

## APPENDIX 18 MONITORING SHEETS (Version 2, May 2015)

### PM Form 3-1 Monitoring Sheet Summary

**TO: CR of JICA Ethiopia Office**

#### PROJECT MONITORING SHEET

**Project Title:** The Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (1st Year)

**Version of the Sheet:** Ver. 2 (Term: October 2014 – October 2015)

**Name:** Norimichi Toyomane

**Title:** Team Leader/Mathematics

**Submission Date:** May 13, 2015

#### I. Summary

##### 1 Progress

###### 1-1 Progress of Inputs

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- First Training in Japan was successfully conducted from April 18 to May 2, 2015. Nine officers, selected from MSIC, NEAEA, CDID and TELDD, participated in the training.

###### 1-2 Progress of Activities

- 1<sup>st</sup> National Steering Committee meeting was held on October 16, 2014 at State Minister's meeting room.
- 1<sup>st</sup> Technical Committee meeting was held on November 27, 2014 at NEAEA.
- 1<sup>st</sup> Workshop was held on January 13-16 in Adama by inviting all WG members. 79 attended.
- 2<sup>nd</sup> Workshop was held in two batches: on March 23-27 for Biology, Chemistry and Assessment WG; and on March 30 to April 3 for Mathematics and Physics WG in Adama. 77 attended.
- Materials for LAMS data collection, consisting of questionnaires and achievement tests, were prepared by mid-December 2014. After validation, data collection was conducted at 32 primary schools of Addis Ababa, Amhara, SNNPR and Benishangul-Gumuz from February to April 2015.

###### 1-3 Achievement of Output

Output 2: Item pool in mathematics and science education for Grades 7 and 8 is partially developed (Table 1) through workshops mentioned above.

Table 1: Items Developed through Workshops

| Working Group    | Workshop 1 | Workshop 2 | Total       | % of Target | Target      |
|------------------|------------|------------|-------------|-------------|-------------|
| Mathematics      | 94         | 250        | 344         | 14.3        | 2400        |
| Biology          | 93         | 157        | 250         | 10.4        | 2400        |
| Chemistry        | 52         | 182        | 234         | 9.8         | 2400        |
| Physics          | 104        | 165        | 269         | 11.2        | 2400        |
| <b>Sub-total</b> | <b>343</b> | <b>754</b> | <b>1097</b> | <b>11.4</b> | <b>9600</b> |
| Assessment       | 47         | 86         | 133         | --          | --          |
| <b>Total</b>     | <b>390</b> | <b>840</b> | <b>1230</b> | <b>12.8</b> | <b>9600</b> |

**1-4 Achievement of the Project Purpose**

N/A

**1-5 Changes of Risks and Actions for Mitigation**

N/A

**1-6 Progress of Actions undertaken by JICA**

All inputs and actions have been undertaken by JICA according to the plan.

**1-7 Progress of Actions undertaken by Gov. of Ethiopia**

NEAEA conducted the data collection on National Learning Assessment for Grades 4 and 8 according to the plan.

**1-8 Progress of Environmental and Social Considerations (if applicable)**

N/A

**1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

N/A

**1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

MSIC experts are currently engaged in conducting national baseline survey on G5 and G6. Hence, MSIC experts need to be consulted well in advance on the Workshop schedule of LAMS to ensure their participation.

**2 Delay of Work Schedule and/or Problems (if any)****2-1 Detail**

No delay or problem has been recorded.

**2-2 Cause**

N/A

**2-3 Action to be taken**

N/A

**2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Ethiopia, etc.)**

N/A

**3 Modification of the Project Implementation Plan**

**3-1 PO**

No modification has been made on the PO.

**3-2 Other modifications on detailed implementation plan**

*(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)*

No modification has been made on the detailed implementation plan.

**4 Preparation of Gov. of Ethiopia toward after completion of the Project**

No preparation has been started yet.

**II. Project Monitoring Sheet I & II**     *as Attached*

## Project Monitoring Sheet I (Revision of Project Design Matrix)

Project Title: Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (LAMS)

Version: 2

Implementing Agency: Federal Ministry of Education

Dated: May 13, 2015

Target Group: Officials of the Federal Ministry of Education, Officials of Regional Education Bureaus (11)


Period of Project: October 2014~October 2017

Project Site: Whole country

Model Site: None

| Narrative Summary   | Objectively Verifiable Indicators  | Means of Verification  | Important Assumption   | Achievement | Remarks |
|---|--|--|--|-------------|---------|
| <b>Super Goal</b><br>Students' learning achievement at Grade 7 and 8* is improved.  | 1 Improvement of the results of Primary School Leaving Certificate Examination (PSLCE) in mathematics and science<br>2 Improvement of the results of National Learning Assessment (NLA)  | 1 Result of PSLCE by REBs and NEAEA<br>2 Result of NLA by NEAEA          |  |             |         |
| <b>Overall Goal</b><br>Pedagogical basic foundation is prepared mainly at Grade 7 and 8 to improve students' learning achievement.  | 1 "Workbook" developed by the Project are distributed to schools<br>2 "Assessment and Evaluation session module on mathematics and science education" is utilized at CTE and Inset   | 1 MoE and REBs reports<br>2 Interview with related directorates and REBs | 1 Quality of question items of PSLCE in mathematics and science, and NLA is improved based on the outputs of the project.  |             |         |
| <b>Project Purpose</b><br>Quality of curriculum strategy to improve students' learning achievement in mathematics and science education at target grades is enhanced under curriculum consistency.  | 1 Understandings on quality of curriculum policy under curriculum consistency in mathematics and science education are deepened among the stakeholders<br>2 Materials developed by the Project have curriculum consistency   | 1 Project reports<br>2 Project reports                                   | 1 The Ethiopian Government fund is utilized for the outputs of the project, such as printing and distribution of the materials developed by the project and preset and inset.<br>2 Mathematics and Science textbooks are distributed nationwide. |             |         |
| <b>Output 1: (Subject WGs' members)</b><br>Capacity of Subject WGs' members on mathematics and science education are enhanced   | 1 Improvement of M&E results of the trainings and WS in terms of the following contents:**<br>(1) Participants' performance<br>(2) Satisfaction toward the contents of the trainings and WS by the participants<br>2 Relevance of the quality of question items of Item Pool is secured through validation process.  | 1 Project reports<br>2 Project reports                                   | 1. Collaborative activities among stakeholders are maintained.   |             |         |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b><br>Item pool in mathematics and science education for Grade 7 and 8, and Sample Item pool in mathematics and science education for Grade 4 and 10 are developed. | 1 Improvement of M&E results of the trainings and WS in terms of the following contents:<br>(1) Participants' performance based on concrete question items developed by the participants<br>(2) Satisfaction toward the contents of the trainings and WS by the participants<br>2 "Item pool" is allocated in accessible way for all related stakeholders<br>3 "Item Pool" is utilized by related stakeholders | 1 Project reports<br>2 Project reports<br>3 Project reports              |  |             |         |

|  |   |  |  |  |  |
|--|---|--|--|--|--|
| <p><b>Output 3: (Mainly NEAEA and REBs)</b><br/>Capacity of the following human resources on development of Item Banks is enhanced.<br/>- Item writers and experts for "NLA Item Bank on mathematics and science education for Grade 4, 8 and 10 (NEAEA)"<br/>- Subject experts for "PSLCE Item Bank on Mathematics and Science for Grade 8 and Ethiopian General Secondary Education Certificate Examination (EGSECE) in Grade 10 (NEAEA) "<br/>- Item writers for "PSLCE items for Grade 8 (REBs)"</p> | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:<br/>(1) Participants' performance<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 Improvement of the results of M&amp;E of WG's sessions related to Output 3</p> | <p>1 Project reports<br/>2 Project reports</p> |  |  |  |
| <p><b>Output 4: (Mainly CDID)</b><br/>"Workbooks on mathematics and science for Grade 7 and 8" are developed.</p>  | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 5: (Mainly MSIC)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CPD modules, is elaborated.</p>   | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 E ndorsement by MoE</p>  | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 6: (Mainly TELDD)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CTE modules, is elaborated.</p>  | <p>1 Relevance of the quality of the product is secured through validation<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 7: (Mainly CDID, MSIC and TELDD)</b><br/>Action plans, clarifying the utilization of developed materials, are prepared.</p>   | <p>1 Approval by MoE</p>  | <p>1 MoE</p>                                   |  |  |  |

| Activities  | Inputs   |   | Important Assumption   |
|---|--|---|--|
| 1-1. Plan WG's trainings and WS.<br>1-2. Coordinate WG's trainings and WS.<br>1-3. Conduct Subject WG's trainings and WS.<br>1-4. Monitor and evaluate the results of the Subject WG's trainings and WS.<br>-----<br>2-1. Trainings on development of question items for Item Pool.<br>2-2. Consolidate the procedure of development of Item Pool.<br>2-3. Draft question items for Grade 8.<br>2-4. Validate on reliance and relevance of drafted question items for Grade 8.<br>2-5. Finalize question items for Grade 8.<br>2-6. Draft question items for Grade 7.<br>2-7. Validate on relevance of drafted question items for Grade 7.<br>2-8. Finalize question items for Grade 7.<br>2-9. Draft sample question items for Grade 10.<br>2-10. Validate on reliance and relevance of drafted sample question items for Grade 10.<br>2-11. Finalize sample question items for Grade 10.<br>2-12. Draft sample question items for Grade 4.<br>2-13. Validate on reliance and relevance of drafted sample question items for Grade 4.<br>2-14. Finalize sample question items for Grade 4.<br>-----<br>3-1. Plan Assessment and Evaluation WG's trainings and WSs.<br>3-2. Coordinate Assessment and Evaluation WG's trainings and WSs.<br>3-3. Conduct Assessment and Evaluation WG's trainings and WSs.<br>3-4. Monitor and evaluate Assessment and Evaluation WG's trainings and WSs.<br>3-5. (To be determined) Activities for improving quality of mathematics and science Item bank. | The Japanese Side  | The Ethiopian Side  | Important Assumption   |
|   | <ul style="list-style-type: none"> <li>• Experts from Japan</li> <li>- Chief Advisor</li> <li>- Mathematics Education</li> <li>- Science Education (Chemistry, Biology and Physics)</li> <li>- Educational Assessment/Test Development</li> <li>- Project Coordinator/Public Relation</li> <li>• Experts activity Cost</li> <li>• Activity costs related to Workshop in WG</li> <li>• Necessary equipment for the project activities</li> <li>• Necessary cost for trainings in Japan and third countries</li> </ul> | <ul style="list-style-type: none"> <li>• Counterparts (C/P)</li> <li>- Project Manager (State Minister)</li> <li>- Project Coordinator</li> <li>- Related officers in NEAEA</li> <li>- Related officers in Curriculum</li> <li>- Related officers in TELDD</li> <li>- Related officers in TELLRD</li> <li>- Related officers in MSIC</li> <li>- Related officers in REBs</li> <li>• Assignment of specialists (subject expert, item developers/writes), and Assessment and Evaluation experts as WG members at Federal and REBs level.</li> <li>• Assignment of appropriate number of primary and secondary schools for validation of Item Pool and other related materials.</li> <li>• Necessary cost for implementation of all related activities which each directorate and REB plan and implement, such as teacher trainings, printing and distribution of materials, etc.</li> <li>• Translation cost of final products of the Project from English to local language.</li> <li>• Project office with its running cost.</li> <li>• Necessary cost to conduct National Steering Committee and Technical Committee.</li> </ul> | 1 Members of the WGs are not changed.<br>2 Members of the WGs continue participating the respective trainings and WSs.   |
|   |  |   | <p style="text-align: center;"><b>Pre-Conditions</b></p> 1 The current Curriculum (Active learning and Competency based approach) is maintained.<br>2 Appropriate members are assigned to Subject and Assessment and Evaluation WGs. |
|   |  | <br><Issues and countermeasures>   |  |

|  |  |  |  |
|--|--|--|--|
| <p>4-1. Establish editing concept of Workbook.<br/>         4-2. Consolidate development procedure.<br/>         4-3. Draft Workbook for Grade 8.<br/>         4-4. Validate drafted Workbook for Grade 8 at classroom level.<br/>         4-5. Finalize Workbook for Grade 8.<br/>         4-6. Draft Workbook for Grade 7.<br/>         4-7. Validate drafted Workbook for Grade 7 at classroom level.<br/>         4-8. Finalize Workbook for Grade 7.</p>                                  |  |  |  |
| <p>5-1. Establish editing concept of the modules.<br/>         5-2. Consolidate development procedure.<br/>         5-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         5-4. Validate drafted module for Grade 8.<br/>         5-5. Finalize the module for Grade 8.<br/>         5-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         5-7. Validate drafted module for Grade 7.<br/>         5-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>6-1. Establish editing concept of the modules.<br/>         6-2. Consolidate development procedure.<br/>         6-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         6-4. Validate drafted module for Grade 8.<br/>         6-5. Finalize the module for Grade 8.<br/>         6-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         6-7. Validate drafted module for Grade 7.<br/>         6-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>7-1. Define scaling up strategy of how to utilize materials developed by the project.<br/>         7-2. Develop action plan for scaling up.<br/>         7-3. Obtain approval of the action plan.</p>   |  |  |  |

\* "Grade 7 and 8" are set as target grades of the initial stage of the strategy under curriculum consistency to be focused on in the Project. It is expected that other grades will be set as target grades after completion of the Project by the Ethiopian side.

\*\* Appropriate indicators will be determined in feasible way, after commencement of the project.

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 2  
Dated: May 13, 2015

Project Title: Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education

| Inputs                                   | Plan   | 2014 |    |     |    | 2015 |    |     |    | 2016 |    |     |    | 2017 |    |     |    | Remarks                                       | Monitoring |          |
|--|--------|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|----|---|------------|----------|
|  | Actual | I    | II | III | IV | I    | II | III | IV | I    | II | III | IV | I    | II | III | IV |   | Issue      | Solution |
| <b>Expert</b>                            |        |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Norimichi Toyomane                       | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Shuhei Oguchi                            | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Yasushi Wada                             | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Shimboku Miyakawa                        | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Etsutaro Tanaka                          | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Masatsugu Murase                         | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Atsushi Tsukui                           | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Hidetoki Ishii                           | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Desalegn Chalchisa Jebena                | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    |   |            |          |
| Yosuke Sakurai/ Mitsuhiro Ishida         | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     | ■  |      | ■  |     |    |      |    |     |    |      |    |     |    | Replaced by Mitsuhiro Ishida in February 2015 |            |          |
| <b>Equipment</b>                         |        |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
| <b>Training in Japan</b>                 |        |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
| <b>In-country/Third country Training</b> |        |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Plan   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |
|  | Actual |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |    |   |            |          |



| Activities   | Sub-Activities   | Plan | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Responsible Organization |   | Achievements | Issue & Countermeasures |
|--|--|------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|--------------------------|---|--------------|-------------------------|
|  |  |      | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III | IV                       | Japan   |              |                         |
| <b>Output 1: (Subject Working Groups' members)</b>                         |  |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |   |              |                         |
| 1.1  | Plan WG's trainings and WS   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 1.2  | Coordinatte WG's trainings and WS  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         | All Subject Working Group members have been assigned.   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 1.3  | Conduct Subject WG's trainings and WS  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 1.4  | Monitor and evaluate the results of the Subject WG's trainings and WS            | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b> |  |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |   |              |                         |
| 2.1  | Trainings on development of question items for Item Pool                         | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.2  | Consolidate the procedure of development of Item Pool                            | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.3  | Draft question items for Grade 8   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         | For Biology and Physics. See 2.6.   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.4  | Validate on reliance and relevance of drafted question items for Grade 8         | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         | For Biology and Physics. See 2.7.   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.5  | Finalize question items for Grade 8  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.6  | Draft question items for Grade 7   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         | Based on competencies, items were developed by the participants of the training according to the plan.  |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.7  | Validate on relevance of drafted question items for Grade 7                      | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         | Among the items developed in the training, those for field test were selected jointly by MSIC experts and JICA experts. Field test was conducted at sample schools in Addis Ababa, and its results were analyzed. |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.8  | Finalize question items for Grade 7  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         | In the following training, feedback from field test was shared among the participants of the training, and items were finalized.  |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.9  | Draft sample question items for Grade 10   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.10   | Validate on reliance and relevance of drafted sample question items for Grade 10 | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.11   | Finalize sample question items for Grade 10                                      | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.12   | Draft sample question items for Grade 4  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.13   | Validate on reliance and relevance of drafted sample question items for Grade 4  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |
| 2.14   | Finalize sample question items for Grade 4                                       | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | JICA Expert Team         |   |              |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | MSIC                     |   |              |                         |

| Output 3: (Mainly NEAEA and REBs)  |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
|--|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------------------|--|--|
| 3.1 Plan Assessment and Evaluation WG's trainings and WSs                                    | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 3.2 Coordinate Assessment and Evaluation WG's trainings and WSs                              | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC | Working Group members have been assigned.                  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 3.3 Conduct Assessment and Evaluation WG's trainings and WSs                                 | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 3.4 Monitor and evaluate Assessment and Evaluation WG's                                      | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 3.5 (To be determined) Activities for improving quality of mathematics and science Item Bank | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| Output 4: (Mainly CDID)  |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 4.1 Establish editing concept of Workbook  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID | Hints on the concept were gained in the training in Japan. |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 4.2 Consolidate development procedure  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 4.3 Draft Workbook for Grade 8   | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 4.4 Validate drafted Workbook for Grade 8 at classroom level                                 | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 4.5 Finalize Workbook for Grade 8  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 4.6 Draft Workbook for Grade 7   | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 4.7 Validate Drafted Workbook for Grade 7 at classroom level                                 | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 4.8 Finalize Workbook for Grade 7  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| Output 5: (Mainly MSIC)  |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 5.1 Establish editing concept of the modules   | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC | Hints on the concept were gained in the training in Japan. |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 5.2 Consolidate development procedure  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 5.3 Draft modules for Grade 8, based on the Item Pool for Grade 8                            | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 5.4 Validate drafted module for Grade 8  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 5.5 Finalize the module for Grade 8  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 5.6 Draft module for Grade 7, based on the Item Pool for Grade 7                             | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 5.7 Validate drafted module for Grade 7  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |
| 5.8 Finalize the module for Grade 7  | Plan   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |  |

| <b>Output 6: (Mainly TELDD)</b>   |  |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|---|--|--------|--------|----|-----|----|--------|----|-----|----|--------|----|-----|----|------|----|-----|----|------------------------|--|----------|--|
| 6.1 Establish editing concept of the modules  | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | JICA Expert Team TELDD | Hints on the concept were gained in the training in Japan. |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 6.2 Consolidate development procedure   | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | JICA Expert Team TELDD |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 6.3 Draft module for Grade 8, based on the Item Pool for Grade 8                    | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | JICA Expert Team TELDD |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 6.4 Validate drafted module for Grade 8   | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | JICA Expert Team TELDD |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 6.5 Finalize the module for Grade 8   | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | JICA Expert Team TELDD |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 6.6 Draft module for Grade 7, based on the item Pool for Grade 7                    | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | JICA Expert Team TELDD |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 6.7 Validate drafted module for Grade 7   | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | JICA Expert Team TELDD |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 6.8 Finalize the module for Grade 7   | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | JICA Expert Team TELDD |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| <b>Output 7: (Mainly CDID, MSIC and TELDD)</b>                                      |  |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 7.1 Define scaling up strategy of how to utilize materials developed by the project | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | CDID, MSIC, TELDD      |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 7.2 Develop action plan for scaling up  | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | CDID, MSIC, TELDD      |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| 7.3 Obtain approval of the action plan  | Plan                                     |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    | CDID, MSIC, TELDD      |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| <b>Duration / Phasing</b>   |  | Plan   | Year 1 |    |     |    | Year 2 |    |     |    | Year 3 |    |     |    |      |    |     |    |                        |  |          |  |
|   | Actual                                   |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
| <b>Monitoring Plan</b>  |  | Plan   | 2014   |    |     |    | 2015   |    |     |    | 2016   |    |     |    | 2017 |    |     |    | Remarks                | Issue  | Solution |  |
|   | Actual                                   |        | I      | II | III | IV | I      | II | III | IV | I      | II | III | IV | I    | II | III | IV |                        |  |          |  |
| <b>Monitoring</b>   |  |        |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   | National Steering Committee              | Plan   |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   |  | Actual |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   | Set-up of the Detailed Plan of Operation | Plan   |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   |  | Actual |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   | Submission of Monitoring Sheet           | Plan   |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   |  | Actual |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   | Monitoring Mission from Japan            | Plan   |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        | Received on March 3-6, 2015.                               |          |  |
|   |  | Actual |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   | Joint Monitoring                         | Plan   |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   |  | Actual |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   | Post Monitoring                          | Plan   |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |
|   |  | Actual |        |    |     |    |        |    |     |    |        |    |     |    |      |    |     |    |                        |  |          |  |



