Developing a New Science Curriculum in Myanmar

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Professor, Chemistry Department, University of Yangon, Myanmar

Regional DAAD Alumni Meeting, Hanoi, Vietnam, 26-28 May, 2017
Background History

Over a period of three-and-a-half years the MOE has undertaken a Comprehensive Education Sector Review (CESR) (Phase 1: Rapid Assessment, Phase 2: In-depth Analysis, Phase 3: Development of Education Sector Plan) to assess the strengths and weaknesses of the national education system and develop an evidence-based National Education Strategic Plan (NESP) for the period 2016-2021.

The CESR initiative was supported by Education Working Groups (EWG) that were established to undertake an in-depth policy review and make recommendations for drafting the National Education Law and linked sub-sector laws.


These two new laws provide an excellent national framework to enable implementation of a wide range of interlinked and complementary reforms across the national education system, such as: recognition of the right of all citizens to free, compulsory education at the primary level; establishment of a standards-based education quality assurance system; expansion of the basic education system to 13 years; support for the learning of ethnic languages and culture; greater decentralization within the education system; and a recognition of the right of parents and community members in school management.

Source: MOE. (2016). National Education Strategic Plan 2016-21 (Summary), Nay Pyi Taw.
Implementation Process

- Current Education System: G1 to G11 (5+4+2)
- New Education System: KG + 12 (5+4+3)
- In 2016-17 Academic Year: New KG was implemented.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>KG</th>
<th>Primary</th>
<th>Lower Secondary</th>
<th>Upper Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015/2016</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>2016/2017</td>
<td>KG</td>
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<td>X</td>
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<tr>
<td>2017/2018</td>
<td>G 1</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2018/2019</td>
<td>G 2</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2019/2020</td>
<td>G 3</td>
<td>G 6</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2020/2021</td>
<td>G 4</td>
<td>G 7</td>
<td>G 10</td>
<td></td>
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<tr>
<td>2021/2022</td>
<td>G 5</td>
<td>G 8</td>
<td>G 11</td>
<td></td>
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<tr>
<td>2022/2023</td>
<td>G 9</td>
<td>G 12</td>
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Developing Grade One Primary Science

 According to the guidelines, Science textbook development processes are carried out

The aim of the Myanmar primary science curriculum is to provide students with practical experiences based on exploration of the environment so that they become familiar with and develop affection for it and also to develop their scientific inquiry skills to gain scientific knowledge and positive attitudes towards science.

Strands (Areas) in Primary Science

- In primary level, there are two phases;
  - G 1 and G 2 (Introduction with Environment)
  - G 3, G 4 and G 5 (Basic Science)
- Grade One & Grade Two
  - Part (1) Living things & Environment
  - Part (2) Earth & Space
- Grade Three, Grade Four & Grade Five
  - Part (1) Living Things    Part (2) Matter
  - Part (3) Energy          Part (4) Earth & Space
  - Part (5) Environment

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Myanmar Primary Science Textbook Design

Student

- **Step 1**: Key Question (Motivation)
- **Step 2**: Let's try (Activity, how to develop science process skills and how to learn)
- **Step 3**: References (Supporting learning lesson, expanding and relating to daily life)
- **Step 4**: I understand (Thinking and expressing)
- **Step 5**: Summary and Exercises (Generalizing and summative assessment)

Teacher

- **Step 1**: Key Question (How to introduce and link with previous knowledge, projecting the direction of the goal)
- **Step 2**: Let's try (How to instruct, guide and facilitate)
- **Step 3**: References (How to widen & deepen the knowledge/concept concerning the lesson)
- **Step 4**: I understand (Assessment)
- **Step 5**: Summary and Exercises (Summarizing the lesson and formative assessment)

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Grade One Science Textbook

Textbook Cover

Starting Key Question of every lesson
Activity (1)

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Key Challenges in Developing New Science Curriculum

- To upgrade the professional capacity of Curriculum Development Teams
- To upgrade teachers' quality for the successful implementation of new science curriculum
- To take into consideration the class size, the teaching aids available, teachers' quality etc.

Thank you for your attentions
Strengthening Accountability for WASH in Schools through Online Transparency Platforms
WASH in Schools in Bandung City: Key Issues

- City Education Department cannot efficiently exercise its quality assurance function without a M&E system for WASH in Schools.

- The current incentive to implement WASH is the Healthy School Competition, which mainly benefits top performing schools. There are no incentives for non-competing schools to reach minimum standards.

- Problems exist at the school level concerning logistics and time management. These are seen as having negative impact on other school processes.

- Without communicating importance of WASH in achieving education sector goals, the high autonomy of school principals even seems to be a barrier.
  - What systems and structures can we influence to motivate school principals to implement the program?

