



Links between RCEs and Higher Education Institutions

Mader, Clemens

Published in:

Five Years of Regional Centres of Expertise on ESD

Publication date:

2010

Document Version

Publisher's PDF, also known as Version of record

[Link to publication](#)

Citation for published version (APA):

Mader, C. (2010). Links between RCEs and Higher Education Institutions. In S. Aipanjiguly, Y. Mochizuki, & Z. Fadeeva (Eds.), *Five Years of Regional Centres of Expertise on ESD* (pp. 80-82). United Nations University - Institute for Advanced Studies.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Five Years of Regional Centres of Expertise on ESD



UNITED NATIONS
UNIVERSITY

UNU-IAS

Institute of Advanced Studies



This document should be cited as:

Five Years of Regional Centres of Expertise on ESD

UNU-IAS, Yokohama, Japan. 124 pp.

Editing and coordination:

Sampreethi Aipanjuguly

Yoko Mochizuki

Zinaida Fadeeva

Design and layout:

studio number three

Front cover photo credits (clockwise from top left):

RCE Greater Sudbury, Crystal Stinson/RCE Saskatchewan, RCE Penang, RCE Graz-Styria, RCE Lucknow, Theeradech U, RCE Zomba and RCE Hyogo-Kobe.

(c) UNU-IAS 2010

Published by the United Nations University-Institute of Advanced Studies

6F International Organizations Center

Pacifico-Yokohama

1-1-1 Minato Mirai, Nishi-ku

Yokohama 220-8502

Japan

Email: rceservicecentre@ias.unu.edu

Web: www.ias.unu.edu/efsd

Printed in Singapore.

Printed with soy-based ink.

The designations employed and the presentation of material throughout the publication do not imply the expression of any opinion whatsoever on the part of UNU-IAS concerning the legal status of any country, territory, city or area or of its authorities, or, concerning its frontiers or boundaries.

The contributing authors are responsible for the choice and presentation of the facts contained in this document and for the opinions expressed therein, which are not necessarily those of UNU or UNU-IAS and do not commit either the University or the Institute.



UNITED NATIONS
UNIVERSITY

UNU-IAS

Institute of Advanced Studies



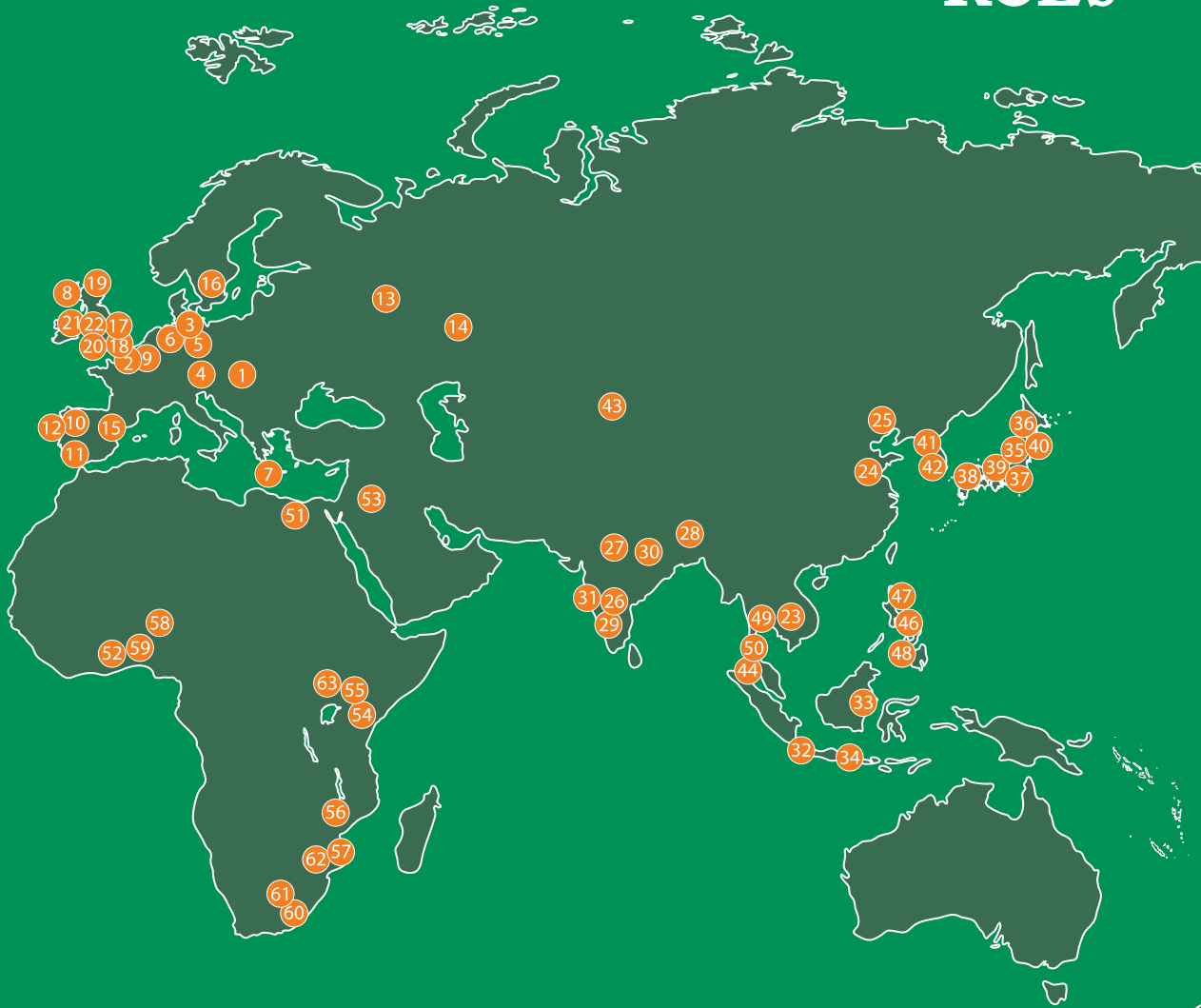
REGIONAL CENTRE OF EXPERTISE
ON EDUCATION FOR
SUSTAINABLE DEVELOPMENT

ACKNOWLEDGED BY



UNITED NATIONS
UNIVERSITY

Five Years of Regional Centres of Expertise on ESD



75 Acknowledged RCEs (as of March 2010)

Europe (22)

Austria

1. Graz-Styria

Belgium

2. Southern North Sea

Germany

3. Hamburg

4. Munich

5. Nuremberg

6. Oldenburger Münsterland

Greece

7. Crete

Ireland

8. Ireland

Netherlands

9. Rhine-Meuse

Portugal

10. Açores

11. Creias-Oeste

12. Porto Metropolitan Area

Russia

13. Nizhny Novgorod

14. Samara

Spain

15. Barcelona

Sweden

16. Skåne

UK

17. East Midlands

18. London

19. North East

20. Severn

21. Wales

22. Yorkshire & Humberside

Asia-Pacific (28)

Cambodia

23. Greater Phnom Penh

China

24. Anji

25. Beijing

India

26. Bangalore

27. Delhi

28. Guwahati

29. Kodagu

30. Lucknow

31. Pune

Indonesia

32. Bogor

33. East Kalimantan

34. Yogyakarta

Japan

35. Chubu

36. Greater Sendai

37. Hyogo-Kobe

38. Kitakyushu

39. Okayama

40. Yokohama

Korea

41. Incheon

42. Tongyeong

Kyrgyzstan

43. Kyrgyzstan

around the world



Malaysia

44. Penang

Fiji and Pacific Islands

45. Pacific

Philippines

46. Cebu

47. Ilocos

48. Northern Mindanao

Thailand

49. Cha-Am

50. Trang

Middle East & Africa (13)

Egypt

51. Cairo

Ghana

52. Ghana

Jordan

53. Jordan

Kenya

54. Greater Nairobi

55. Kakamega-Western Kenya

Malawi

56. Zomba

Mozambique

57. Maputo

Nigeria

58. Kano

59. Lagos

South Africa

60. KwaZulu Natal

61. Makana & Rural Eastern

Cape

Swaziland

62. Swaziland

Uganda

63. Greater Mbarara

Americas (12)

Argentina

64. Chaco

Brazil

65. Curitiba-Paraná

Canada

66. British Columbia
(North Cascades)

67. Greater Sudbury

68. Montreal

69. Saskatchewan

70. Toronto

Colombia

71. Bogotá

Guatemala

72. Guatemala

Mexico

73. Western Jalisco

USA

74. Grand Rapids

75. North Texas



Contents

Preface	1
▪ Message from the Rector of UNU	1
▪ Message from the Director of UNU-IAS	3
Foreword	5
▪ Message from the Minister of the Environment of Japan	5
▪ Message from the Director of the Division for the Coordination of UN Priorities in Education, UNESCO	7
▪ Message from the Head of Environmental Education and Training, UNEP	9
▪ Message from the Vice-President of the International Association of Universities	11
▪ Message from the Secretary-General of the Association of African Universities	13
▪ Message from the Secretary General of the Science Council of Asia	15
▪ Message from a Member of UNESCO's High Level Panel on the UN Decade of ESD	17
▪ Message from the UNESCO Chair at York University	19
1. Regional Centres of Expertise on Education for Sustainable Development: Concept and History	21
▪ A personal account of the birth and development of RCEs	35
2. RCE Development	37
▪ RCE development in the Asia-Pacific region	38
▪ RCE development in Europe	42
▪ RCE development in North and Central America	46
▪ RCE development in Latin America	52
▪ RCE development in Southern Africa	56
▪ Thematic networks of RCEs	60

3. Some reflections on how RCEs work	67
▪ A view from India: RCE Pune and RCE Kodagu	68
▪ Regional Centres of Expertise in Japan	74
▪ Experiences of RCE Tongyeong: Working with the government	78
▪ Links between RCEs and Higher Education Institutions	80
4. A snapshot of RCE activities around the world	83
▪ Europe	84
▪ Asia	94
▪ Americas	98
▪ Africa	102
End notes	104
Annexes	105
▪ List of Acronyms	105
▪ Resources	106
▪ RCEs Around the World	108
▪ Reference Materials	113





MESSAGE FROM THE RECTOR OF UNU

During the five years of its existence, the Regional Centre of Expertise (RCE) movement has grown to include 75 members. RCEs have demonstrated results in many important areas relevant to Education for Sustainable Development (ESD): development of ESD materials; development and practice of learning activities relevant for sustainable development; advice to policy-makers on the policies relevant to ESD; and fostering of collaborative alliances for ESD and Sustainable Development (SD) in their respective regions and beyond.

Through the years, RCEs have initiated many exciting projects advancing learning systems for a sustainable future. For example, the Open Process Framework of learning for sustainable development was developed and tested in two RCEs in South Africa: RCE KwaZulu Natal and RCE Makana and Rural Eastern Cape. With this approach, the partners of the RCEs distance themselves from the simplistic, cause and effect orientations to learning and change. They get involved in learning through engaging with issues at risk, actually experiencing field-work enquiries, seeking information, reporting on and taking action related to the issues.

RCE Tongyeong (Republic of Korea) initiated the *Bridge to the World* Annual Youth Contest. Secondary school students apply in teams with self-researched proposals to visit fellow RCEs under a study topic related to local and global sustainable development. This contest is organised annually to strengthen youth leadership and network among RCEs for a sustainable future. Tongyeong was designated as a Life-long Learning City in 2007 by the Ministry of Education of Korea based on the strong ESD programmes of this RCE.

In September 2008, Universiti Sains Malaysia (USM), which serves as the secretariat of RCE Penang, was chosen as an Accelerated Programme for Excellence (APEX) University by the Malaysian Ministry of Higher Education, partly based on its leading role in RCE Penang. Given substantial funding and autonomy in curriculum design and other areas, to transform itself into a world-class university, USM is promoting university reforms based on ESD principles and further strengthening its engagement with the community.

Much of the RCE work is built around spirit of community, social learning, and respect for different forms of knowledge. It is the spirit of *Ubuntu* that gives a name to the committee that lies at the foundation of the RCE movement. Archbishop Desmond Tutu shared this definition of *Ubuntu*:

A person with Ubuntu is open and available to others, affirming of others, does not feel threatened that others are able and good, for he or she has a proper self-assurance that comes from knowing that he or she belongs in a greater whole and is diminished when others are humiliated or diminished, when others are tortured or oppressed.

It is this spirit of community that brings together partners of the RCEs, not only in Barcelona, Yokohama, Saskatchewan or Penang but also encourages involvement of established RCEs in the mobilisation of RCEs in other regions. Many RCE candidates applying for recognition benefit from the advice of acknowledged RCEs. The RCE community is growing, bringing together stakeholders within and across the regions.

I congratulate the RCEs and their supporters for this significant development and wish them success in their sustainability efforts. I hope the readers of this publication will appreciate the concerted effort that our UNU-IAS colleagues, international partners and RCEs have put into transferring a concept of ESD into impressive practice.

Prof. Dr. Konrad Osterwalder
Rector, United Nations University
Under-Secretary-General of the United Nations



MESSAGE FROM THE DIRECTOR OF UNU-IAS

Recent human-induced global crises related to climate, food security, finance and economics have demonstrated the vulnerability of those who are poor and disenfranchised to being further marginalised. These interconnected and complex problems require the international community to find creative solutions to forging a sustainable society. Events of the past few years again highlighted the fundamental importance of addressing issues of poverty, climate change, biodiversity, water, health, and so on with ever more urgency and innovative ideas. The United Nations University Institute of Advanced Studies (UNU-IAS) believes that none of these issues could be addressed without learning partnerships.

The significance of Education for Sustainable Development (ESD) is widely recognised. Important international processes culminated in the decision of the 57th Session of the United Nations General Assembly (2002) to adopt a resolution to launch the Decade of Education for Sustainable Development (DESD) from 2005.

In 2003, as a response to the challenges of ESD and DESD, the UNU-IAS initiated a programme on Education for Sustainable Development. Through research and development, the programme has aspired to facilitate actions leading to the fulfilment of the objectives of DESD. Development of the Regional Centres of Expertise (RCEs) on ESD has become one of the key projects of the programme.

The first seven RCEs were acknowledged by UNU in June 2005 in conjunction with the UNU-UNESCO Conference on Globalisation and ESD in Nagoya. Today, the RCE community is 75 members strong.

We see the RCEs as important and natural partners in efforts of UNU-IAS and for the actions of global community. RCEs contribute to the development of innovative ways of collaboration among scientific and educational organisations. They are strategically situated to adopt the best of knowledge generated globally to the needs of local communities. They also foster development and integration of different types of knowledge in each region. Developments of the last two years have demonstrated RCEs' potential for cross-regional collaboration in the key areas of sustainability.

In five years of development, the RCE community has come a long way. Challenges and struggles bore the fruit of discoveries and innovations. This publication shares lessons from RCEs and their partners at the regional and international levels. We wish the RCE community great success in the second half of the DESD and beyond.

