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**UNU-IAS**

Institute for the Advanced Study  
of Sustainability



REGIONAL CENTRE OF EXPERTISE  
ON EDUCATION FOR  
SUSTAINABLE DEVELOPMENT

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# Education through Multi-stakeholder Partnerships in implementing the Biodiversity Agenda:

## RCE Network

CBD- COP 13, Cancun Mexico, 2016

# 1. Development of the UN Decade of Education for Sustainable Development (DESD)

1992

- UN Conference on Environment and Development (Rio Summit)
- Agenda 21 (Chapter 36)

2002

- World Summit on Sustainable Development (Rio+10, Johannesburg)
- UN General Assembly adopted Resolution on the DESD

2005

- UN Decade of ESD launched (2005-2014)

2009

- Mid-Decade Year - World Conference on ESD (Bonn, Germany)

2012

- UN Conference on Sustainable Development (Rio+20)

2014

- Final Year of the DESD – UNESCO World Conference on ESD (Aichi-Nagoya)

2015

- MDGs Target Year
- Global Action Programme on ESD and Sustainable Development Goals (SDGs)

# UN Conference on Environment and Development (Earth Summit) in Rio de Janeiro (1992)

- **Rio Declaration on Environment and Development** - Principle 10  
“Environmental issues are best handled with participation of all concerned citizens, at the relevant level. “
  - **Agenda 21 - Chapter 36  
(Promoting Education, Public Awareness and Training)**
    - Improve access to quality basic education;
    - Reorient existing education programmes to address sustainable development;
    - Develop public understanding and awareness on sustainable development; and
    - Provide training programmes for all sectors of private and civil society.
- Education to enable us to better contribute to sustainable development

# World Summit on Sustainable Development in Johannesburg, Rio+10 (2002)

## UN Decade of Education for Sustainable Development (DESD: 2005-2014)

- Proposed by Japanese Government and NGOs
- Adopted by UN General Assembly in December 2002

### Vision of ESD

To create a world where everyone has the opportunity to benefit from quality education and learn the values, behaviour, and lifestyles required for a sustainable future and for positive societal transformation



# UNU-IAS ESD Programme

- ◆ Launched in 2003 with funding support from **the Ministry of the Environment of Japan** to contribute to the UN DESD

## Flagship initiatives

### Regional Centres of Expertise on ESD (RCEs)

Regionally based multi-stakeholder network

### Promotion of Sustainability in Postgraduate Education and Research Network (ProSPER.Net)

Academic alliance in Asia-Pacific region to integrate ESD in post-graduate education and curricula



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ProSPER.Net

# UNU – Global RCE Network



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- Proposed by UNU as its contribution to DESD
- **A network of diverse partnerships** among educators, researchers, policymakers, youth, indigenous leaders and throughout the public, private and NGO sectors
- Serve **as an innovative platform** for multi-sectoral and interdisciplinary information-sharing, dialogue and collaboration at local and global levels
- RCEs aspire to achieve the goals of DESD **by translating its global objectives into regional-local contexts**
- Acknowledged by UNU based on the recommendations of the <sup>6</sup>**Ubuntu Committee of Peers for RCEs**

# Ubuntu Alliance

**Ubuntu Alliance: a strategic alliance of the world's leading education, science and technology organizations working toward achieving sustainable development (formed during the 2002 Johannesburg Summit)**

**United Nations University (UNU)**

**United Nations Educational, Scientific and Cultural Organization (UNESCO)**

**United Nations Environment Programme (UNEP)**

**International Association of Universities (IAU)**

Academy of Sciences for the Developing World (former TWAS)

African Academy of Science (AAS)

**Science Council of Asia**

International Council for Science (ICSU)

World Federation of Engineering Organizations (WEFO)