## APPENDIX 19 MONITORING SHEETS (Version 3, August 2015)

### PM Form 3-1 Monitoring Sheet Summary

**TO: CR of JICA Ethiopia Office**

#### PROJECT MONITORING SHEET

**Project Title:** The Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (1st Year)

**Version of the Sheet:** Ver. 3 (Term: October 2014 – October 2015)

**Name:** Norimichi Toyomane

**Title:** Team Leader/Mathematics

**Submission Date:** August 20, 2015

#### I. Summary

##### 1 Progress

###### 1-1 Progress of Inputs

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- First Training in Japan was successfully conducted from April 18 to May 2, 2015. Nine officers, selected from MSIC, NEAEA, CDID and TELDD, participated in the training.

###### 1-2 Progress of Activities

- 1<sup>st</sup> National Steering Committee meeting was held on October 16, 2014 at State Minister's meeting room.
- 1<sup>st</sup> Technical Committee meeting was held on November 27, 2014 at NEAEA.
- 1<sup>st</sup> Workshop was held on January 13-16 in Adama by inviting all WG members. 79 attended.
- 2<sup>nd</sup> Workshop was held in two batches: on March 23-27 for Biology, Chemistry and Assessment WG; and on March 30 to April 3 for Mathematics and Physics WG in Adama. 77 attended.
- 3<sup>rd</sup> Workshop was held on July 20-24 in Adama. 75 attended.
- Materials for LAMS data collection, consisting of questionnaires and achievement tests, were prepared by mid-December 2014. After validation, data collection was conducted at 32 primary schools of Addis Ababa, Amhara, SNNPR and Benishangul-Gumuz from February to April 2015.
- At the same time, consistency between the curriculum (syllabus) and PSLCE, and EGSECE, and the textbooks was examined.
- The survey results were compiled as *Inception Survey Report* and to be submitted to JICA.

###### 1-3 Achievement of Output

Output 2: Item pool in mathematics and science education for Grades 7 and 8 is

partially developed (Table 1) through workshops mentioned above.

Table 1: Items Developed through Workshops

| <b>Working Group</b> | <b>Workshop 1</b> | <b>Workshop 2</b> | <b>Workshop 3</b> | <b>Total</b> | <b>Target</b> | <b>Target Achieved</b> |
|----------------------|-------------------|-------------------|-------------------|--------------|---------------|------------------------|
| Mathematics          | 94                | 250               | 340               | 684          | 2400          | 28.5%                  |
| Biology              | 93                | 157               | 275               | 525          | 2400          | 21.9%                  |
| Chemistry            | 52                | 182               | 290               | 524          | 2400          | 21.8%                  |
| Physics              | 105               | 167               | 272               | 544          | 2400          | 22.7%                  |
| <b>Sub-total</b>     | <b>344</b>        | <b>756</b>        | <b>1177</b>       | <b>2277</b>  | <b>9600</b>   | <b>23.7%</b>           |
| Assessment           | 47                | 86                | 155               | 288          | --            | --                     |
| <b>Total</b>         | <b>391</b>        | <b>842</b>        | <b>1332</b>       | <b>2565</b>  | <b>9600</b>   | <b>26.7%</b>           |

#### **1-4 Achievement of the Project Purpose**

N/A

#### **1-5 Changes of Risks and Actions for Mitigation**

N/A

#### **1-6 Progress of Actions undertaken by JICA**

All inputs and actions have been undertaken by JICA according to the plan.

#### **1-7 Progress of Actions undertaken by Gov. of Ethiopia**

NEAEA conducted the data collection on National Learning Assessment for Grades 4 and 8 according to the plan.

#### **1-8 Progress of Environmental and Social Considerations (if applicable)**

N/A

#### **1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

N/A

#### **1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

MSIC experts are currently engaged in conducting national baseline survey on G5 and G6. Hence, MSIC experts need to be consulted well in advance on the Workshop schedule of LAMS to ensure their participation.

## **2 Delay of Work Schedule and/or Problems (if any)**

### **2-1 Detail**

No delay or problem has been recorded.

### **2-2 Cause**

N/A

**2-3 Action to be taken**

N/A

**2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Ethiopia, etc.)**

N/A

**3 Modification of the Project Implementation Plan**

**3-1 PO**

No modification has been made on the PO.

**3-2 Other modifications on detailed implementation plan**

*(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)*

No modification has been made on the detailed implementation plan.

**4 Preparation of Gov. of Ethiopia toward after completion of the Project**

No preparation has been started yet.

**II. Project Monitoring Sheet I & II**      *as Attached*

## Project Monitoring Sheet I (Revision of Project Design Matrix)

**Project Title:** Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (LAMS)

Version: 3

**Implementing Agency:** Federal Ministry of Education

Dated: August 20, 2015

**Target Group:** Officials of the Federal Ministry of Education, Officials of Regional Education Bureaus (11)

**Period of Project:** October 2014–October 2017


**Project Site:** Whole country

**Model Site:** None

| Narrative Summary   | Objectively Verifiable Indicators   | Means of Verification  | Important Assumption   | Achievement | Remarks |
|---|---|--|--|-------------|---------|
| <p><b>Super Goal</b><br/>Students' learning achievement at Grade 7 and 8* is improved.</p>  | <p>1 Improvement of the results of Primary School Leaving Certificate Examination (PSLCE) in mathematics and science<br/>2 Improvement of the results of National Learning Assessment (NLA)</p>   | <p>1 Result of PSCLE by REBs and NEAEA<br/>2 Result of NLA by NEAEA</p>          |  |             |         |
| <p><b>Overall Goal</b><br/>Pedagogical basic foundation is prepared mainly at Grade 7 and 8 to improve students' learning achievement.</p>  | <p>1 "Workbook" developed by the Project are distributed to schools<br/>2 "Assessment and Evaluation session module on mathematics and science education" is utilized at CTE and Inset</p>  | <p>1 MoE and REBs reports<br/>2 Interview with related directorates and REBs</p> | <p>1 Quality of question items of PSLCE in mathematics and science, and NLA is improved based on the outputs of the project.</p>   |             |         |
| <p><b>Project Purpose</b><br/>Quality of curriculum strategy to improve students' learning achievement in mathematics and science education at target grades is enhanced under curriculum consistency.</p>  | <p>1 Understandings on quality of curriculum policy under curriculum consistency in mathematics and science education are deepened among the stakeholders<br/>2 Materials developed by the Project have curriculum consistency</p>  | <p>1 Project reports<br/>2 Project reports</p>                                   | <p>1 The Ethiopian Government fund is utilized for the outputs of the project, such as printing and distribution of the materials developed by the project and preset and inset.<br/>2 Mathematics and Science textbooks are distributed nationwide.</p> |             |         |
| <p><b>Output 1: (Subject WGs' members)</b><br/>Capacity of Subject WGs' members on mathematics and science education are enhanced</p>   | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:**<br/>(1) Participants' performance<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 Relevance of the quality of question items of Item Pool is secured through validation process.</p>   | <p>1 Project reports<br/>2 Project reports</p>                                   | <p>1. Collaborative activities among stakeholders are maintained.</p>  |             |         |
| <p><b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b><br/>Item pool in mathematics and science education for Grade 7 and 8, and Sample Item pool in mathematics and science education for Grade 4 and 10 are developed.</p> | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:<br/>(1) Participants' performance based on concrete question items developed by the participants<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 "Item pool" is allocated in accessible way for all related stakeholders<br/>3 "Item Pool" is utilized by related stakeholders</p> | <p>1 Project reports<br/>2 Project reports<br/>3 Project reports</p>             |  |             |         |



|  |   |  |  |  |  |
|--|---|--|--|--|--|
| <p><b>Output 3: (Mainly NEAEA and REBs)</b><br/>Capacity of the following human resources on development of Item Banks is enhanced.<br/>- Item writers and experts for "NLA Item Bank on mathematics and science education for Grade 4, 8 and 10 (NEAEA)"<br/>- Subject experts for "PSLCE Item Bank on Mathematics and Science for Grade 8 and Ethiopian General Secondary Education Certificate Examination (EGSECE) in Grade 10 (NEAEA) "<br/>- Item writers for "PSLCE items for Grade 8 (REBs)"</p> | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:<br/>(1) Participants' performance<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 Improvement of the results of M&amp;E of WG's sessions related to Output 3</p> | <p>1 Project reports<br/>2 Project reports</p> |  |  |  |
| <p><b>Output 4: (Mainly CDID)</b><br/>"Workbooks on mathematics and science for Grade 7 and 8" are developed.</p>  | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 5: (Mainly MSIC)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CPD modules, is elaborated.</p>   | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 E ndorsement by MoE</p>  | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 6: (Mainly TELDD)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CTE modules, is elaborated.</p>  | <p>1 Relevance of the quality of the product is secured through validation<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 7: (Mainly CDID, MSIC and TELDD)</b><br/>Action plans, clarifying the utilization of developed materials, are prepared.</p>   | <p>1 Approval by MoE</p>  | <p>1 MoE</p>                                   |  |  |  |

| Activities   | Inputs   |   | Important Assumption   |
|--|--|---|--|
|  | The Japanese Side  | The Ethiopian Side  |  |
| 1-1. Plan WG's trainings and WS.<br>1-2. Coordinate WG's trainings and WS.<br>1-3. Conduct Subject WG's trainings and WS.<br>1-4. Monitor and evaluate the results of the Subject WG's trainings and WS.   | <ul style="list-style-type: none"> <li>• Experts from Japan                             <ul style="list-style-type: none"> <li>- Chief Advisor</li> <li>- Mathematics Education</li> <li>- Science Education (Chemistry, Biology and Physics)</li> <li>- Educational Assessment/Test Development</li> <li>- Project Coordinator/Public Relation</li> </ul> </li> <li>• Experts activity Cost</li> <li>• Activity costs related to Workshop in WG</li> <li>• Necessary equipment for the project activities</li> <li>• Necessary cost for trainings in Japan and third countries</li> </ul> | <ul style="list-style-type: none"> <li>• Counterparts (C/P)                             <ul style="list-style-type: none"> <li>- Project Manager (State Minister)</li> <li>- Project Coordinator</li> <li>- Related officers in NEAEA</li> <li>- Related officers in Curriculum</li> <li>- Related officers in TELDD</li> <li>- Related officers in TELLRD</li> <li>- Related officers in MSIC</li> <li>- Related officers in REBs</li> </ul> </li> <li>• Assignment of specialists (subject expert, item developers/writes), and Assessment and Evaluation experts as WG members at Federal and REBs level.</li> <li>• Assignment of appropriate number of primary and secondary schools for validation of Item Pool and other related materials.</li> <li>• Necessary cost for implementation of all related activities which each directorate and REB plan and implement, such as teacher trainings, printing and distribution of materials, etc.</li> <li>• Translation cost of final products of the Project from English to local language.</li> <li>• Project office with its running cost.</li> <li>• Necessary cost to conduct National Steering Committee and Technical Committee.</li> </ul> | 1 Members of the WGs are not changed.<br>2 Members of the WGs continue participating the respective trainings and WSs. |
| 2-1. Trainings on development of question items for Item Pool.<br>2-2. Consolidate the procedure of development of Item Pool.<br>2-3. Draft question items for Grade 8.<br>2-4. Validate on reliance and relevance of drafted question items for Grade 8.<br>2-5. Finalize question items for Grade 8.<br>2-6. Draft question items for Grade 7.<br>2-7. Validate on relevance of drafted question items for Grade 7.<br>2-8. Finalize question items for Grade 7.<br>2-9. Draft sample question items for Grade 10.<br>2-10. Validate on reliance and relevance of drafted sample question items for Grade 10.<br>2-11. Finalize sample question items for Grade 10.<br>2-12. Draft sample question items for Grade 4.<br>2-13. Validate on reliance and relevance of drafted sample question items for Grade 4.<br>2-14. Finalize sample question items for Grade 4. |  |   |  |
| 3-1. Plan Assessment and Evaluation WG's trainings and WSs.<br>3-2. Coordinate Assessment and Evaluation WG's trainings and WSs.<br>3-3. Conduct Assessment and Evaluation WG's trainings and WSs.<br>3-4. Monitor and evaluate Assessment and Evaluation WG's trainings and WSs.<br>3-5. (To be determined) Activities for improving quality of mathematics and science Item bank.  |  |   | <br><Issues and countermeasures>    |

|  |  |  |  |
|--|--|--|--|
| <p>4-1. Establish editing concept of Workbook.<br/>         4-2. Consolidate development procedure.<br/>         4-3. Draft Workbook for Grade 8.<br/>         4-4. Validate drafted Workbook for Grade 8 at classroom level.<br/>         4-5. Finalize Workbook for Grade 8.<br/>         4-6. Draft Workbook for Grade 7.<br/>         4-7. Validate drafted Workbook for Grade 7 at classroom level.<br/>         4-8. Finalize Workbook for Grade 7.</p>                                  |  |  |  |
| <p>5-1. Establish editing concept of the modules.<br/>         5-2. Consolidate development procedure.<br/>         5-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         5-4. Validate drafted module for Grade 8.<br/>         5-5. Finalize the module for Grade 8.<br/>         5-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         5-7. Validate drafted module for Grade 7.<br/>         5-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>6-1. Establish editing concept of the modules.<br/>         6-2. Consolidate development procedure.<br/>         6-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         6-4. Validate drafted module for Grade 8.<br/>         6-5. Finalize the module for Grade 8.<br/>         6-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         6-7. Validate drafted module for Grade 7.<br/>         6-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>7-1. Define scaling up strategy of how to utilize materials developed by the project.<br/>         7-2. Develop action plan for scaling up.<br/>         7-3. Obtain approval of the action plan.</p>   |  |  |  |

\* "Grade 7 and 8" are set as target grades of the initial stage of the strategy under curriculum consistency to be focused on in the Project. It is expected that other grades will be set as target grades after completion of the Project by the Ethiopian side.

\*\* Appropriate indicators will be determined in feasible way, after commencement of the project.

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 3

Dated: August 20, 2015

Project Title: Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education

| Inputs                                   |  | Plan   | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Remarks  | Monitoring |       |
|--|--|--------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|--|------------|-------|
|  |  |        | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III |  | IV         | Issue |
| <b>Expert</b>                            |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Norimichi Toyomane                       |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Shuhei Oguchi                            |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Yasushi Wada                             |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Shimboku Miyakawa                        |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Etsutarō Tanaka/Kotaro Kijima            |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | Temporarily replaced by Kotaro Kijima in July 2015 |            |       |
| Masatsugu Murase                         |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Atsushi Tsukui                           |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Hidetoki Ishii                           |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Desalegn Chalchisa Jebena                |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Yosuke Sakurai/ Mitsuhiro Ishida         |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | Replaced by Mitsuhiro Ishida in February 2015      |            |       |
| <b>Equipment</b>                         |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Office equipment                         |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Laptop computers                         |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | Provided for 11 REBs                               |            |       |
| <b>Training in Japan</b>                 |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| <b>In-country/Third country Training</b> |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |

| Activities<br>Sub-Activities  | Plan   | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Responsible Organization |                          | Achievements  | Issue & Countermeasures |
|---|--------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|--------------------------|--------------------------|---|-------------------------|
|   |        | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III | IV                       | Japan                    |   |                         |
| <b>Output 1: (Subject Working Groups' members)</b>                                    |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 1.1 Plan WG's trainings and WS  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 1.2 Coordinatte WG's trainings and WS   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | All Subject Working Group members have been assigned.   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 1.3 Conduct Subject WG's trainings and WS   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 1.4 Monitor and evaluate the results of the Subject WG's trainings and WS             | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b>            |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.1 Trainings on development of question items for Item Pool                          | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.2 Consolidate the procedure of development of Item Pool                             | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.3 Draft question items for Grade 8  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | For Biology and Physics. See 2.6.   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.4 Validate on reliance and relevance of drafted question items for Grade 8          | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | For Biology and Physics. See 2.7.   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.5 Finalize question items for Grade 8   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.6 Draft question items for Grade 7  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | Based on competencies, items were developed by the participants of the training according to the plan.  |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.7 Validate on relevance of drafted question items for Grade 7                       | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | Among the items developed in the training, those for field test were selected jointly by MSIC experts and JICA experts. Field test was conducted at sample schools in Addis Ababa, and its results were analyzed. |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.8 Finalize question items for Grade 7   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | In the following training, feedback from field test was shared among the participants of the training, and items were finalized.  |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.9 Draft sample question items for Grade 10  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.10 Validate on reliance and relevance of drafted sample question items for Grade 10 | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.11 Finalize sample question items for Grade 10                                      | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.12 Draft sample question items for Grade 4  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.13 Validate on reliance and relevance of drafted sample question items for Grade 4  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.14 Finalize sample question items for Grade 4                                       | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|   | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |









**APPENDIX 20 MONITORING SHEETS (Version 4, December 2015)**

**PM Form 3-1 Monitoring Sheet Summary**

**TO: CR of JICA Ethiopia Office**

**PROJECT MONITORING SHEET**

**Project Title:** The Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (2nd Year)

**Version of the Sheet:** Ver. 4 (**Term:** October 2015 – February 2017)

**Name:** Norimichi Toyomane

**Title:** Team Leader/Mathematics

**Submission Date:** December 1, 2015

**I. Summary**

**1 Progress**

**1-1 Progress of Inputs**

**[1st Year]**

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- First Training in Japan was successfully conducted from April 18 to May 2, 2015. Nine officers, selected from MSIC, NEAEA, CDID and TELDD, participated in the training

**[2nd Year]**

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.