Contact: juan.leonardia.giz.de
**Education Sector**
- Define key UKS interventions
- Include UKS in performance management criteria

**UKS Team**
- Targeted advocacy for School Heads
- UKS technical assistance and knowledge sharing among Schools

**Education Sector**
- Institutionalize UKS in School Committee meeting agenda and monitoring activities

**UKS Team**
- Define minimum service standards for UKS
- Integrate UKS in monitoring and quality assurance

**Education Sector**
- Define key UKS interventions
- Include UKS in performance management criteria

**UKS Team**
- Technical assistance in defining UKS Standards
- Resource mobilization
- Publish comparative information on UKS performance

**Education Sector**
- Institutionalize UKS in School Committee meeting agenda and monitoring activities

**UKS Team**
- Targeted advocacy for School Heads
- UKS technical assistance and knowledge sharing among Schools

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**Participation**

**Motivation of the School Principal**

**Transparency and Accountability**

**Autonomy and Leadership**

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Contact: juan.leonardia.giz.de
In Indonesia Community Participation and Accountability of Schools is low

- School Committees’ and parents’ participation and influence on schools’ decisions is low, because of
  - inadequate information flow to parents
  - low parental awareness of holding schools accountable
- the existing accountability arrangement […] puts more emphasis on top-down supervision and monitoring.
  
  *Worldbank study of SBM in Indonesia (2014)*

- Similar results were obtained in studies by *DFAT* (2014), *Dandan* (2011), and *ACDP* (2013)
Autonomy

DAPODIK

Planning
Resource Allocation
Financial
Technical
POROS

BOS
Reporting
Monitoring
Accreditation + Supervision
Social Audit

COMMAND CENTER

TRANSPARENCY & ACCOUNTABILITY

Contact: juan.leonardia.giz.de

www.fitforschool.international // 6/7/2017
POROS Reporting Cycle

Mayor’s Office
M&E, Bandung Command Center
City Administration and Operation

Data Analysis Unit

Education Department

School Supervisor

School Committee

Validation

Social Audit

POROS Report

Elementary School

Contact: juan.leonardia.giz.de
Community Awareness & Participation for Accountable School Management of WinS

Benefits

☑ Parents are better informed and demand high quality of WinS; schools prioritize WinS
☑ Closer cooperation between communities and schools
☑ Communities appreciate empowerment by social accountability

Challenges

- Need to assess the implications of non-linear accountability flows
- Establishing safeguards against mob rule
- How open are governments to community empowerment?

Contact: juan.leonardia.giz.de
Forest Ecosystem Services for Local Human Health in Northern Mountain Areas in Vietnam

Dr. Nguyen, Thi Phuong Mai

Faculty of Environment and Earth Sciences
Thai Nguyen University of Sciences
Email: maintp@tnus.edu.vn
Forest Ecosystem Services and Human Health

Forests (biodiversity and processes)

Forest Ecosystem Services (e.g. food, medicine)

Human benefits (e.g. physical and mental well-being)

- Food
  - Nutritional benefits
- Clean water, fresh air
  - Risk reduction of disease and illness
- Medicinal plants
  - Health improvement
  - Disease treatment
- Spiritual, cultural and recreational services
  - Mental health contribution
Research area

✓ **Study site:** Vo Nhai district, Thai Nguyen province, Northern Vietnam

Forestry land accounts over 80% of total mass land

✓ **Local people:** are minority ethnics

Their traditional healthcare knowledge based on species in the local forests

More than 50% population use medicinal plants

The Tay

The Dao
Medicinal plants

- The local forests contain **574 spices** of medicinal plants (52.8% of plant species)
- List of flora families (having at least five medicinal species): **157 species, 89 genus**

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<th>Familia</th>
<th>Species</th>
<th>Genus</th>
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<tbody>
<tr>
<td>1</td>
<td>Euphorbiaceae</td>
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<tr>
<td>2</td>
<td>Rubiaceae</td>
<td>Cà phê</td>
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<tr>
<td>3</td>
<td>Myrsinaceae</td>
<td>Đơn nem</td>
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<td>4</td>
<td>Zingiberaceae</td>
<td>Gừng</td>
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<tr>
<td>5</td>
<td>Araliaceae</td>
<td>Ngũ gia bì</td>
<td>12</td>
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<tr>
<td>6</td>
<td>Asteraceae</td>
<td>Cúc</td>
<td>11</td>
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<tr>
<td>7</td>
<td>Acanthaceae</td>
<td>Ô rô</td>
<td>10</td>
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<tr>
<td>8</td>
<td>Araceae</td>
<td>Hợt Rày</td>
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</table>

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<th>Species</th>
<th>Genus</th>
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<tbody>
<tr>
<td>9</td>
<td>Malvaceae</td>
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<tr>
<td>10</td>
<td>Verbenaceae</td>
<td>Cỏ roi ngựa</td>
<td>7</td>
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<tr>
<td>11</td>
<td>Smilacaceae</td>
<td>Cấm cang</td>
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<tr>
<td>12</td>
<td>Apocynaceae</td>
<td>Trúc đào</td>
<td>6</td>
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<tr>
<td>13</td>
<td>Rosaceae</td>
<td>Hoa hồng</td>
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</tr>
<tr>
<td>14</td>
<td>Cucurbitaceae</td>
<td>Bầu bí</td>
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<tr>
<td>15</td>
<td>Fabaceae</td>
<td>Đậu</td>
<td>5</td>
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<tr>
<td>16</td>
<td>Lamiaceae</td>
<td>Hợt Hoa mê</td>
<td>5</td>
</tr>
</tbody>
</table>