Prof. Govindan Parayil
Director

United Nations University Institute of Advanced Studies



Acknowledgements

It is a great pleasure to thank those who made this publication possible, in this important year that launched the second half of DESD. First and foremost, we would like to express our deepest gratitude to our donor, the Ministry of the Environment of Japan, for their continuous support and commitment to ESD. Our great appreciation also goes to our partners from the UN and UNU families and global educational organisations and scientific academies that support the RCE initiative, especially the members of the Ubuntu Alliance and the Ubuntu Committee of Peers for the RCEs. We are thankful to all of those whose guidance has enabled us to envision what we can achieve through and with RCEs and who made available their support, in a number of ways, to make this vision into a reality.

This publication would not have been possible if the RCE concept had not resonated with the concerns of local stakeholders in many different parts of the world, and without the dramatic growth of the global network of RCEs in the first half of the DESD. We are indebted to many of our colleagues in the RCE community who continue to support our work by posing challenging questions, developing exciting research proposals to be taken up by RCEs, mobilising new RCEs on their own initiative, and sharing their expertise and resources – as well as frustrations and struggles – towards the common goal of sustainable development. Working with RCEs has been a rewarding process of continual reflexive learning.

We are also grateful to our former UNU colleagues, doctoral and post-doctoral fellows, and interns who contributed to setting in motion the RCE initiative in the difficult initial years of RCE mobilisation. Our special thanks go to Hans van Ginkel for supporting our work not only as the Rector but also as the most dedicated member of the ESD team. We would also like to give special thanks to Katsunori Suzuki, Maki Katayama and Nami Akimoto, who have left our team but continue to engage in ESD in different capacities, for nurturing the then embryonic and infant RCE network with their patience and positive energy. Although it is still a very young network, with many challenges, we believe that our continued learning with RCEs will fulfil the potential of the RCE initiative.

Lastly, we would like to offer our heartfelt thanks to all of those who supported us during the production of this publication.

May 2010

**Global RCE Service Centre
ESD Programme, UNU-IAS**

Yoshihiro Natori
Zinaida Fadeeva
Aurea Christine Tanaka
Mario Tabucanon

Hiroaki Takagi
Yoko Mochizuki
Sachiko Yasuda
Sampreethi Aipanjiguly



Foreword

MESSAGE FROM THE MINISTER OF THE ENVIRONMENT OF JAPAN

I am pleased with the United Nations University's successful compilation of this publication *Five Years of Regional Centres of Expertise on ESD*. I would also like to take this opportunity to express my heartfelt gratitude towards the United Nations University (UNU) for having worked vigorously on the Education for Sustainable Development (ESD) Programme.

In order to promote ESD, the country of Japan put forward the proposal for the United Nations Decade of Education for Sustainable Development (UNDESD) at the World Summit on Sustainable Development in Johannesburg in 2002. In the same year, the United Nations General Assembly passed the resolution to proclaim the period from 2005 to 2014 as the UN DESD. The year of 2010 is significant in the sense that it marks the end of the first half of the decade and, at the same time, the beginning of the second half.

There is increasing concern in the world about global warming and other global environmental problems, which have become a shared challenge of humanity to be addressed through global cooperation. With regard to climate change, countries around the world are actively engaging in international negotiations in order to create a fair and effective post-Kyoto Protocol framework. Setting an ambitious target of reducing its greenhouse gas emissions by 25 per cent from 1990 levels by 2020, Japan is actively contributing to the international negotiations and fully mobilising its policies to achieve this target. In March this year, a climate change bill was submitted to the Diet. Through this bill, we hope to move towards transforming our fossil fuel-dependent society into a low carbon, post-fossil fuel society. For this transition, the crucial issue is how each of us reduces CO₂ emissions in our everyday life. Therefore, the Government of Japan launched the initiative named "*Challenge 25 Campaign*"- which consists of six challenges such as choosing energy-saving products and 25 actions – and is calling for concrete actions by everyone.

This year marks the International Year of Biodiversity, and the issue of biodiversity is also garnering worldwide attention. Amidst diverse species going extinct at unprecedented speed in the history of Earth, the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP10) will be held in Nagoya, Aichi Prefecture, Japan, in October. In order to sustain life on Earth for the future generations, Japan is strengthening efforts to conserve

biodiversity both domestically and internationally, and is calling upon actions by everyone through *Life on Earth Supporters' Club* and other campaigns.

While any global environmental issue requires global efforts, our grass-roots actions around the world hold the key to coping with global environmental problems. I believe ESD will create an important foundation for leading to actions towards sustainability.

Japan, as the country having proposed the UN DESD, has, through the Ministry of the Environment, been contributing to the UNU to further ESD since 2003. This contribution supports activities of the ESD Programme of UNU Institute of Advanced Studies (UNU-IAS), which currently focus on the establishment of Regional Centres of Expertise (RCEs) on ESD and building a network for the promotion of sustainability in postgraduate education and research (ProSPER.Net) in the Asia-Pacific region.

When engaging in ESD, it is necessary that there be a place where various stakeholders in the region can interact and work in collaboration towards addressing the regional challenges encountered in the realisation of a sustainable society. In this sense, it is believed that RCEs, as bases for advancing community partnerships and collaboration, are essential.

Thanks to the valuable efforts of the UNU, 75 RCEs have now been set up around the world, with the UNU making steady progress towards the goal of establishing 200 RCEs, at least one in each country. In the six regions acknowledged as RCEs in Japan, diverse groups including schools, community-based organisations, enterprises, *kominkans* (community learning centres) and individuals are undertaking ESD based on themes such as 'sustainable agriculture' and '*satoyama* conservation (or conservation in socio-ecological production landscapes) in river-head areas.' The Ministry of the Environment wishes to continue its partnership with the UNU into the future in order to further promote RCEs and other ESD initiatives.

I hope that this publication will be widely read by people interested in creating a sustainable society.

Sakihito Ozawa
Minister of the Environment
Ministry of the Environment, Japan

MESSAGE FROM THE DIRECTOR OF THE DIVISION FOR THE COORDINATION OF UN PRIORITIES IN EDUCATION, UNESCO

As we enter the second decade of the new millennium, the need for Education for Sustainable Development (ESD) is growing more evident and, indeed, more urgent. When envisioning the future of our world, we realise that the next generation of leaders will make decisions that will impact the lives of more people (the world's population is projected to be nine billion in 2040) but they will have fewer resources to meet the needs of this expanded population. Moreover, the environmental, social and economic contexts of the future will be very different from those of today. Given this scenario, it is important that the education provided for the current generation of learners will facilitate their acquisition of the knowledge, skills, values and perspectives that will help them pursue sustainable lives and livelihoods, and contribute to their community and national decision-making processes.

The United Nations Decade of Education for Sustainable Development (DESD, 2005-2014) has stimulated a great deal of activity related to educating people of all ages to create a more sustainable world. The Regional Centres of Expertise (RCEs) are a good example of this increased activity. Where RCEs have been established, we see noticeable changes: awareness of sustainability has grown, curricula that incorporate sustainability have been developed and ESD programmes have been initiated. In these ways, RCEs have enhanced education's contribution to a more sustainable society.

At the beginning of the DESD, my colleagues and I repeatedly had to explain sustainability and ESD. Now, such questions as "what is sustainability?" and "what is ESD?" are asked less often. This is a good sign that advocacy and capacity-building have taken place and have enjoyed some success. The ESD community has come a long way in five years. However, there can be no room for complacency; the challenges of the future – especially that of taking ESD to scale in many more countries around the world – require all of us who are dedicated to the goals of the Decade to review our strategies, step up our actions and build stronger synergies with one another.

Thus, the mid-point in the DESD provides an opportunity to take stock of our ESD efforts and plan for the future. In this reassessment process, we need to identify key leverage points and change agents that will institutionalise ESD. The DESD monitoring and evaluation report for 2009 shows that in many places around the world ESD practice is ahead of policy. This finding points to possible directions in which RCEs could invest their future efforts to ensure that ESD continues beyond the end of the Decade in 2014. For example, in countries in which there is a national curriculum, ESD should be incorporated into each of the disciplines. Other leverage points for achieving lasting change include assessment instruments as well as teacher certification standards. We need to work with decision-making bodies (e.g., ministries of education) to make these changes and improvements. We must do so, however, in the knowledge that unless ESD is institutionalised through revising or writing new policies, strategies, curricula, assessments and standards, innovation may not take root. We must therefore give attention now and in coming years to ensuring the sustainability of the gains made in ESD during the Decade. RCEs have an important contribution to make in this regard.

To this end, it is important at this mid-point in the DESD to reflect on what we have learned about ESD. This reflection, of course, should not be backward-looking in spirit – after all, we want future programmes and policies related to ESD to embody good practices and be evidence-based. This publication is forward-looking as it captures good practices in ESD. It provides a timely opportunity for reflection on the RCE process, to distil lessons learned from the experience of bringing together multiple stakeholders within a geographic region to create and provide ESD. Such reflection and analysis could be most useful for pointing the way ahead for future RCEs.

UNESCO welcomes this publication as an important contribution to our collective learning about promoting and undertaking ESD.

Mark Richmond
Director, Division for the Coordination of UN Priorities in Education
Education Sector, UNESCO

A handwritten signature in black ink that reads "Mark Richmond". The signature is written in a cursive, flowing style with a period at the end.

MESSAGE FROM THE HEAD OF ENVIRONMENTAL EDUCATION AND TRAINING, UNEP

Initiated in 2004 at the dawn of the UN Decade of Education for Sustainable Development (DESD 2005-2014), the Mainstreaming Environment and Sustainability in African Universities (MESA) Partnership, an innovative capacity building programme to revitalise educational structures in African universities to provide answers to the environmental and developmental challenges confronting the continent, was officially launched in May 2006. This programme was initiated by twelve university professors from nine African countries and UNEP, UNESCO, the Association of African Universities (AAU), and the Southern African Development Community's Regional Environmental Education Programme (SADC-REEP).

The 2006 launch was officiated by the then Rector of UNU and the Acting Executive Director of UNEP. That occasion also signalled the beginning of a very productive partnership and collaboration between the MESA Partnership and the Regional Centres of Expertise (RCE) initiative.

ESD values integrated within formal education institutions provide the impetus for society to model the citizens it desires. The RCE model encapsulates the principle that ESD is education for life, and not just about getting good grades in schools. Lengthy partnerships, such as the one UNEP enjoys with the UNU, are much appreciated in the UN family. The UNU, and the RCE network in particular, is critical to the MESA partnership, which has reinvigorated teaching and learning in African universities, and provides a rich array of stakeholders that link universities, often called ivory towers, with the rest of society. RCEs have strengthened MESA and contributed to the expansion of the Partnership across the continent. For instance, the Wildlife and Environment Society of South Africa (WESSA), a MESA partner, established an RCE in South Africa that manages and coordinates the development of RCEs in fourteen Southern African countries, including Mozambique, Malawi and Swaziland. In Kenya, Kenyatta University and the Kenya Organisation of Environmental Education have provided technical expertise and support in establishing the Greater Nairobi RCE.

Messages from the November 2008 MESA International conference to the UNESCO Conference on Higher Education held in July 2009 provide impetus for further solidifying the partnership with RCEs in the MESA Partnership, as evident in the event's communiqué which states that, *partnerships and concerted action at national, regional and international levels (are needed) to assure the quality and sustainability of higher education systems worldwide, particularly in Sub-Saharan Africa.*

RCEs should be seen as an integral part of the DESD and not just a programme of the UNU. The RCE network is an umbrella initiative that can be used to mobilise other ESD practitioners. RCEs are forums that bring ESD practitioners and society together in mobilising knowledge to deal with issues of sustainable development. As we enter the second half of the DESD, the RCE initiative is definitely one of the decade's programmes to be consolidated into ESD knowledge and good practice.

I would like to use the example of Africa's Nile River, generally regarded to be the longest river in the world, to illustrate the case of RCEs. This grand river of Africa owes its status to the numerous tributaries that feed it. The Nile would not be the same but for these small, ferocious tributaries. Ripples from RCE activities can thus grow in intensity and ferocity, and pull down the walls of university ivory towers. These ripples can in turn contribute to the river of sustainability that must continue to flow in Africa and beyond. Indeed, MESA, linked intricately to the RCE initiative, has set out on a bold new path where pragmatism trumps bureaucracy and where education opens a window of opportunity for sustainability to prosper.

Akpezi Ogbuigwe
Head of Environmental Education and Training
United Nations Environment Programme (UNEP)

A handwritten signature in black ink, consisting of a stylized 'A' followed by a long horizontal line that ends in a small loop.

MESSAGE FROM THE VICE-PRESIDENT OF THE INTERNATIONAL ASSOCIATION OF UNIVERSITIES

The International Association of Universities (IAU), an organisation committed to encouraging its members to act in a socially responsible manner, has long recognised the key role higher education and research could and should play in the overall process of achieving sustainable development.

IAU has taken the position that leaders of higher education institutions and academic colleagues are in a key position to contribute to an equitable and ecologically sound future by making sustainable development a central academic and organisational focus. This requires the generation and dissemination of knowledge through interdisciplinary research and teaching, policy-making, capacity-building, and technology transfer. Education for Sustainable Development (ESD) is, therefore, an important priority for IAU.

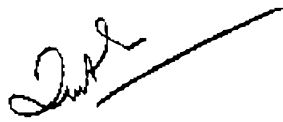
Regional Centres of Expertise (RCEs) on Education for Sustainable Development provide an opportunity for higher education institutions to engage with various stakeholders, learning and innovating with them towards sustainable development.

When the idea of RCEs was debated in 2005 as a mechanism in support of the UN agenda within the framework of the Decade on Education for Sustainable Development, IAU takes pride that the concept was the brainchild of Prof Hans van Ginkel, the then immediate Past President of IAU and Rector of the United Nations University. In addition, one of the IAU members, Universiti Sains Malaysia, took a leading role in facilitating the development of one of the seven pioneering RCEs: RCE Penang. It is therefore heartening to note that the number of RCEs has now increased manifold, actively involving several members of IAU. Since that time, IAU has been represented on the Ubuntu Committee of Peers that was created in 2006 to provide advice, help select and guide aspiring and existing RCEs. Today, IAU continues to disseminate information about the opportunities that the RCE initiative offers.

Without doubt, the concept of RCE has lent a very encouraging framework in support to IAU's efforts to mainstream concepts and principles of sustainable development in higher education worldwide.

IAU looks forward to its continuing close collaboration with the RCEs and the United Nations University for an even more fruitful partnership as we move past the mid-Decade point of the DESD.

Dzulkifli Abdul Razak
Vice-President, International Association of Universities (IAU)
Vice-Chancellor, Universiti Sains Malaysia

A handwritten signature in black ink, appearing to read 'Dzulkifli', followed by a long, sweeping horizontal line that extends to the right.

MESSAGE FROM THE SECRETARY-GENERAL OF THE ASSOCIATION OF AFRICAN UNIVERSITIES

Ensuring global sustainable development is perhaps one of the greatest challenges the world has had to address. It took some time for the idea of sustainable development to be fully understood. It is, after all, not an easy concept to comprehend and one that is still evolving. It is equally difficult to define and for quite some time it was looked at from a purely environmental point of view. Once the notion that sustainable development encompasses all aspects of economic, social and human development was understood, however, it became clear that education at all levels (from pre-primary to higher) and of all types (informal, non-formal, formal) was an essential tool for achieving sustainability.