**Copernicus Alliance**

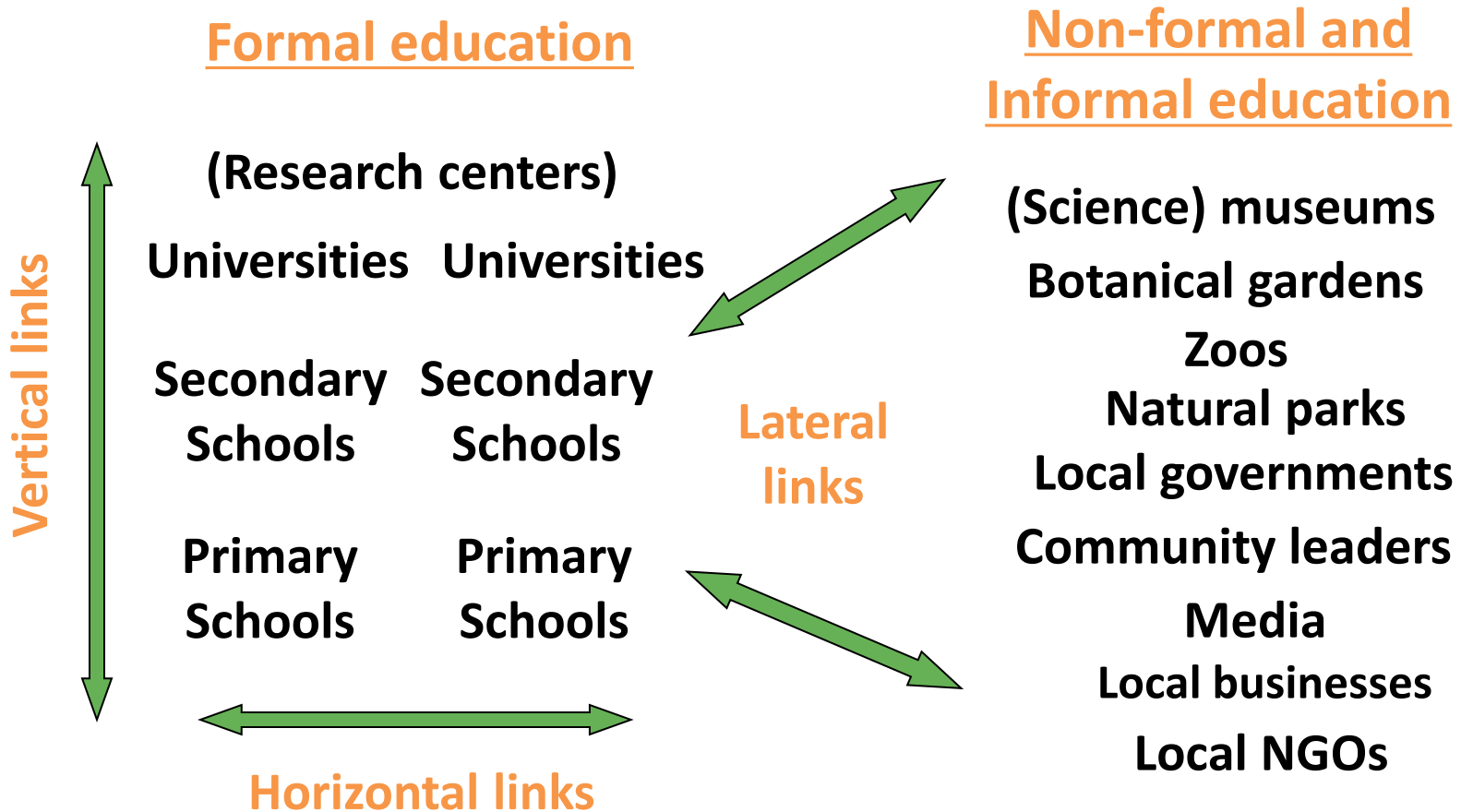
Global Higher Education for Sustainability Partnership (GHESP)

University Leaders for a Sustainable Future (ULSF)

The World Conservation Union (IUCN)

The Association of African Universities (AAU)

# Regional Centres of Expertise on ESD (RCEs)





# The Global RCE Network

## Regional Centres of Expertise on Education for Sustainable Development



## RCEs around the world

There are 129 acknowledged RCEs as of Apr 2014

[www.rce-network.org/](http://www.rce-network.org/)



For more information  
rceservicecentre@unu.edu

The Global RCE Service Centre  
Education for Sustainable Development Programme  
United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)

# Major RCE Activities

- SD into E and E into SD
- Policy Engagement
  - International policy process (e.g. UNESCO-GAP, 10 YFP, CBD, SDGs, UNFCCC)
  - Regional processes (e.g. ASEAN, SADC)
  - National (e.g. Govt. of Japan, NEMA, Kenya, Indonesia),
  - Sub-national/local (e.g. Tongyeong, Grand Rapids, Saskatchewan)
- Research and Development
- Capacity building

# Thematic, strategic and operational areas of collaborative work of RCEs

- Biodiversity and ESD
- Traditional Knowledge and ESD
- Climate Change and ESD
- Health and ESD
- Teacher Education & Better Schools
- SCP & Sustainable Livelihoods and Well-being
- Youth and ESD
- Higher Education
- Disaster Risk Reduction and ESD
- Inclusive Development and Learning
- Migration
- Capacity Development
- Assessment of RCEs
- Fundraising and Marketing
- Communications and Outreach
- Policy – National, Regional and International Sustainability Processes



# RCE Portal

[Community](#)[News](#)[Events](#)[Members](#)[About RCE](#)[Online Resources](#)[Annual Reports](#)

## CONTINENTAL COMMUNITIES ▾

[Africa](#)[Americas](#)[Asia-Pacific](#)[Europe](#)

## THEMATIC COMMUNITIES ▾

[Climate Change](#)[Health](#)[Teacher Education](#)[SCP, Livelihood and Well-being](#)[Youth](#)[Higher Education](#)[Traditional Knowledge and Bio-Diversity](#)[Disaster Risk Reduction](#)

