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क्षेत्रीय विज्ञान प्रौद्योगिकी केंद्र
Regional Centre
for Biotechnology



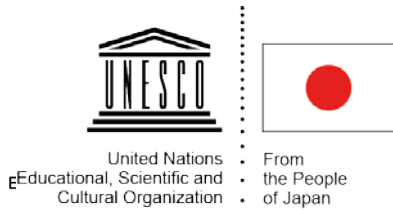
United Nations
ESCAP
Economic and Social Commission for Asia and the Pacific
Asian and Pacific Centre For Transfer of Technology (APCTT)

International workshop on “Promoting Biotechnology Education, Research and Knowledge Transfer in Asia and the Pacific”

Key Takeaways for the UNESCO Biotechnology School in Asia

RCB, Faridabad, India
15-16 October 2017

Regional Sciences Bureau for Asia and the Pacific - UNESCO Office, Jakarta



Context of the workshop

- 1973-2003: **UNESCO-JAPAN International Post-Graduate University Course in Microbiology**
- 2003-2007: **UNESCO-JAPAN Postgraduate Inter-University Course in Biotechnology**
- 2011-2017: **UNESCO Biotechnology School in Asia**
- Supported by Japanese Funds In Trust

Activities of UNESCO Biotechnology School in Asia

1. Establishment of a multi-country platform for education and research training in biotechnology with uniform standards.
2. Establishment of a UNESCO-sponsored international Masters Degree training course in universities of Thailand, Indonesia, the Philippines and Vietnam.
3. Successful operation of the Master Degree for three cohorts (33 graduates).
4. **Final synthesis and dissemination workshop in collaboration with UNESCO Category 2 Centres on Biotechnology in India and Pakistan.**

Organization of New UNESCO Course

UNESCO Jakarta

Osaka U

Academic Mega-consortium

Program Committee

Selection Committee

Japanese
Academic
Consortium

Osaka U

Tohoku U

U Tokyo

Kyoto U

Kyushu U

Indonesian
Academic
Consortium

U Gadjah Mada

Inst Teknol Bandung

U Indonesia

LIPI

Philippine
Academic
Consortium

UP Los Baños

UP Diliman

UP Manila

De La Salle U

U Santo Tomas

Ateneo de Manila U

Thai
Academic
Consortium

Mahidol U

Chulalongkorn U

Kasetsart U

KMUTT

BIOTEC

Vietnam
Academic
Consortium

VNU Hanoi

VNU Ho Chi Minh



History of UNESCO Postgraduate Courses

**UNESCO International Postgraduate University
Course in Microbiology (1973 – 2003)**



**UNESCO Postgraduate Inter-University Course in
Biotechnology (2004 – 2007)**



**UNESCO Conferences (Bangkok, Hanoi, Manila, Yogyakarta, Bangkok)
to design new program (2008 – 2011)**



UNESCO Biotechnology School in Asia (2012 - 2017)

Country Distribution of Attendees

2017.1.18

Central - South Asia : 71+12

Southeast Asia : 294+117

East Asia : 142+40

676 alumni

Mongolia
11

Korea
54+9

Kyoto U

Tohoku U

U Tokyo

Osaka U

Kyushu U

China
77+25

Taiwan
+6

Afghanistan
1

Pakistan
5

Nepal
2+1

Bangladesh
24+9

India
34+2

Cambodia

Myanmar - Laos
6+1 28

Thailand
92+42

Viet Nam
33+17

Philippines
67+8

Sri Lanka
5+1

Malaysia - Singapore
13+5

Indonesia
55+43



OSAKA UNIVERSITY





Achievements UNESCO Biotechnology School in Asia

- To establish an **international graduate programme in biotechnology** for talented individuals from less-developed countries in Asia Pacific, as well as to increase the ability of the host countries in the region to accept and educate students from less-developed countries.
- The **new UNESCO Masters degree programme** integrates advanced research training with pre-existing or newly launched Masters courses in universities of **Thailand, the Philippines, Indonesia and Vietnam** and create regional platform for **Biotechnology Universities**.