These are the underlying principles that led the UNU to create Regional Centres of Expertise (RCEs) in 2004. An RCE encourages relevant institutions and organisations in a particular region of the world to collaborate in promoting sustainability through education, training and awareness-creation by taking into consideration the specific challenges of sustainable development in that specific region. This explains why RCEs vary significantly from one region to another. In almost all cases they involve educational institutions at different levels, very often they engage businesses and industries operating in the region, and invariably they have the support and collaboration of local communities.

RCE Makana and Rural Eastern Cape in South Africa, for example, is led by Rhodes University and its aims include engaging with and research of issues affecting quality of education and training in the region. The lead agency of RCE Cairo is the SEKEM Development Foundation that facilitates engagement and learning of local communities for livelihood activities. The lead agency of RCE KwaZulu Natal is the Wildlife and Environment Society of South Africa (WESSA) – the oldest and largest non-governmental, membership-based environmental organisation in South Africa. The members of this RCE have also developed an impressive set of activities that aim at capacity development of teachers of Southern African countries and beyond.

It is the diversity of the RCEs that constitutes the richness of the whole concept. Eventually, the plan is to link up all the RCEs into a global network, enabling them to share experiences and resources and to collaborate in specific projects. However, coordinating the large number of RCEs and ensuring that they themselves are sustainable, especially from a financial point of view, are serious challenges that still need to be addressed.

In my capacity as President of the International Association of Universities from 2005 to 2008, I had the privilege of being closely involved with the establishment of the RCEs. From an initial seven RCEs established in 2005, the number has now grown to 75 in 2010, 12 of which are in Africa. The creation of a global network of RCEs can be a real contribution of the United Nations University towards the UN Decade of Education for Sustainable Development. I am confident that the RCEs can make a meaningful and significant contribution towards global sustainable development, including meeting the challenges of climate change, health and wellbeing issues, poverty eradication and many more.

A handwritten signature in black ink, appearing to read 'Goolam', is written over a long, diagonal line that extends from the bottom left towards the top right.

***Goolam Mohamedbhai
Secretary-General
Association of African Universities***

MESSAGE FROM THE SECRETARY GENERAL OF THE SCIENCE COUNCIL OF ASIA

The Science Council of Asia (SCA) would like to take this opportunity to highly praise the efforts of the Education for Sustainable Development (ESD) Programme of the United Nations University Institute of Advanced Studies (UNU-IAS) in forging a collaborative platform between regional educational and learning-related organisations to promote ESD in the past five years of the UN Decade of Education for Sustainable Development (UN-DESD) that was launched in 2005.

The SCA takes part in science-related activities with UNU-IAS, especially since becoming a co-signatory organisation of the Ubuntu Declaration at the World Summit on Sustainable Development in Johannesburg in 2002, where the importance of strengthening education in science and technology for sustainable development was reaffirmed. As a member of the Ubuntu Committee of Peers, SCA advises UNU-IAS, the secretariat of the global RCE community, on acknowledgement of new Regional Centres of Expertise (RCEs).

The network of RCEs supported by the ESD Programme of UNU-IAS has proved itself to be an efficient and effective measure for promoting ESD and remarkable progress has been reported. The activities of the network have inspired a number of educational organisations to mobilise to deliver ESD to their respective regional communities, thus extending the initiative's coverage worldwide.

The SCA network fosters scientific collaboration and cooperation in a wide range of scientific fields in the Asian region. It is increasingly important for the SCA to take the initiative in establishing a vision for sustainable development in Asia through scientific research and projects that deal with science-related issues common in Asia.

While regional issues are examined by those scientific activities, the next phase will be to transfer accumulated knowledge and wisdom globally by expanding inter-regional collaboration. For the second half of the DESD, RCE activities should be expected to shift to a phase in which cross-RCE initiatives will need to be vitalised. Regional cooperation to promote ESD can be better facilitated and advancement towards sustainability can be more practical by intense emphasis on such a scheme.

In conclusion, we would once again like to commend the efforts and initiatives that have been made in the first half of the UN DESD and wish ongoing success in the coming years in the establishment of a sustainable society.

*Prof. Yoichi Muraoka
Secretary General/Treasurer
Science Council of Asia*

村岡洋一

MESSAGE FROM A MEMBER OF UNESCO'S HIGH LEVEL PANEL ON THE UN DECADE OF ESD

The UN DESD gave legitimacy and inspiration to all the efforts among scientists, universities, teachers, and national and international organisations to change and to reorient education, in all forms and at every level, so education really supports a transition towards more sustainable development.

One of the most fruitful ideas for the promotion of ESD was the creation of Regional Centres of Expertise (RCEs) on ESD. This idea was based on the understanding that the work towards achieving sustainable development can only be successful if it takes its point of departure from the local and regional challenges people face in their everyday lives.

The strength of RCEs is that they enable greater potential for individuals and groups to find each other and cooperate in a common effort, through education, to contribute towards addressing the local and global sustainability challenges. International connections between RCE members, for example between universities, strengthen the links between local and global processes. Through this cooperation they are able to bring new ideas, knowledge and education from the surrounding region into social planning, poverty eradication and environmental protection programmes, and into schools, preschools and so on. By doing so, RCEs have become both an important knowledge base and a source of inspiration.

The RCEs have highly important tasks to carry out, and they are well equipped to promote ESD. The same is valid for the National Commissions for UNESCO and other UNESCO contributions.

The 2009 Bonn Declaration on ESD, which has been adopted by UNESCO's General Assembly, is an excellent foundation for action plans for the activities of the individual RCE. The Bonn Declaration is a call for action that concisely presents many necessary measures, such as the need to identify and support schools, universities and other higher education institutions and education networks that could serve as resources for ESD and the need to make use of these resources to address various priorities and issues. The Declaration underlines the importance of fostering awareness of sustainable development, of promoting public participation, and of encouraging the media to stimulate debates for this purpose. To involve business, civil society, local communities and trade unions and the training of their leaders for sustainable development are other recommended measures.

I myself have had the privilege to participate in the work to establish new RCEs. I remember with the greatest pleasure when the first seven RCEs were awarded their certificates at the Asia-Pacific Launch of the UN Decade of Education for Sustainable Development in Nagoya in 2005. Today the number of RCEs is an impressive 75. They are of various sizes, have different directions and are situated in all parts of the world, but share a common vision. Their diverse ways of working towards shared goals demonstrates the power of this idea.

I truly share the hopes of former UNU Rector, Hans van Ginkel, that the number of RCEs will continue to increase during the DESD, and long after, to create a real Global Learning Space. UNU's untiring work to promote ESD and RCEs is an inspiration for us all.

Carl Lindberg
Member of UNESCO's High Level Panel
on the UN Decade 2005-2014 of ESD

A handwritten signature in black ink that reads "Carl Lindberg". The signature is written in a cursive style with a long, sweeping tail on the letter "y".

MESSAGE FROM THE UNESCO CHAIR AT YORK UNIVERSITY

The need for deeper engagement of regions, communities, and even individual citizens through education, public awareness and training programmes is a focus of ESD, essential to moving the sustainability agenda forward. The concept of engaging entire communities and regions in the search for a more sustainable future through ESD is the heart of the United Nations University (UNU) Regional Centres of Expertise (RCE) initiative.

RCEs are living laboratories that aim to explore the premise that regions with citizenry which are more knowledgeable of the principles of sustainability tend to create more appropriate development models. Moreover, it is premised that these communities or regions will be more likely to seek ways to implement these models.

At the heart of the RCE initiative is the concept of using largely existing education resources to create a more informed and unified society. Hence an RCE begins with gathering together a region's education, public awareness and training entities. This is followed by identifying respective roles and capabilities, seeking out the current and pending sustainability threats facing the region and then building a common strategy to inform and educate as many in the community as possible.

Despite little funding to promote the concept, the premise has been widely accepted. In the first five years or so, approximately 75 regions worldwide have recognised the value of creating an RCE. Many major cities and regions have accepted the challenge of both informing their citizenry and engaging them in seeking sustainable solutions to issues affecting their future. In some cases it has been to address urban sprawl and zoning issues while in others it has been to address immigration issues. As ESD addresses economic, social and environmental aspects in a holistic manner, one soon realises that regional issues usually have all three aspects seamlessly entwined.

This publication inspires and informs regions to unite their various civic, nongovernmental and private sector education-related entities to inform their respective audiences and to work collaboratively towards informed, sustainable regional solutions. The RCE movement is evolving as a truly significant contribution by UNU to the UN Decade.

Charles Hopkins
UNESCO Chair at York University



1. Regional Centres of Expertise on Education for Sustainable Development: Concept and History



INTRODUCTION

At the UNU-UNESCO International Conference on Globalisation and Education for Sustainable Development in June 2005 in Nagoya, Japan, which celebrated the Asia-Pacific launch of the United Nations Decade of Education for Sustainable Development (DESD), the United Nations University (UNU) launched the first group of seven Regional Centres of Expertise on Education for Sustainable Development (RCEs).¹ Since that time, the network of RCEs has expanded and, as of April 2010, there are 75 RCEs worldwide, in Asia, the Pacific, Europe, the Middle East, Africa and the Americas.

This chapter offers an overview of the UNU's RCE initiative — the global process created to contribute to the goals of the DESD. First, it describes the background of the RCE initiative and clarifies the underlying assumptions, values, and principles that drove the creation of the RCE initiative. Second, it discusses the evolution of the concept and practice of RCEs, reporting on the development of a global network of RCEs and emerging communities of practice.

ORIGINS OF THE RCE INITIATIVE: THE NEED FOR PARTNERSHIPS AND ACTION

At the Johannesburg World Summit on Sustainable Development (WSSD) in 2002, there was a transnational plea for partnerships that would allow a diverse array of actors to take joint action towards the shared goal of Sustainable Development (SD). The WSSD shifted the focus of SD from normative statements of what should be done to strategies for implementation. The RCE initiative is a direct response to this important shift from words to actions and also answered the global call for active partnerships. In 2003, following the WSSD and the UN General Assembly Resolution on the DESD, the UNU, through the UNU Institute of Advanced Studies (UNU-IAS), launched a programme on Education for Sustainable Development (ESD). Under the guidance of the then UNU Rector, Hans van Ginkel, UNU-IAS developed a concept paper on RCEs and presented it to the international community during the Twelfth Session of the Commission on Sustainable Development (CSD-12) in April 2004.

Since 2004, the UNU and UNU-IAS have presented the evolving idea of RCEs at various international conferences and meetings. The idea has been well received by a wide range of actors in the SD/ESD community, and the last five years of RCE mobilisation have proven that it is not difficult to find higher education institutions, local municipalities or non-governmental organisations (NGOs) willing to become local promoters of the RCE initiative. The broad appeal of the RCE initiative can be traced partly to the fact that the concept of RCE is loosely-defined, and thereby allows local stakeholders to employ it for their own needs. The UNU has embraced the diversity of RCEs that has resulted from local implementation of the RCE concept.

**RCE creates
an innovative
platform for
dialogue and a
learning network
across knowledge
and sectoral
boundaries.**

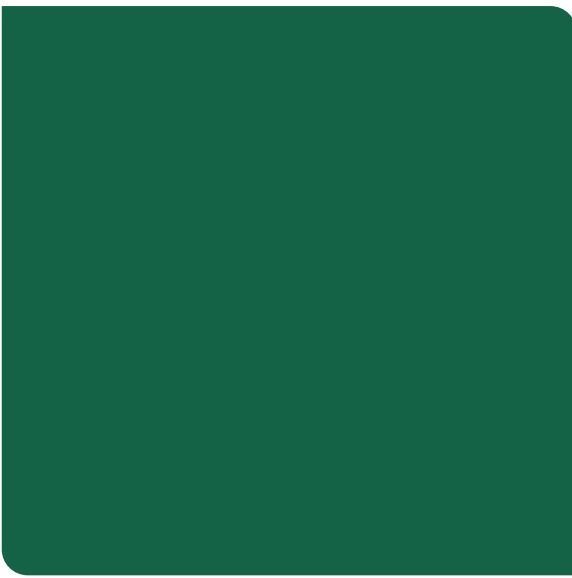
What is an RCE?

An RCE is not a physical centre but a network of existing local/regional institutions mobilised to promote all types and levels of learning for a sustainable future. Thus, an RCE is an institutional mechanism to facilitate capacity development for sustainable development. RCEs, both individually and collectively, aspire to achieve the goals of DESD.

The RCE initiative aimed to overcome inertia created by the difficulty of reaching international consensus on the nature and scope of ESD. What an RCE is primarily meant to attain is a platform for multi-stakeholder dialogue to share information and experience and seek ways to promote inter-disciplinary and multi-sectoral collaboration for ESD at the regional/local level. An RCE can be interpreted as a mobilisation mechanism to achieve much-coveted locally-relevant and culturally appropriate ESD and a concrete manifestation of the partnership approach emphasised in the DESD International Implementation Scheme (UNESCO 2005).

In the UNU's partnership approach, incarnated in the form of the RCE initiative, the emphasis was not so much on the creation of equitable partnerships — which are often viewed as a necessary condition for fostering social learning and innovation (see Keen et al. 2005) — but on the creation of a local/regional knowledge base in which higher education institutions and other knowledge-related institutions are expected to play a key role in ensuring scientifically-based ESD. Higher education institutions were especially encouraged to take the lead in developing an RCE because they were expected to provide guidance and leadership in all education and take the initiative to align education from pre-school through university.

A region in the RCE concept is, in principle, a part of a country (sub-national bloc) such as Bretagne, Tohoku or Catalunya, or a cross-border area with a similar size. A region should be sufficiently large to include various institutions such as universities, museums, zoos, botanical gardens and more than a handful of primary and secondary schools, and should be small enough to make frequent face-to-face communication possible. What makes an RCE distinct from other local initiatives is its wider geographic scope that enables it to perform distinctive functions such as disseminating good practices on a wider scale and serving as a knowledge base.² Due to its broader geographic scope, which allows diversity in participating institutions and on-going and planned activities, an RCE is required to have a body that is responsible for the overall strategy of the RCE. A decision-making body of an RCE is usually set up as an ESD/RCE Promotion Commission, consisting of the representatives of initial partner organisations. Broader participants in the RCE can be theorised as actors (both organisations and individuals) that willingly and creatively participate in and contribute to RCE activities, rather than as those who carry out uniform activities designed by the ESD/RCE Promotion Commission.



© D. Weisbrot/RCE Saskatchewan
Burrowing Owl at the RCE Conference of Americas poster session



© S. Aipanjiguly



It is important to recognise that an RCE is both the UNU initiative – in the sense that the UNU requires local stakeholders to follow the UNU’s policy prescription on how best ESD can be promoted at the local level – and a voluntary initiative to promote local action. An RCE can begin with a small number of core local institutions that have been introduced to the RCE concept, through various channels such as international conferences, workshops, meetings of academic associations and personal contacts, and voluntarily work together to draw a blueprint for the RCE on behalf of the inhabitants of the region. It is crucial for the core local promoters of an RCE to address the issue of participatory design and creation of a local knowledge base.