**1-2 Progress of Activities**

**[1st Year]**

- 1<sup>st</sup> National Steering Committee meeting was held on October 16, 2014 at State Minister's meeting room.
- 1<sup>st</sup> Technical Committee meeting was held on November 27, 2014 at NEAEA.
- 2<sup>nd</sup> Technical Committee meeting was held on September 2, 2015 at NEAEA.
- 1<sup>st</sup> Workshop was held on January 13-16 in Adama by inviting all WG members. 79 attended.
- 2<sup>nd</sup> Workshop was held in two batches: on March 23-27 for Biology, Chemistry and Assessment WG; and on March 30 to April 3 for Mathematics and Physics WG in Adama. 77 attended.
- 3<sup>rd</sup> Workshop was held on July 20-24 in Adama. 75 attended.
- Materials for LAMS data collection, consisting of questionnaires and achievement tests, were prepared by mid-December 2014. After validation, data collection

was conducted at 32 primary schools of Addis Ababa, Amhara, SNNPR and Benishangul-Gumuz from February to April 2015.

- At the same time, consistency between the curriculum (syllabus) and PSLCE, and EGSECE, and the textbooks was examined.
- The survey results were compiled as *Inception Survey Report* and submitted to the Ethiopian counterparts and JICA in July 2015.

### [2nd Year]

- 4<sup>th</sup> Workshop was held on November 16-21 in Adama. Ten additional members newly joined (teachers from Regions). 87 attended.
- 1<sup>st</sup> Item Selection Workshop is scheduled on December 14-16 in Adama. Around 30 officials from MSIC, NEAEA, CDID and TELDD will take part in this Workshop to select items from those developed in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Workshops for the Item Pools and select items from those developed in the 4<sup>th</sup> Workshop for the field test.

### 1-3 Achievement of Output

Output 2: Item pools in mathematics and science education for Grades 7 and 8 are partially developed (Table 1) through workshops mentioned above.

Table 1: Items Developed through Workshops

| Working Group    | Work shop 1 | Work shop 2 | Work shop 3 | Work shop 4 | Total       | Target      | Target Achieved |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
| Mathematics      | 94          | 250         | 340         | 421         | 1105        | 2400        | 46.0%           |
| Biology          | 93          | 157         | 275         | 419         | 944         | 2400        | 39.3%           |
| Chemistry        | 52          | 182         | 290         | 368         | 892         | 2400        | 37.2%           |
| Physics          | 105         | 167         | 272         | 327         | 871         | 2400        | 36.3%           |
| <b>Sub-total</b> | <b>344</b>  | <b>756</b>  | <b>1177</b> | <b>1535</b> | <b>3812</b> | <b>9600</b> | <b>39.7%</b>    |
| Assessment       | 47          | 86          | 155         | 69*         | 357         | --          | --              |
| <b>Total</b>     | <b>391</b>  | <b>842</b>  | <b>1332</b> | <b>1604</b> | <b>4169</b> | <b>9600</b> | <b>43.4%</b>    |

\* This includes only "homework." Items developed at the Workshop are numbered under respective subject working groups.

Output 3: Capacity of the human resources working on item banks is being enhanced through item writing and item analysis exercises done during the workshops.

Output 4: In the 4<sup>th</sup> Workshop, the participants started developing the Workbooks on mathematics and science for Grades 7 and 8 (total: 8 Workbooks). They first decided the table of contents for the 8 Workbooks and assigned the topics to the respective participants. CDID Experts took lead of this activity.

Output 6: In November 2015, discussion started with TELDD on how to develop the Assessment session modules on mathematics and science education. JICA Expert Team is collecting information regarding the existing modules on assessment being used at CTEs.

**1-4 Achievement of the Project Purpose**

N/A

**1-5 Changes of Risks and Actions for Mitigation**

N/A

**1-6 Progress of Actions undertaken by JICA**

All inputs and actions have been undertaken by JICA according to the plan.

**1-7 Progress of Actions undertaken by Gov. of Ethiopia**

**[1st Year]**

NEAEA conducted the data collection on National Learning Assessment for Grades 4 and 8 according to the plan.

**1-8 Progress of Environmental and Social Considerations (if applicable)**

N/A

**1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

N/A

**1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

**[1st Year]**

MSIC experts are currently engaged in conducting national baseline survey on G5 and G6. Hence, MSIC experts need to be consulted well in advance on the Workshop schedule of LAMS to ensure their participation.

In August 2015, JICA Experts participated in a workshop held in Adama by UNICEF regarding the Item Pool they had developed together with 11 REBs. Subsequently in September, JICA Experts visited Addis Ababa Education Bureau to observe the UNICEF-assisted Item Pool and how it was operated on the *FastTest* program.

**2 Delay of Work Schedule and/or Problems (if any)**

**2-1 Detail**

No delay or problem has been recorded.

**2-2 Cause**

N/A

**2-3 Action to be taken**

N/A

**2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Ethiopia, etc.)**

N/A

### **3 Modification of the Project Implementation Plan**

#### **3-1 PO**

The number of Workshops has been increased from nine to ten in total.

#### **3-2 Other modifications on detailed implementation plan**

*(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)*

The number of Workshops has been increased from nine to ten in total.

### **4 Preparation of Gov. of Ethiopia toward after completion of the Project**

MSIC and LAMS jointly started preparation for MSIC Experts to take lead of some Workshop sessions from the 5th Workshop scheduled in March 2016. This is part of the LAMS strategy to make LAMS activities sustainable.

## **II. Project Monitoring Sheet I & II      as Attached**

## Project Monitoring Sheet I (Revision of Project Design Matrix)

**Project Title:** Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (LAMS)

Version: 4

**Implementing Agency:** Fedearl Ministry of Education

Dated: December 1, 2015

**Target Group:** Officials of the Federal Ministry of Education, Officials of Regional Education Bureaus (11)


**Period of Project:** October 2014~October 2017

**Project Site:** Whole country

**Model Site:** None

| Narrative Summary   | Objectively Verifiable Indicators   | Means of Verification  | Important Assumption   | Achievement | Remarks |
|---|---|--|--|-------------|---------|
| <p><b>Super Goal</b><br/>Students' learning achievement at Grade 7 and 8* is improved.</p>  | <p>1 Improvement of the results of Primary School Leaving Certificate Examination (PSLCE) in mathematics and science<br/>2 Improvement of the results of National Learning Assessment (NLA)</p>   | <p>1 Result of PSLCE by REBs and NEAEA<br/>2 Result of NLA by NEAEA</p>          |  |             |         |
| <p><b>Overall Goal</b><br/>Pedagogical basic foundation is prepared mainly at Grade 7 and 8 to improve students' learning achievement.</p>  | <p>1 "Workbook" developed by the Project are distributed to schools<br/>2 "Assessment and Evaluation session module on mathematics and science education" is utilized at CTE and Inset</p>  | <p>1 MoE and REBs reports<br/>2 Interview with related directorates and REBs</p> | <p>1 Quality of question items of PSLCE in mathematics and science, and NLA is improved based on the outputs of the project.</p>   |             |         |
| <p><b>Project Purpose</b><br/>Quality of curriculum strategy to improve students' learning achievement in mathematics and science education at target grades is enhanced under curriculum consistency.</p>  | <p>1 Understandings on quality of curriculum policy under curriculum consistency in mathematics and science education are deepened among the stakeholders<br/>2 Materials developed by the Project have curriculum consistency</p>  | <p>1 Project reports<br/>2 Project reports</p>                                   | <p>1 The Ethiopian Government fund is utilized for the outputs of the project, such as printing and distribution of the materials developed by the project and preset and inset.<br/>2 Mathematics and Science textbooks are distributed nationwide.</p> |             |         |
| <p><b>Output 1: (Subject WGs' members)</b><br/>Capacity of Subject WGs' members on mathematics and science education are enhanced</p>   | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:**<br/>(1) Participants' performance<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 Relevance of the quality of question items of Item Pool is secured through validation process.</p>   | <p>1 Project reports<br/>2 Project reports</p>                                   | <p>1. Collaborative activities among stakeholders are maintained.</p>  |             |         |
| <p><b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b><br/>Item pool in mathematics and science education for Grade 7 and 8, and Sample Item pool in mathematics and science education for Grade 4 and 10 are developed.</p> | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:<br/>(1) Participants' performance based on concrete question items developed by the participants<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 "Item pool" is allocated in accessible way for all related stakeholders<br/>3 "Item Pool" is utilized by related stakeholders</p> | <p>1 Project reports<br/>2 Project reports<br/>3 Project reports</p>             |  |             |         |

|  |   |  |  |  |  |
|--|---|--|--|--|--|
| <p><b>Output 3: (Mainly NEAEA and REBs)</b><br/>Capacity of the following human resources on development of Item Banks is enhanced.<br/>- Item writers and experts for "NLA Item Bank on mathematics and science education for Grade 4, 8 and 10 (NEAEA)"<br/>- Subject experts for "PSLCE Item Bank on Mathematics and Science for Grade 8 and Ethiopian General Secondary Education Certificate Examination (EGSECE) in Grade 10 (NEAEA) "<br/>- Item writers for "PSLCE items for Grade 8 (REBs)"</p> | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:<br/>(1) Participants' performance<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 Improvement of the results of M&amp;E of WG's sessions related to Output 3</p> | <p>1 Project reports<br/>2 Project reports</p> |  |  |  |
| <p><b>Output 4: (Mainly CDID)</b><br/>"Workbooks on mathematics and science for Grade 7 and 8" are developed.</p>  | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 5: (Mainly MSIC)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CPD modules, is elaborated.</p>   | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 E ndorsement by MoE</p>  | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 6: (Mainly TELDD)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CTE modules, is elaborated.</p>  | <p>1 Relevance of the quality of the product is secured through validation<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 7: (Mainly CDID, MSIC and TELDD)</b><br/>Action plans, clarifying the utilization of developed materials, are prepared.</p>   | <p>1 Approval by MoE</p>  | <p>1 MoE</p>                                   |  |  |  |

| Activities   | Inputs   |   | Important Assumption  |
|--|--|---|---|
|  | The Japanese Side  | The Ethiopian Side  |   |
| 1-1. Plan WG's trainings and WS.<br>1-2. Coordinate WG's trainings and WS.<br>1-3. Conduct Subject WG's trainings and WS.<br>1-4. Monitor and evaluate the results of the Subject WG's trainings and WS.<br>2-1. Trainings on development of question items for Item Pool.<br>2-2. Consolidate the procedure of development of Item Pool.<br>2-3. Draft question items for Grade 8.<br>2-4. Validate on reliance and relevance of drafted question items for Grade 8.<br>2-5. Finalize question items for Grade 8.<br>2-6. Draft question items for Grade 7.<br>2-7. Validate on relevance of drafted question items for Grade 7.<br>2-8. Finalize question items for Grade 7.<br>2-9. Draft sample question items for Grade 10.<br>2-10. Validate on reliance and relevance of drafted sample question items for Grade 10.<br>2-11. Finalize sample question items for Grade 10.<br>2-12. Draft sample question items for Grade 4.<br>2-13. Validate on reliance and relevance of drafted sample question items for Grade 4.<br>2-14. Finalize sample question items for Grade 4. | <ul style="list-style-type: none"> <li>• Experts from Japan                             <ul style="list-style-type: none"> <li>- Chief Advisor</li> <li>- Mathematics Education</li> <li>- Science Education (Chemistry, Biology and Physics)</li> <li>- Educational Assessment/Test Development</li> <li>- Project Coordinator/Public Relation</li> </ul> </li> <li>• Experts activity Cost</li> <li>• Activity costs related to Workshop in WG</li> <li>• Necessary equipment for the project activities</li> <li>• Necessary cost for trainings in Japan and third countries</li> </ul> | <ul style="list-style-type: none"> <li>• Counterparts (C/P)                             <ul style="list-style-type: none"> <li>- Project Manager (State Minister)</li> <li>- Project Coordinator</li> <li>- Related officer in NEAEA</li> <li>- Related officer in Curriculum</li> <li>- Related officer in TELDD</li> <li>- Related officer in TELLRD</li> <li>- Related officer in MSIC</li> <li>- Related officer in REBs</li> </ul> </li> <li>• Assignment of specialists (subject expert, item developers/writes), and Assessment and Evaluation specialists/experts as WG members at Federal and REBs level.</li> <li>• Assignment of appropriate number of primary and secondary schools for validation of Item Pool and other related materials.</li> <li>• Necessary cost for implementation of all related activities which each directorate and REB plan and implement, such as teacher trainings, printing and distribution of materials, etc.</li> <li>• Translation cost of final products of the Project from English to local language.</li> <li>• Project office with its running cost.</li> <li>• Necessary cost to conduct National Steering Committee and Technical Committee.</li> </ul> | 1 Members of the WGs are not changed.<br>2 Members of the WGs continue participating the respective trainings and WSs.  |
|  |  |   | Pre-Conditions  |
|  |  |   | 1 The current Curriculum (Active learning and Competency based approach) is maintained.<br>2 Appropriate members are assigned to Subject and Assessment and Evaluation WGs. |
|  |  |   | <br><Issues and countermeasures>   |
| 3-1. Plan Assessment and Evaluation WG's trainings and WSs.<br>3-2. Coordinate Assessment and Evaluation WG's trainings and WSs.<br>3-3. Conduct Assessment and Evaluation WG's trainings and WSs.<br>3-4. Monitor and evaluate Assessment and Evaluation WG's trainings and WSs.<br>3-5. (To be determined) Activities for improving quality of mathematics and science Item bank.  |  |   |   |

|  |  |  |  |
|--|--|--|--|
| <p>4-1. Establish editing concept of Workbook.<br/>         4-2. Consolidate development procedure.<br/>         4-3. Draft Workbook for Grade 8.<br/>         4-4. Validate drafted Workbook for Grade 8 at classroom level.<br/>         4-5. Finalize Workbook for Grade 8.<br/>         4-6. Draft Workbook for Grade 7.<br/>         4-7. Validate drafted Workbook for Grade 7 at classroom level.<br/>         4-8. Finalize Workbook for Grade 7.</p>                                  |  |  |  |
| <p>5-1. Establish editing concept of the modules.<br/>         5-2. Consolidate development procedure.<br/>         5-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         5-4. Validate drafted module for Grade 8.<br/>         5-5. Finalize the module for Grade 8.<br/>         5-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         5-7. Validate drafted module for Grade 7.<br/>         5-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>6-1. Establish editing concept of the modules.<br/>         6-2. Consolidate development procedure.<br/>         6-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         6-4. Validate drafted module for Grade 8.<br/>         6-5. Finalize the module for Grade 8.<br/>         6-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         6-7. Validate drafted module for Grade 7.<br/>         6-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>7-1. Define scaling up strategy of how to utilize materials developed by the project.<br/>         7-2. Develop action plan for scaling up.<br/>         7-3. Obtain approval of the action plan.</p>   |  |  |  |

\* "Grade 7 and 8" are set as target grades of the initial stage of the strategy under curriculum consistency to be focused on in the Project. It is expected that other grades will be set as target grades after completion of the Project by the Ethiopian side.

\*\* Appropriate indicators will be determined in feasible way, after commencement of the project.



Project Monitoring Sheet II (Revision of Plan of Operation)

Version 4

Dated: December 1, 2015

Project Title: Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education

| Inputs                                   | Plan   | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Remarks | Monitoring |  |
|--|--------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|---------|------------|--|
|  |        | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III |         | IV         | Issue  |
| <b>Expert</b>                            |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Norimichi Toyomane                       | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Shuhei Oguchi                            | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Yasushi Wada                             | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Etsutaro Tanaka/Kotaro Kijima            | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            | Temporarily replaced by Kotaro Kijima in July 2015   |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Shimboku Miyakawa                        | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Masatsugu Murase                         | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Atsushi Tsukui                           | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Hidetoki Ishii                           | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Desalegn Chalchisa Jebena                | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Yosuke Sakurai/ Mitsuhiro Ishida         | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            | Replaced by Mitsuhiro Ishida in February 2015  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| <b>Equipment</b>                         |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Office equipment                         | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            | Photocopy machine provided during SMASEE is not running well and requires very frequent and costly maintenance |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| Laptop computers                         | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            | Provided for 11 REBs   |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| <b>Training in Japan</b>                 |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
| <b>In-country/Third country Training</b> |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |         |            |  |

| Activities   | Sub-Activities   | Plan | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Responsible Organization |                       | Achievements   | Issue & Countermeasures |
|--|--|------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|--------------------------|-----------------------|--|-------------------------|
|  |  |      | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III | IV                       | Japan                 |  |                         |
| <b>Output 1: (Subject Working Groups' members)</b>                         |  |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 1.1  | Plan WG's trainings and WS   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 1.2  | Coordinate WG's trainings and WS   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC | All Subject Working Group members have been assigned. 10 new members were added in Nov 2015.   |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 1.3  | Conduct Subject WG's trainings and WS  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 1.4  | Monitor and evaluate the results of the Subject WG's trainings and WS                    | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b> |  |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.1  | Trainings on development of question items for Item Pool                                 | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.2  | Consolidate the procedure of development of Item Pool                                    | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.3  | Draft question items for Grade 8   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC | For Biology and Physics. See 2.6   |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.4  | Validate on reliance and relevance of drafted question items for Grade 8                 | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC | For Biology and Physics. See 2.7   |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.5  | Finalize question items for Grade 8  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.6  | Draft question items for Grade 7   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC | Based on competencies, items were developed by the participants of the training according to the plan.   |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.7  | Validate on relevance of drafted question items for Grade 7                              | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC | Among the items developed in the training, those for field test were selected by MSIC experts. Field test was conducted at sample schools in Addis Ababa, and its results were analyzed. |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.8  | Finalize question items for Grade 7  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC | In the following training, feedback from field test was shared among the participants of the training, and items were finalized.   |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.9  | Draft sample question items for Grade 10   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.10   | Validate on reliance and relevance of drafted sample question items for Grade 10         | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.11   | Finalize sample question items for Grade 10  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.12   | Draft sample question items for Grade 4  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.13   | Validate on reliance and relevance of drafted sample question items for Grade 4          | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 2.14   | Finalize sample question items for Grade 4   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| <b>Output 3: (Mainly NEAEA and REBs)</b>                                   |  |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 3.1  | Plan Assessment and Evaluation WG's trainings and WSs                                    | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 3.2  | Coordinate Assessment and Evaluation WG's trainings and WSs                              | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC | Working Group members have been assigned.  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 3.3  | Conduct Assessment and Evaluation WG's trainings and WSs                                 | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 3.4  | Monitor and evaluate Assessment and Evaluation WG's                                      | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |
| 3.5  | (To be determined) Activities for improving quality of mathematics and science Item Bank | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team MSIC |  |                         |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                       |  |                         |





## APPENDIX 21 MONITORING SHEETS (Version 5, May 2016)

### PM Form 3-1 Monitoring Sheet Summary

**TO: CR of JICA Ethiopia Office**

#### PROJECT MONITORING SHEET

**Project Title:** The Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (2nd Year)

**Version of the Sheet:** Ver. 5 (Term: October 2015 – February 2017)

**Name:** Norimichi Toyomane

**Title:** Team Leader/Mathematics

**Submission Date:** May 31, 2016

#### I. Summary

##### 1 Progress

##### 1-1 Progress of Inputs

###### [1st Year]

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- First Training in Japan was successfully conducted from April 18 to May 2, 2015. Nine officers, selected from MSIC, NEAEA, CDID and TELDD, participated in the training.