## COMMUNITY

[Featured Communities](#)[Popular Discussions](#)[All Communities](#)

### Teacher education programs

Created on 2012-08-08 07:23 by Abel Atiti



### JOIN HERE! Discussion Forum for 7th Global RCE Conference

Created on 2012-08-31 01:26 by Anna Dirksen



### Position paper for RCE Bulletin

Created on 2011-11-21 20:29 by Anna Dirksen



### Two key questions for the continental discussion session

Created on 2012-08-31 21:27 by Sachiko Yasuda



### How is your RCE contributing to the construction of a new quality teacher education in your region and country?

Created on 2012-08-07 12:43 by Abel Atiti



### Role of RCEs in promoting higher education for sustainable development

Created on 2012-08-13 01:24 by Abel Atiti



### Collection of links on campuses experiences

Created on 2013-03-20 04:42 by António Moniz

[8th Global RCE Conference](#)

## Search

Type

Region

Country

Issue



## Upload Documents

Upload your projects, case studies or other files to share by clicking here.

## Latest Activity



8th Global RCE Conference Field...



# RCE E-Bulletin



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## RCE E-Bulletin

Issue 27: September 2013

### Message from the Global RCE Service Centre:

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Dear colleagues and friends

The deadline to receive nominations for the RCE Award and your RCE Annual Reports is fast approaching. This year we are combining the annual reporting process with the RCE Award nomination process to make it easier on all RCEs to submit annual report information and nominate projects for an RCE Award, without filling information in twice. Please note that while it is not necessary to complete the annual reporting process in order to submit a project for an RCE Award, it is strongly encouraged.

To fill out your annual report, please visit the RCE Portal by clicking here: <http://rce-network.org/portal/create-reports>. You must be given special access to create online reports. If you have logged into the RCE Portal and find you do not have access to the forms, please contact the Global RCE Service Centre ([rceservicecentre@ias.unu.edu](mailto:rceservicecentre@ias.unu.edu)) requesting access and you will be granted that status. If you do not have a login for the portal or you have forgotten your username and password, please email [rceservicecentre@ias.unu.edu](mailto:rceservicecentre@ias.unu.edu) and your information will be reset.

Once you have filled out your annual report, you may automatically submit any of your projects for the RCE Award. To do so, please go to the Awards section of the portal: <http://rce-network.org/portal/awards>. Click on the button that says "Click here to nominate a project that you have already reported on in your Annual Report"; you will be given a drop down menu of all of your 2013 projects. Click on the project you would like to nominate, verify that all the information on the project is correct and fill out the extra RCE Award-related questions before submitting your project for consideration.

For those RCEs who would prefer to nominate a project for an RCE Award before filling out their annual report, please go to the Awards section of the portal: <http://rce-network.org/portal/awards>. Click on the button that says "Click here to submit a new project for the RCE Award" and fill out the nomination form. Again, you will need to have logged into the Portal to submit an award and be given appropriate access to fill out the forms. If you do not have a login for the portal or you do not have access to the forms, please email

- Issued monthly
- Upcoming ESD-related Events
- Latest News
- Invitations for collaboration
- New Publications and Resources

# RCEs IN ACTION

There are more than **100 Regional Centres of Expertise** on Education for Sustainable Development operating worldwide. Each RCE empowers people within its community to do better, more sustainably by providing them with the information, education and tools they need to create positive social and environmental change.

By creating diverse partnerships among educators, researchers, policymakers, scientists, youth, leaders within indigenous communities and throughout the public, private and NGO sectors, RCEs are able to provide a framework for strategic thinking and action on sustainability, creating tangible improvements in their communities. Indeed, partnerships are at the heart of each individual RCE and of the global RCE network.

## THE RCE NETWORK & THE UNITED NATIONS

The United Nations, through its Decade of Education for Sustainable Development (DESD), 2005–2014, embraced the need to support existing education towards sustainability. Education for sustainable development policy people better understand themselves and their links to the wider natural and social environment; it also helps individuals and communities adopt behaviours and practices that enable all to live a full life without being deprived of basic necessities.

The RCE Network's ties to the United Nations remain strong. The Global RCE Service Centre is headquartered at the United Nations University Institute of Advanced Studies in Yokohama, Japan. At headquarters and in each of the regions, the RCE community works closely with UN agencies such as UNESCO, UNDP and UNICEF developing policies, implementing programmes and promoting ESD.