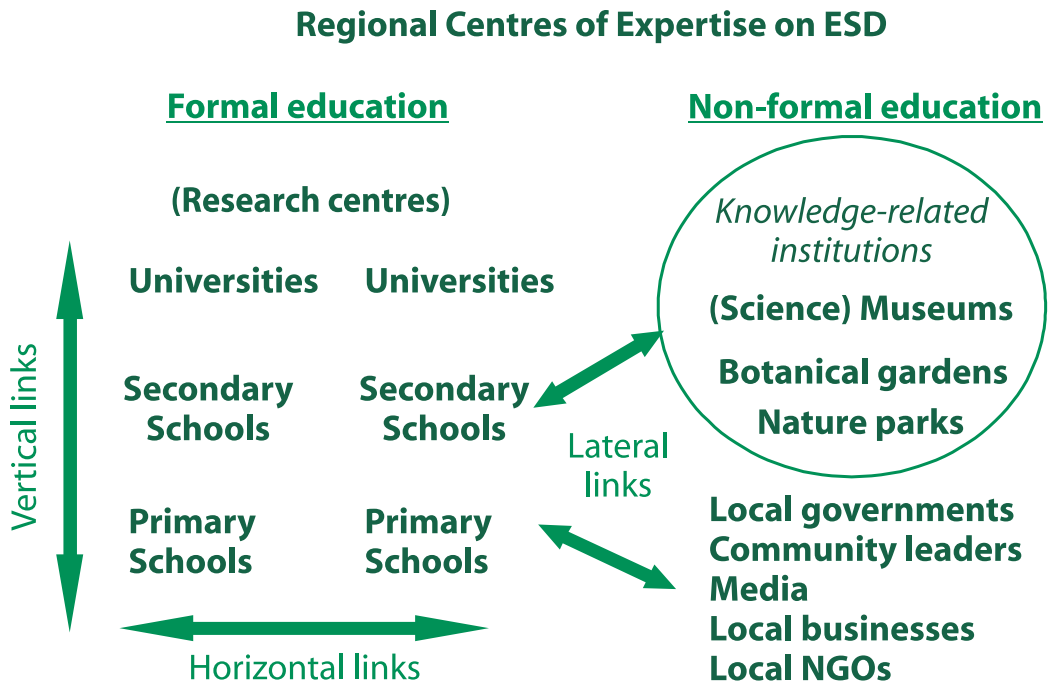
Assumptions and values underlying the RCE concept

For the architects of the RCE concept, RCE is a measure designed to help to address the deficiencies in the education system that had been identified through efforts to promote environmental education in the formal education sector since the late 1980s. One of the identified deficiencies is that the latest scientific and technical knowledge is not well reflected in what is being taught in schools. The recognition of the need to narrow the communication gap between scientists and educators led to the signing of the Ubuntu Declaration in 2002, upon which the UNU strategy to promote ESD is partly based.³

An important assumption of the original RCE concept is that there is a need to mobilise as many actors as possible – all sectors of society, all levels of formal education, people of all ages – in order to promote ESD and create what the UNU calls a Global Learning Space for SD. This need was identified based on lessons learned from the efforts to promote ESD, during the ten years from Rio to Johannesburg, which are not generally considered a success. There is a consensus on the idea that ESD must be promoted at all levels – the international, national, and sub-national levels, but the international efforts to promote ESD have been rather fragmented and have not been very successful in producing visible outcomes and tangible benefits. The UNU chose the regional/local level as its strategic focus, rather than dispersing its limited resources on initiatives aimed at a broader range of levels.

The RCE concept was derived from the experience of formal education (including higher education). Although this does not limit the scope of RCE activities to formal education, initially one of the most important goals of the RCE initiative was to supplement the formal education curriculum. As a means of achieving this goal, the RCE concept emphasises strengthening horizontal and vertical links within the formal education sector as well as promoting partnerships between formal and non-formal education institutions. In the original conceptual diagram of an RCE (see Figure 1), non-formal education institutions such as science museums, botanical gardens and national parks were given special significance as knowledge-related institutions, separately from local governments, businesses, NGOs and media. At the same time, however, in the original RCE concept paper the UNU made no mention of horizontal linkages among non-formal education actors (hence there is no two-headed horizontal arrow between the knowledge-related institutions and the other non-formal education actors in the non-formal education column), thereby unintentionally underplaying the importance of partnerships between these actors.

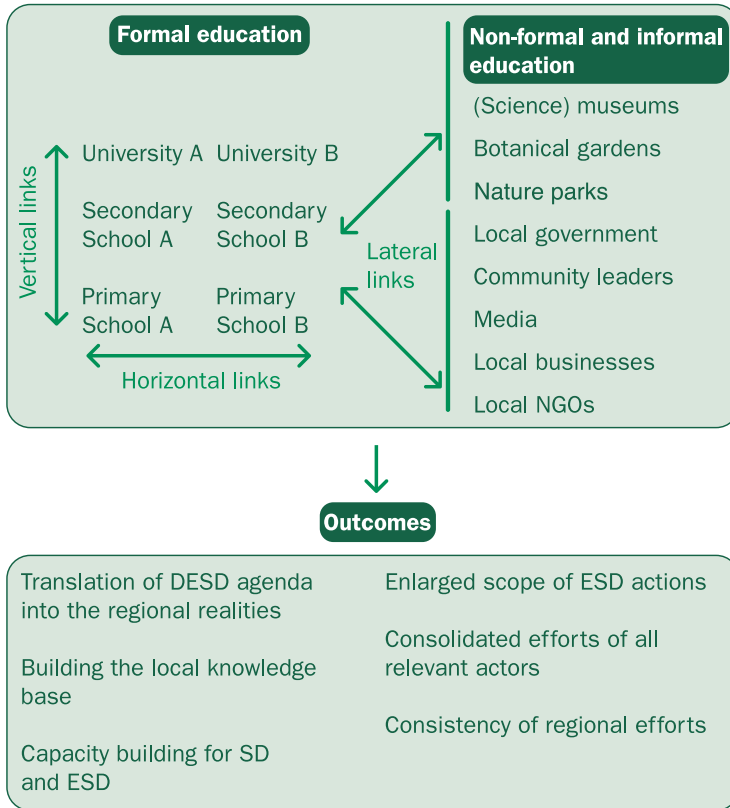
Figure 1. Collaborative links within an RCE



Source: *The RCE concept paper (UNU 2004)*

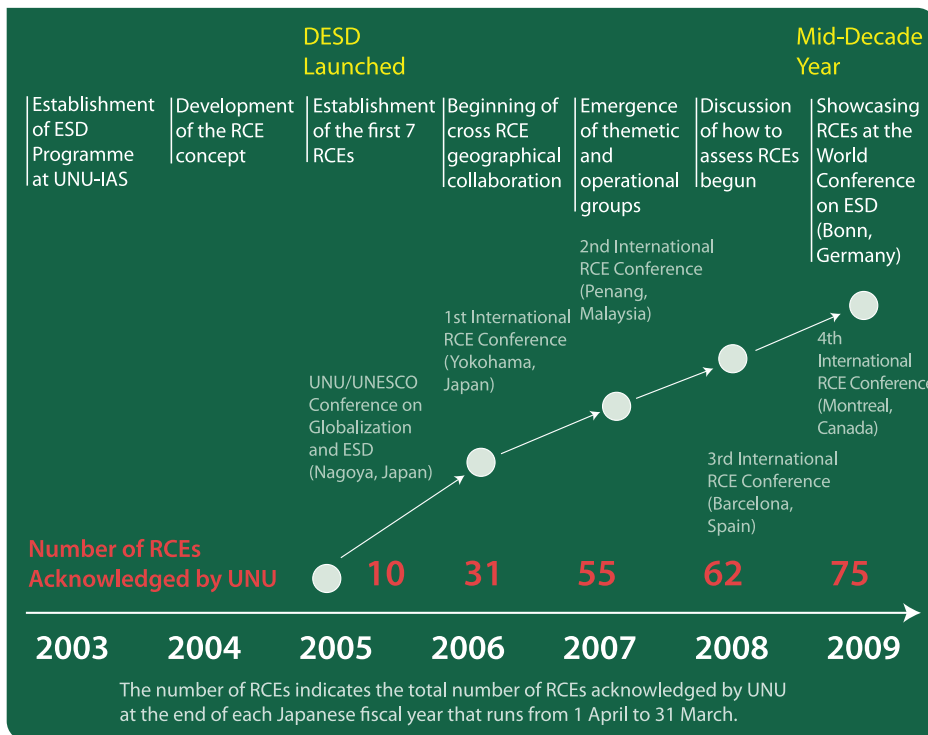
The original RCE concept equated knowledge with scientific⁴ knowledge possessed by experts in research institutions, leaving educators at the receiving end of knowledge and largely overlooking the potential of NGOs, civil society organisations and other non-formal education actors in contributing to the knowledge required for addressing diverse sustainability challenges. Moreover, in its early conceptual formulation, an RCE was often defined as a network of existing institutions mobilised to deliver ESD to communities. Such formulation of an RCE was, at times, interpreted as assigning knowledge-related institutions an active role as expertise providers while assigning to communities a passive role as recipients. In the modified diagram of an RCE (Figure 2), the circle demarcating *knowledge-related institutions* in the RCE Concept Paper was removed in order to show that an RCE is an equitable multi-stakeholder partnership.

Figure 2. Modified diagram of an RCE



Source: RCE Brochure

Figure 3. Evolution of Global RCE Community



UNU specified four core elements that should be addressed by an RCE: governance, collaboration, research and development (R&D), and transformative education (UNU-IAS 2005). On the one hand, fulfilling the core elements of an RCE often means implementing externally-induced reforms, such as enhancing the role of local universities in ESD and identifying new partners and forming new alliances, in a top-down manner. On the other hand, an RCE cannot be created without a bottom-up approach that begins with local concerns. One of the functions of an RCE is to incorporate bottom-up methods designed to identify and include the needs and interests of a wide range of social groups in the region. To reinforce the bottom-up approach, the UNU has specifically stated that an RCE cannot be created from scratch. An RCE builds on existing alliances and actions towards ESD and SD while helping to enhance them.

What makes the RCE initiative a unique contribution to DESD?

What kinds of concrete action does the original RCE concept call for? Specifically how does an RCE facilitate local stakeholders to implement holistic ESD that can address local sustainability challenges?

RCEs assist with enhancement of horizontal links between schools at the same level of education, vertical alignment of curricula – from primary through to university education – and development of lateral linkages between formal and non-formal sectors of the education community (see Figures 1 & 2). As discussed in the preceding pages, the UNU recognised the limitations of formal education and emphasised the need to link formal and non-formal education. When the RCE concept was actually implemented, the requirement for the establishment and continual reinforcement of horizontal, vertical and lateral linkages facilitated local stakeholders to address their own needs.

There are diverse efforts to promote the practice of what is called ESD, and the extent to which ESD is associated with formal or non-formal education varies widely. One of the strengths of the RCE model is that it can be used by local ESD stakeholders to direct mobilisation efforts either towards the formal education sector or non-formal education sector, depending on their specific needs. For example, in a region where ESD is almost exclusively associated with NGO activities, as in the case of India, the local RCE promoters can use the RCE model to direct more efforts towards local schools and local Higher Education Institutions (HEIs). In fact, in some regions of India, the RCE concept succeeded in encouraging participation of HEIs that had previously been hesitant to engage in collaborative activities.

The RCE initiative contributes to DESD by creating platforms for local actors to articulate a global vision of ESD in local terms. Not only does the RCE initiative bring together stakeholders across knowledge and sectoral boundaries in a particular region, it also brings together ESD stakeholders across geographic boundaries. The expansion of a global network of RCEs will be a valuable visible output of DESD, with the number of RCEs serving as an indicator of vitality of local initiatives for ESD.

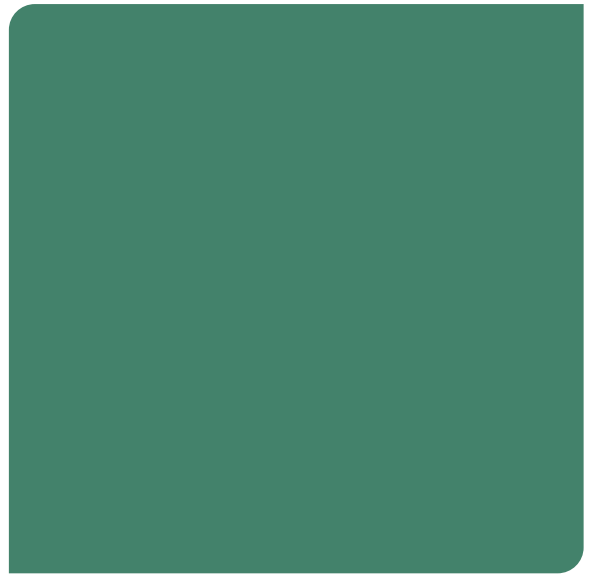
EVOLUTION OF THE CONCEPT AND PRACTICE OF RCEs: EMERGING COMMUNITIES OF PRACTICE

Emergence of a Global RCE Community

In April 2006, UNU-IAS organised the First International RCE Conference in Yokohama, Japan. More than 100 participants, mainly consisting of representatives of acknowledged RCEs and RCE candidates and experts, gathered at the event, exchanged their experiences and held discussions on several issues related to RCE development, such as networking and collaboration among RCEs. To make the process of acknowledging RCEs transparent and accountable, the Ubuntu Alliance, in its meeting held in conjunction with this conference, established a Committee of Peers for the RCEs, to discuss ways to promote RCEs, to review applications and provide recommendations to the UNU on the acknowledgement of new RCEs. Today there is a formal process to apply to become an RCE and the process is open to all interested parties.⁵ Furthermore, UNU-IAS has established a Global RCE Service Centre to provide assistance to individual RCEs and facilitate their communication and networking.

With the expansion of a global network of RCEs, both geographic and thematic networks of RCEs have been established. UNU-IAS, in its capacity as the Global RCE Service Centre, will increasingly encourage RCEs to set up geographic sub-networks of RCEs as well as engage them in carrying out R&D collaboratively to create a Global Learning Space. The Global RCE Service Centre will not, however, play a strong coordination role in promoting networking among RCEs at the national, sub-regional, regional and international levels or around particular themes. Rather, it will continue to provide guidance to RCEs and encourage some RCEs to take the lead and facilitate collaboration among RCEs both geographically and around specific thematic issues such as biodiversity, sustainable production and consumption and health. RCEs are also organizing working groups around operational themes to improve the effectiveness and capacity of RCEs such as fund-raising, sharing of learning resources and assessment of RCEs. A more detailed description of RCE development in different world regions and thematic networks of RCEs can be found in the next chapter of this publication.

RCEs have been interpreted in numerous ways — as a hub to promote ESD, a meeting point, a clearinghouse, a knowledge broker, a platform for information exchange and sharing, a community of practice, an institutional mechanism for social learning, or a learning network.