###### [2nd Year]

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- Second Training in Japan was successfully conducted from May 10 to May 25, 2016. Six officers selected from EPRMD, MSIC, CDID, TELDD and 11 Heads of Regional Education Bureaus participated in the training.

##### 1-2 Progress of Activities

###### [1st Year]

- 1<sup>st</sup> National Steering Committee meeting was held on October 16, 2014 at State Minister's meeting room.
- 1<sup>st</sup> Technical Committee meeting was held on November 27, 2014 at NEAEA.
- 2<sup>nd</sup> Technical Committee meeting was held on September 2, 2015 at NEAEA.
- 1<sup>st</sup> Workshop was held on January 13-16 in Adama by inviting all WG members. 79 attended.
- 2<sup>nd</sup> Workshop was held in two batches: on March 23-27 for Biology, Chemistry and Assessment WG; and on March 30 to April 3 for Mathematics and Physics WG in Adama. 77 attended.
- 3<sup>rd</sup> Workshop was held on July 20-24 in Adama. 75 attended.

- Materials for LAMS data collection, consisting of questionnaires and achievement tests, were prepared by mid-December 2014. After validation, data collection was conducted at 32 primary schools of Addis Ababa, Amhara, SNNPR and Benishangul-Gumuz from February to April 2015.
- At the same time, consistency between the curriculum (syllabus) and PSLCE, and EGSECE, and the textbooks was examined.
- The survey results were compiled as *Inception Survey Report* and submitted to the Ethiopian counterparts and JICA in July 2015.

### [2nd Year]

- 4<sup>th</sup> Workshop was held on November 16-21 in Adama. Ten additional members newly joined (teachers from Regions). 87 attended.
- 5<sup>th</sup> Workshop was held on March 7-12 in Adama. Experts from NEAEA and TELDD were absent due to their official duties. 77 attended.
- 1<sup>st</sup> Item Selection Workshop was held on December 14-16 in Adama. 28 officials from MSIC, NEAEA, CDID and TELDD took part to select items from those developed in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Workshops for the Item Pools and select items from those developed in the 4<sup>th</sup> Workshop for the field test.
- 2<sup>nd</sup> Item Selection Workshop was held on March 28-31 in Adama. Except for one TELDD expert, experts from NEAEA and TELDD were absent due to their official duties. 21 attended.
- The Endline Survey is being conducted jointly with counterparts to follow up the Inception Survey. The results will be analyzed and compiled into *Endline Survey Report* to be submitted in Year 3.
- Some counterpart experts may write academic papers using the results of the studies and present them at international conferences or seminars. JICA Experts will support their endeavor as part of capacity development and as a means to publicize LAMS as a unique project even seen internationally.

### 1-3 Achievement of Output

Output 2: Item pools in mathematics and science education for Grades 7 and 8 are partially developed (Table 1) through workshops mentioned above.

Table 1: Items Developed through Workshops

| Working Group    | Work shop 1 | Work shop 2 | Work shop 3 | Work shop 4 | Work shop 5 | Total       | Target      | Target Achieved |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------|
| Mathematics      | 94          | 250         | 340         | 421         | 508         | 1613        | 2400        | 67.2%           |
| Biology          | 93          | 157         | 275         | 419         | 381         | 1325        | 2400        | 55.2%           |
| Chemistry        | 52          | 182         | 290         | 368         | 360         | 1252        | 2400        | 52.2%           |
| Physics          | 105         | 167         | 272         | 328         | 377         | 1249        | 2400        | 52.0%           |
| <b>Sub-total</b> | <b>344</b>  | <b>756</b>  | <b>1177</b> | <b>1536</b> | <b>1626</b> | <b>5439</b> | <b>9600</b> | <b>56.7%</b>    |
| Assessment       | 47          | 86          | 155         | 69*         | --          | 357         | --          | --              |
| <b>Total</b>     | <b>391</b>  | <b>842</b>  | <b>1332</b> | <b>1605</b> | <b>1626</b> | <b>5796</b> | <b>9600</b> | <b>60.4%</b>    |

\* This includes only "homework." Items developed at the Workshop are numbered under respective subject working groups.

Output 3: Capacity of the human resources working on item banks is being enhanced through item writing and item analysis exercises done during the workshops.

**Output 4:** In the 4<sup>th</sup> Workshop, the participants started developing the Workbooks on mathematics and science for Grades 7 and 8 (total: 8 Workbooks). They first decided the table of contents for the 8 Workbooks and assigned the topics to the respective participants. CDID Experts took lead of this activity.

**Output 6:** TELDD took a lead to organize a workshop to revise the existing Assessment session modules by inviting key CTE lecturers. JICA Experts sat together with TELDD Experts to provide initial thoughts on the existing modules, design a workshop program, and so on. The workshop was held in early February, and 10 lecturers from 9 CTEs intensively worked on. JICA Experts supported TELDD Experts with technical inputs. TELDD is satisfied with the revised modules, and now holds a plan to validate it along with 7 other PRESET modules.

**1-4 Achievement of the Project Purpose**

N/A

**1-5 Changes of Risks and Actions for Mitigation**

N/A

**1-6 Progress of Actions undertaken by JICA**

All inputs and actions have been undertaken by JICA according to the plan.

**1-7 Progress of Actions undertaken by Gov. of Ethiopia  
[1st Year]**

NEAEA conducted the data collection on National Learning Assessment for Grades 4 and 8 according to the plan.

**1-8 Progress of Environmental and Social Considerations (if applicable)**

N/A

**1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

N/A

**1-10 Other remarkable/considerable issues related/affect to the project  
(such as other JICA's projects, activities of counterparts, other donors,  
private sectors, NGOs etc.)**

**[1st Year]**

- MSIC experts are currently engaged in conducting national baseline survey on G5 and G6. Hence, MSIC experts need to be consulted well in advance on the Workshop schedule of LAMS to ensure their participation.
- In August 2015, JICA Experts participated in a workshop held in Adama by UNICEF regarding the Item Pool they had developed together with 11 REBs. Subsequently in September, JICA Experts visited Addis Ababa Education Bureau to observe the UNICEF-assisted Item Pool and how it was operated on the FastTest program.

**[2nd Year]**

- In January 2016, JICA Experts participated in a workshop held in Addis Ababa by Young Lives regarding the mathematics test item development for their survey. Mathematics experts from MSIC were the main participants, and LAMS developed items were also considered as candidate items for the purpose.
- In March 2016, Team Leader accompanied the head of MSIC to attend the Regional Conference on Mathematics and Science Education in Africa held in Nairobi, Kenya. This Conference was jointly organized by the Kenyan Ministry of Education, Science and Technology, JICA and others.

## **2 Delay of Work Schedule and/or Problems (if any)**

### **2-1 Detail**

No delay or problem has been recorded.

### **2-2 Cause**

N/A

### **2-3 Action to be taken**

N/A

### **2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Ethiopia, etc.)**

N/A

## **3 Modification of the Project Implementation Plan**

### **3-1 PO**

The number of Workshops has been increased from nine to ten in total.

### **3-2 Other modifications on detailed implementation plan**

*(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)*

A draft revision of the original PDM was proposed and reviewed at the second National Steering Committee meeting held on May 6, 2016. While the Committee well understood the overall policy of modifications, it wanted to give more specific figures to some indicators proposed. The Committee decided to continue the discussion at a Technical Committee meeting and directed LAMS team to hold it as soon as possible.

## **4 Preparation of Gov. of Ethiopia toward after completion of the Project**

MSIC and LAMS jointly implemented a plan that MSIC Experts should take lead of some Workshop sessions from the 5th Workshop conducted in March 2016. This is part of the LAMS strategy to make LAMS activities sustainable.



**II. Project Monitoring Sheet I & II**     *as Attached*

## Project Monitoring Sheet I (Revision of Project Design Matrix)

**Project Title:** Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (LAMS)

Version: 5

**Implementing Agency:** Federal Ministry of Education

Dated: May 31, 2016

**Target Group:** Officials of the Federal Ministry of Education, Officials of Regional Education Bureaus (11)


**Period of Project:** October 2014–October 2017

**Project Site:** Whole country

**Model Site:** None

| Narrative Summary   | Objectively Verifiable Indicators   | Means of Verification  | Important Assumption   | Achievement  | Remarks   |
|---|---|--|--|--|---|
| <p><b>Super Goal</b><br/>Students' learning achievement at Grade 7 and 8* is improved.</p>  | <p>1 Improvement of the results of Primary School Leaving Certificate Examination (PSLCE) in mathematics and science<br/>2 Improvement of the results of National Learning Assessment (NLA)</p>   | <p>1 Result of PSCLE by REBs and NEAEA<br/>2 Result of NLA by NEAEA</p>          |  |  |   |
| <p><b>Overall Goal</b><br/>Pedagogical basic foundation is prepared mainly at Grade 7 and 8 to improve students' learning achievement.</p>  | <p>1 "Workbook" developed by the Project are distributed to schools<br/>2 "Assessment and Evaluation session module on mathematics and science education" is utilized at CTE and Inset</p>  | <p>1 MoE and REBs reports<br/>2 Interview with related directorates and REBs</p> | <p>1 Quality of question items of PSLCE in mathematics and science, and NLA is improved based on the outputs of the project.</p>   |  |   |
| <p><b>Project Purpose</b><br/>Quality of curriculum strategy to improve students' learning achievement in mathematics and science education at target grades is enhanced under curriculum consistency.</p>  | <p>1 Understandings on quality of curriculum policy under curriculum consistency in mathematics and science education are deepened among the stakeholders<br/>2 Materials developed by the Project have curriculum consistency</p>  | <p>1 Project reports<br/>2 Project reports</p>                                   | <p>1 The Ethiopian Government fund is utilized for the outputs of the project, such as printing and distribution of the materials developed by the project and preset and inset.<br/>2 Mathematics and Science textbooks are distributed nationwide.</p> |  |   |
| <p><b>Output 1: (Subject WGs' members)</b><br/>Capacity of Subject WGs' members on mathematics and science education are enhanced</p>   | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:**<br/>(1) Participants' performance<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 Relevance of the quality of question items of Item Pool is secured through validation process.</p>   | <p>1 Project reports<br/>2 Project reports</p>                                   | <p>1. Collaborative activities among stakeholders are maintained.</p>  |  | <p>The Endline Survey is conducted jointly with counterparts to collect data necessary to evaluate the indicators specified in the PDM.</p> |
| <p><b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b><br/>Item pool in mathematics and science education for Grade 7 and 8, and Sample Item pool in mathematics and science education for Grade 4 and 10 are developed.</p> | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:<br/>(1) Participants' performance based on concrete question items developed by the participants<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 "Item pool" is allocated in accessible way for all related stakeholders<br/>3 "Item Pool" is utilized by related stakeholders</p> | <p>1 Project reports<br/>2 Project reports<br/>3 Project reports</p>             |  | <p>After validation and finalization, items to be stored in the Item Pools were finally selected from the items developed in the 1st, 2nd and 3rd Workshops. This selection will continue.</p> | <p>The Endline Survey is conducted jointly with counterparts to collect data necessary to evaluate the indicators specified in the PDM.</p> |

|  |   |  |  |  |  |
|--|---|--|--|--|--|
| <p><b>Output 3: (Mainly NEAEA and REBs)</b><br/>Capacity of the following human resources on development of Item Banks is enhanced.<br/>- Item writers and experts for "NLA Item Bank on mathematics and science education for Grade 4, 8 and 10 (NEAEA)"<br/>- Subject experts for "PSLCE Item Bank on Mathematics and Science for Grade 8 and Ethiopian General Secondary Education Certificate Examination (EGSECE) in Grade 10 (NEAEA) "<br/>- Item writers for "PSLCE items for Grade 8 (REBs)"</p> | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:<br/>(1) Participants' performance<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 Improvement of the results of M&amp;E of WG's sessions related to Output 3</p> | <p>1 Project reports<br/>2 Project reports</p> |  |  |  |
| <p><b>Output 4: (Mainly CDID)</b><br/>"Workbooks on mathematics and science for Grade 7 and 8" are developed.</p>  | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 5: (Mainly MSIC)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CPD modules, is elaborated.</p>   | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 E ndorsement by MoE</p>  | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 6: (Mainly TELDD)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CTE modules, is elaborated.</p>  | <p>1 Relevance of the quality of the product is secured through validation<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 7: (Mainly CDID, MSIC and TELDD)</b><br/>Action plans, clarifying the utilization of developed materials, are prepared.</p>   | <p>1 Approval by MoE</p>  | <p>1 MoE</p>                                   |  |  |  |

| Activities  | Inputs   |   | Important Assumption   |
|---|--|---|--|
|   | The Japanese Side  | The Ethiopian Side  |  |
| 1-1. Plan WG's trainings and WS.<br>1-2. Coordinate WG's trainings and WS.<br>1-3. Conduct Subject WG's trainings and WS.<br>1-4. Monitor and evaluate the results of the Subject WG's trainings and WS.<br>-----<br>2-1. Trainings on development of question items for Item Pool.<br>2-2. Consolidate the procedure of development of Item Pool.<br>2-3. Draft question items for Grade 8.<br>2-4. Validate on reliance and relevance of drafted question items for Grade 8.<br>2-5. Finalize question items for Grade 8.<br>2-6. Draft question items for Grade 7.<br>2-7. Validate on relevance of drafted question items for Grade 7.<br>2-8. Finalize question items for Grade 7.<br>2-9. Draft sample question items for Grade 10.<br>2-10. Validate on reliance and relevance of drafted sample question items for Grade 10.<br>2-11. Finalize sample question items for Grade 10.<br>2-12. Draft sample question items for Grade 4.<br>2-13. Validate on reliance and relevance of drafted sample question items for Grade 4.<br>2-14. Finalize sample question items for Grade 4.<br>-----<br>3-1. Plan Assessment and Evaluation WG's trainings and WSs.<br>3-2. Coordinate Assessment and Evaluation WG's trainings and WSs.<br>3-3. Conduct Assessment and Evaluation WG's trainings and WSs.<br>3-4. Monitor and evaluate Assessment and Evaluation WG's trainings and WSs.<br>3-5. (To be determined) Activities for improving quality of mathematics and science Item bank. | <ul style="list-style-type: none"> <li>• Experts from Japan                             <ul style="list-style-type: none"> <li>- Chief Advisor</li> <li>- Mathematics Education</li> <li>- Science Education (Chemistry, Biology and Physics)</li> <li>- Educational Assessment/Test Development</li> <li>- Project Coordinator/Public Relation</li> </ul> </li> <li>• Experts activity Cost</li> <li>• Activity costs related to Workshop in WG</li> <li>• Necessary equipment for the project activities</li> <li>• Necessary cost for trainings in Japan and third countries</li> </ul> | <ul style="list-style-type: none"> <li>• Counterparts (C/P)                             <ul style="list-style-type: none"> <li>- Project Manager (State Minister)</li> <li>- Project Coordinator</li> <li>- Related officers in NEAEA</li> <li>- Related officers in Curriculum</li> <li>- Related officers in TELDD</li> <li>- Related officers in TELLRD</li> <li>- Related officers in MSIC</li> <li>- Related officers in REBs</li> </ul> </li> <li>• Assignment of specialists (subject expert, item developers/writes), and Assessment and Evaluation experts as WG members at Federal and REBs level.</li> <li>• Assignment of appropriate number of primary and secondary schools for validation of Item Pool and other related materials.</li> <li>• Necessary cost for implementation of all related activities which each directorate and REB plan and implement, such as teacher trainings, printing and distribution of materials, etc.</li> <li>• Translation cost of final products of the Project from English to local language.</li> <li>• Project office with its running cost.</li> <li>• Necessary cost to conduct National Steering Committee and Technical Committee.</li> </ul> | 1 Members of the WGs are not changed.<br>2 Members of the WGs continue participating the respective trainings and WSs. |
|   |  |   |                                     |
|   |  |   | <Issues and countermeasures>   |

|  |  |  |  |
|--|--|--|--|
| <p>4-1. Establish editing concept of Workbook.<br/>         4-2. Consolidate development procedure.<br/>         4-3. Draft Workbook for Grade 8.<br/>         4-4. Validate drafted Workbook for Grade 8 at classroom level.<br/>         4-5. Finalize Workbook for Grade 8.<br/>         4-6. Draft Workbook for Grade 7.<br/>         4-7. Validate drafted Workbook for Grade 7 at classroom level.<br/>         4-8. Finalize Workbook for Grade 7.</p>                                  |  |  |  |
| <p>5-1. Establish editing concept of the modules.<br/>         5-2. Consolidate development procedure.<br/>         5-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         5-4. Validate drafted module for Grade 8.<br/>         5-5. Finalize the module for Grade 8.<br/>         5-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         5-7. Validate drafted module for Grade 7.<br/>         5-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>6-1. Establish editing concept of the modules.<br/>         6-2. Consolidate development procedure.<br/>         6-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         6-4. Validate drafted module for Grade 8.<br/>         6-5. Finalize the module for Grade 8.<br/>         6-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         6-7. Validate drafted module for Grade 7.<br/>         6-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>7-1. Define scaling up strategy of how to utilize materials developed by the project.<br/>         7-2. Develop action plan for scaling up.<br/>         7-3. Obtain approval of the action plan.</p>   |  |  |  |

\* "Grade 7 and 8" are set as target grades of the initial stage of the strategy under curriculum consistency to be focused on in the Project. It is expected that other grades will be set as target grades after completion of the Project by the Ethiopian side.