FOR MORE INFORMATION ABOUT RCEs OR TO BECOME A MEMBER OF THE NETWORK, PLEASE CONTACT  
The Global RCE Service Centre  
Education for Sustainable Development Programme  
UNU-IAS  
research@ias.unu.edu

## REGIONAL CENTRES OF EXPERTISE

- AFRICA & MIDDLE EAST**
  - Algeria, Egypt, Ghana, Guinea, Mauritius, Uganda, Zambia, Zimbabwe
  - Kenya, Rwanda, Senegal, South Africa, South Korea, Sri Lanka, Thailand, Vietnam
- THE AMERICAS**
  - Bahamas, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Puerto Rico, Uruguay, Venezuela
- ASIA-PACIFIC**
  - Australia, Bangladesh, Brunei, Cambodia, China, Hong Kong, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, New Zealand, Philippines, Singapore, South Korea, Taiwan, Thailand, Timor-Leste, Vietnam
- EUROPE**
  - Austria, Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom

## Education for Sustainable Development Programme

### ABOUT US

The United Nations University Institute of Advanced Studies (UNU-IAS) is part of the network of research and training centres within the UNU system, an agency, which in pressing global problems. UNU-IAS conducts research, postgraduate education and capacity building, to efforts to resolve in-house and in cooperation with external partners, academic institutions, governmental organizations, both UN General Assembly adopted international organizations. The UN General Assembly adopted a resolution on the Decade of Education for Sustainable Development (DESD) in 2005. Following the resolution, UNU-IAS launched the Education for Sustainable Development Programme in 2002 with funding support from the Ministry of the Environment, Japan. The Programme focuses on advancing the Education for Sustainable Development (ESD) in higher education institutions, and promoting of Regional Centres of Expertise on ESD (RCEs), strengthening of ESD activities of higher education institutions, and contributing to evidence-based policy dialogue through research, capacity development and strategic engagement with international processes.

### GOAL OF THE PROGRAMME

The goal of the programme is to help in the creation of a Global Learning System for sustainable development. The programme promotes research and action to advance partnerships for ESD across geographic, knowledge and sector boundaries.

### FLAGSHIP INITIATIVES

Initiatives of the DESD programme contribute to building broad ownership of ESD through articulation of the value added by each partner—especially higher education institutions and local (subnational) ESD stakeholders. Our dynamic networks and participatory approach through building research and development agendas through its two flagship initiatives: the global network of Regional Centres of Expertise on ESD and its network of Higher Education Institutions for ESD, ProSPER Net (Promoting of Sustainable Postgraduate Education and Research Network).

## OUR PARTNERS

UNU-IAS has been closely collaborating with the Ubuntu Alliance – an alliance of the world's foremost educational institutions who are signatories of the Education, Science & Technology for Sustainable Development Declaration. The Ubuntu Alliance aims to foster partnerships between science and technology educators, and technology into educational institutions to advance sustainable development; and to promote dialogue and collaboration between formal and non-formal education.

The size of Peers for the RCEs meets once a year for graduate students and post-doctoral fellows. National governments, such as those of Japan, Kenya and Denmark, have recognized RCEs as an effective strategy to implement ESD. The ASEAN Environmental Education Action Plan (2008-2012) recognizes RCEs as partners. RCEs collaborate on key sustainability topics such as biodiversity, health, climate change, sustainable production and consumption, poverty, youth, higher education, traditional knowledge, teacher training for ESD and institutions of higher education.

## PROSPER NET

Current ProSPER Net joint projects include:
 

- design of short courses and modules on social entrepreneurship skills;
- development of training materials for business schools on principles adopted by the United Nations Global Compact;
- innovative researchers' School on sustainable development for graduate students and post-doctoral fellows;
- innovative Pedagogies in poverty reduction;
- e-learning programme on public policy and sustainable development practice;
- faculty training materials on sustainable development; and
- an alternative university appraisal system.

## RESEARCH AND PUBLICATIONS

The ESD programme's researchers have published numerous articles on ESD, RCEs and ProSPER Net in peer-reviewed academic journals, and edited special issues of the International Journal of Sustainability in Higher Education and a special section on RCEs in the Journal of Education for Sustainable Development.

### REGIONAL INITIATIVES—RCE

The ESD Programme actively in developing Regional Centres of Expertise on ESD (RCEs) all over the world. An RCE is not a physical centre or building, but rather a network of individuals, organizations and events who are committed to using education as a tool for building a sustainable future. Each RCE is regionally-based and RCE members bring in-depth knowledge and experience to the RCE. Each RCE is a form for multi-sectoral and interdisciplinary information exchange, dialogue and collaboration at local and global levels. Their networks include formal learning institutions, like schools and universities, as well as informal learning institutions, like sports and clubs, museums, private learning establishments, youth organizations, non-governmental organizations and the media. Collaborative undertakings within and across RCEs include policy work, research and development in the key thematic areas of ESD and sustainable development.

### HIGHER EDUCATION—PROSPER NET

ProSPER Net (Promotion of Sustainability in Postgraduate Education and Research Network) is a growing academic alliance for ESD in the Asia-Pacific region. It was launched with 18 founding members in 2008 and has since grown to 22 members. As a consortium of higher education institutions, ProSPER Net is committed to joint projects to improve sustainability in higher education.