(Source: Than Sa-Phuong Hoang natural management board, 2012)
Local Knowledge on Healthcare

- **Chemical properties of plants**
  - Tonic → Improve general health
  - Treat disease
  - Toxic → use for hunting, pesticide producing

- **Improve physical health**
  - Health compensation after illness
  - Women in postnatal period
  - Detoxification

- **Disease treatment**
  - Internal organ-related diseases: food and drinking
  - Skin: washing, bathing or soaking affected parts in liquid of boiled or decanted herbs
  - Cuts and wounds: apply freshly crushed/chewed/heated leaves
  - Backaches or body-aches: to drink medicinal infusion or poultice a layer of crushed and heated herbs
Local Knowledge on Healthcare

- **Collecting**
  - Part of plants: leaves, roots, fruits, nuts, barks, flowers
  - Time: early morning and late afternoon
  - Frequency: seasonal or regularly depends on species

- **Processing:**
  - Fresh or dry (by sun or heat)
  - Method: Stew; boiling; heating on fire; soaking in wine; mixing with alcohols, water of rice-wash or clear limewater

- **Using:**
  - Eating
  - Drinking
  - Bathing
  - Soaking
  - Poultice
# Impac Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
<th>Impact level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest degradation</td>
<td>- Reduce number of species and quantity in a species</td>
<td>-</td>
</tr>
<tr>
<td>Outside market</td>
<td>- Overexploitation some given species</td>
<td>- /+</td>
</tr>
<tr>
<td></td>
<td>- Grow some medicinal species as trading products</td>
<td></td>
</tr>
<tr>
<td>Method of knowledge preservation</td>
<td>- Non written documents → losing some remedies</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>- Genders in knowledge transference</td>
<td></td>
</tr>
<tr>
<td>National healthcare system</td>
<td>- Alternative the traditional medicine in some cases</td>
<td>- /+</td>
</tr>
<tr>
<td></td>
<td>- Expand the knowledge in medicinal plant use</td>
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</tr>
</tbody>
</table>
Future research

Improve local livelihood based on forest ecosystem services of medicinal plants and local knowledge of traditional medicine.

Thank you for your attention!

Contact:
Dr. Nguyen, Thi Phuong Mai
Email: maintp@tnus.edu.vn
Regional Alumni Meeting
“Environment and Health. Challenges and Prospects for South-East Asia’

Improving access to quality health services

Lan Mao
Head of WorkerHealth
May 27, 2017 | Hanoi, Vietnam
Cambodia at Glance

• **Population:** 15.957 million
• **Capital:** Phnom Penh, 1.731 million
• **Population aged between 15-24 Years –** 22%
• **Contraceptive prevalence rate:** 39% nationally - 29% in Phnom Penh
• **Mothers mean age at first birth:** 22.9 years
• **Urban population:** 20.7%
• **Health expenditure:** 5.7% of GDP
Garment Factory Situation in Cambodia

- The garment industry contributes more than 80% of national export revenue.
- It employs over 700,000 workers, of which approximately 85% are female.
- 80% of these women are under the age of 30.
- 80% of female workers are not using modern methods of family planning.
- Female workers are often reported as having poor health conditions.
Objective

To increase access to high quality reproductive health and voluntary family planning counseling and services for garment factory workers
WorkerHealth Service Delivery Model

- Tailored call-to-action messages
- WorkerHealth Champions
- Strengthening garment factory infirmaries
- GIS equipped, client referral system and app
- Quality Assured Network of family planning providers
Call to Action

- **WorkerHealth** creates a platform for garment factory workers to accomplish their personal goals.

- **Call-to-action messages** tailored to worker needs and aspirations are dispersed across complimentary channels inside garment factories and within workers’ communities.
WorkerHealth Champions

- Promote WH call-to-action (CTA) messages among GFWs
- Encourage co-workers to like WH Facebook page
- Refer co-workers to Quality Assured Network of FP providers
Garment factory infirmary

- Source of information & services
- Strengthening capacity of infirmary providers
- IEC Materials
- Refer workers to Quality Assured Network providers
- Monthly quality assurance
Client referral system and app

- Marie Stopes has pioneered a GIS equipped SMS referral system
- Workers can access quality assured voluntary FP counseling and services at providers of their choice
Client referral system and app (cont)

Used by
- Garment factory infirmary providers,
- WorkerHealth Champions, and
- Marie Stopes Call Centre

Innovative approach will allow for real-time monitoring and evaluation
Maries Stopes established a Quality Assured Network of providers close to selected garment factories and worker residences.

Provide greater choice for workers in accessing voluntary family planning information, counseling and services.
THANK YOU!