Workshop Objectives

- The main objective of this 2days workshop is to:
 - report and formalise the lessons learnt on the institutional mechanisms required for the successful establishment of a regional platform of national consortia of biotechnology universities in the Asia and the Pacific region and
 - identify the remaining gaps and challenges to deliver in the field of Biotechnology, Agenda 2030 in Asia and the Pacific region. **New Delhi Recommendations for Biotechnology challenges to deliver Agenda 2030 in Asia and the Pacific region**
16 October 2017, Faridabad, India.

After UNESCO Biotechnology School in Asia -Phase IV-

16 October 2017

- **What was achieved:**
 - It was a **very successful programme** with more than **676 alumni** with all phases confounded.
 - Compilation of feedback from all alumni, where they have achieved and where they are now.
 - It established an international graduate programme in biotechnology for talented individuals from less-developed countries in Asia Pacific, as well as to increase the ability of the host countries in the region to accept and educate students from less-developed countries.
 - About 500,000USD/batch of 11-12students (one batch is 2years MSc programme)
 - **This course should be continued under the mentoring of Osaka University and the UNESCO Biotechnology School in Asia established network and with RCB being an anchor.**
- **What is possible now?**
 - An **extended network based on UNESCO Biotechnology School in Asia** has been constituted with this workshop
 - **mOOC and e-learning** → can be linked to CONNECT-Asia network
 - Need to look for additional Funding:
 - Education Bank Loan?
 - FAO and OECD to be also approached
 - Industries and philanthropist
 - For ASEAN countries: approach Asian University Network (SeedNet)



After UNESCO Biotechnology School in Asia - Phase IV-

16 October 2017

- **How to link with RCB programme?**
 - UNESCO Biotechnology School in Asia network current universities are invited to send application to the MSc/PhD Biotechnology Programme March 2018. (term starting July 2018)
- **Next steps**
 - A **database/mapping of biotechnology institutions and industry** will be developed (basic contact information database December 2017)
 - Offer from APCTT: **Asia Pacific TechMonitor special issue on UNESCO Biotechnology School in Asia**
 - Develop the **framework for the next programme through e-consultation** by December 2017 (Concept note)
 - Background of the programme and achievements
 - List of partners and their contributions (in kind/academic or financial)
 - Outline of selection of students system, the course and evaluation system from the partners universities
 - Cost of operations by institution
 - Proposed cost of operation
 - Raise funding from January 2018
 - Once funding is secure, Meeting for finalising the new programme



New Delhi Recommendations for Biotechnology challenges to deliver Agenda 2030 in Asia and the Pacific region

