EMIS Software Options

Option 1: Proprietary Software Solution. MoE purchases an EMIS solution from a software development company. The company develops or configures the system for the national education system.

> **Pros:** Customized to meet current functional requirements of MoE; if off-the-shelf then, may be immediately available for implementation

> **Cons:** Licensing fees may be expensive and recurrent; requests for future changes and enhancements to the system must be done by the software company and may be expensive; if bespoke development is required, then the system may take several months to be ready for implementation; lack of ownership of the system by the MoE; dependence of MoE on a private software company for EMIS

Option 2: In-house Software Solution. MoE hires software programmers as part of its team to develop and deploy the national EMIS.

> **Pros:** Customized to meet current functional requirements of MoE; requests for future changes and enhancements to the system can be done independently by the MoE software development staff; ownership of the system by the MoE

> **Cons:** Challenges to develop robust software solutions in-house with limited resources for full software development cycle (functional requirements, system architecture, system specifications, user-interface design, mockups, prototyping, quality assurance testing, fine-tuning, user acceptance testing, deployment, service desk technical support, system maintenance, technical documentation, user documentation, training and capacity building); high-risk of dependence on a small team of programmers that may eventually leave the MoE; narrow scope from building on EMIS lessons learned in other countries;

Option 3: Open Source Software Solution. MoE licenses open source software which is an off-the-shelf generic EMIS that can be configured and deployed as the national EMIS.

> **Pros:** No licensing fees; customized to meet current functional requirements of MoE; requests for built-in customizable features of the EMIS can be done by MOE administrative staff who can change the configuration of the software without changing the underlying software code; full ownership of the system by the MoE independent of external technical support; continuous real-time improvement by the community of users; new features can be added to the system by the multinational community of users and shared with all other users of the system who have agreed to collaborate with ideas, resources and software enhancements; this off-the-shelf option can be configured and deployed rapidly

> **Cons:** Long-term commitment by MoE required for independent administration of the system without external assistance; open source software requires resources for capacity building, configuration, implementation, and technical support costs.