



**ISTIC**  
INTERNATIONAL SCIENCE, TECHNOLOGY AND  
INNOVATION CENTRE FOR SOUTH-SOUTH  
COOPERATION UNDER THE AUSPICES OF UNESCO



FONDATION  
**La main à la pâte**

POUR L'ÉDUCATION À LA SCIENCE



United Nations  
Educational, Scientific and  
Cultural Organization

# Training Workshop on Developing Thinking Skills through IBSE for Sustainable Development



## Introduction

There has been a lot of discourse in recent years on global issues in science such as climatic change and how this affects us and our planet. Among the concerns that have been debated at great length are the effects of such phenomena and how the various stakeholders should take heed to prevent the occurrence and minimize the catastrophe that it brings along? The consequences of climatic change are well documented such as the spread of certain disease, rise in sea level, more intense and frequent tropical storms and hurricanes resulting in floods, more frequent droughts that can ruin crop harvests resulting in economic costs, a greater risk of heat stroke for individuals, and poor air quality. Devastating natural disasters that result in the deaths of hundreds of thousands of human and animal lives, the destructive effect on the land area (including infrastructure) have become global headlines. Man-made natural disasters (such as forest fires and haze brought on by open burning) that have far-reaching environmental consequences also has not escaped media attention.

Many developing countries are vulnerable to these calamities. Indonesia for example lies along the volcanic belt and constantly faces the risks of volcano eruptions, earthquakes, tsunami and floods. Malaysia is exposed to the monsoons which brings heavy floods especially in the east coast states. Although floods can have positive impacts on an area such as deposits of fine alluvium onto the floodplains, making it fertile and excellent for agriculture, it can cause damage to homes and possessions as well as disruption to communications. The 2014 flooding in Malaysia is a case in point. It resulted in lost homes, livelihoods and damaged infrastructure.

UNESCO, has recognized the need to have intensive efforts at addressing these problems under its sustainable development agenda. The 1998 Bonn Declaration on UNESCO Education for Sustainable Development, called for the need “to intensify efforts in education and training systems to address critical and urgent sustainability challenges such as climatic change, water and food security ...” and “... support the incorporation of sustainable development issues using an integrated and systematic approach in formal and as well as in non-formal education at all levels in particular thorough effective pedagogical approaches, teacher development, teaching practice, curricula, learning materials ...”. It recognizes “participatory teaching and learning methods that motivate and empower learners to change their behavior and take action for sustainable development. This training workshop aligns with this call. It is also in line with the post 2015 Development Agenda of environmental sustainability.

## Rationale

School children are increasingly exposed to news on disasters and the consequences both natural and caused by human activities. Students particularly living in disaster risk areas must be given the awareness and knowledge why disasters happen and trained to live with risks in the most responsible way. They must be familiar with the operational component of prevention. Although these can be acquired through teaching them theories and through memorization, students can better remember them if these are taught through activities that involve questioning, reflection, modeling, making hypotheses, analyzing and discovering the answers through the investigation. Education for Sustainable Development (ESD) consequently promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way while education on the prevention of the risks is an essential component of the ESD.

## Objectives

- Recognise the importance of inquiry-based science education (IBSE) in disaster risk reduction and education;
- Develop knowledge and understanding how disasters happen, how these can be prevented and minimised;
- Experience the process of inquiry-based science teaching and learning; and
- Develop strategies for developing thinking skills.

## Participants

Science teacher trainers and educators from the Asia and Pacific Region. They will comprise about 35 local and 15 overseas participants. They include those who have attended IBSE training workshops previously.

## Venue

SEAMEO BIOTROP  
(Southeast Asian Regional Centre for Tropical Biology)  
Jl. Raya Tajur Km. 6  
Bogor 16134  
Indonesia

## Travel

International participants through their organisations are expected to cover their own travel expenses and make their own travel arrangements to Jakarta, Indonesia. Participants should plan to arrive on 8 November 2015 and departing on 14 November 2015.

## Hospitality

Local hospitality will be provided by the organisers to the selected participants. This includes accommodation and meals from 9 November to 13 November 2015. Participants will have to make their own arrangement if they wish to stay beyond these days and therefore should arrange their flight schedules accordingly.