### COMPETENCES AND CAPABILITIES FOR SUSTAINABLE DEVELOPMENT

Under this initiative, we organize expert meetings and on-site visits, as well as special projects to advance ESD research and practice, with special reference to monitoring and evaluation of ESD and development of monitoring and reporting mechanisms. We also engage in joint projects to advance individual and institutional commitment to respond effectively to sustainability challenges. We also engage in joint projects to advance individual and institutional commitment to respond effectively to sustainability challenges. We also engage in joint projects to advance individual and institutional commitment to respond effectively to sustainability challenges.

IGES Policy Report, No. 2012-06

# Monitoring & Evaluation of Education for Sustainable Development

A FRAMEWORK OF THE MAIN FACTORS AND IMPORTANT LEVERAGE POINTS IN THE IMPLEMENTATION OF EDUCATION FOR SUSTAINABLE DEVELOPMENT IN THE ASIA-PACIFIC REGION

Produced as part of a joint research project by UNU-IAS and IGES to develop Indicators of Education for Sustainable Development to conduct monitoring and evaluation of its implementation in the Asia-Pacific Region

## Regional Centres of Expertise on Education for Sustainable Development

### PARTNERS & WIDER COMMUNITY

The RCE Global Network works closely with hundreds of partners at the local, regional and global levels. Its partnership with UNESCO, the designated lead agency for the United Nations Decade of Education for Sustainable Development 2005-2014, is among its most significant. The RCE Network also works closely with the Ubuntu Alliance, an alliance of 14 of the world's foremost educational and scientific institutions that together signed the Ubuntu Declaration on the Johannesburg Summit in 2002.

- Some of the network's major partners include:
  - Academy of Sciences for the Developing World
  - African Academy of Sciences
  - Association of African Universities
  - Association of University Leaders for a Sustainable Future
  - Copenhagen Alliance
  - Global Higher Education for Sustainability Partnership
  - International Association of Universities
  - International Council for Science
  - Science Council of Asia
  - United Nations Educational, Scientific and Cultural Organization
  - United Nations Environment Programme
  - United Nations University
  - World Conservation Union
  - World Federation of Engineering Organizations



# TRADITIONAL KNOWLEDGE AND BIODIVERSITY

IGES Policy Report, No. 2012-06

## Monitoring & Evaluation of Education for Sustainable Development

A FRAMEWORK OF THE MAIN FACTORS AND IMPORTANT LEVERAGE POINTS IN THE IMPLEMENTATION OF EDUCATION FOR SUSTAINABLE DEVELOPMENT IN THE ASIA-PACIFIC REGION

*Produced as part of a joint research project by UNU-IAS and IGES to develop indicators of Education for Sustainable Development to conduct monitoring and evaluation of its implementation in the Asia-Pacific Region*

## African Heritage Knowledge in the context of Social Innovation

Regional Centres of Expertise on Education for Sustainable Development

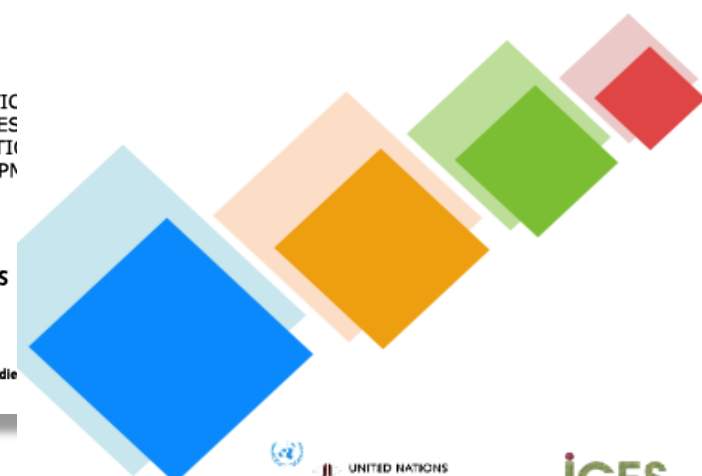
Editors: Rob O'Donoghue, Soul Shava, Cryton Zazu

LEARNING CONTRIBUTIONS FROM THE REGIONAL CENTRES OF EXPERTISE ON EDUCATION FOR SUSTAINABLE DEVELOPMENT



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# RCE Recognition Award



## Themes

- Biodiversity
- Traditional knowledge
- Climate change
- Disaster risk reduction
- Health
- Higher education
- Inclusive development & learning
- Sustainable consumption & production
- Teacher education
- Youth





# Global RCE Conferences

- 2006** Yokohama, Japan
- 2007** Penang, Malaysia
- 2008** Barcelona, Spain
- 2009** Montreal, Canada
- 2010** Curitiba, Brazil
- 2011** Kerkrade, the Netherlands
- 2012** Tongyeong, Korea
- 2013** Nairobi, Kenya
- 2014** Okayama, Japan
- 2016** Yogyakarta, Indonesia