\*\* Appropriate indicators will be determined in feasible way, after commencement of the project.

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 5

Dated: May 31, 2016

Project Title: Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education

| Inputs                           |  | Plan   | 2014   |      |   |    | 2015 |    |   |    | 2016 |    |   |    | 2017 |    |   |    | Remarks   | Monitoring |    |       |          |
|----------------------------------|--|--------|--------|------|---|----|------|----|---|----|------|----|---|----|------|----|---|----|---|------------|----|-------|----------|
|                                  |  |        | Actual |      | I | II | III  | IV | I | II | III  | IV | I | II | III  | IV | I | II |   | III        | IV | Issue | Solution |
|                                  |  |        | Actual | Plan |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| <b>Expert</b>                    |  |        |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Norimichi Toyomane               |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Shuhei Oguchi                    |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Yasushi Wada                     |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Etsutarō Tanaka/Kotaro Kijima    |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    | Temporarily replaced by Kotaro Kijima in July 2015  |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Shimboku Miyakawa                |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Masatsugu Murase                 |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Atsushi Tsukui                   |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Hidetoki Ishii                   |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Desalegn Chalchisa Jebena        |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    | Work in Japan for the 2nd Year is switched to assignment in Ethiopia  |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Yosuke Sakurai/ Mitsuhiro Ishida |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    | Replaced by Mitsuhiro Ishida in February 2015   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| <b>Equipment</b>                 |  |        |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
| Office equipment                 |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    | Photocopy machine provided during SMASEE is not running well and requires very frequent and costly maintenance. |            |    |       |          |
| Laptop computers                 |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    | Provided for 11 REBs.   |            |    |       |          |
| <b>Training in Japan</b>         |  |        |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Plan   |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |
|                                  |  | Actual |        |      |   |    |      |    |   |    |      |    |   |    |      |    |   |    |   |            |    |       |          |

| Activities   | Sub-Activities   | Plan   | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Responsible Organization |                          | Achievements  | Issue & Countermeasures |
|--|--|--------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|--------------------------|--------------------------|---|-------------------------|
|  |  |        | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III | IV                       | Japan                    |   |                         |
| <b>Output 1: (Subject Working Groups' members)</b>                         |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 1.1  | Plan WG's trainings and WS   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 1.2  | Coordinate WG's trainings and WS   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | All Subject Working Group members have been assigned. 10 new members were added in Nov 2015.  |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 1.3  | Conduct Subject WG's trainings and WS  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 1.4  | Monitor and evaluate the results of the Subject WG's trainings and WS            | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b> |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.1  | Trainings on development of question items for Item Pool                         | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.2  | Consolidate the procedure of development of Item Pool                            | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.3  | Draft question items for Grade 8   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | Biology and Physics Groups decided to work on Grade 7 and 8 together. See 2.6.  |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.4  | Validate on reliance and relevance of drafted question items for Grade 8         | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | Biology and Physics Groups decided to work on Grade 7 and 8 together. See 2.7.  |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.5  | Finalize question items for Grade 8  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | See 2.8.  |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.6  | Draft question items for Grade 7   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | Based on competencies, items were developed by the participants of the training according to the plan.  |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.7  | Validate on relevance of drafted question items for Grade 7                      | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | Among the items developed in the training, those for field test were selected by MSIC experts. Field test was conducted at sample schools in Addis Ababa, and its results were analyzed and shared. |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.8  | Finalize question items for Grade 7  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC | With feedback from field test results, items were finalized by Item Selection Committee for Item Pool.  |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.9  | Draft sample question items for Grade 10   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.10   | Validate on reliance and relevance of drafted sample question items for Grade 10 | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.11   | Finalize sample question items for Grade 10                                      | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.12   | Draft sample question items for Grade 4  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.13   | Validate on reliance and relevance of drafted sample question items for Grade 4  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |
| 2.14   | Finalize sample question items for Grade 4                                       | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team<br>MSIC |   |                         |
|  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                          |   |                         |

| Output 3: (Mainly NEAEA and REBs)  |        |  |  |  |  |  |  |  |  |  |  |  |                       |  |
|--|--------|--|--|--|--|--|--|--|--|--|--|--|-----------------------|--|
| 3.1 Plan Assessment and Evaluation WG's trainings and WSs                                    | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 3.2 Coordinate Assessment and Evaluation WG's trainings and WSs                              | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC | Working Group members have been assigned.  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 3.3 Conduct Assessment and Evaluation WG's trainings and WSs                                 | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 3.4 Monitor and evaluate Assessment and Evaluation WG's                                      | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 3.5 (To be determined) Activities for improving quality of mathematics and science Item Bank | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC | Group specific item analysis was conducted from 4th Workshop.  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| Output 4: (Mainly CDID)  |        |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 4.1 Establish editing concept of Workbook  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID | Hints on the concept were gained in the training in Japan.   |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 4.2 Consolidate development procedure  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID | It was decided to develop the Workbooks as part of Workshop activity. In the 4th Workshop, the tables of contents were finalized and topics were assigned to the participants. |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 4.3 Draft Workbook for Grade 8   | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID | Drafting officially started in the 5th Workshop (Mar 2016).  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 4.4 Validate drafted Workbook for Grade 8 at classroom level                                 | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 4.5 Finalize Workbook for Grade 8  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 4.6 Draft Workbook for Grade 7   | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID | Drafting officially started in the 5th Workshop (Mar 2016).  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 4.7 Validate Drafted Workbook for Grade 7 at classroom level                                 | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 4.8 Finalize Workbook for Grade 7  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team CDID |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| Output 5: (Mainly MSIC)  |        |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 5.1 Establish editing concept of the modules   | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC | Hints on the concept were gained in the training in Japan.   |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 5.2 Consolidate development procedure  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 5.3 Draft modules for Grade 8, based on the Item Pool for Grade 8                            | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 5.4 Validate drafted module for Grade 8  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 5.5 Finalize the module for Grade 8  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 5.6 Draft module for Grade 7, based on the Item Pool for Grade 7                             | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 5.7 Validate drafted module for Grade 7  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| 5.8 Finalize the module for Grade 7  | Plan   |  |  |  |  |  |  |  |  |  |  |  | JICA Expert Team MSIC |  |
|  | Actual |  |  |  |  |  |  |  |  |  |  |  |                       |  |



| Output 6: (Mainly TELDD)  |        |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
|---|--------|----|-----|----|---|----|-----|----|---|----|-----|----|---|---|----------|----|--|--|
| 6.1 Establish editing concept of the modules  | Plan   |    |     |    |   |    |     |    |   |    |     |    | JICA Expert Team TELDD                          | Hints on the concept were gained in the training in Japan. Information on the existing modules are being collected while discussing with TELDD experts. |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 6.2 Consolidate development procedure   | Plan   |    |     |    |   |    |     |    |   |    |     |    | JICA Expert Team TELDD                          | TELDD took a lead to consolidate the development procedure, and succeeded in gaining financial support from UNICEF for its idea.                        |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 6.3 Draft module for Grade 8, based on the Item Pool for Grade 8                    | Plan   |    |     |    |   |    |     |    |   |    |     |    | JICA Expert Team TELDD                          | TELDD held a workshop to revise the existing module by inviting key CTE lecturers. JICA supported the workshop with technical inputs.                   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 6.4 Validate drafted module for Grade 8   | Plan   |    |     |    |   |    |     |    |   |    |     |    | JICA Expert Team TELDD                          |   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 6.5 Finalize the module for Grade 8   | Plan   |    |     |    |   |    |     |    |   |    |     |    | JICA Expert Team TELDD                          |   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 6.6 Draft module for Grade 7, based on the item Pool for Grade 7                    | Plan   |    |     |    |   |    |     |    |   |    |     |    | JICA Expert Team TELDD                          | See 6.4   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 6.7 Validate drafted module for Grade 7   | Plan   |    |     |    |   |    |     |    |   |    |     |    | JICA Expert Team TELDD                          |   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 6.8 Finalize the module for Grade 7   | Plan   |    |     |    |   |    |     |    |   |    |     |    | JICA Expert Team TELDD                          |   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Output 7: (Mainly CDID, MSIC and TELDD)   |        |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 7.1 Define scaling up strategy of how to utilize materials developed by the project | Plan   |    |     |    |   |    |     |    |   |    |     |    | CDID, MSIC, TELDD                               |   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 7.2 Develop action plan for scaling up  | Plan   |    |     |    |   |    |     |    |   |    |     |    | CDID, MSIC, TELDD                               |   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| 7.3 Obtain approval of the action plan  | Plan   |    |     |    |   |    |     |    |   |    |     |    | CDID, MSIC, TELDD                               |   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Duration / Phasing  |        |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Plan  |        |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Actual  |        |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Monitoring Plan   |        |    |     |    |   |    |     |    |   |    |     |    | Remarks   | Issue   | Solution |    |  |  |
| Plan  |        |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Actual  | I      | II | III | IV | I | II | III | IV | I | II | III | IV | I   | II  | III      | IV |  |  |
| Monitoring  |        |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| National Steering Committee   | Plan   |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Set-up of the Detailed Plan of Operation  | Plan   |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Submission of Monitoring Sheet  | Plan   |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Monitoring Mission from Japan   | Plan   |    |     |    |   |    |     |    |   |    |     |    | Received on March 3-6, 2015, and March 28, 2016 |   |          |    |  |  |
| Joint Monitoring  | Plan   |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
| Post Monitoring   | Plan   |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |
|   | Actual |    |     |    |   |    |     |    |   |    |     |    |   |   |          |    |  |  |



## APPENDIX 22 MONITORING SHEETS (Version 6, November 2016)

### PM Form 3-1 Monitoring Sheet Summary

**TO: CR of JICA Ethiopia Office**

#### PROJECT MONITORING SHEET

**Project Title:** The Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (2nd Year)

**Version of the Sheet:** Ver. 6 (Term: October 2015 – February 2017)

**Name:** Norimichi Toyomane

**Title:** Team Leader/Mathematics

**Submission Date:** November 30, 2016

#### I. Summary

##### 5 Progress

###### 1-11 Progress of Inputs

###### [1st Year]

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- First Training in Japan was successfully conducted from April 18 to May 2, 2015. Nine officers, selected from MSIC, NEAEA, CDID and TELDD, participated in the training.

###### [2nd Year]

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- Second Training in Japan was successfully conducted from May 10 to May 25, 2016. Six officers selected from EPRMD, MSIC, CDID, TELDD and 11 Heads of Regional Education Bureaus participated in the training.

###### 1-12 Progress of Activities

###### [1st Year]

- 1<sup>st</sup> National Steering Committee meeting was held on October 16, 2014 at State Minister's meeting room.
- 1<sup>st</sup> Technical Committee meeting was held on November 27, 2014 at NEAEA.
- 2<sup>nd</sup> Technical Committee meeting was held on September 2, 2015 at NEAEA.
- 1<sup>st</sup> Workshop was held on January 13-16 in Adama by inviting all WG members. 79 attended.
- 2<sup>nd</sup> Workshop was held in two batches: on March 23-27 for Biology, Chemistry

and Assessment WG; and on March 30 to April 3 for Mathematics and Physics WG in Adama. 77 attended.

- 3<sup>rd</sup> Workshop was held on July 20-24 in Adama. 75 attended.
- Materials for LAMS data collection, consisting of questionnaires and achievement tests, were prepared by mid-December 2014. After validation, data collection was conducted at 32 primary schools of Addis Ababa, Amhara, SNNPR and Benishangul-Gumuz from February to April 2015.
- At the same time, consistency between the curriculum (syllabus) and PSLCE, and EGSECE, and the textbooks was examined.
- The survey results were compiled as *Inception Survey Report* and submitted to the Ethiopian counterparts and JICA in July 2015.

### **[2nd Year]**

- 4<sup>th</sup> Workshop was held on November 16-21 in Adama. Ten additional members newly joined (teachers from Regions). 87 attended.
- 5<sup>th</sup> Workshop was held on March 7-12 in Adama. Experts from NEAEA and TELDD were absent due to their official duties. 77 attended.
- 6<sup>th</sup> Workshop was held on June 27-July 2 in Adama. 66 attended.
- 7<sup>th</sup> Workshop was held on October 31-November 5 in Addis Ababa. The venue was changed due to JICA's ban on the activities in Amhara and Oromia Regions. 48 attended. Due mainly to the recent new MoFEC regulations on DSA, the number of participants decreased substantially.
- 1<sup>st</sup> Item Selection Workshop was held on December 14-16 in Adama. 28 officials from MSIC, NEAEA, CDID and TELDD took part to select items from those developed in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Workshops for the Item Pools and select items from those developed in the 4<sup>th</sup> Workshop for the field test.
- 2<sup>nd</sup> Item Selection Workshop was held on March 28-31 in Adama. Except for one TELDD expert, experts from NEAEA and TELDD were absent due to their official duties. 21 attended.
- 3<sup>rd</sup> Item Selection Workshop was held on July 13-16 in Adama. 20 attended.
- 4<sup>th</sup> Item Selection Workshop was held on November 15-18 in Addis Ababa. 13 attended.
- The Endline Survey is being conducted jointly with counterparts to follow up the Inception Survey. The results will be analyzed and compiled into *Endline Survey Report* to be submitted in Year 3.
- Two MSIC experts wrote academic papers on LAMS' impact using the results of the Endline Survey studies and presented them at the 14th annual conference of the Japan Association for Research on Testing (JART) held on September 8 and 9 in Tokyo, Japan. JICA Experts supported their endeavor technically and financially as part of their capacity development and as a means to publicize LAMS.
- The same expert attended the 14th Regional Conference for Mathematics, Science and Technology Education in Africa [COMSTEDA 14] and annual SMASE-Africa Delegates Meeting held on November 22-24 in Nairobi, Kenya. She presented the same paper to the African audience.

### 1-13 Achievement of Output

Output 2: Item pools in mathematics and science education for Grades 7 and 8 are partially developed (Table 1) through the workshops mentioned above.

Table 1: Items Developed through Workshops

| Working Group         | Work shop 1 | Work shop 2 | Work shop 3 | Work shop 4 | Work shop 5 | Work shop 6 | Work shop 7      | Total       | Target      | Target Achieved |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------------|-------------|-------------|-----------------|
| Math                  | 94          | 250         | 340         | 423         | 508         | 458         | 297              | 2370        | 2400        | 98.8%           |
| Biology               | 93          | 157         | 275         | 419         | 381         | 379         | 250              | 1954        | 2400        | 81.4%           |
| Chemistry             | 52          | 182         | 290         | 368         | 360         | 296         | 168              | 1716        | 2400        | 71.5%           |
| Physics               | 105         | 167         | 272         | 328         | 377         | 342         | 187              | 1778        | 2400        | 74.1%           |
| <b>Sub-total</b>      | <b>344</b>  | <b>756</b>  | <b>1177</b> | <b>1536</b> | <b>1626</b> | <b>1475</b> | <b>902</b>       | <b>7818</b> | <b>9600</b> | <b>81.4%</b>    |
| Assessment            | 47          | 86          | 155         | 69*         | --          | --          | --               | 357         | --          | --              |
| <b>Total</b>          | <b>391</b>  | <b>842</b>  | <b>1332</b> | <b>1607</b> | <b>1626</b> | <b>1475</b> | <b>902</b>       | <b>8175</b> | <b>9600</b> | <b>85.2%</b>    |
| No. of Participants   | 79          | 77          | 75          | 87          | 77          | 66          | 48<br>(41)**     | --          | --          | --              |
| Items per Participant | 4.9         | 10.9        | 17.8        | 18.5        | 21.1        | 22.3        | 18.8<br>(22.0)** | --          | --          | --              |

\* This includes only "homework." Items developed by the Assessment Group at the Workshop are numbered under respective subject working groups after Workshop 4.

\*\* Average number of participants who actually worked on item development during the Workshop.

Output 3: Capacity of the human resources working on item banks is being enhanced through item writing and item analysis exercises done during the workshops.

Output 4: In the 4<sup>th</sup> Workshop, the participants started developing the Workbooks on mathematics and science for Grades 7 and 8 (total: 8 Workbooks). They first decided the table of contents for the 8 Workbooks and assigned the topics to the respective participants. CDID Experts took lead of this activity. In the subsequent Workshops, the participants have been developing the assigned pages. The manuscripts were first reviewed and edited by the Japanese Experts and then typed by a professional designer.

Output 5: In October 2016, JICA Experts started drafting the INSET module on assessment after several times of consultation with MSIC on the contents. It is agreed that this module is meant to help and guide the teachers to carry out classroom assessment (formative assessment). It is also agreed that LAMS achievements and experiences should form a main part of the module. The drafting work is underway in coordination with the ongoing project by MSIC to newly develop SMASEE modules for Grades 5 and 6.

Output 6: TELDD took a lead to organize a workshop to revise the existing Assessment session modules by inviting key CTE lecturers. JICA Experts sat together with TELDD Experts to provide initial thoughts on the existing modules,

design a workshop program, and so on. The workshop was held in early February 2016, and 10 lecturers from 9 CTEs intensively worked on. JICA Experts supported TELDD Experts with technical inputs. TELDD held a validation workshop later in June to validate it along with 7 other PRESET modules.

**1-14 Achievement of the Project Purpose**

N/A

**1-15 Changes of Risks and Actions for Mitigation**

N/A

**1-16 Progress of Actions undertaken by JICA**

All inputs and actions have been undertaken by JICA according to the plan.

**1-17 Progress of Actions undertaken by Gov. of Ethiopia**

**[1st Year]**

NEAEA conducted the data collection on National Learning Assessment for Grades 4 and 8 according to the plan.

