest

The selected Consultant undertakes to comply with the World Bank's rules with regard to corrupt and fraudulent practices, conflict of interest and confidentiality and the Code of Conduct specified in the Environment and Social Safeguards Frameworks of the AEDP project. The Consultant shall maintain confidentiality on all sensitive information obtained during the assignment and shall not publish wholly or in part the findings or such information, without prior written consent by the Operations and Monitoring Support Unit of AEDP.