**Regional networks and meetings**



# Unique Features of RCEs

- Multistakeholder Approach and Transformation in Local Governance
- Transdisciplinary and Participatory, Social Learning
- Formal, informal, non-formal learning
- Learning for Locally Relevant Assessments and Methodologies
- Learning about Multiple Values and Value Systems

# RCEs, Biodiversity & Traditional Knowledge



# Africa region

- RCE Makana - Situated social learning – several examples such as water, biomass energy, health and nutrition, agriculture, biodiversity, sewage, waste, sustainability partnership project and a curriculum framework for social learning research. These are aligned with Africa learning resource approach of the region.
- RCE Roma Lesotho - Lesotho highlands knowledge and incorporation in school curriculum
- RCE Kano – Revitalizing local knowledge, health, malaria
- RCE Mao Complex – Traditional knowledge, health, and nutrition
- RCE Mbarara – Traditional knowledge and health

# Europe

- RCE Espoo - Encounters -for sustainable lifestyle project

# Americas

- RCE Guatemala - Incorporation of Mayan culture in university curriculum, programs related to Nagoya protocol
- RCE Greater Burlington, RCE Western Jalisco, RCE Lima, RCE Bogota, RCE Curitiba, RCE Borderlands Mexico, RCE Portlands, RCE Saskatchewan, RCE Grand Rapids etc.



# Asia region

- RCE Cairo – Traditional health practices
- RCE Kyrgyzstan – Jethiata project, medicinal plants, traditional handicrafts
- RCE Chubu – Online platforms, COP 10 /11 processes
- RCE Northern Mindanao - School curriculum - Experience of integrating mother tongue education
- RCE Cebu – Forest restoration project
- RCE Greater Phnom Penh – Organic farming
- RCE Penang – Traditional healers and community health, nutrition
- RCE Kalimantan – Home gardens program
- RCE Yogyakarta – Traditional foods project, community enterprises and livelihoods
- RCE Kodagu – Sacred groves conservation
- RCE Srinagar – Agro biodiversity, Medicinal plant conservation
- RCE Goa – Community knowledge and biodiversity
- RCE Greater Dhaka (Bangladesh) - Organic farming, Biomass recycling, and on tribal culture of Bangladesh, community conservation
- RCE East Arunachal Pradesh – Heritage Education





### THREATS TO HIMALAYAN MEDICINAL & AROMATIC PLANTS

The infographic illustrates several threats to Himalayan medicinal and aromatic plants:

- Deforestation and degradation of forests:** Shown with an image of a forest being cleared.
- Over-grazing by livestock:** Shown with an image of a cow grazing in a field.
- Adverse impact of climate change:** Shown with an image of a sun and a melting snowman.
- Lack of awareness amongst people:** Shown with an image of a person looking at a plant.
- Unscientific harvesting:** Shown with an image of a person harvesting a plant.
- Conversion of forest land for agricultural and developmental purposes:** Shown with an image of a field being prepared for agriculture.
- Forest fires:** Shown with an image of a fire burning in a forest.







**औषधीय पौध संरक्षण क्षेत्र की क्षेत्र प्रबंधन समिति द्वारा के सदस्यों का नाम**

(1) भूपाल सिंह 3/0	जेण सिंह	अष्टवक्र
(2) तारा सिंह 3/0	दान सिंह	उणाट यज्ञ
(3) श्याम सिंह कणवत		सखिव
(4) खैरा राम आर्य		बन रक्षक
(5) श्रीमती: रमा देवी 1/0	इंदर सिंह	सदस्य
(6) कुन्दन सिंह 3/0	शेखर सिंह	सदस्य
(7) भगवत सिंह 3/0	सुप सिंह	सदस्य
(8) भूपाल सिंह 3/0	रूप सिंह	सदस्य
(9) कुं: तारा 0/0	हरम राम	सदस्य
(10) नारायण सिंह 3/0	विश्व सिंह	सदस्य
(11) तारा सिंह टाकुली		सदस्य
(12) अमर सिंह 3/0	ममल सिंह	जाम प्रधान
		खत्री









# Community Learning Exchange



# RCE Approaches/Methodologies of TK

- Situated social learning processes
- Learner led mediation processes
- Revitalizing traditional knowledge in life situations through a see-judge-act approach
- Integration of mother tongue education and reinforcing identity
- Bridging research
- Developing learning case modules for capacity development based on good practices



# Learning Materials

## Help Conserve Medicinal and Aromatic Plants!

Know Them

Use Them

Cultivate Them

2013



### Jatamasi

*Nardostachys grandiflora*

January

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Status  
On the brink of extinction!

Found at  
3000 - 5000 metres

Rhizomes and roots used in medicines to treat stomach problems

12<sup>th</sup> Jan - National Youth Day



### Chirayata

*Swertia chirayita*

February

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

Status  
On the brink of extinction!