**1-18 Progress of Environmental and Social Considerations (if applicable)**

N/A

**1-19 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

N/A

**1-20 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

**[1st Year]**

- MSIC experts are currently engaged in conducting national baseline survey on G5 and G6. Hence, MSIC experts need to be consulted well in advance on the Workshop schedule of LAMS to ensure their participation.
- In August 2015, JICA Experts participated in a workshop held in Adama by UNICEF regarding the Item Pool they had developed together with 11 REBs. Subsequently in September, JICA Experts visited Addis Ababa Education Bureau to observe the UNICEF-assisted Item Pool and how it was operated on the FastTest program.

**[2nd Year]**

- In January 2016, JICA Experts participated in a workshop held in Addis Ababa by Young Lives regarding the mathematics test item development for their survey. Mathematics experts from MSIC were the main participants, and LAMS developed items were also considered as candidate items for the purpose.
- In March 2016, Team Leader accompanied the head of MSIC to attend the Regional Conference on Mathematics and Science Education in Africa held in

Nairobi, Kenya. This Conference was jointly organized by the Kenyan Ministry of Education, Science and Technology, JICA and others.

- In April 2016, MoFEC issued a new directive limiting the amount of DSA to 300 Birr per day. This new rate was first applied to the 7<sup>th</sup> Workshop. Due mainly to this change, the number of participants decreased substantially, from 87 (4<sup>th</sup> Workshop) to 48. This result was in spite of the repeated calls by MSIC Head to the REBs urging their experts' attendance. The fewer participants immediately affected the LAMS outcomes: fewer items were developed and a number of Workbook pages were left undone. If this situation continues, it seems very difficult to achieve the specific targets set for the four subject groups and to complete the Workbook pages.

## **6 Delay of Work Schedule and/or Problems (if any)**

### **2-1 Detail**

As described above, the number of participants dropped by about 45% at the 7th Workshop and this situation seems to continue. This decrease immediately threatens to block LAMS' accomplishing its targets of items and Workbooks.

### **2-2 Cause**

The new rate of DSA announced by MoFEC is the main cause.

### **2-3 Action to be taken**

To alleviate the situation and achieve its original goals, MSIC would request State Minister to direct the REBs and Directorates to send their experts to LAMS Workshops. In addition, the JICA Expert Team for LAMS is considering holding an extra Workshop sometime in 2017 while possibly extending the project period by a few months. JICA's approval is necessary to materialize this idea of extra Workshop and preliminary discussion has started. At the same time, NSC should approve the extension of the project period if it is necessary and revise the R/D accordingly.

### **2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Ethiopia, etc.)**

The most formal action should be for MSIC through the Ministry of Education to plead with MoFEC for reconsideration of the DSA rate. This action, however, looks uncertain to succeed and, if it does, will take long time to get the result. Since LAMS now has less than one year left, a more practical option is to add one more Workshop to complete the expected outcomes while extending the project period by a few months if necessary. This option is raised by the JICA Expert Team for JICA to consider.

## **7 Modification of the Project Implementation Plan**

### **3-1 PO**

The number of Workshops has been increased from nine to ten in total.

### **3-2 Other modifications on detailed implementation plan**

*(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)*

A draft revision of the original PDM was proposed and reviewed at the second National Steering Committee meeting held on May 6, 2016. While the Committee well understood the overall policy of modifications, it wanted to give more specific figures to some indicators proposed. The Committee decided to continue the discussion at a Technical Committee meeting and directed LAMS team to hold it as soon as possible. As of November 30, 2016, however, this Technical Committee meeting has yet to be held due to the committee members' mismatching schedules.

### **8 Preparation of Gov. of Ethiopia toward after completion of the Project**

MSIC and LAMS jointly implemented a plan that MSIC Experts should take lead of some Workshop sessions from the 5th Workshop conducted in March 2016. This is part of the LAMS strategy to make LAMS activities sustainable.

## **II. Project Monitoring Sheet I & II      *as Attached***



## Project Monitoring Sheet I (Revision of Project Design Matrix)

Project Title: Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (LAMS)

Version: 6

Implementing Agency: Federal Ministry of Education

Dated: November 30, 2016

Target Group: Officials of the Federal Ministry of Education, Officials of Regional Education Bureaus (11)


Period of Project: October 2014–October 2017

Project Site: Whole country

Model Site: None

| Narrative Summary   | Objectively Verifiable Indicators  | Means of Verification  | Important Assumption   | Achievement   | Remarks  |
|---|--|--|--|---|--|
| <b>Super Goal</b><br>Students' learning achievement at Grade 7 and 8* is improved.  | 1 Improvement of the results of Primary School Leaving Certificate Examination (PSLCE) in mathematics and science<br>2 Improvement of the results of National Learning Assessment (NLA)  | 1 Result of PSLCE by REBs and NEAEA<br>2 Result of NLA by NEAEA          |  |   |  |
| <b>Overall Goal</b><br>Pedagogical basic foundation is prepared mainly at Grade 7 and 8 to improve students' learning achievement.  | 1 "Workbook" developed by the Project are distributed to schools<br>2 "Assessment and Evaluation session module on mathematics and science education" is utilized at CTE and Inset   | 1 MoE and REBs reports<br>2 Interview with related directorates and REBs | 1 Quality of question items of PSLCE in mathematics and science, and NLA is improved based on the outputs of the project.  |   |  |
| <b>Project Purpose</b><br>Quality of curriculum strategy to improve students' learning achievement in mathematics and science education at target grades is enhanced under curriculum consistency.  | 1 Understandings on quality of curriculum policy under curriculum consistency in mathematics and science education are deepened among the stakeholders<br>2 Materials developed by the Project have curriculum consistency   | 1 Project reports<br>2 Project reports                                   | 1 The Ethiopian Government fund is utilized for the outputs of the project, such as printing and distribution of the materials developed by the project and preset and inset.<br>2 Mathematics and Science textbooks are distributed nationwide. |   |  |
| <b>Output 1: (Subject WGs' members)</b><br>Capacity of Subject WGs' members on mathematics and science education are enhanced   | 1 Improvement of M&E results of the trainings and WS in terms of the following contents:**<br>(1) Participants' performance<br>(2) Satisfaction toward the contents of the trainings and WS by the participants<br>2 Relevance of the quality of question items of Item Pool is secured through validation process.  | 1 Project reports<br>2 Project reports                                   | 1. Collaborative activities among stakeholders are maintained.   |   | The Endline Survey is conducted jointly with counterparts to collect data necessary to evaluate the indicators specified in the PDM. |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b><br>Item pool in mathematics and science education for Grade 7 and 8, and Sample Item pool in mathematics and science education for Grade 4 and 10 are developed. | 1 Improvement of M&E results of the trainings and WS in terms of the following contents:<br>(1) Participants' performance based on concrete question items developed by the participants<br>(2) Satisfaction toward the contents of the trainings and WS by the participants<br>2 "Item pool" is allocated in accessible way for all related stakeholders<br>3 "Item Pool" is utilized by related stakeholders | 1 Project reports<br>2 Project reports<br>3 Project reports              |  | After validation and finalization, items to be stored in the Item Pools were finally selected from the items developed in the 1st, 2nd and 3rd Workshops. This selection will continue. | The Endline Survey is conducted jointly with counterparts to collect data necessary to evaluate the indicators specified in the PDM. |

|  |   |  |  |  |  |
|--|---|--|--|--|--|
| <p><b>Output 3: (Mainly NEAEA and REBs)</b><br/>Capacity of the following human resources on development of Item Banks is enhanced.<br/>- Item writers and experts for "NLA Item Bank on mathematics and science education for Grade 4, 8 and 10 (NEAEA)"<br/>- Subject experts for "PSLCE Item Bank on Mathematics and Science for Grade 8 and Ethiopian General Secondary Education Certificate Examination (EGSECE) in Grade 10 (NEAEA) "<br/>- Item writers for "PSLCE items for Grade 8 (REBs)"</p> | <p>1 Improvement of M&amp;E results of the trainings and WS in terms of the following contents:<br/>(1) Participants' performance<br/>(2) Satisfaction toward the contents of the trainings and WS by the participants<br/>2 Improvement of the results of M&amp;E of WG's sessions related to Output 3</p> | <p>1 Project reports<br/>2 Project reports</p> |  |  |  |
| <p><b>Output 4: (Mainly CDID)</b><br/>"Workbooks on mathematics and science for Grade 7 and 8" are developed.</p>  | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 5: (Mainly MSIC)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CPD modules, is elaborated.</p>   | <p>1 Relevance of the quality of the product is secured through validation process<br/>2 E ndorsement by MoE</p>  | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 6: (Mainly TELDD)</b><br/>"Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CTE modules, is elaborated.</p>  | <p>1 Relevance of the quality of the product is secured through validation<br/>2 Endorsement by MoE</p>   | <p>1 Project reports<br/>2 MoE</p>             |  |  |  |
| <p><b>Output 7: (Mainly CDID, MSIC and TELDD)</b><br/>Action plans, clarifying the utilization of developed materials, are prepared.</p>   | <p>1 Approval by MoE</p>  | <p>1 MoE</p>                                   |  |  |  |

| Activities   | Inputs   |   | Important Assumption   |
|--|--|---|--|
|  | The Japanese Side  | The Ethiopian Side  |  |
| 1-1. Plan WG's trainings and WS.<br>1-2. Coordinate WG's trainings and WS.<br>1-3. Conduct Subject WG's trainings and WS.<br>1-4. Monitor and evaluate the results of the Subject WG's trainings and WS.<br>2-1. Trainings on development of question items for Item Pool.<br>2-2. Consolidate the procedure of development of Item Pool.<br>2-3. Draft question items for Grade 8.<br>2-4. Validate on reliance and relevance of drafted question items for Grade 8.<br>2-5. Finalize question items for Grade 8.<br>2-6. Draft question items for Grade 7.<br>2-7. Validate on relevance of drafted question items for Grade 7.<br>2-8. Finalize question items for Grade 7.<br>2-9. Draft sample question items for Grade 10.<br>2-10. Validate on reliance and relevance of drafted sample question items for Grade 10.<br>2-11. Finalize sample question items for Grade 10.<br>2-12. Draft sample question items for Grade 4.<br>2-13. Validate on reliance and relevance of drafted sample question items for Grade 4.<br>2-14. Finalize sample question items for Grade 4. | <ul style="list-style-type: none"> <li>• Experts from Japan</li> <li>- Chief Advisor</li> <li>- Mathematics Education</li> <li>- Science Education (Chemistry, Biology and Physics)</li> <li>- Educational Assessment/Test Development</li> <li>- Project Coordinator/Public Relation</li> <li>• Experts activity Cost</li> <li>• Activity costs related to Workshop in WG</li> <li>• Necessary equipment for the project activities</li> <li>• Necessary cost for trainings in Japan and third countries</li> </ul> | <ul style="list-style-type: none"> <li>• Counterparts (C/P)</li> <li>- Project Manager (State Minister)</li> <li>- Project Coordinator</li> <li>- Related officer in NEAEA</li> <li>- Related officer in Curriculum</li> <li>- Related officer in TELDD</li> <li>- Related officer in TELLRD</li> <li>- Related officer in MSIC</li> <li>- Related officer in REBs</li> <li>• Assignment of specialists (subject expert, item developers/writes), and Assessment and Evaluation specialists/experts as WG members at Federal and REBs level.</li> <li>• Assignment of appropriate number of primary and secondary schools for validation of Item Pool and other related materials.</li> <li>• Necessary cost for implementation of all related activities which each directorate and REB plan and implement, such as teacher trainings, printing and distribution of materials, etc.</li> <li>• Translation cost of final products of the Project from English to local language.</li> <li>• Project office with its running cost.</li> <li>• Necessary cost to conduct National Steering Committee and Technical Committee.</li> </ul> | 1 Members of the WGs are not changed.<br>2 Members of the WGs continue participating the respective trainings and WSs.<br><hr/> <p style="text-align: center;"><b>Pre-Conditions</b></p> 1 The current Curriculum (Active learning and Competency based approach) is maintained.<br>2 Appropriate members are assigned to Subject and Assessment and Evaluation WGs.<br><div style="text-align: center; margin: 10px 0;">  </div> <div style="text-align: center; background-color: #cccccc; padding: 5px; border: 1px solid black;">                         &lt;Issues and countermeasures&gt;                     </div> |
| 3-1. Plan Assessment and Evaluation WG's trainings and WSs.<br>3-2. Coordinate Assessment and Evaluation WG's trainings and WSs.<br>3-3. Conduct Assessment and Evaluation WG's trainings and WSs.<br>3-4. Monitor and evaluate Assessment and Evaluation WG's trainings and WSs.<br>3-5. (To be determined) Activities for improving quality of mathematics and science Item bank.  |  |   |  |

|  |  |  |  |
|--|--|--|--|
| <p>4-1. Establish editing concept of Workbook.<br/>         4-2. Consolidate development procedure.<br/>         4-3. Draft Workbook for Grade 8.<br/>         4-4. Validate drafted Workbook for Grade 8 at classroom level.<br/>         4-5. Finalize Workbook for Grade 8.<br/>         4-6. Draft Workbook for Grade 7.<br/>         4-7. Validate drafted Workbook for Grade 7 at classroom level.<br/>         4-8. Finalize Workbook for Grade 7.</p>                                  |  |  |  |
| <p>5-1. Establish editing concept of the modules.<br/>         5-2. Consolidate development procedure.<br/>         5-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         5-4. Validate drafted module for Grade 8.<br/>         5-5. Finalize the module for Grade 8.<br/>         5-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         5-7. Validate drafted module for Grade 7.<br/>         5-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>6-1. Establish editing concept of the modules.<br/>         6-2. Consolidate development procedure.<br/>         6-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>         6-4. Validate drafted module for Grade 8.<br/>         6-5. Finalize the module for Grade 8.<br/>         6-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>         6-7. Validate drafted module for Grade 7.<br/>         6-8. Finalize the module for Grade 7.</p> |  |  |  |
| <p>7-1. Define scaling up strategy of how to utilize materials developed by the project.<br/>         7-2. Develop action plan for scaling up.<br/>         7-3. Obtain approval of the action plan.</p>   |  |  |  |

\* Grade 7 and 8<sup>a</sup> are set as target grades of the initial stage of the strategy under curriculum consistency to be focused on in the Project. It is expected that other grades will be set as target grades after completion of the Project by the Ethiopian side.

\*\* Appropriate indicators will be determined in feasible way, after commencement of the project.

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 6

Dated: November 30, 2016

Project Title: Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education

| Inputs                           |  | Plan   | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Remarks  | Monitoring |       |
|----------------------------------|--|--------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|--|------------|-------|
|                                  |  |        | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III |  | IV         | Issue |
| <b>Expert</b>                    |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Norimichi Toyomane               |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Shuhei Oguchi                    |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Yasushi Wada                     |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Etsutaro Tanaka/Kotaro Kijima    |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | Temporarily replaced by Kotaro Kijima in July 2015.  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Shimboku Miyakawa                |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Masatsugu Murase                 |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Atsushi Tsukui                   |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Hidetoki Ishii                   |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Desalegn Chalchisa Jebena        |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | work in Japan for the 2nd Year is switched to assignment in Ethiopia   |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | Replaced by Mitsuhiro Ishida in February 2015  |            |       |
| Yosuke Sakurai/ Mitsuhiro Ishida |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| <b>Equipment</b>                 |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
| Office equipment                 |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | Photocopy machine provided during SMASEE is not running well and requires very frequent and costly maintenance |            |       |
| Laptop computers                 |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     | Provided for 11 REDs   |            |       |
| <b>Training in Japan</b>         |  |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |
|                                  |  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |  |            |       |

| Activities   | Sub-Activities   | Plan | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Responsible Organization |       | Achievements             | Issue & Countermeasures   |
|--|--|------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|--------------------------|-------|--------------------------|---|
|  |  |      | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III | IV                       | Japan |                          |   |
| <b>Output 1: (Subject Working Groups' members)</b>                         |  |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       |                          |   |
|  | 1.1 Plan WG's trainings and WS   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | All Subject Working Group members have been assigned. 10 new members were added in Nov 2015.  |
|  | 1.2 Coordinate WG's trainings and WS   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 1.3 Conduct Subject WG's trainings and WS  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 1.4 Monitor and evaluate the results of the Subject WG's trainings and WS                    | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b> |  |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       |                          |   |
|  | 2.1 Trainings on development of question items for Item Pool                                 | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.2 Consolidate the procedure of development of Item Pool                                    | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.3 Draft question items for Grade 8   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | Biology and Physics Groups decided to work on Grade 7 and 8 together. See 2.6.  |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | Biology and Physics Groups decided to work on Grade 7 and 8 together. See 2.7.  |
|  | 2.4 Validate on reliance and relevance of drafted question items for Grade 8                 | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | See 2.8.  |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.5 Finalize question items for Grade 8  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.6 Draft question items for Grade 7   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | Based on competencies, items were developed by the participants of the training according to the plan.  |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | Among the items developed in the training, those for field test were selected by MSIC experts. Field test was conducted at sample schools in Addis Ababa, and its results were analyzed and shared. |
|  | 2.7 Validate on relevance of drafted question items for Grade 7                              | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | With feedback from field test results, items were finalized by Item Selection Committee for Item Pool.  |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.8 Finalize question items for Grade 7  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.9 Draft sample question items for Grade 10   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.10 Validate on reliance and relevance of drafted sample question items for Grade 10        | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.11 Finalize sample question items for Grade 10   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.12 Draft sample question items for Grade 4   | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.13 Validate on reliance and relevance of drafted sample question items for Grade 4         | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 2.14 Finalize sample question items for Grade 4  | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
| <b>Output 3: (Mainly NEAEA and REBs)</b>                                   |  |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       |                          |   |
|  | 3.1 Plan Assessment and Evaluation WG's trainings and WSs                                    | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 3.2 Coordinate Assessment and Evaluation WG's trainings and WSs                              | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | Working Group members have been assigned.   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 3.3 Conduct Assessment and Evaluation WG's trainings and WSs                                 | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 3.4 Monitor and evaluate Assessment and Evaluation WG's Trainings and                        | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |
|  | 3.5 (To be determined) Activities for improving quality of mathematics and science Item Bank | Plan |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC | Group specific item analysis was conducted from 4th Workshop.   |
|  | Actual   |      |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |       | JICA Expert Team<br>MSIC |   |







## APPENDIX 23 MONITORING SHEETS (Version 7, June 2017)

### PM Form 3-1 Monitoring Sheet Summary

**TO: CR of JICA Ethiopia Office**

#### PROJECT MONITORING SHEET

**Project Title:** The Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (3rd Year)

**Version of the Sheet:** Ver. 7 (Term: April 2017 – November 2017)

**Name:** Norimichi Toyomane

**Title:** Team Leader/Mathematics

**Submission Date:** June 30, 2017

#### I. Summary

##### 1 Progress

##### 1-1 Progress of Inputs

###### [1st Year]

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- First Training in Japan was successfully conducted from April 18 to May 2, 2015. Nine officers, selected from MSIC, NEAEA, CDID and TELDD, participated in the training.