© Marta Pinto/RCE Porto

Biosphere – the venue of the 4th International RCE Conference in Montreal, 2009



© Marta Pinto/RCE Porto

Displays at the 4th International RCE Conference, 2009



© RCE Penang

Recycling workshop in Penang, Malaysia

Importantly, the global network of RCEs is also facilitating inter-agency as well as North-South and South-South cooperation for ESD. For example, all RCEs in Africa are linked to UNEP's MESA (Mainstreaming Environment and Sustainability into African Universities) Initiative, and African RCEs are contributing to the African Union agenda to revitalise higher education in Africa and to ensure that universities are able to work closely with their communities. Several universities active in Japanese RCEs are engaging in joint ESD projects with Asian and African universities under the MEXT International Cooperation Initiative.

Multiple interpretations of RCEs

As outlined earlier, in interaction with local stakeholders' responses to the RCE strategy, the UNU conceptualisation of RCE has changed over time. Some local promoters of RCEs came to characterise RCEs in ways that were not originally intended by the UNU. At one end of the spectrum of RCE interpretations is the image of an RCE as a link point and a hub to promote ESD, a meeting point, a clearinghouse, a knowledge broker, and a platform for information exchange and sharing. This is close to the initial UNU conceptualisation of an RCE which serves the purposes of knowledge management, knowledge transfer and delivery of ESD to the community. Such conceptualisation tends to focus on the technological aspects of knowledge sharing such as database development and website construction, along with face-to-face communication. At the other end of the spectrum is the interpretation of an RCE as a community of practice, an institutional mechanism for social learning, and a learning network. Making a contrast with the knowledge transfer model which emphasises the role of knowledge-related institutions, the social learning model views RCEs as sites for learning, presupposing the existence of conflicts of interests and views among different stakeholders and seeing the potential of a network in the very fact that each partner contributes differing perspectives to the network.

If the emphasis of the knowledge transfer model is the dissemination of existing knowledge, the emphasis of the social learning model is the creation of new knowledge through active, contextually grounded learning. Many RCEs are still in the process of taking an inventory of ESD-related activities in their respective regions and mapping expertise and resources to be shared among the partners. While improving technological aspects of knowledge sharing remains a major challenge for many RCEs as well as for the Global RCE Service Centre, RCEs are also encouraged to look at social aspects of knowledge sharing. Both the partners of individual RCEs and the network of RCEs can be understood as forming not only knowledge management systems but also communities of practice, which share commitment to ESD, interact and learn together, and develop a shared repertoire of resources that facilitate action for a sustainable future.



WAYS FORWARD

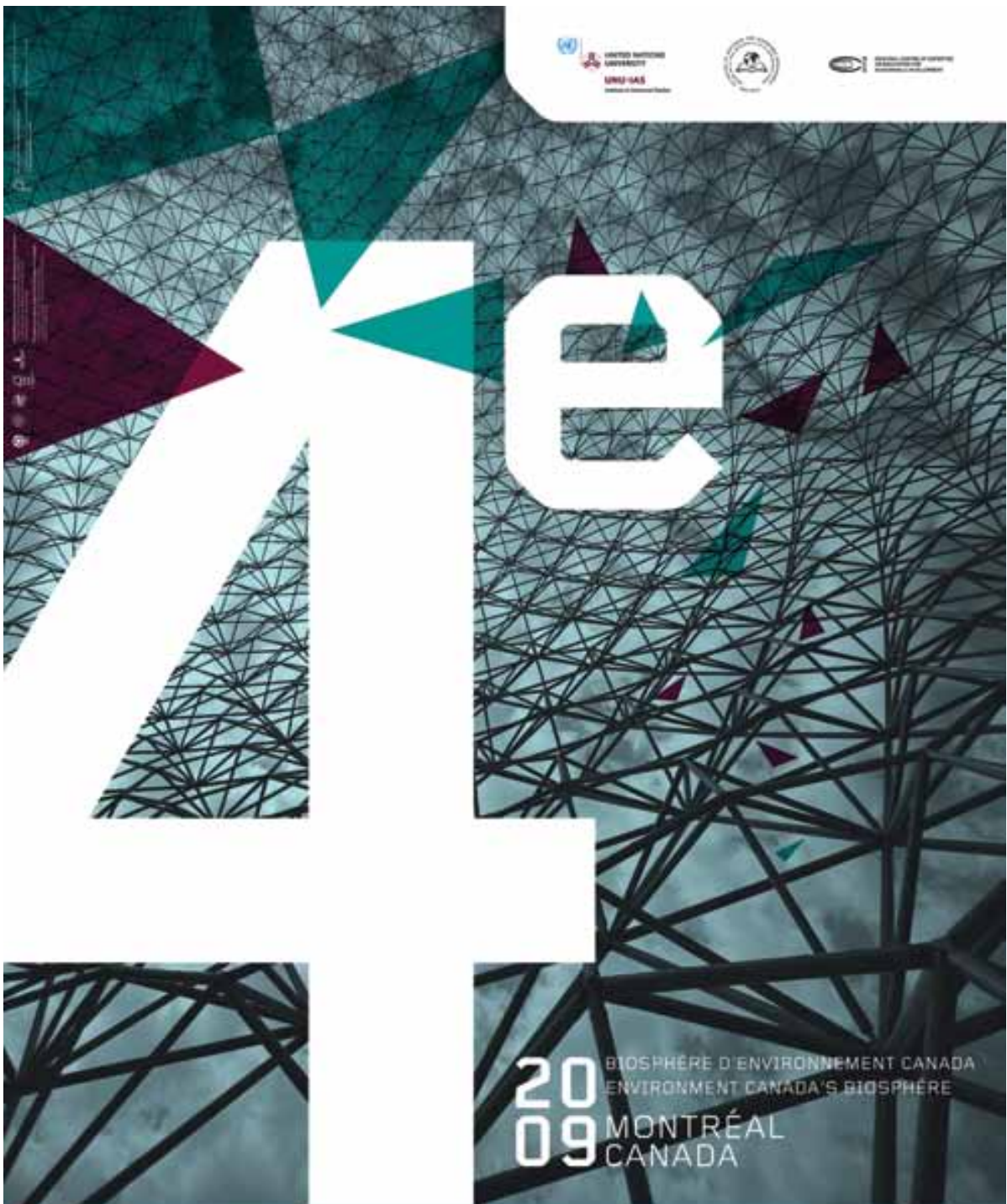
Many challenges remain in front of us on our paths towards achieving sustainable development. Education and educators are expected to take on critical roles through engaging in efforts to promote the DESD. The RCE initiative can be a mechanism to facilitate diverse organisations to respond strongly to address sustainability challenges. RCEs will contribute to developing innovative ways of collaboration among HEIs, primary and secondary educational systems, local governments, and other local/regional stakeholders. RCEs will share their strategies, techniques, project descriptions, and other efforts amongst themselves and with organisations involved in ESD. RCEs will also promote international cooperation in ESD. This sharing and cooperation will be made possible and efficient through the use of information and communication technology (ICT) and facilitated by the Global RCE Service Centre. In the second half of the DESD, the question of how to assess individual RCEs as well as the RCE initiative — both as a global process and a local/regional learning initiative — will be more fully explored by the RCE community. RCEs could serve as collective and experimental contexts within civil society for exploring approaches to SD and ESD that support collective action and reflection directed towards a sustainable future.

Yoko Mochizuki
ESD specialist
ESD Programme, UNU-IAS

*A longer and slightly different version of this contribution was first published as Mochizuki, Yoko & Fadeeva, Zinaida (2008). Regional Centres of Expertise on Education for Sustainable Development: An Overview. *International Journal of Sustainability in Higher Education*. Special Issue on RCE. 9(4):369 – 381.

REFERENCES

- Fadeeva, Z. (2007). From Centre of Excellence to Centre of Expertise: Regional Centres of Expertise on Education for Sustainable Development. In Wals, A.E.J., ed., *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis*, Wageningen, the Netherlands: Wageningen Academic Publishers.
- Fadeeva, Z. & Mochizuki, Y. (2007). Regional Centres of Expertise: Innovative Networking for Education for Sustainable Development. *Journal of Education for Sustainable Development*, 1(2): 229–237.
- Hopkins, C. & McKeown, R. with Van Ginkel, H. (2005). Challenges and Roles for Higher Education in Promoting Sustainable Development. In *Mobilising for Education for Sustainable Development: Towards a Global Learning Space based on Regional Centres of Expertise*, Yokohama, Japan: UNU-IAS.
- Keen, M., Brown, V. A. & Dyball, R. (2005). *Social Learning in Environmental Management: Towards a Sustainable Future*. Sterling, VA: Earthscan.
- Mochizuki, Y. (2008). The RCE Initiative as a Policy Instrument for Sustainable Development: Can It Match the World Heritage List and the Global Compact? *Journal of Education for Sustainable Development*, 2(1):61-71.
- Mochizuki, Y. & Fadeeva, Z. (2008). Regional Centres of Expertise on Education for Sustainable Development: An Overview. *International Journal of Sustainability in Higher Education*, 9(4):369–381.
- UNESCO (2005). *United Nations Decade of Education for Sustainable Development (2005-2014) International Implementation Scheme*, Paris: UNESCO.
- UNU (2004). *Regional Centres of Expertise on Education for Sustainable Development: Concept Paper*. [Online]. Available at: www.ias.unu.edu/efsd/rceconceptpaper
- UNU-IAS (2005). *Mobilising for Education for Sustainable Development: Towards a Global Learning Space based on Regional Centres of Expertise*, Yokohama, Japan: UNU-IAS



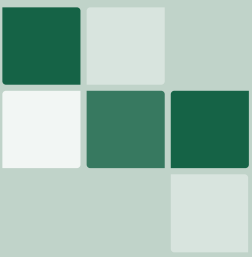
2009 BIOSPHÈRE D'ENVIRONNEMENT CANADA
ENVIRONMENT CANADA'S BIOSPHERE
MONTRÉAL
CANADA

13 AU 15 MAI 2009

4^e CONFÉRENCE INTERNATIONALE
DES CENTRES D'EXPERTISE RÉGIONAUX D'ÉDUCATION
EN VUE DU DÉVELOPPEMENT DURABLE (CER-UNU)

MAY 13th TO 15th 2009

4th INTERNATIONAL CONFERENCE
OF REGIONAL CENTRES OF EXPERTISE ON EDUCATION
FOR SUSTAINABLE DEVELOPMENT (RCE-UNU)



A PERSONAL ACCOUNT OF THE BIRTH AND DEVELOPMENT OF RCEs

The concept of RCEs was initially proposed by Prof. Hans van Ginkel, the then Rector of the United Nations University (UNU), in early 2003. His proposal was to set up platforms for dialogue on ESD scattered all over the world. At that time, I was unsure if this was a good idea because I thought there must already be good communication and coordination especially among educational communities at regional/local levels. We, therefore, tried to test this concept in actual areas to examine the effectiveness of this idea.

Two areas were selected in Japan, taking into account their accessibility from the UNU: Greater Sendai in Miyagi Prefecture and Okayama in Okayama Prefecture. We found that there were many ESD-related activities in these areas, which had been initiated by local governments, community-based organisations such as *kominkan* (community learning centres), NGOs and schools. It was, however, a great surprise to hear that there was very little communication and coordination among schools of the same level, such as primary schools or secondary schools, and almost none between schools of different levels and between schools and other institutions. This initial research convinced us to give highest priority to RCEs in the UNU Programme on ESD. The first concept paper on RCEs was officially presented at the UN Commission on Sustainable Development in 2004.

The first group of seven RCEs was acknowledged in June 2005 at the Asia-Pacific Launch of the Decade of Education for Sustainable Development (DESD) in Nagoya, Japan. Although we had been discussing the concept of RCEs with some institutions all over the world, we had not reached any conclusive decisions about how to launch RCEs. At the Nagoya conference, the UNU organised a

meeting of like-minded institutions that were willing to establish RCEs in their respective areas. Participants felt that political momentum was needed to promote RCEs and requested the UNU to issue a certificate of acknowledgment, a rather unexpected request. All participating RCE candidates were acknowledged by the UNU on the last day of the Nagoya conference, although most were still too premature to satisfy the criteria for RCEs. In more recent years, RCE candidates have been requested to meet the criteria in a more stringent manner.

A couple of months ago, I had the chance to visit RCE Greater Sendai and RCE Okayama, two of the first group of seven RCEs. In 2005, the UNU acknowledged these RCEs, but with several requests for improvement. I found that, following continuous effort by these RCEs, many of the requests had been satisfied and RCE activities have improved greatly over the past five years. I am happy to see that although the first group of RCEs were far from perfect at their initial stage, they have made much progress and they are now among the leading RCEs.

RCEs are living networks, however. Although they have shown significant improvement in the last five years, there is still much room for progress and they must continue to mature as we move towards achieving a sustainable society.

Katsunori Suzuki
Professor, Kanazawa University
(Former Coordinator of the ESD Programme at UNU-IAS)

2. RCE Development





INTRODUCTION

The Asia-Pacific region, home to more than half of the world's population, is vast, with great diversity in terms of geography, culture, societies and economies. While the region has the largest and most populous countries in the world, it also has some of the smallest and least populated ones. The region comprises developed, developing, least developed, landlocked, and small-island developing countries.

More than 70 per cent of the population lives on less than one US dollar a day. By the year 2025, it is expected that the number of mega-cities will have risen significantly, and will host more than half of the region's population. The enormous growing population is expected to consume an increasing amount of natural resources to achieve economic growth, with negative consequences for the environment.

The challenges facing Asia and the Pacific in ESD are gargantuan. The ESD concept is generally not well understood. This lack of understanding renders it imperative to strengthen awareness campaigns in the region, especially with the involvement of the youth population whose own futures are at stake, and who necessarily are the future leaders and agents of change. Access to basic quality education, which is one of the main thrusts of the United Nations Decade of Education for Sustainable Development (UN DESD), is problematic in the region. In the poorer countries of the region, there is a dearth of schools and scarcity of qualified teachers, as well as lack of essential school equipment. Since access to education, let alone quality of educational facilities and curricula, is a great challenge, the task of introducing positive transformative education based on the notion of sustainability becomes a gigantic one, and achieving the UN DESD goals remains an enormous challenge. The role of Asia-Pacific Regional Centres of Expertise (RCEs) in this endeavour to inculcate ESD in the minds and hearts of all societies in the region is immensely important.

RCE development in the Asia-Pacific region

THE HISTORY OF RCEs IN THE ASIA-PACIFIC REGION

As of March 2010, there are 28 RCEs in the Asia-Pacific region. Five of the first seven RCEs acknowledged globally in 2005 are located in the Asia-Pacific region. The subsequent increase in the number of acknowledged RCEs has been steady, as more and more stakeholders learn about the value and virtues of an RCE network. The principal means of promoting RCEs in the Asia-Pacific community so far has been a combination of direct contacts by the Global RCE Service Centre, based at UNU-IAS; promotion through acknowledged RCEs; and promotion through regional conferences and meetings on ESD and related themes.

Twelve RCEs, representing over 40 per cent of the network in the region, are led by higher education institutions; about a quarter (eight RCEs) are led by local governments; and the rest are led either by a nongovernmental organisations (six RCEs) or research institutes (two RCEs).

Issues and projects currently addressed by the Asia-Pacific RCEs include those related to biodiversity conservation, youth, energy, teacher training, disaster mitigation, natural resources management, climate change, school curriculum reorientation, promotion of model schools, sustainable waste management and environmental education.