Found at  
1800 - 3000 metres

Whole Plant used in blood purifying tonics and to treat stomach problems

2<sup>nd</sup> Feb - World Wetlands Day  
28<sup>th</sup> Feb - National Science Day



### Globally Significant Medicinal Plants (GSMP)

Medicinal and aromatic plants that are vulnerable to destructive harvesting due to very high demands. A few of these species are also most difficult to cultivate on a large scale.

### Flagship GSMP

Some priority species marked for conservation in an MPCA. Each of the 7 MPCAs of Uttarakhand has a set of flagship species. All plants shown in this planner are flagship species.



**Medicinal Plants Conservation Area (MPCA)**  
A network of natural sites or forests demarcated to conserve medicinal and aromatic plants in their natural habitat.

**Medicinal Plants Development Area (MPDA)**  
The area around MPCAs from where medicinal and aromatic plants can be scientifically and sustainably harvested.



### Meetha Bish

*Aconitum balfourii*

May

Mon	Tue	Wed	Thu	Fri	Sat	Sun
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Status  
In danger!

Found at  
2800 - 4200 metres

Tubers used in medicines to cure arthritis

22<sup>nd</sup> May - International Day for Biological Diversity



### Harad

*Terminalia chebula*

June

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Status  
In danger!

Found at  
300 - 1300 metres

Fruits, along with fruits of Amla and Baheda, used in making Triphala

5<sup>th</sup> June - World Environment Day  
17<sup>th</sup> June - World Day to Combat Desertification and Drought



### Satwa

*Paris polyphylla*

September

Mon	Tue	Wed	Thu	Fri	Sat	Sun
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Status  
Becoming rare!

Found at  
2200 - 3200 metres

Roots used in medicines to treat asthma and intestinal worms

16<sup>th</sup> Sep - World Ozone Day  
28<sup>th</sup> Sep - Green Consumer Day



### Kutki

*Picrorhiza kurroa*

October

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Status  
On the brink of extinction!

Found at  
3000 - 4500 metres

Rhizomes and roots used in medicines to cure jaundice and stomach ache

1<sup>st</sup> Monday of October - World Habitat Day  
13<sup>th</sup> Oct - International Day for Disaster Risk Reduction



### Thuner

*Taxus baccata*

March

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Status  
Becoming rare!

Found at  
2100 - 3300 metres

Leaves and bark used in anti-cancer medicines

21<sup>st</sup> March - World Forestry Day  
22<sup>nd</sup> March - World Water Day



### Jeevak

*Malaxis muscifera*

July

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Status  
On the brink of extinction!

Found at  
1800 - 3600 metres

Pseudobulbs used as Ashthavarga in Ayurveda

11<sup>th</sup> Jul - World Population Day



### Atis

*Aconitum heterophyllum*

April

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Status  
Becoming rare!

Found at  
3000 - 4000 metres

Tubers used in medicines to cure chronic fever

7<sup>th</sup> April - World Health Day  
22<sup>nd</sup> April - Earth Day



### Amla

*Emblica officinalis*

August

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Status  
Safe!

Found up to  
1370 metres

Fruits, along with fruits of Harad and Baheda, used in making Triphala

9<sup>th</sup> Aug - International Day for World's Indigenous People



### Hathajadi

*Dactylorhiza hatagirea*

November

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Status  
On the brink of extinction!

Found at  
3000 - 5000 metres

Tubers used in tonics to treat general weakness

20<sup>th</sup> Nov - Universal Children's Day



### Balchad

*Arnebia benthamii*

December

Mon	Tue	Wed	Thu	Fri	Sat	Sun
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Status  
On the brink of extinction!

Found at  
3000 - 4500 metres

Roots used in hair and heart tonics

11<sup>th</sup> Dec - International Mountain Day

### Look up these terms!!

**In danger!** - Vulnerable  
**Becoming rare!** - Endangered  
**On the brink of extinction!** - Critically Endangered  
Designations from the International Union for Conservation of Nature Red List of Threatened Species

For further information please contact:

State Medicinal Plants Board (SMPB) Uttarakhand  
94, Vasant Vihar, Phase-II, P.O. New Forest, Dehradun - 248 006  
Telefax: 0135-2769918; Email: udgpefuk@gmail.com; Web: www.herbaluttarakhand.org

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CEE Himalaya  
FRUIT, Bangalore  
GPRPRED, Almora  
SMPB, Uttarakhand



CEE  
Centre for Environment Education



# Sustainable Harvest of Medicinal Plants



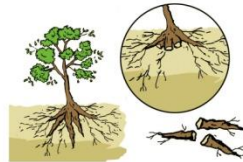
Medicinal and Aromatic (MAPs) are in high demand. However, there is not adequate supply. In order to bridge this gap, MAPs from the wild are being over-extracted for higher profits. This is threatening the existence of the plants. Slow-growing plants with poor regeneration potential are especially being pushed to the brink of extinction.

Therefore, MAPs need to be harvested wisely, meeting our needs of the present and ensuring adequate supply in future. If we harvest plants in a scientific, sustainable and responsible manner, we will have plenty left for the future.