###### [2nd Year]

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side assigned experts as WG members both at Federal and REB levels.
- Second Training in Japan was successfully conducted from May 10 to May 25, 2016. Six officers selected from EPRMD, MSIC, CDID, TELDD and 11 Heads of Regional Education Bureaus participated in the training.

###### [3rd Year]

- Experts from Japan are assigned and dispatched as planned.
- The Ethiopian side has assigned experts as WG members both at Federal and REB levels.
- Third Training in Japan was successfully conducted from May 13 to May 27, 2017. Eleven experts from 11 Regional Education Bureaus participated in the training.

##### 1-2 Progress of Activities

###### [1st Year]

- 1<sup>st</sup> National Steering Committee meeting was held on October 16, 2014 at State Minister's meeting room.
- 1<sup>st</sup> Technical Committee meeting was held on November 27, 2014 at NEAEA.

- 2<sup>nd</sup> Technical Committee meeting was held on September 2, 2015 at NEAEA.
- 1<sup>st</sup> Workshop was held on January 13-16 in Adama by inviting all WG members. 79 attended.
- 2<sup>nd</sup> Workshop was held in two batches: on March 23-27 for Biology, Chemistry and Assessment WG; and on March 30 to April 3 for Mathematics and Physics WG in Adama. 77 attended.
- 3<sup>rd</sup> Workshop was held on July 20-24 in Adama. 75 attended.
- Materials for LAMS data collection, consisting of questionnaires and achievement tests, were prepared by mid-December 2014. After validation, data collection was conducted at 32 primary schools of Addis Ababa, Amhara, SNNPR and Benishangul-Gumuz from February to April 2015.
- At the same time, consistency between the curriculum (syllabus) and PSLCE, and EGSECE, and the textbooks was examined.
- The survey results were compiled as *Inception Survey Report* and submitted to the Ethiopian counterparts and JICA in July 2015.

### [2nd Year]

- 4<sup>th</sup> Workshop was held on November 16-21 in Adama. Ten additional members newly joined (teachers from Regions). 87 attended.
- 5<sup>th</sup> Workshop was held on March 7-12 in Adama. Experts from NEAEA and TELDD were absent due to their official duties. 77 attended.
- 6<sup>th</sup> Workshop was held on June 27-July 2 in Adama. 66 attended.
- 7<sup>th</sup> Workshop was held on October 31-November 5 in Addis Ababa. The venue was changed due to JICA's ban on the activities in Amhara and Oromia Regions. 48 attended. Due mainly to the recent new MoFEC regulations on DSA, the number of participants decreased substantially.
- 1<sup>st</sup> Item Selection Workshop was held on December 14-16 in Adama. 28 officials from MSIC, NEAEA, CDID and TELDD took part to select items from those developed in the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Workshops for the Item Pools and select items from those developed in the 4<sup>th</sup> Workshop for the field test.
- 2<sup>nd</sup> Item Selection Workshop was held on March 28-31 in Adama. Except for one TELDD expert, experts from NEAEA and TELDD were absent due to their official duties. 21 attended.
- 3<sup>rd</sup> Item Selection Workshop was held on July 13-16 in Adama. 20 attended.
- 4<sup>th</sup> Item Selection Workshop was held on November 15-18 in Addis Ababa. 13 attended.
- The Endline Survey is being conducted jointly with counterparts to follow up the Inception Survey. The results will be analyzed and compiled into *Endline Survey Report* to be submitted in Year 3.
- Two MSIC experts wrote academic papers on LAMS' impact using the results of the Endline Survey studies and presented them at the 14th annual conference of the Japan Association for Research on Testing (JART) held on September 8 and 9 in Tokyo, Japan. JICA Experts supported their endeavor technically and financially as part of their capacity development and as a means to publicize LAMS.
- The same expert attended the 14th Regional Conference for Mathematics, Science and Technology Education in Africa [COMSTEDA 14] and annual SMASE-Africa Delegates Meeting held on November 22-24 in Nairobi, Kenya. She presented the same paper to the African audience.

### [3rd Year]

- 5<sup>th</sup> Item Selection Workshop was held on April 10-12, 2017, in Adama. 14

attended.

- 9<sup>th</sup> Workshop was held on April 24-28, 2017, in Adama. 60 attended.
- A small survey on sample Workbooks was conducted on May 16-18, 2017, in 5 primary schools in Addis Ababa. Results will be reported in the *Project Completion Report* due in October 2017.

### 1-3 Achievement of Output

Output 2: Item pools in mathematics and science education for Grades 7 and 8 and sample items for Grades 4 and 10 are being developed (Table 1) through the workshops mentioned above.

Table 1: Items Developed through Workshops (All Grades)

| Working Group         | Work shop 1 | Work shop 2 | Work shop 3  | Work shop 4  | Work shop 5  | Work shop 6  | Work shop 7      | Work shop 8  | Work shop 9  | Total         |
|-----------------------|-------------|-------------|--------------|--------------|--------------|--------------|------------------|--------------|--------------|---------------|
| Math                  | 94          | 250         | 340          | 423          | 508          | 458          | 297              | 576          | 184          | 3,130         |
| Biology               | 93          | 157         | 275          | 419          | 381          | 379          | 250              | 546          | 345          | 2,845         |
| Chemistry             | 52          | 182         | 290          | 368          | 360          | 296          | 168              | 382          | 248          | 2,346         |
| Physics               | 105         | 167         | 272          | 328          | 377          | 342          | 187              | 387          | 319          | 2,484         |
| <b>Sub-total</b>      | <b>344</b>  | <b>756</b>  | <b>1,177</b> | <b>1,536</b> | <b>1,626</b> | <b>1,475</b> | <b>902</b>       | <b>1,891</b> | <b>1,096</b> | <b>10,805</b> |
| Assessment            | 47          | 86          | 155          | 69*          | --           | --           | --               | --           | --           | 357           |
| <b>Total</b>          | <b>391</b>  | <b>842</b>  | <b>1,332</b> | <b>1,607</b> | <b>1,626</b> | <b>1,475</b> | <b>902</b>       | <b>1,891</b> | <b>1,096</b> | <b>11,162</b> |
| No. of Participants   | 79          | 77          | 75           | 87           | 77           | 66           | 48<br>(41)**     | 55           | 60           | --            |
| Items per Participant | 4.9         | 10.9        | 17.8         | 18.5         | 21.1         | 22.3         | 18.8<br>(22.0)** | 34.4         | 18.3         | --            |

\* This includes only "homework." Items developed by the Assessment Group at the Workshop are numbered under respective subject working groups after Workshop 4.

\*\* Average number of participants who actually worked on item development during the Workshop.

Table 2: Items Developed through Workshops (Grades 7 and 8)

| Working Group    | Work shop 1 | Work shop 2 | Work shop 3  | Work shop 4  | Work shop 5  | Work shop 6  | Work shop 7 | Work shop 8 | Work shop 9 | Total        | Target       | Target Achieved |
|------------------|-------------|-------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|--------------|--------------|-----------------|
| Math             | 94          | 250         | 340          | 423          | 508          | 458          | 297         | 166         | 0           | 2,536        | 2,000        | 126.8 %         |
| Biology          | 93          | 157         | 275          | 419          | 381          | 379          | 250         | 146         | 196         | 2,296        | 2,000        | 114.8 %         |
| Chemistry        | 52          | 182         | 290          | 368          | 360          | 296          | 168         | 175         | 222         | 2,113        | 2,000        | 105.7 %         |
| Physics          | 105         | 167         | 272          | 328          | 377          | 342          | 187         | 117         | 224         | 2,119        | 2,000        | 106.0 %         |
| <b>Sub-total</b> | <b>344</b>  | <b>756</b>  | <b>1,177</b> | <b>1,536</b> | <b>1,626</b> | <b>1,475</b> | <b>902</b>  | <b>604</b>  | <b>642</b>  | <b>9,064</b> | <b>8,000</b> | <b>113.3 %</b>  |
| Assessment       | 47          | 86          | 155          | 69*          | --           | --           | --          | --          | --          | 357          | --           | --              |

|              |            |            |              |              |              |              |            |            |            |              |              |                |
|--------------|------------|------------|--------------|--------------|--------------|--------------|------------|------------|------------|--------------|--------------|----------------|
| <b>Total</b> | <b>391</b> | <b>842</b> | <b>1,332</b> | <b>1,607</b> | <b>1,626</b> | <b>1,475</b> | <b>902</b> | <b>604</b> | <b>642</b> | <b>9,421</b> | <b>8,000</b> | <b>117.8 %</b> |
|--------------|------------|------------|--------------|--------------|--------------|--------------|------------|------------|------------|--------------|--------------|----------------|

Table 3: Items Developed through Workshops (Grade 4)

| Working Group    | Work shop 1 | Work shop 2 | Work shop 3 | Work shop 4 | Work shop 5 | Work shop 6 | Work shop 7 | Work shop 8  | Work shop 9 | Total        | Target     | Target Achieved |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|--------------|------------|-----------------|
| Math             | --          | --          | --          | --          | --          | --          | --          | 410          | 0           | 410          | 200        | 205.0 %         |
| Biology          | --          | --          | --          | --          | --          | --          | --          | 400          | 8           | 408          | 200        | 204.0 %         |
| Chemistry        | --          | --          | --          | --          | --          | --          | --          | 207          | 0           | 207          | 200        | 103.5 %         |
| Physics          | --          | --          | --          | --          | --          | --          | --          | 270          | 0           | 270          | 200        | 135.0 %         |
| <b>Sub-total</b> | --          | --          | --          | --          | --          | --          | --          | <b>1,287</b> | <b>8</b>    | <b>1,295</b> | <b>800</b> | <b>161.9 %</b>  |
| Assessment       | --          | --          | --          | --          | --          | --          | --          | --           | --          | --           | --         | --              |
| <b>Total</b>     | --          | --          | --          | --          | --          | --          | --          | <b>1,287</b> | <b>8</b>    | <b>1,295</b> | <b>800</b> | <b>161.9 %</b>  |

Table 4: Items Developed through Workshops (Grade 10)

| Working Group    | Work shop 1 | Work shop 2 | Work shop 3 | Work shop 4 | Work shop 5 | Work shop 6 | Work shop 7 | Work shop 8 | Work shop 9 | Total      | Target     | Target Achieved |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|-----------------|
| Math             | --          | --          | --          | --          | --          | --          | --          | --          | 184         | 184        | 200        | 92.0%           |
| Biology          | --          | --          | --          | --          | --          | --          | --          | --          | 141         | 141        | 200        | 70.5%           |
| Chemistry        | --          | --          | --          | --          | --          | --          | --          | --          | 26          | 26         | 200        | 13.0%           |
| Physics          | --          | --          | --          | --          | --          | --          | --          | --          | 95          | 95         | 200        | 47.5%           |
| <b>Sub-total</b> | --          | --          | --          | --          | --          | --          | --          | --          | <b>446</b>  | <b>446</b> | <b>800</b> | <b>55.8%</b>    |
| Assessment       | --          | --          | --          | --          | --          | --          | --          | --          | --          | --         | --         | --              |
| <b>Total</b>     | --          | --          | --          | --          | --          | --          | --          | --          | <b>446</b>  | <b>446</b> | <b>800</b> | <b>55.8%</b>    |

**Output 3:** Capacity of the human resources working on item banks is being enhanced through item writing and item analysis exercises done during the workshops.

**Output 4:** In the 4<sup>th</sup> Workshop, the participants started developing the Workbooks on mathematics and science for Grades 7 and 8 (total: 8 Workbooks). They first decided the table of contents for the 8 Workbooks and assigned the topics to the respective participants. CDID Experts took lead of this activity. In the subsequent Workshops, the participants have been developing the assigned pages. The manuscripts were first reviewed and edited by the Japanese Experts and then typed by a professional designer. Progress as of April 27, 2017, is shown in Table 5.

Table 5: Workbook Progress (as of April 27, 2017)

| Subject      | Total Pages<br>(excluding Unit<br>Summary) | Pages Typed | Rate of Completion |
|--------------|--|-------------|--------------------|
| Math G7      | 102  | 94          | 92.2%              |
| Math G8      | 106  | 82          | 77.4%              |
| Biology G7   | 60   | 32          | 53.3%              |
| Biology G8   | 60   | 30          | 50.0%              |
| Chemistry G7 | 52   | 42          | 80.8%              |
| Chemistry G8 | 50   | 24          | 48.0%              |
| Physics G7   | 86   | 54          | 62.8%              |
| Physics G8   | 86   | 26          | 30.2%              |
| Total        | 602  | 384         | 63.8%              |

Output 5: In October 2016, JICA Experts started drafting the INSET module on assessment after several times of consultation with MSIC on the contents. It is agreed that this module is meant to help and guide the teachers to carry out classroom assessment (formative assessment). It is also agreed that LAMS achievements and experiences should form a main part of the module. The drafting work is underway in coordination with the ongoing project by MSIC to newly develop SMASEE modules for Grades 5 and 6.

Output 6: TELDD took a lead to organize a workshop to revise the existing Assessment session modules by inviting key CTE lecturers. JICA Experts sat together with TELDD Experts to provide initial thoughts on the existing modules, design a workshop program, and so on. The workshop was held in early February 2016, and 10 lecturers from 9 CTEs intensively worked on. JICA Experts supported TELDD Experts with technical inputs. TELDD held a validation workshop later in June to validate it along with 7 other PRESET modules.

Output 7: Action Plan to utilize the LAMS outputs is being drafted by MSIC and the JICA Expert Team.

#### **1-4 Achievement of the Project Purpose**

As clearly indicated in the *Endline Survey Report* (due at the end of June 2017), LAMS has been successful in achieving its project purpose. The report analyzes the impact of LAMS from various perspectives and shows significant and positive impact LAMS has had on the Workshop participants' item development skills and perception on the importance of curriculum consistency.

#### **1-5 Changes of Risks and Actions for Mitigation**

N/A

### **1-6 Progress of Actions undertaken by JICA**

All inputs and actions have been undertaken by JICA according to the plan.

### **1-7 Progress of Actions undertaken by Gov. of Ethiopia**

#### **[1st Year]**

NEAEA conducted the data collection on National Learning Assessment for Grades 4 and 8 according to the plan.

### **1-8 Progress of Environmental and Social Considerations (if applicable)**

N/A

### **1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)**

N/A

### **1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)**

#### **[1st Year]**

- MSIC experts are currently engaged in conducting national baseline survey on G5 and G6. Hence, MSIC experts need to be consulted well in advance on the Workshop schedule of LAMS to ensure their participation.
- In August 2015, JICA Experts participated in a workshop held in Adama by UNICEF regarding the Item Pool they had developed together with 11 REBs. Subsequently in September, JICA Experts visited Addis Ababa Education Bureau to observe the UNICEF-assisted Item Pool and how it was operated on the FastTest program.

#### **[2nd Year]**

- In January 2016, JICA Experts participated in a workshop held in Addis Ababa by Young Lives regarding the mathematics test item development for their survey. Mathematics experts from MSIC were the main participants, and LAMS developed items were also considered as candidate items for the purpose.
- In March 2016, Team Leader accompanied the head of MSIC to attend the Regional Conference on Mathematics and Science Education in Africa held in Nairobi, Kenya. This Conference was jointly organized by the Kenyan Ministry of Education, Science and Technology, JICA and others.
- In April 2016, MoFEC issued a new directive limiting the amount of DSA to 300 Birr per day. This new rate was first applied to the 7<sup>th</sup> Workshop. Due mainly to this change, the number of participants decreased substantially, from 87 (4<sup>th</sup> Workshop) to 48. This result was in spite of the repeated calls by MSIC Head to the REBs urging their experts' attendance. The fewer participants immediately affected the LAMS outcomes: fewer items were developed and a number of Workbook pages were left undone. If this situation continues, it seems very difficult to achieve the specific targets set for the four subject groups and to complete the Workbook pages.

#### **[3rd Year]**

- In the subsequent Workshops, the number of attendants gradually and

moderately recovered: 55 in 8<sup>th</sup> Workshop (January 2017) and 60 for 9<sup>th</sup> Workshop (April 2017). These remaining participants showed very high commitment and were very productive in the 8<sup>th</sup> and 9<sup>th</sup> Workshops. Owing partly to their high productivity, the pace of the item development and workbook development recovered from the worst scenario.

## **2 Delay of Work Schedule and/or Problems (if any)**

### **2-1 Detail**

#### **[2nd Year]**

As described above, the number of participants dropped by about 45% at the 7<sup>th</sup> Workshop and this situation seems to continue. This decrease immediately threatens to block LAMS' accomplishing its targets of items and Workbooks.

#### **[3rd Year]**

In the subsequent Workshops, however, highly productive performance of the participants helped LAMS regain the pace.

### **2-2 Cause**

The new rate of DSA announced by MoFEC is the main cause.

### **2-3 Action to be taken**

#### **[2nd Year]**

To alleviate the situation and achieve its original goals, MSIC would request State Minister to direct the REBs and Directorates to send their experts to LAMS Workshops. In addition, the JICA Expert Team for LAMS is considering holding an extra Workshop sometime in 2017 while possibly extending the project period by a few months. JICA's approval is necessary to materialize this idea of extra Workshop and preliminary discussion has started. At the same time, NSC should approve the extension of the project period if it is necessary and revise the R/D accordingly.

#### **[3rd Year]**

JICA kindly approved LAMS to hold an extra Workshop in the 3<sup>rd</sup> year. However, the excellent performance of the participants in the last two Workshops has made it unnecessary to actually hold one more Workshop. As shown in the tables above, the overall progress is satisfactory except the Chemistry Working Group whose achievement is well behind the schedule. Other three Groups are expected to complete their assignments in the final 10<sup>th</sup> Workshop.

The extension of the project period was not considered as a viable option and eventually discarded in view of the extreme difficulty to hold the NSC meeting.

### **2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Ethiopia, etc.)**

#### **[2nd Year]**

The most formal action should be for MSIC through the Ministry of Education to plead with MoFEC for reconsideration of the DSA rate. This action, however, looks uncertain to succeed and, if it does, will take long time to get the result. Since LAMS now has less than one year left, a more practical option is to add one more Workshop

to complete the expected outcomes while extending the project period by a few months if necessary. This option is raised by the JICA Expert Team for JICA to consider.