The subsequent increase in the number of acknowledged RCEs has been steady, as more and more stakeholders learn about the value and virtues of an RCE network.



© RCE Hyogo-Kobe
ESD symposium in Kobe

REGIONAL FORUMS AND LINKAGES

In recent years, RCEs in the region have showcased their work at two annual Asia-Pacific forums: the UNESCO Asia-Pacific Programme of Educational Innovation for Development (APEID) Conference, and the Association of Southeast Asian Nations (ASEAN)-Plus-Three (China, Japan and Republic of Korea) Leadership Programme on Sustainable Production and Consumption co-organised by UNU-IAS, ASEAN Secretariat, and the Environment Ministry of the host country. Projects presented at these regional gatherings have included practical examples of promoting awareness on a sustainable society from RCE Tongyeong in South Korea, teacher training on ESD in the Greater Sendai region of Japan, green markets, sustainable agriculture and corporate social responsibility.

A bond has been established among Asia-Pacific RCEs through two semi-annual meetings: one held in conjunction with the annual International RCE Conference and the other organised and hosted by an RCE in the region. In these meetings, RCEs discuss and address issues of common interest through joint projects and programmes. Areas of interest identified in the last Asia-Pacific RCE meeting, in November 2009 in Delhi, India, were the sustainable use of resources, sustainable lifestyles, social impacts of climate change, and climate change and coastal areas.

Asia-Pacific RCEs are currently working on joint projects on the topics of youth, schools, community and biodiversity, all in the context of ESD. The Asia-Pacific RCEs have also envisioned engaging collectively on the overarching theme of well-being, through the launch of the *Sejahtra* (Well-being) Project. The Project is currently at the conceptualisation stage.

Asia-Pacific RCEs also contribute towards other responses of the UNU to the aspirations of the UN DESD, including the strengthening of ESD activities of Higher Education Institutions (HEIs). A number of lead institutions of RCEs in the region are members of the Promotion of Sustainability in Postgraduate Education and Research Network (ProSPER.Net), an alliance of several leading HEIs in the region that have committed to working together to integrate sustainable development into postgraduate courses, curricula and research programmes. ProSPER.Net is facilitated under the auspices of UNU-IAS.



THE WAY FORWARD

A vision for the future of the Asia-Pacific RCEs is to secure strong leadership, commitment, communication, and participation. These are keys to the sustainability of RCEs. For every RCE, there must be a core group of people, representing core organisations, serving as champions in pursuit of the RCE vision and mission. Leadership includes having an effective and efficient RCE decision-making structure. Furthermore, RCE stakeholders must be committed to invest time and resources, and their commitment must be institutional, not merely individual. Communication is another essential ingredient of sustainability — both intra-RCE communication (among members of the RCE) and inter-RCE communication (between RCEs at the continental and global scales). Lastly, sustaining RCEs entails wide participation of stakeholder organisations within the RCE and participation in continental and worldwide RCE activities.

*Mario T. Tabucanon
Visiting Professor, UNU-IAS
Professor, Asian Institute of Technology*

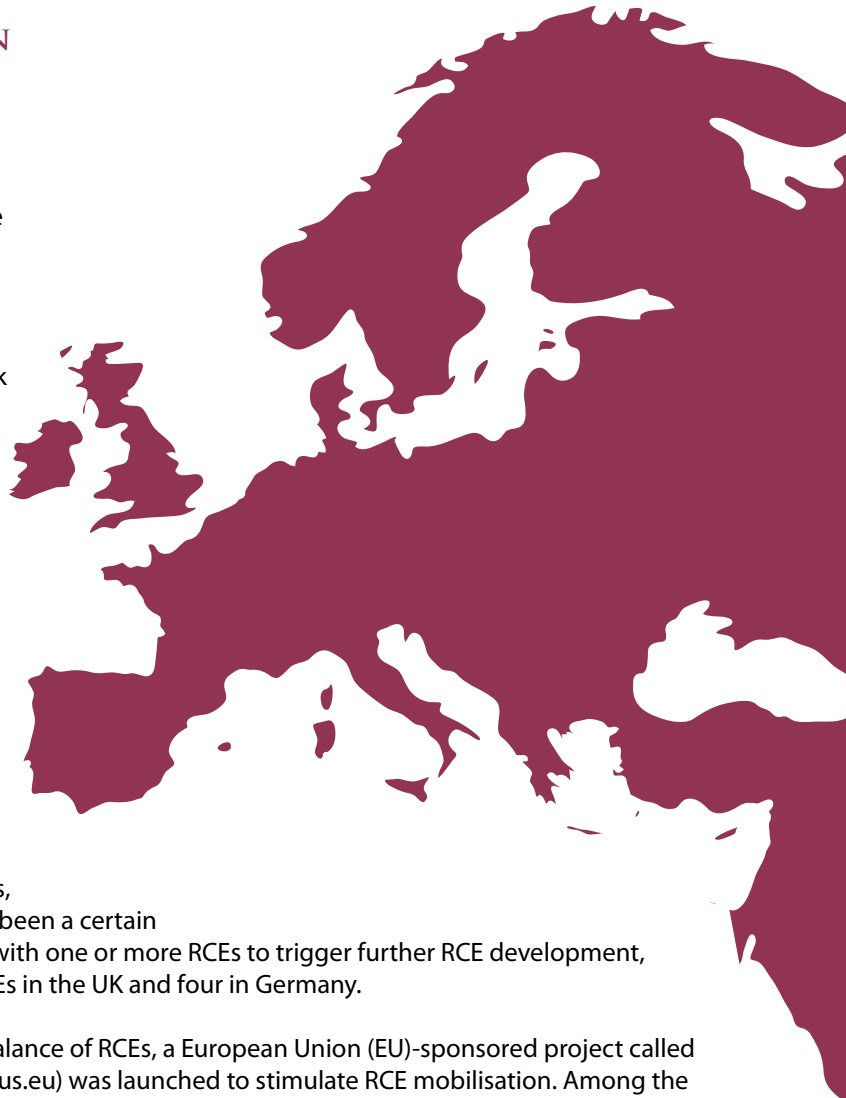
RCE development in Europe

INTRODUCTION

The history of RCEs in Europe is, like on other continents, rather short. The first two RCEs, RCE Rhine-Meuse and RCE Barcelona, were acknowledged in June 2005. Other RCEs were established soon after. The network in Europe grew fast, although mainly in the north-western part of the continent, which has twelve RCEs. The southern and eastern parts of Europe are under-represented, with three RCEs in Portugal and one in Spain. This imbalance of RCEs in Europe is mainly due to the fact that initiating RCEs has until now been mainly left to private initiatives, and because there has been a certain tendency in countries with one or more RCEs to trigger further RCE development, as shown by the six RCEs in the UK and four in Germany.

In response to the imbalance of RCEs, a European Union (EU)-sponsored project called 3-LENSUS (www.3-lensus.eu) was launched to stimulate RCE mobilisation. Among the existing ESD networks, this project involves RCE Graz-Styria and RCE Rhine-Meuse and supports the creation of RCEs in the Mediterranean and Eastern Europe.

The quality of RCE applications in Europe has been high. At the last meeting of the Ubuntu Committee of Peers, which reviews applications, six out of seven applications from Europe were approved.



A COMMON IDENTITY

European RCEs have a lot in common. Their last strategic discussion, held in May 2009 identified several similar ESD challenges. Bridging the gap between society and education through community exchange, rethinking the economic paradigm and getting involved in political discussions; and exchanging and maximising learning between Europe and Africa were seen as issues to be pursued.

If one could say that there is a common European identity in RCE development, it is most certainly to be found in the emphasis that is being laid on programmes for young people and the importance that is generally laid upon taking part in political discourse in the continent. The shared interests and challenges faced by European RCEs have led to ESD actions such as programmes oriented to youth and children's development, like UNEP's Youth Xchange Programme in Nizhny Novgorod, Russia; publishing education and sustainability magazines, such as the one of RCE Barcelona; getting involved in shaping national and international ESD policies, including EU policy; and developing student and staff exchange programmes between Europe and Africa.

The robustness of the European RCE network has been proved at the annual European RCE meetings that have been held on a voluntary basis since 2007, when the first European RCE meeting was held in Malmö, Sweden.

RCE COORDINATION AND CONTRIBUTION

It is generally agreed that a coordinating unit to support RCEs is needed in Europe. A coordination unit for European RCEs could help in cooperation with the EU, in fundraising, to interlink with other existing networks in Europe, to promote communications between RCEs and with society, and to promote RCE mobilisation in countries which have few or none.

To understand the value of a strong European network of RCEs with a coordinating unit, it should be taken into account that the EU is one of the strongest political organisations in our world today when it comes to coordinating national policies with international cooperation. The best way to promote the RCE concept in Europe would therefore be to support the development of European policy on ESD. The RCE network has, as of January 2010, offered assistance to the EU's ESD experts. Organising site visits to demonstrate local and regional best practices would be another form of assistance. As the EU prepares for its 2013-2020 governing period, the European RCE network has proposed that it be consulted as an expert to help prepare policy papers, develop EU strategies on ESD, bring in experiences from all over Europe, link knowledge institutions, and reflect on how to interlink EU policies on ESD with associated partners within the framework of the European Neighbourhood Policy that governs non-EU countries.

ADDRESSING ESD ACROSS BORDERS

A few European RCEs are working with RCEs and networks from outside the continent. European policies, particularly the European Neighbourhood policy that aims to stimulate cooperation with countries in Eastern Europe and North Africa, and the EU-African policy that aims to develop cooperation between Europe and sub-Saharan countries, stimulate such inter-continental cooperation. Issues of interest for inter-RCE cooperation include sustainable production and consumption, ESD and youth, and sustainable energy.

European RCEs
have been active
in supporting the
development of
EU policies and
strategies on
ESD.



© RCE Graz-Styria
Intergenerational course on sustainable development —
students and regional actors working on sustainability scenarios



THE WAY FORWARD

There is a strong belief among European RCEs that a real contribution can be made on ESD in the region. According to the EU, this is a time of deep transformation for Europe, and the European RCE community is determined to play an active role in this process. As the RCE community grows, new members will be needed in under-represented regions, particularly in southern Europe and in new EU member states.

Jos Hermans
Coordinator of European RCEs

RCE development in North and Central America

INTRODUCTION

The development of RCEs in North and Central America has been a tale of surmounting significant geographic, linguistic, and institutional challenges. The North and Central American region is vast, with densely populated urban areas separated by large areas of relatively sparse settlement. At the same time, not only are there three major linguistic groups present on the continent (English, French, and Spanish) but each country also has significant indigenous populations with distinct languages and cultures. These features create challenges for communication and sharing of educational resources. Finally, the countries of Canada, Mexico and the USA are all federal states with the responsibility for aspects of education and the environment falling at a state or provincial level. This requires additional coordination among national and state governments. Nevertheless, these barriers to collaboration ultimately serve as opportunities for RCEs to advance new avenues for sharing ideas and resources that would not otherwise occur. RCEs serve as useful bridging organisations which enlist support from multiple organisational partners for ESD.



HISTORY OF RCE DEVELOPMENT IN NORTH AND CENTRAL AMERICA

As of January 2010, there were eight RCEs recognised within North and Central America. The RCE concept has advanced more easily where the United Nations is viewed quite highly, such as in Canada. RCEs have also taken root more easily where they have been built on existing relationships and networks committed to ESD.

National levels of government on the continent have been key players. Environment Canada has contributed over 1 million CAD toward the Decade to date. In addition to its leadership in documenting ESD projects and developing indicators, Environment Canada hosted two scoping exercises, one in Montreal and one in Halifax, Canada, to determine whether having an RCE was feasible, with RCE Montreal subsequently being developed.

Provincial governments have also played a role. While RCE Saskatchewan (Canada) had leadership emerging principally from its higher education partners (initially a sustainable campus group at the University of Regina), during its first two years substantial funding for its main activities was provided by the Government of Saskatchewan's Ministry of Environment. Some RCEs, such as RCE Saskatchewan and RCE British Columbia (North Cascades) have benefited from having shared members with provincial ESD working groups under the auspices of Learning for a Sustainable Future (LSF).

City governments with local partners have also played a key role in RCE formation. For example, a key partner in forming RCE Grand Rapids was the City of Grand Rapids, Michigan. The City of Greater Sudbury likewise played a key leadership role in the formation of RCE Greater Sudbury by organising its Healthy Community Cabinet which, along with its organisational members, forms the basis of the RCE's governance structure. Similarly, the City of Montreal was a leader in establishing RCE Montreal, a goal set out in the 2007-2009 phase of Montreal's First Strategic Plan for Sustainable Development. Inter-university leadership was also involved in its formation. RCE Western Jalisco (Mexico) relied on existing research organisations with established extension work within their communities, specifically, the Manantlán Institute of Ecology and Conservation of Biodiversity (IMECBIO) and the University of Guadalajara's South Coast Campus's Department for the Study of Coastal Zone Sustainable Development (DEDSZC). These organisations work with a collaborative group of municipalities in the region.

CONTINENTAL IDENTITY

A continental identity has emerged in North and Central America based on the common need to network at a continental scale as opposed to possible factors that might be the basis for such a unity elsewhere, such as a shared language, culture, or institutional frameworks. A pragmatic motivation for information and resource

The development of RCEs in North and Central America has been a tale of surmounting significant geographic, linguistic, and institutional challenges.



© Crystal Stinson/RCE Saskatchewan

Unveiling of RCE Saskatchewan's interpretive board in Craik, Saskatchewan



© D.Weisbrot/RCE Saskatchewan

Examining Native Prairie at the 2008 RCE Conference of Americas

sharing around common concerns is evident and the geographic distance between RCEs in the Americas necessitates intentional continental collaboration. Common concerns have included a need for collaborative work on ESD training programmes and exchanges between RCEs. Specific themes of importance for the continent have been identified, including advancing youth involvement in RCEs, biodiversity, and formation of communities of practices (social learning) for sustainability. The continent's diversity of languages has made mobilising resources to translate and find vehicles for sharing these resources, such as e-learning, a priority.

Despite their recognised value, RCEs in the Americas have generally faced limited resources for their activities. The inter-regional networking made possible by forming a continental identity offsets this lack and provides a means for collectively leveraging resources.

PROMOTION OF THE RCE CONCEPT

The RCE concept has been promoted by allowing conference structures to be open to participation by those who are not formal members of an established RCE. For example, the continental meeting held at the Montreal RCE Conference included individuals who had participated in the Fifth World Environmental Education Congress immediately preceding the RCE Conference. These individuals had developed an interest in the RCE concept based on presentations made by RCE members on a variety of sustainability topics at the Congress. The RCE concept has also been promoted by governments to achieve specific goals. Environment Canada has provided in-kind support to Canadian RCEs to collaborate in raising public awareness of the International Year of Biodiversity (2010) and advancing biodiversity projects.

At a regional level, a number of activities have helped promote the RCE concept. There has been growing interest in the ability to promote sustainability at a regional scale. Following the lead of RCE Grand Rapids (USA), Community Sustainability Partnerships (CSP's) are now found in other communities in West Michigan.