## Organisers

International Science, Technology & Innovation Centre (ISTIC) for South-South Cooperation under the auspices of UNESCO (Kuala Lumpur, Malaysia), South East Asia Ministries Education Organisation for QITEP in Science (SEAQIS, Bandung, Indonesia), UNESCO Regional Bureau for Science in Asia Pacific (Jakarta). Partners: La main a la pate (LAMAP) Foundation (French), SEAMEO RECSAM (Penang, Malaysia)

## Tentative Programme

Date/Time	9 November 2015 Monday	10 November 2015 Tuesday	11 November 2015 Wednesday	12 November 2015 Thursday	13 November 2015 Friday
8.30 am – 9.00 am	Registration				Micro-Teaching
9.00 am – 9.30 am	Opening remarks and Address by <ul style="list-style-type: none"> <li>• Dato' Ir. (Dr) Lee Yee Cheong, Chairman, ISTIC Governing Board</li> <li>• Dr Triyanta, Centre Director of SEAQIS</li> <li>• Director of SEAMEO Secretariat, Bangkok</li> </ul>	Thoughts on assessment of an activity in IBSE	Hands on Activity 4: Cyclonic Risks	Preparing for Micro-Teaching	
9.30 am – 10.00 am	Key Note Address by Dr. Shahbaz Khan, UNESCO Jakarta				
10.00 am – 10.30 am	Official Opening by Secretary General of Ministry Education and Culture of Republic of Indonesia				
10.30 am – 11.00 am	Introduction to Disaster Risk Reduction and Education by LAMAP	Tea Break			Lunch and Friday Prayers
11.00 am – 11.30 am		Hands on Activity 2: Earth Science and Natural Disaster – Earthquake	Hands on Activity 4: Cyclonic Risks (continued)	Preparing for Micro-Teaching, continued	
11.30 am – 12.00 pm	Hands on Activity 1: Earth Science and Natural Disaster 1 – Technological Challenge				
12.00 pm – 1.00 pm					
1.00 pm – 1.30 pm	Lunch				
1.30 pm – 2.00 pm	Lunch				
2.30 pm – 3.00 pm	Follow – up on Hands On Activity 1: Steps of the Inquiry Approach According to Principles of <i>La main a la pate</i>	Hands on Activity 3: Earth Science and Natural Disaster – Tsunami	City Visit	Analyzing Lessons through Video	Round Up, Feed Back Session, and Workshop Evaluation
3.00 pm – 3.30 pm					
3.30 pm – 4.30 pm	In 2 groups – Situation of the participants concerning IBSE (New participants)/ Feedback after one year of experience			Preparing for Micro-Teaching, continued	
4.30 pm – 5.00 pm	Sharing of the two groups				
5.00 pm – 5.30 pm					
5.30 pm	Tea and end of day 1	Tea and end of day 2	End of day 3	Tea and end of day 4	Closing and Certificate Presentation
6.00 pm					

*Note: This programme schedule may be subjected to minor changes without prior notice.*

## Application and Closing Date

**Online application is encouraged to expedite the selection process** that can be accessed via [Application Online \(click here\)](#).

All applications whether online or otherwise should reach ISTIC through email [info@istic-unesco.org](mailto:info@istic-unesco.org) not later than **5 October 2015 (Monday)** or the ISTIC secretariat office:

International Science, Technology and Innovation Centre  
for South-South Cooperation under the auspices of UNESCO (ISTIC),  
c/o Academy of Sciences Malaysia,  
902-4, Jalan Tun Ismail,  
50480 Kuala Lumpur,  
Malaysia.

Tel: +603-2694 9898

Fax: +603-2698 4549

E-mail: [info@istic-unesco.org](mailto:info@istic-unesco.org)

The application form can also be downloaded from <http://www.istic-unesco.org>.

The organisers will inform the successful applicants not later than 26 October 2015.