Here are some useful tips for sustainable and scientific harvesting:

## For Roots & Tubers

Do not uproot a plant entirely, leave the younger roots and tubers intact so the plant can continue to grow.



## For Twigs/Branches

Do not cut the tree trunk or big branches. Collect only twigs. Allow the tree to regenerate.



## For Seeds

Leave some ripe seeds behind. These will germinate to give more trees.



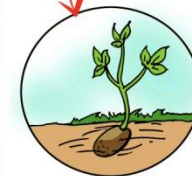
## For Bark

Stripping the bark completely exposes a tree to infection, decay, death and stunted growth. Remove the bark only in patches.



## For Young Trees

Do not harvest and uproot young trees. Allow them to grow. They will yield higher returns when they are older.





Wish to cultivate medicinal and aromatic plants?



# JOURNEY OF A MEDICINAL & AROMATIC PLANTS CULTIVATOR

1

2



Visit **Jadi Booti Shod Sansthan (HRDI)**, Chamoli. HRDI provides information, training, seeds & saplings of medicinal plants free of cost. HRDI has a master trainer available in every district. Call the HRDI, Chamoli office for information on local trainers.

If a cultivator wishes to purchase planting materials from other sources, HRDI offers a 50% subsidy on the total planting costs (includes planting material, water, labour cost etc.). Planting costs for all species are fixed by the State Government.



**Center for Aromatic Plants (CAP)** and **Bhesaj Vikas Ikai** also provide planting materials and related services. CAP provides training and planting materials for aromatic plants. Bhesaj Vikas Ikai has coordinators in every district.

**IMP: Before leaving, collect registration forms from HRDI as they need to be filled in later and sent back for registration purposes.**

3

Take the planting materials home and plant them as advised during the training.

Which species did you get: in what quantities?  
.....  
.....  
.....



4

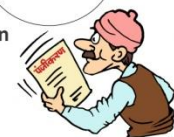
Within one month, HRDI / CAP / Bhesaj Vikas Ikai will verify if at least 75% of planting materials have been planted in the fields.



Are you ready to send the registration form? Don't forget to record the date!  
.....

5

If everything is declared to be in order, send the filled-in registration form to HRDI for registration. **No other organization is authorized to give registration certificates.**



6

Resume farming



7

One month prior to harvest, apply to HRDI for Transit Pass. Either HRDI or CAP will visit to determine the expected quantity of harvest

When will the institution come for inspection? .....

Transit Pass Alert!  
When will you harvest your produce? .....



8

Engage in scientific harvesting of produce as directed during the training.



Carry the raw material directly to one of the **mandis** for auctioning.



Sell the raw material directly to a private buyer.

Add value to raw materials (for higher profits) before selling the products to private buyers.



Approach the **Van Nigam / HRDI / CAP / Bhesaj Sangh / SMPB** for guidance regarding markets / interested buyers for both raw material and processed products.



Once the Transit Pass has been obtained, the cultivator has 4 options to market the produce.

9

Bhesaj Vikas Ikai & Bhesaj Sangh

8-A, Bengali Library Road, Dehradun, Uttarakhand

Tel: 0135-244790

E-mail: director\_ikai@yahoo.in; Web: www.heritk.org

Centre for Aromatic Plants (CAP)

Industrial Estate, Selaqui - 248197, Dehradun, Uttarakhand

Tel: 0135-269805

E-mail: cap\_selaqui@indiatimes.com

Herbal Research and Development Institute (HRDI)

Mandi - Gopeshwar, Chamoli - 246401, Uttarakhand

Tel: 0137-244777, 254210

E-mail: director\_hrdi@yahoo.in; Web: www.heritk.org

State Medicinal Plants Board (SMPB), Uttarakhand

94, Nainital, Phase II, P.O. New Forest, Dehradun - 249006, Uttarakhand

Tel: 0135-2769918; E-mail: andgeefk@gmail.com;

Web: www.herbalutarakhand.org

Uttarakhand Forest Development Corporation

Aranya Vikas Bhawan, 73, Nehru Road,

Dehradun - 248001, Uttarakhand

Phone: 0135-2657610 Fax: 0135-2655488;

E-Mail: ufdc@yahooin.com;

varekai1@gmail.com

State Forest Department Nurseries

Local Forest Division

Herbal Mandis:

Bibhal Mandi, Rishikesh,

Dehradun - 249201, Uttarakhand

Phone: 0135-2012202

Auction Dates: 7 & 22 of every month

Tanakpur Mandi, Tanakpur,

Champawat - 262309, Uttarakhand

Phone: 05943-26794, 265832

Auction Dates: 6 & 19 of every month

Asmunda Mandi, Roorkee,

Nainital - 244715, Uttarakhand

Phone: 05947-251368

Auction Dates: 15 & 30 of every month

66 Floating Mandis across the State of

Uttarakhand





Thank you !