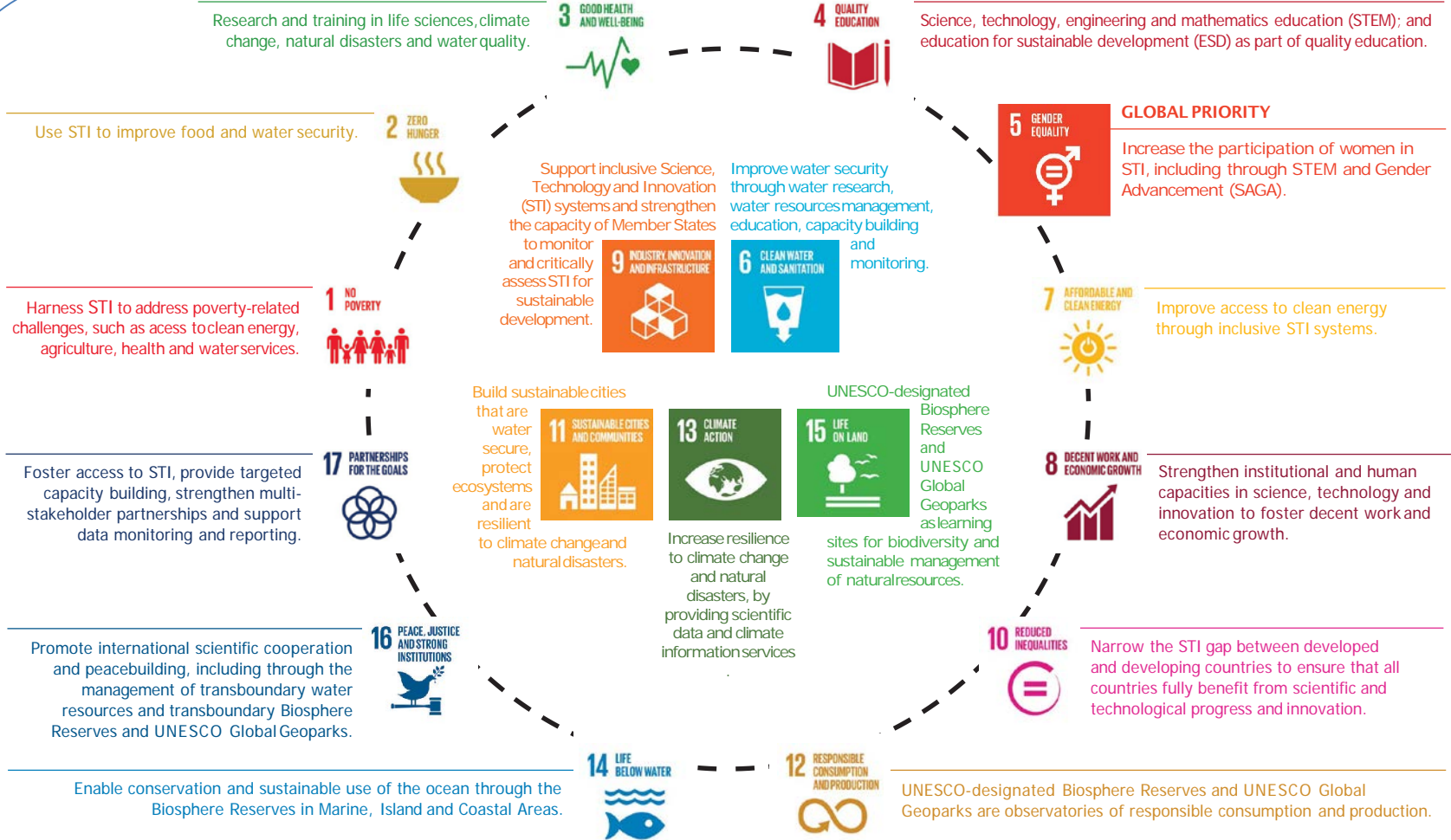
16 October 2017, Faridabad, India

- Biotechnology is instrumental in order to achieve the Sustainable Development Goals (SDGs). In particular, biotechnology has a premium role to play in 10 of 17 SDGs:
- Upstream role in research as part vector of inventions (SDG 2, 3, 4, 5, 6,7,13, 14, 15)
- In capacity building, education and knowledge transfer (SDG 17)
- In supporting industrial and economic growth by their application: (SDG 9, 13)



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Harness science, technology, innovation and knowledge





New Delhi Recommendations for Biotechnology challenges to deliver Agenda 2030 in Asia and the Pacific region

16 October 2017, Faridabad, India

The experts identified the main needs to be addressed in the pursuit of Agenda 2030 and its related targets in relation to biotechnology sector as follows:

- *In research: Biotechnologies and not biotechnology so what are the most important sectors? Trans-disciplinarity, cross-sectors*
- *In policy*
- *In providing tools for technology transfer enablers*
- *In regional networking and collaboration*
- *Generation of trained human resources*



New Delhi Recommendations for Biotechnology challenges to deliver Agenda 2030 in Asia and the Pacific region

16 October 2017, Faridabad, India

The panellists identified the following points as the next practical steps and direction for Asia and the Pacific region to be undertaken by UNESCO biotechnology family and other UN organisations including APCTT in order to help towards the SDGs:

- The extended UNESCO Biotechnology School in Asia network has been established.
- There is a need to link with SDGs with national mapping of critical problems to be addressed by innovative biotech solutions
- There are several networks and platforms hosted by UN agencies that can be capitalised on.
- A database of biotechnology institutions and industry mapping will be (basic contact information database December 2017)
- Develop the framework for the next programme through e-consultation by December 2017 (Concept note)
- Raise funding from January 2018
- Once funding is secure, Meeting for finalising the new programme
- Offer from APCTT: Asia Pacific TechMonitor special issue on UNESCO Biotechnology School in Asia



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**Thank you very much
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Capacity Building, UNESCO Regional Science Bureau for
Asia and the Pacific**

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