The RCE concept has also been promoted through ESD recognition events. These events showcase local initiatives and include the Healthy Community Recognition Awards of RCE Greater Sudbury and the ESD Recognition Program held annually by RCE Saskatchewan. Other RCE events include conferences on specific ESD issues, frequently hosted by Higher Education partners and open to the public, supplemented with general RCE gatherings, annual meetings, or community engagement sessions. These help set directions for RCEs and provide the broader public with information on RCE activities and ESD issues. For example, RCEs are also profiled in other networks. RCE Montreal participates in the Sustainable Development Plan of Montreal while RCE Saskatchewan participated in formal hearings of Saskatchewan's provincial legislature on Saskatchewan's energy future.

RCEs also frequently rely on their internet presence to communicate and attract interest. Use of interactive content management systems allow RCE members to post documents, photos, and upcoming events, send e-mails to RCE members and working groups, respond to surveys and engage in opinion polls on specific issues.

INTER-RCE COMMUNICATION, CONNECTION, AND CROSS BORDER NETWORKING

Within North America, the federal systems of government enable strong state and provincial governments with significant jurisdictional control and autonomy. This means cross-border networking is needed as much between state and provincial boundaries as between countries. While a number of conferences hosted by RCEs in the Americas have taken place, significant amounts of networking are, of necessity, technologically mediated. Resources have also been translated and shared between RCEs. Additional inter-RCE networking takes place through participation in periodic publications of the UNU-IAS. RCEs in North America often learn about each other's activities through participation in the UNU-IAS' RCE Bulletin. The RCE Bulletin is, in turn, promoted on local RCE websites.

RCE PROJECTS IN NORTH AMERICA

ESD projects implemented by RCEs in North America exemplify diverse forms of education (formal, non-formal, and informal) while building on historic sectoral leadership of the regions represented. RCE Grand Rapids (Michigan), for example, has shown leadership in the formal education sector with sustainable development programmes implemented in four of its local colleges and universities. RCE Greater Sudbury recently completed a Biodiversity Action Plan for Greater Sudbury. This plan includes a Biodiversity Forum that aims to raise public awareness about biodiversity and connect the citizenry with local groups having expertise in this area.

RCE Montreal has worked with both governments and universities to develop its Eco-Leadership for Young Workers programme. This programme has been undertaken in conjunction with the City of Montreal, the Biosphere of Environment Canada, and ICI Environment, a network of universities in Quebec specialising in engineering and technology for sustainable development. It aims to support young adults aged 18 to 30, who have already proven their leadership in the workplace, to advance a sustainable development initiative of their choosing. The programme helps them define their project and acquire mentorship and training from specialised institutions.


RCE Western Jalisco (Mexico) has participated in the creation of an inter-municipal agency involving ten member municipalities in the Ayuquila River watershed. This decentralised public agency, Mexico's first rural inter-municipal environmental agency of its kind, has actively advanced the creation of recycling facilities for solid waste and accompanying educational programmes. The RCE is also a leader in the Americas in actively using the mass media, including radio, television and newspapers, to educate the public on sustainable development and extend the reach of its ESD projects.



CONCLUSION: VISION FOR THE WAY FORWARD

Each of the RCEs sees itself on its own sustainability journey with distinct challenges. The documentation of these journeys is not simply an academic exercise but allows for the mutual sharing needed for ongoing improvements, innovation, and capacity development at a continental scale. Such sharing also provides recognition and invites participation. RCEs in North and Central America have a number of distinct challenges related to geographic distance, language differences, and varying jurisdictional responsibilities and degrees of institutional support for ESD. These needs, at the same time, provide strong incentives to promote inter-RCE collaboration and new RCE development on the continent.

*Dr. Roger A. Petry
Luther College at the University of Regina
and Co-coordinator of RCE Saskatchewan (Canada)*



The RCE initiative was initially introduced in Latin America in 2006 in an event organised by UNU-IAS in conjunction with the eighth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD-COP8) in Curitiba, Brazil. RCE Curitiba-Paraná was the first RCE established in the region, in 2007.

The model of RCEs was later discussed in regional educational conferences such as the Latin American Conference on Sustainable Universities (Encontro Latino Americano de Universidades Sustentáveis) in Brazil in 2008 and the Regional Conference on Higher Education in Latin America and the Caribbean (CRES) in Cartagena, Colombia, in 2008, which led to the establishment of three more RCEs in the region. The next phase in RCE development in Latin America will be the facilitation of RCEs in other areas of the region, particularly the Caribbean.

Latin and Central America currently have five RCEs: RCE Curitiba-Paraná, Brazil; RCE Western Jalisco, Mexico; RCE Guatemala; RCE Bogotá, Colombia; and RCE Chaco in Argentina. In a continent where regional movements usually take several years to establish themselves, the early growth of RCEs is remarkable. One of the main reasons that the concept has taken hold fairly early is the RCE capacity to engage multiple partners. The RCE concept is also flexible enough to allow the creativity of partners in implementing actions according to the characteristics of the institutions and the needs of the region. Furthermore, the model allows non-traditional educational partners to contribute, thus giving an added value to educational mechanisms in a region where dialogue has at times been restricted due to political constraints.

RCE development in Latin America

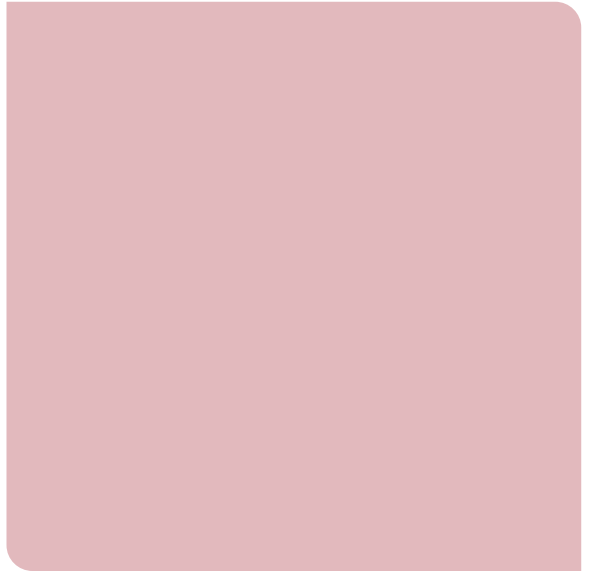
Latin and Central American RCEs need to strengthen links among themselves and globally through common themes such as traditional knowledge, urban development, teacher capacity development, environmental justice, and poverty alleviation.



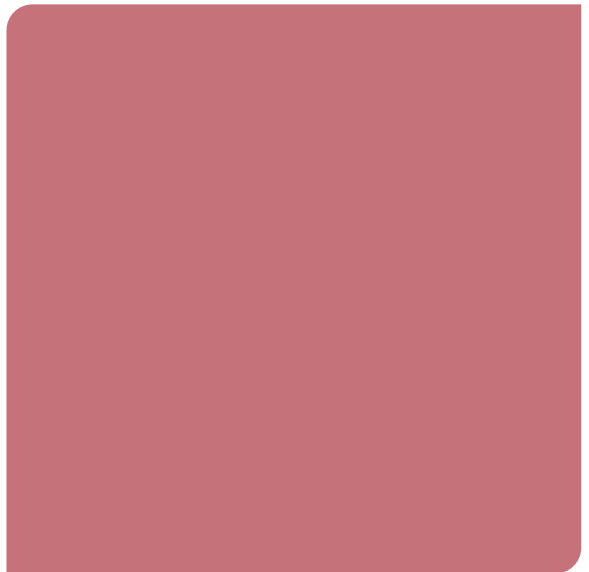
© S. Aipanjiguly
Curitiba



© S. Aipanjiguly



© S. Aipanjiguly



RCE PROJECTS IN LATIN AMERICA

Many Latin American ESD activities are related to poverty alleviation, disaster management and food security. Unique contributions of RCEs have been in the areas of transformative education, community outreach and synergetic projects that take into account the environment, economy and community development. An interesting project implemented by RCE Guatemala proposes to introduce ESD into the current education system and increase education access for indigenous communities. RCE Bogotá's activities include the application of innovative models and theories of education to address community development issues in Ciudad Bolívar, the most violent and impoverished urban zone of metropolitan Bogotá. RCE Western Jalisco, in central Mexico, is working on research and environmental education that integrates formal and non-formal education, to address local natural resource management issues, in combination with social environmental justice and community development. RCE Curitiba, in Brazil, focuses on educational activities for environmental protection and urban development.

THE FUTURE

RCE development involves the mobilisation of new RCEs while strengthening existing ones. Stakeholders of RCEs in Latin America have rich experience in education and research as well as in environmental issues, but need to develop organisational capacities for project formulation and management, and programme development and implementation. Skills in communication, negotiation and fundraising are also needed. A task for the region would be the creation of communication mechanisms to optimise efforts and increase their impact. Meetings and publications are the typical means of communication to inform and engage theoreticians, researchers, educators and practitioners, but other mechanisms to exchange information will need to be explored. For instance, RCE Guatemala has plans to use non-commercial and educational radio programmes to promote ESD widely, particularly in communities with difficulties accessing educational institutions.

RCE development in Latin and Central America will also need links with transnational initiatives which focus on government leadership and resources for sustainable development. The Central American Alliance for Sustainable Development (ALIDES) aims to build a strategic sustainable development regional agenda. This framework has helped the integration of ESD into national plans, including attempts to secure the Ministries of the Environment active participation in delivering ESD in their respective countries.

Development of RCEs could also involve linking with networks of educational institutions implementing environmental education, with the support of international organisations such as the United Nations Environment Programme (UNEP), Latin American Faculty of Social Sciences (FLACSO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). FLACSO has programmes in scientific research, higher education and capacity development of governmental personnel and non-profit organisations, while UNESCO has taken up the DESD agenda in Latin America, mainly with the governments, and has promoted networks of higher education institutions such as the Latin American and Caribbean Higher Education Area (ENLACES) which focus on higher education policy.

Further development of RCEs in the region will need to involve strengthening the links between other RCEs in the continent and globally, through common areas of interest such as traditional medicine, traditional knowledge, urban development, school development, teacher capacity development, ESD research, environmental justice, poverty alleviation, and indigenous communities.

RCEs are capable of developing ESD strategies to deal with the various educational challenges. For instance, in higher education, RCEs have the potential to implement new strategies for capacity development of teachers, university policy, community outreach, and in greening the curriculum. RCEs can also help in linking international organisations with local stakeholders. They can also be mechanisms for the validation of higher education programmes as they involve various stakeholders in developing actions for solving problems related to development.

RCEs will continue to grow and develop in Latin America as they create a space for participation and commitment from diverse sectors which have not always sat at the same table before.

Miguel Chacon
Former JSPS-UNU Postdoctoral Fellow

RCE development in Southern Africa



Today's most urgent global issues require responses that go beyond awareness raising to those that support social processes which enable change and different ways of living on the planet. These responses can be achieved through engagement with local and regional communities of practice on ESD. This is especially possible through having a readiness to share practices, skills, expertise and experiences and to continuously learn from each other. It is with the above in mind that the Southern African Development Community

Regional Environmental Education Programme (SADC-REEP) is supporting the establishment and strengthening of Regional Centres of Expertise (RCEs) to enable diverse communities of practice to work together and promote ESD activities. Towards this end, SADC-REEP has raised funds from the Swedish International Development Cooperation Agency (SIDA), which provides seed funding for initial stakeholder consultation towards the establishment of RCEs in every SADC country.⁶

Currently there are five recognised RCEs in the region: RCE Swaziland, RCE Maputo in Mozambique, RCE Zomba in Malawi, and RCE Makana and RCE KwaZulu Natal in South Africa. When establishing RCEs, the concept is shared and deliberated upon by a number of potential stakeholders in various forums or meetings to mobilise commitment. This is followed by further stakeholder consultation to consider the RCE's governance structure, vision and goals.

The existence of communities of practice structures in the region makes the establishment of RCEs easier, since RCEs are essentially ESD communities of practice and RCEs build on what already exists and encourage sustainable practices. For instance, there are a number of networks in the region that are geared towards the promotion and sustainable utilisation of resources to promote the livelihoods of people who depend on natural resources.

RCE NETWORKING IN THE SADC REGION

The SADC-REEP supports existing networks and processes, and encourages the inclusion of institutions dealing with ESD. RCEs meet through a number of regional conferences, such as the one organised by Environmental Education Association of Southern Africa (EEASA), at workshops, trainings and other meetings to share different practices in their efforts to promote ESD. In 2008, for example, RCE Swaziland played an active role in supporting the EEASA conference which took place at the University of Swaziland and a number of other countries were encouraged to establish RCEs. RCE presentations have featured high on the agenda during such regional conferences and workshops.

RCEs AND ESD ACROSS THE REGION

The regional approach to RCEs as networking institutions seeks to strengthen those communities of practice which aim at providing a potential forum for deepening educational knowledge and expertise in response to community issues. Time and again it has been emphasised that simply establishing an RCE as a community of practice to work together on addressing issues of concern in a particular domain of interest is not enough; instead it is necessary to ensure that the established institution functions effectively.

In general terms, RCE networking in the region involves promoting regular meetings and striving to engage with people's attitudes, values and behaviours by asking ESD practitioners to:

- Broaden their work from action to better action.
- Move from footprint measurement tools that look at the negative impacts of human actions to hand print measures that look at positive steps towards sustainability. This approach has been in a joint RCE partnership with CEE, which coordinates five RCEs in India.
- Encourage research programmes that are applied and practical.
- Promote and apply appropriate and relevant indigenous technologies.
- Seek and develop new technologies that impact gently on the planet.

RCE LINKAGES AND INFORMATION FLOW

The various RCEs in the region focus on different areas of sustainable development. For example, RCE Swaziland focuses on promoting and facilitating access to innovative approaches to education for environment and sustainable socio-economic development. RCE Maputo in Mozambique focuses on creating a society imbued with social and cultural values as well as scientific knowledge that supports sustainable principles of development.

RCE KwaZulu Natal has a broad view and encourages a wide range of partners to work together on sustainability practices; particularly encouraging efforts to seek and develop conceptual depth in ESD. RCE Makana and Rural Eastern Cape aims to develop and share expertise for improved and co-ordinated education and training responses to issues and risks that affect the wellbeing of people and the environment.

RCE Makana and Rural Eastern Cape is an example of an RCE which has identified specific ESD areas to focus on, and involves various stakeholders to provide a learning space as a community of practice. RCE Makana is working on six areas in trying to address their objectives:

- i. Teacher education: developing modules for teachers to bring out the environmental and sustainability focus in various learning areas.
- ii. Education quality: monitoring education quality and policy responses, and supporting community aspirations to quality education.
- iii. Schools and sustainability: promoting school involvement in various programmes and sustainability through the school curriculum.
- iv. Youth and service learning: examining how youth at risk can be engaged in ESD learning processes and exploring learning opportunities for vulnerable youth.
- v. Workplace-based learning: helping people learn about their workplace and how they can make their daily activities sustainable.
- vi. Biodiversity, culture and health: exploring greening education programmes.

The existence of communities of practice structures in the region makes the establishment of RCEs easier, since RCEs build on what already exists and encourage sustainable practices.