**APPLICATION FORM**  
(Typewritten or blocked letters)

FOR OFFICIAL USE ONLY  <b>Reference No:</b> <b>Received:</b> <b>Checked:</b>	Please affix latest passport photograph
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<b>Title of Programme:</b>  <b>TRAINING WORKSHOP ON DEVELOPING THINKING SKILLS THROUGH IBSE FOR SUSTAINABLE DEVELOPMENT</b>	<b>Date, duration &amp; venue of course:</b>  <b>9-13 NOVEMBER 2015 BOGOR, INDONESIA</b>
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**ONLINE APPLICATION PLEASE [CLICK HERE](#)**

**1. PERSONAL PARTICULARS:**

<b>Family name (surname):</b>	<b>Date of Birth:</b> (Date/Month/Year)
<b>First name:</b>	<b>Nationality:</b> (Citizenship)
<b>Other given names:</b>	<b>Gender:</b> (Male/ Female)
<b>City and country of birth:</b>	<b>Marital status:</b> (Single/ Married)
<b>Passport No:</b>	<b>Designation : Prof. / Dr / Mr / Mrs / Ms</b>

**2. COMMUNICATION AND MAILING ADDRESS:**

<b>Applicant's Office Address:</b>	<b>Office Phone No:</b>	
	<b>Office Fax No:</b>	
<b>Email address:</b>		
<b>Mobile No:</b>		
<b>Person to be contacted in case of emergency (name, telephone and address):</b>		

**3. EDUCATION:**

Name of institution and place of study	Major field of study:	Years of study	Degree

**4. EMPLOYMENT RECORD:**

A. Current Post:			B. Previous Post:		
Employer:			Employer:		
Duration of service:	From	To	Duration of service:	From	To
Title of post:			Title of post:		
Current monthly salary(US dollars):			Monthly salary (US dollars):		
Name of supervisor and title:			Name of supervisor and title:		
Type of organization: Government/Semi-Government/ Private/ NGO			Type of organization: Government/Semi-Government/ Private/ NGO		
Main functions of organization:			Main functions of organization:		
Total number of employees in organization:			Total number of employees in organization:		
Description of your current work including your responsibilities:					
*Please use supplementary pages if necessary					

**5. REASONS FOR APPLYING THIS PROGRAM:**

Please briefly state the reasons for applying this program and how you hope to benefit from this program	
Have you participated in any ISTIC training programs before: YES/ NO	
If yes;	
Name of program	Date

**6. CERTIFICATION OF ENGLISH LANGUAGE PROFICIENCY:**

	Excellent	Good	Fair	Remarks
Listening				
Speaking				
Writing				
Reading				
Mother tongue:				

**7. DECLARATION:**

Have you ever been convicted by a Court of Law of any country? Yes/ No  
If yes, please give brief details:

I certify that my statements in answer to the foregoing questions are true, complete and correct to the best of my knowledge and belief.

If accepted to the training workshop, I undertake to:

- i) carry out such instructions and abide by such conditions as may be stipulated by both the nominating government and the host government in respect of this course of training;
- ii) follow the course of study or training, and abide by the rules of the institution in which I undertake to study or train;
- iii) refrain from engaging in political activities, or any form of employment for profit or gain;
- iv) submit any progress reports which may be prescribed; and
- v) return to my home country promptly upon the completion of my course of studies or training.

I fully understand that if I am granted an award it maybe subsequently withdrawn if I fail to make adequate progress or for other sufficient cause determined by the host Government.

Signature of Application : \_\_\_\_\_  
Name : \_\_\_\_\_  
Date : \_\_\_\_\_

**8. OFFICIAL DECLARATION (to be completed by the Head of Department):**

The Government / Organisation of

.....  
nominates  
.....

(name of applicant)

For the program under the International Science, Technology and Innovation Centre for South-South Cooperation (ISTIC) and certifies that:

- i) all information supplied by the nominee is complete and correct;
- ii) the nominee had adequate knowledge and was appropriately tested for English Language proficiency.

Remarks:  
.....

\_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Signature of responsible Head of Department)

\_\_\_\_\_  
(Designation)

Official seal/ stamp

Address of Department/ Ministry  
\_\_\_\_\_  
\_\_\_\_\_

Office telephone no:

Office fax no:

Date:

Email address:

*Note: INCOMPLETE AND/OR UNENDORSED FORMS WILL NOT BE PROCESSED*