### **3 Modification of the Project Implementation Plan**

#### **3-1 PO**

##### **[1st Year]**

The number of Workshops has been increased from nine to ten in total.

#### **3-2 Other modifications on detailed implementation plan**

*(Remarks: The amendment of R/D and PDM (title of the project, duration, project site(s), target group(s), implementation structure, overall goal, project purpose, outputs, activities, and input) should be authorized by JICA HDQs. If the project team deems it necessary to modify any part of R/D and PDM, the team may propose the draft.)*

A draft revision of the original PDM was proposed and reviewed at the second National Steering Committee meeting held on May 6, 2016. While the Committee well understood the overall policy of modifications, it wanted to give more specific figures to some indicators proposed. The Committee decided to continue the discussion at a Technical Committee meeting and directed LAMS team to hold it as soon as possible. This Technical Committee meeting was finally held on December 16, 2016. In the meeting, the PDM was formally revised as proposed by the JICA Expert Team.

### **4 Preparation of Gov. of Ethiopia toward after completion of the Project**

#### **[2nd Year]**

MSIC and LAMS jointly implemented a plan that MSIC Experts should take lead of some Workshop sessions from the 5th Workshop conducted in March 2016. This is part of the LAMS strategy to make LAMS activities sustainable.

#### **[3rd Year]**

MSIC and LAMS are to develop the Action Plan on how to utilize the LAMS outputs after its completion. This Plan should be drafted in July 2017.

## **II. Project Monitoring Sheet I & II      as Attached**



Project Monitoring Sheet I (Revision of Project Design Matrix)

**Project Title:** Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education (LAMS)

Version: 7

**Implementing Agency:** Federal Ministry of Education

Dated: June 30, 2017

**Target Group:** Officials of the Federal Ministry of Education, Officials of Regional Education Bureaus (11)


**Period of Project:** October 2014~September 2017

**Project Site:** Whole country

**Model Site:** None

| Narrative Summary  | Objectively Verifiable Indicators  | Means of Verification   | Important Assumption   | Achievement   | Remarks   |
|--|--|---|--|---|---|
| <b>Super Goal</b><br>Students' learning achievement at Grade 7 and 8* is improved.   | 1 Improvement of the results of Primary School Leaving Certificate Examination (PSLCE) in mathematics and science<br>2 Improvement of the results of National Learning Assessment (NLA)  | 1 Result of PSCLE by REBs and NEAEA<br>2 Result of NLA by NEAEA   |  |   |   |
| <b>Overall Goal</b><br>Pedagogical basic foundation is prepared mainly at Grade 7 and 8 to improve students' learning achievement.   | 1 "Workbook" developed by the Project are distributed to schools<br>2 "Assessment and Evaluation session module on mathematics and science education" is utilized at CTE and Inset   | 1 MoE and REBs reports<br>2 Interview with related directorates and REBs  | 1 Quality of question items of PSLCE in mathematics and science, and NLA is improved based on the outputs of the project.  |   |   |
| <b>Project Purpose</b><br>Quality of curriculum strategy to improve students' learning achievement in mathematics and science education at target grades is enhanced under curriculum consistency.   | 1 Materials developed by the Project have curriculum consistency<br>2 Understandings on quality of curriculum policy under curriculum consistency in mathematics and science education are deepened among the stakeholders. Workshop participants' understanding about the importance of curriculum consistency in terms of the rate of participants who strongly agreed with its importance:<br>In 2014 28.6%<br>In 2017 50%  | 1 Project reports and Workshop Questionnaires<br>2 Project reports  | 1 The Ethiopian Government fund is utilized for the outputs of the project, such as printing and distribution of the materials developed by the project and preset and inset.<br>2 Mathematics and Science textbooks are distributed nationwide. |   |   |
| <b>Output 1:</b><br>Capacity of Subject WGs' members on mathematics and science education and the following human resources on development of Item Banks is enhanced.<br>- Item writers and experts for "NLA Item Bank on mathematics and science education for Grade 4, 8 and 10 (NEAEA)"<br>- Subject experts for "PSLCE Item Bank on mathematics and science for Grade 8 and Ethiopian General Secondary Education Certificate Examination (EGSECE) in Grade 10 (NEAEA)"<br>- Item writers for "PSLCE items for Grade 8 (REBs)" | 1 Improvement of M&E results of the trainings and WS in terms of the following contents:**<br>(1) Participants' performance<br>i) Among the field-tested items, the percentage of items satisfying the two conditions below increases:<br>Difficulty $\geq 0.25$<br>Discrimination index $\geq 0.10$<br>For items developed by the members of 5 WGs in WS2: 52.0%<br>For items developed by the members of 5 WGs in WS7: 70.0% (see Appendix 1)<br>ii) Quality of field-tested items improves in terms of the average score of item quality evaluation (see Appendix 2):<br>For items developed by the members of 5 WGs in WS2: 3.35<br>For items developed by the members of 5 WGs in WS7: 4.00<br>(2) Satisfaction toward the contents of the trainings and WS by the participants<br>Satisfied 5 WG members in WS7 and WS8 80%<br>2 Relevance of the quality of question items of Item Pool | 1 Project reports and Workshop Questionnaires<br>2 Project reports<br>3 Project reports and Workshop Questionnaires | 1. Collaborative activities among stakeholders are maintained.   | Working Group members have acquired skills and knowledge necessary to write good items. Experts for "NLA Item Bank on mathematics and science education for Grade 4, 8 and 10 (NEAEA)" and experts for "PSLCE items for Grade 8 (REBs)" have also attained a basic method of item analysis. | The Endline Survey was conducted jointly with counterparts to collect data necessary to evaluate the indicators specified in the PDM. |

|  |   |  |  |  |   |
|--|---|--|--|--|---|
|  | is secured through validation process.<br>3 Improvement of the results of M&E of WG's sessions related to Output 1.                                 |  |  |  |   |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b>   | 1 "Item pool" for Grades 7 and 8 is developed in the form of database.<br>2 "Item pool" is allocated in accessible way for all related stakeholders | 1 Project reports<br>2 Project reports |  | After validation and finalization, items to be stored in the Item Pools are being selected from the items developed in the past Workshops. This selection will be finished in July 2017. | The Endline Survey was conducted jointly with counterparts to collect data necessary to evaluate the indicators specified in the PDM. |
| Item pool in mathematics and science education for Grade 7 and 8, and Sample Item pool in mathematics and science education for Grade 4 and 10 are developed.        |   |  |  |  |   |
| <b>Output 4: (Mainly CDID)</b>   | 1 Relevance of the quality of the product is secured through validation process<br>2 Endorsement by MoE   | 1 Project reports<br>2 MoE             |  |  | Workbooks are under development according to the work plan agreed in 4th Workshop.  |
| "Workbooks on mathematics and science for Grade 7 and 8" are developed.  |   |  |  |  |   |
| <b>Output 5: (Mainly MSIC)</b>   | 1 Relevance of the quality of the product is secured through validation process<br>2 Endorsement by MoE   | 1 Project reports<br>2 MoE             |  |  | Inset module is being developed based on the agreement with MSIC.   |
| "Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CPD modules, is elaborated. |   |  |  |  |   |
| <b>Output 6: (Mainly TELDD)</b>  | 1 Relevance of the quality of the product is secured through validation<br>2 Endorsement by MoE   | 1 Project reports<br>2 MoE             |  | With a strong initiative of TELDD, assessment module was elaborated by key CTE lecturers and validated in June 2016.   |   |
| "Assessment session module on mathematics and science education for Grade 7 and 8" based on "Item Pool for Grade 7 and 8", as one of the CTE modules, is elaborated. |   |  |  |  |   |
| <b>Output 7: (Mainly CDID, MSIC and TELDD)</b>   | 1 Approval by MoE   | 1 MoE                                  |  |  |   |
| Action plans, clarifying the utilization of developed materials, are prepared.   |   |  |  |  |   |

| Activities   | Inputs  |  | Important Assumption   |
|--|---|--|--|
|  | The Japanese Side   | The Ethiopian Side   |  |
| <p>1-1. Plan WG's trainings and WS.<br/>                     1-2. Coordinate WG's trainings and WS.<br/>                     1-3. Conduct Subject WG's trainings and WS.<br/>                     1-4. Monitor and evaluate the results of the Subject WG's trainings and WS.</p> <p>2-1. Trainings on development of question items for Item Pool.<br/>                     2-2. Consolidate the procedure of development of Item Pool.<br/>                     2-3. Draft question items for Grade 8.<br/>                     2-4. Validate on reliance and relevance of drafted question items for Grade 8.<br/>                     2-5. Finalize question items for Grade 8.<br/>                     2-6. Draft question items for Grade 7.<br/>                     2-7. Validate on relevance of drafted question items for Grade 7.<br/>                     2-8. Finalize question items for Grade 7.<br/>                     2-9. Draft sample question items for Grade 10.<br/>                     2-10. Validate on reliance and relevance of drafted sample question items for Grade 10.<br/>                     2-11. Finalize sample question items for Grade 10.<br/>                     2-12. Draft sample question items for Grade 4.<br/>                     2-13. Validate on reliance and relevance of drafted sample question items for Grade 4.<br/>                     2-14. Finalize sample question items for Grade 4.</p> <p>3-1. Plan Assessment and Evaluation WG's trainings and WSs.<br/>                     3-2. Coordinate Assessment and Evaluation WG's trainings and WSs.<br/>                     3-3. Conduct Assessment and Evaluation WG's trainings and WSs.<br/>                     3-4. Monitor and evaluate Assessment and Evaluation WG's trainings and WSs.<br/>                     3-5. (To be determined) Activities for improving quality of mathematics and science Item bank.</p> | <ul style="list-style-type: none"> <li>• Experts from Japan                             <ul style="list-style-type: none"> <li>- Chief Advisor</li> <li>- Mathematics Education</li> <li>- Science Education (Chemistry, Biology and Physics)</li> <li>- Educational Assesment/Test Development</li> <li>- Project Coordinator/Public Relation</li> </ul> </li> <li>• Experts activity Cost</li> <li>• Activity costs related to Workshop in WG</li> <li>• Necessary equipment for the project activities</li> <li>• Necessary cost for trainings in Japan and third countries</li> </ul> | <ul style="list-style-type: none"> <li>• Counterparts (C/P)                             <ul style="list-style-type: none"> <li>- Project Manager (State Minister)</li> <li>- Project Coordinator</li> <li>- Related officers in NEAEA</li> <li>- Related officers in CDID</li> <li>- Related officers in TELDD</li> <li>- Related officers in MSIC</li> <li>- Related officers in REBs</li> </ul> </li> <li>• Assignment of specialists (subject expert, item developers/writers), and Assessment and Evaluation experts as WG members at Federal and REBs level.</li> <li>• Assignment of appropriate number of primary and secondary schools for validation of Item Pool and other related materials.</li> <li>• Necessary cost for implementation of all related activities which each directorate and REB plan and implement, such as teacher trainings, printing and distribution of materials, etc.</li> <li>• Translation cost of final products of the Project from English to local language.</li> <li>• Project office with its running cost.</li> <li>• Necessary cost to conduct National Steering Committee and Technical Committee.</li> </ul> | <p>1 Members of the WGs are not changed.<br/>                     2 Members of the WGs continue participating the respective trainings and WSs.</p> <p style="text-align: center;"><b>Pre-Conditions</b></p> <p>1 The current Curriculum (Active learning and Competency based approach) is maintained.<br/>                     2 Appropriate members are assigned to Subject and Assessment and Evaluation WGs.</p> <div style="text-align: center;"> <br/>                     &lt;Issues and countermeasures&gt;                 </div> |

|  |
|--|
| <p>4-1. Establish editing concept of Workbook.<br/>                 4-2. Consolidate development procedure.<br/>                 4-3. Draft Workbook for Grade 8.<br/>                 4-4. Validate drafted Workbook for Grade 8 at classroom level.<br/>                 4-5. Finalize Workbook for Grade 8.<br/>                 4-6. Draft Workbook for Grade 7.<br/>                 4-7. Validate drafted Workbook for Grade 7 at classroom level.<br/>                 4-8. Finalize Workbook for Grade 7.</p>                                  |
| <p>5-1. Establish editing concept of the modules.<br/>                 5-2. Consolidate development procedure.<br/>                 5-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>                 5-4. Validate drafted module for Grade 8.<br/>                 5-5. Finalize the module for Grade 8.<br/>                 5-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>                 5-7. Validate drafted module for Grade 7.<br/>                 5-8. Finalize the module for Grade 7.</p> |
| <p>6-1. Establish editing concept of the modules.<br/>                 6-2. Consolidate development procedure.<br/>                 6-3. Draft module for Grade 8, based on the Item Pool for Grade 8.<br/>                 6-4. Validate drafted module for Grade 8.<br/>                 6-5. Finalize the module for Grade 8.<br/>                 6-6. Draft module for Grade 7, based on the Item Pool for Grade 7.<br/>                 6-7. Validate drafted module for Grade 7.<br/>                 6-8. Finalize the module for Grade 7.</p> |
| <p>7-1. Define scaling up strategy of how to utilize materials developed by the project.<br/>                 7-2. Develop action plan for scaling up.<br/>                 7-3. Obtain approval of the action plan.</p>   |

\* "Grade 7 and 8" are set as target grades of the initial stage of the strategy under curriculum consistency to be focused on in the Project. It is expected that other grades will be set as target grades after completion of the Project by the Ethiopian side.

\*\* Appropriate indicators will be determined in feasible way, after commencement of the project.

Project Monitoring Sheet II (Revision of Plan of Operation)

Version 7

Dated: June 30, 2017

| Inputs                           |        | Project Title: Project for Capacity Development for Improving Learning Achievement in Mathematics and Science Education |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     | Monitoring |  |       |          |
|----------------------------------|--------|---|------|----|-----|----|------|----|-----|----|------|----|-----|----|------|----|-----|------------|--|-------|----------|
|                                  |        | Plan  | 2014 |    |     |    | 2015 |    |     |    | 2016 |    |     |    | 2017 |    |     |            | Remarks  | Issue | Solution |
|                                  |        | Actual  | I    | II | III | IV | I    | II | III | IV | I    | II | III | IV | I    | II | III | IV         |  |       |          |
| <b>Expert</b>                    |        |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Norimichi Toyomane               | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Shuhei Oguchi                    | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Yasushi Wada                     | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Etsutaro Tanaka/Kotaro Kijima    | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            | Temporarily replaced by Kotaro Kijima in July 2015.  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Shimboku Miyakawa                | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Masatsugu Murase                 | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Atsushi Tsukui                   | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Hidetoki Ishii                   | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Desalegn Chalchisa Jebena        | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            | Work in Japan for the 2nd Year is switched to assignment in Ethiopia. Replaced by Mitsuhiro Ishida in February 2015. |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Yosuke Sakurai/ Mitsuhiro Ishida | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| <b>Equipment</b>                 |        |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Office equipment                 | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            | Photocopy machine provided during SMASEE is not running well and requires very frequent and costly maintenance.      |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| Laptop computers                 | Plan   |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            | Provided for 11 REBs   |       |          |
|                                  | Actual |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
| <b>Training in Japan</b>         |        |   |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  |        | Plan  |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |
|                                  |        | Actual  |      |    |     |    |      |    |     |    |      |    |     |    |      |    |     |            |  |       |          |

| Activities<br>Sub-Activities   | Plan   | 2014   |   |    |     | 2015 |   |    |     | 2016 |   |    |     | 2017 |   |    |     | Responsible Organization |                  | Achievements  | Issue & Countermeasures |
|--|--------|--------|---|----|-----|------|---|----|-----|------|---|----|-----|------|---|----|-----|--------------------------|------------------|---|-------------------------|
|  |        | Actual | I | II | III | IV   | I | II | III | IV   | I | II | III | IV   | I | II | III | IV                       | Japan            |   |                         |
| <b>Output 1: (Subject Working Groups' members)</b>   |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                  |   |                         |
| 1.1 Plan WG's trainings and WS   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 1.2 Coordinatte WG's trainings and WS  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | All Subject Working Group members have been assigned. 10 new members were added in Nov 2015.  |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 1.3 Conduct Subject WG's trainings and WS  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 1.4 Monitor and evaluate the results of the Subject WG's trainings and WS                    | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| <b>Output 2: (Subject WGs' and Assessment and Evaluation WG's members)</b>                   |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                  |   |                         |
| 2.1 Trainings on development of question items for Item Pool                                 | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.2 Consolidate the procedure of development of Item Pool                                    | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.3 Draft question items for Grade 8   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | Biology and Physics Groups decided to work on Grade 7 and 8 together. See 2.6.  |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.4 Validate on reliance and relevance of drafted question items for Grade 8                 | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | Biology and Physics Groups decided to work on Grade 7 and 8 together. See 2.7.  |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.5 Finalize question items for Grade 8  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | See 2.8.  |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.6 Draft question items for Grade 7   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | Based on competencies, items were developed by the participants of the training according to the plan.  |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.7 Validate on relevance of drafted question items for Grade 7                              | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | Among the items developed in the training, those for field test were selected by MSIC experts. Field test was conducted at sample schools in Addis Ababa, and its results were analyzed and shared. |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.8 Finalize question items for Grade 7  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | With feedback from filed test results, items were finalized by Item Selection Committee for Item Pool.  |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.9 Draft sample question items for Grade 10   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.10 Validate on reliance and relevance of drafted sample question items for Grade 10        | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.11 Finalize sample question items for Grade 10   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.12 Draft sample question items for Grade 4   | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.13 Validate on reliance and relevance of drafted sample question items for Grade 4         | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 2.14 Finalize sample question items for Grade 4  | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| <b>Output 3: (Mainly NEAEA and REBs)</b>   |        |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          |                  |   |                         |
| 3.1 Plan Assessment and Evaluation WG's trainings and WSs                                    | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 3.2 Coordinate Assessment and Evaluation WG's trainings and WSs                              | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | Working Group members have been assigned.   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 3.3 Conduct Assessment and Evaluation WG's trainings and WSs                                 | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 3.4 Monitor and evaluate Assesment and Evaluation WG's Trainings and                         | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team |   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |
| 3.5 (To be determined) Activities for improving quality of mathematics and science Item Bank | Plan   |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | JICA Expert Team | Group specific item analysis was conducted from 4th Workshop.   |                         |
|  | Actual |        |   |    |     |      |   |    |     |      |   |    |     |      |   |    |     |                          | MSIC             |   |                         |