WAY FORWARD

As more RCEs are established and the older ones continue to implement ESD activities in various countries in the region, the SADC-REEP's interest is to work with them and see how practices, skills, expertise and knowledge can be shared. As people meet regularly to share their practices and learn together, ESD responses will become clearer. If differing communities of practice work together in various contexts, the dream of a more sustainable future could just become a reality.

Dick D. K. Kachilonda and Jim Taylor
SADC-Regional Environmental Education Programme

Thematic networks of RCEs

The strength of an RCE network lies in the diversity of people involved: schoolteachers, professors at higher education institutions, NGO workers, scientists, researchers, museum curators, specialists at zoos and botanical gardens, government officials, local enterprises, media, civic associations, students and learners at all levels. These diverse groups are brought together by RCEs to address capacity development for sustainability challenges.

As UNESCO's Mid-Decade Review Report states,

The networked Regional Centres of Expertise, supported by UNU-IAS, may serve as an example of how different local groups in society, who do not ordinarily work together but are bound by mutual sustainability issues, find themselves working creatively towards their improvement.

(UNESCO, 2009, p.56)

The RCE initiative is the only global initiative for multi-stakeholder social learning launched in response to the DESD. Not only is an individual RCE an innovative platform for learning across knowledge and administrative boundaries within a particular local region, the network of RCEs serves as a platform for Research and Development (R&D) along thematic lines and across geographic boundaries.

As of March 2010, 75 RCEs have been officially acknowledged by UNU. When Information and Communication Technology (ICT) and international meetings bring together RCEs from different parts of the world, the potential of RCE as a platform for trans-boundary learning is greatly enhanced. The global network of RCEs enables RCEs to exchange information and knowledge and conduct R&D internationally. For example, a project financed under the Life Long Learning Programme of Erasmus (3-LENSUS) involves the partner institutions of three RCEs. The 3-LENSUS Project links its activities with a process of revitalisation of the Copernicus Campus — a network of European universities working towards sustainable development through knowledge and expertise sharing.

The 3-LENSUS project (www.3-lensus.eu) focuses on education, research and innovation for regional sustainable development. The project will create a network for ESD and a European Virtual Learning Space to share and maximise innovative approaches among regional learning networks for sustainable development, build capacity for furthering these activities and offer lifelong learning activities for regional sustainable development. 3-LENSUS addresses the need for (1) crossing borders of academic and non academic learning towards contextualised, holistic lifelong learning; (2) self-directed learning possibilities for competence development; and (3) transdisciplinary settings to make knowledge effective in real-life situations.

It is noteworthy that RCEs combine their forces to support R&D activities across RCEs. Even when joint fund-raising efforts are unsuccessful, the joint efforts encourage RCEs to learn from one another, share resources, articulate their agendas and form communities of practice.

Thematic groups of RCEs are often initiated voluntarily by RCEs themselves, but the Global RCE Service Centre also supports the development of thematic networks by giving conceptual input into project formulation, linking RCEs with relevant international processes, and enabling face-to-face international consultations among RCEs. One example of face-to-face consultation is the side-event planned to be held by the thematic group on biodiversity at the Tenth Conference of the Parties of the Convention on Biological Diversity (CBD-COP10) in Nagoya in 2010. In preparation for this side-event, RCEs have an opportunity to think through the unique contributions ESD can make to address biodiversity issues in general and the contribution that RCEs can make to the CBD process in particular.

RCE Thematic Groups

- **E-learning:** RCEs promote self-directed learning to build competencies and capabilities for sustainable development.
- **Sustainable Consumption and Production:** Through learning facilitated by RCEs, producers, consumers and policy influencers discover new, sustainable systems of consumption and production.
- **Teacher Training for ESD:** RCEs help educate teachers and administrators in learning for sustainable development.
- **Biodiversity, ecosystems and ESD:** RCEs foster education that helps balance the well-being of both ecosystems and communities.
- **Youth and ESD:** Through learning promoted by RCEs, youth become both recipients and agents of change for sustainable development.
- **Health and ESD:** RCE activities focus on building community resilience and enhancing the capacity of universities in engaging with communities on health issues.

In addition to the themes listed in the previous page that have been discussed in more than two working group meetings since 2007, RCEs have discussed or proposed to initiate a group on important themes such as Poverty and Environment, Climate Change, the Role of Higher Education Institutions in ESD, and Faith Organisations and ESD.

Among thematic groups of RCEs, the one on health is the most advanced in terms of articulating agendas across RCEs through a number of international consultations. The following pages provide a more detailed account of two of the most active thematic networks: (1) Health and (2) Sustainable Production and Consumption (SCP).

THEMATIC NETWORK ON HEALTH

Vision and objectives

As stated by the World Health Organization,

Health is both a resource for, as well as an outcome of, sustainable development. The goals of sustainable development cannot be achieved when there is a high prevalence of debilitating illness and poverty, and the health of a population cannot be maintained without a responsive health system and a healthy environment. Environmental degradation, mismanagement of natural resources, and unhealthy consumption patterns and lifestyles impact health. Ill-health, in turn, hampers poverty alleviation and economic development.

The vision of the thematic network on health is to contribute towards development of an integrated and holistic health system that is effective, indiscriminative and accessible. The network has three objectives:

- To utilise ESD principles to improve education in the health system.
- To facilitate collaboration with international organisations dealing with capacity development for health professionals and local communities.
- To contribute to capacity development at different levels in creating an enabling environment at institutional and organisational levels.

So far, apart from international and regional RCE conferences, RCEs have had four occasions to meet face-to-face to advance the work of the thematic network on health: Kota Bharu, Malaysia in 2008; twice in Yokohama in 2009; and Bangalore, India, in 2009.



© Theeradetch U

At the International Conference of Traditional Healers held in Bangalore, India, in November 2009

The Kota Bharu and Yokohama consultations

The Kota Bharu meeting, held in Malaysia in May 2008, involved discussing and identifying major challenges and opportunities in the area of ESD and Sustainable Health. Participants also worked on the scope, objectives and strategies of the network and immediate follow ups. The two day programme also included discussions on the resources and partners that can be mobilised. This meeting was attended by 13 RCEs, the UNU-International Institute of Global Health (UNU-IIGH) and the Asian Institute of Technology (AIT).

In January 2009, three RCEs located in Asia, namely, RCE Penang (Malaysia), RCE Cebu (Philippines) and RCE Yokohama (Japan), met in Yokohama to deliberate on four thematic areas: (1) Reorienting medical curriculum to address sustainability and health education reform; (2) Revitalising and integrating traditional knowledge; (3) Ethical recruitment of international health professionals and migration issues; and (4) Food and health. These three RCEs met again in Yokohama in August 2009 to discuss the role of universities in sustainable health and possible linkage programmes for ESD human resource development. Following up on the earlier workshop, three topics were included in the discussions at the August meeting:

- Health, nutrition, food and lifestyle;
- Linking traditional knowledge with modern medicine and healthcare;
- Education and training of health professionals.

In addition, in the framework of collaboration among three RCEs, three universities, Universiti Sains Malaysia (RCE Penang), the University of the Philippines (RCE Cebu) and Yokohama National University (RCE Yokohama), are running summer student exchange programmes focusing on Environment, Health and Sustainability.

RCE planning workshop on traditional medicine

Representatives of eight RCEs discussed and developed projects on ESD and traditional medicine at a two-day planning workshop held in Bangalore, India, on 21 and 22 November 2009. The RCE Planning Workshop on Traditional Medicine and Health was held back-to-back with an international exchange and conference of traditional healers, in which practitioners from 18 countries participated. The conference and workshop were organised by FRLHT (Foundation for the Revitalisation of Local Health Traditions), ETC-COMPAS, UNU-IAS and other partners.

This workshop followed meetings of the thematic group on health held in Kota Bharu and in Yokohama. It was held to deliberate upon issues related to ESD, health and traditional medicine; to integrate existing traditional medical resources in selected RCEs to develop sustainable health care; and to develop a global framework for RCE activities on the topic. Participating RCEs from Bangalore, Cairo, Cebu, Kodagu, Kyrgyzstan, Makana, Penang and Yogyakarta, presented ideas for projects related to primary health care, medicinal plant conservation and sustainable livelihoods through traditional medicine, and discussed potential collaboration.

Way forward

Based on deliberations in Kota Bharu, Yokohama and Bangalore and ICT-facilitated communication among RCEs, the thematic group on health is currently developing joint project proposals to be submitted to funding agencies.

THEMATIC NETWORK ON SUSTAINABLE CONSUMPTION AND PRODUCTION

Many challenges of (un)sustainability are related to the ways societies produce and consume goods and services. In recognition of these challenges, RCEs promote a range of educational and developmental activities designed to lead to more Sustainable Consumption and Production (SCP) practices in their regions.

The box in the following page describes some RCE actions to promote SPC.

SCP PRACTICES

The Sharing Productive Capital Project is an applied research project led by **RCE Saskatchewan** with the support of Luther College at the University of Regina, the University's Department of Computer Science, and the Craik Sustainable Learning Project. People and organisations in the region volunteer productive capital, such as machines, tools and buildings, while software is used to keep track of the available assets. Participants in the project learn about their place in the systems of consumption and production and about opportunities for delivering services in the community.

RCE Skåne facilitated a project that aims at developing knowledge of partners in the municipality of Malmö about sustainable food systems. Malmö is Sweden's first Fairtrade certified municipality. The project unfolded around the ambition of increasing the amount of organic food in school meals. Under this project, while the municipality, suppliers and schools worked on the development of a new organic food supply-chain, parents and pupils learned about SCP and food at home, using specially produced materials. Conferences and training of teachers focused on food and sustainability. A process of certifying Malmö as a fair-trade city contributed to multi-level actions and learning for SCP.

In its efforts to develop an SCP system that would serve the needs of economically poor communities, **RCE Penang** developed a project linking Universiti Sains Malaysia (USM) with local farming villages. Worm-enriched soil technology developed by USM and implemented by communities led to the manifold increase in soil productivity in the villages.

In addition to addressing their local challenges, RCEs exchange information on their practices through articles published in the RCE bulletin, academic articles and discussions at international meetings, including Global RCE Conferences. Not surprisingly, such interactions lead to the formation of cross-RCE projects and action plans. For example, 12 RCEs from Europe, Asia, North and South America recently decided to join forces to analyse how the concept of SCP can be effectively implemented with a combination of innovative educational approaches. They subsequently designed a project: Education for Sustainable Development Community-Based-Research on Local-International Production Systems (ESD-CLIPS). This one-million Euro project focuses on engaging schools in learning about good systems in the region and across the supply chains of essential grains and beans. As of April 2010, this project is under negotiation with European Union.

Way forward

The SCP theme is closely related to the thematic area of Health and Traditional Knowledge. If the SCP theme tends to resonate more with a developed country perspective on sustainable development, the Health and Traditional Medicine group focuses more on sustainable livelihoods in developing countries. Interaction across these themes will enable RCEs to address the intertwined issues of SCP and livelihoods of communities in a more coherent manner and to accommodate the perspectives and needs of both developed and developing countries.

REFERENCES

UNESCO (2009). *Review of Contexts and Structures for Education for Sustainable Development: Learning for a Sustainable World* (Prepared by Arjen Wals), Paris: UNESCO.

WHO (2010). *World Summit on Sustainable Development*. [Online]. Available at: <http://www.who.int/wssd/en/>

3. Some Reflections on How RCEs Work



A view from India: RCE Pune and RCE Kodagu

INTRODUCTION

Of the 75 Regional Centres of Expertise (RCEs) on ESD around the world, six are in India. Whereas in most cases the initiative to set up these networks of expertise to address local/regional issues was taken by institutions of higher education, in India, so far, all of the six RCEs have been initiated by NGOs; five by the Centre for Environment Education (CEE) and one by The Energy and Resources Institute (TERI).

This article draws upon examples from two of the older Indian RCEs, RCE Pune and RCE Kodagu, to describe how groups have come together, how they have worked to implement certain RCE activities, and what have been some of the benefits of this mode of working and some constraints faced by these RCEs. Development of both RCEs has been facilitated by CEE. In both places CEE leveraged networks that already existed to create the RCEs, and also invited other stakeholders to participate.



RCE PUNE

The city of Pune has a history of civic action, with individuals and organisations often coming together for various causes under new banners. In 2005, one such group came together out of their concern for the sustainable development of Pune city. Called the Development Planning (DP) Coalition, its members converged to work in diverse sectors such as slum rehabilitation, waste management, informal economy, traffic and water to influence the development planning processes in Pune. This was the base network for RCE recognition.

Having identified the local priority concerns, this coalition has spawned other forums and networks for facilitating ESD for sustainable urban development in Pune, each with a common mandate but different focus. The composition of stakeholders changes depending on the focus and the issue. For example, the Pune Citizens' Environment Forum (PCEF) was set up to harness citizens' efforts for improving local governance. CEE took the lead in inviting members of the DP Coalition as well as others. The PCEF helped evolve indicators for the reporting framework for the mandatory Environment Status Report (ESR), and a core group worked closely with the Pune Municipal Corporation (PMC) Environment Department to prepare the report.

At one of their meetings, PCEF members decided that a separate group should be set up to deliberate on ESD and to advise or work with the other sub-groups of PCEF. One of the sub-groups, Concerned Citizens for Municipal Schools (CCMS), focuses on education. Its members include a rag-pickers' union; NGOs such as CEE; the University of Pune Education Department; a researcher from the Political Science department of the University of Pune; and other concerned individuals. The group focuses on topics such as quality education, testing, budget allocation for primary education and its effective use, and infrastructure for water and sanitation. It thus addresses the ESD goal of increasing access to quality education that is most needed in the regional context.

The concern with water and sanitation led to another partnership, this time between the Kirloskar Foundation (the Corporate Social Responsibility wing of Kirloskar Group, an engineering business house) and CEE in a programme called WASH (Water, Sanitation, Hygiene). The WASH programme, currently operational in nineteen municipal schools in Pune, seeks to facilitate improvements in water, sanitation and hygiene education, and in infrastructure and its maintenance in the schools, using a participatory approach. Engineers from the Kirloskar Group provide technical advice and act as volunteers in schools while CEE designs the educational inputs. In the context of creating a local network of agencies acting in concert for ESD, this programme has contributed to the RCE framework by

bringing in the expertise of a Corporate Social Responsibility (CSR) initiative towards transformative education.

Some instructors at the University of Pune, an RCE partner, work with local NGOs to identify projects that could help students to learn in real-world settings while also aiding NGOs to assist communities to achieve their goals. For instance, a group of economics students from the University of Pune was trained to assist citizens in the slums of Pune to become involved in a participatory budgeting exercise that enabled slum-dwellers to inform the Municipal Corporation about their priorities for allocation of government funds, and to also monitor public spending.



© RCE Lucknow
Key Resource Persons Training on Safe School Environment in Uttar Pradesh, India

Whereas in most cases the initiative to set up RCEs was taken by institutions of higher education, in India, so far, all of the six RCEs have been initiated by NGOs.

RCE KODAGU

In the region of Kodagu (Coorg), CEE worked on a project called *Coorg: an alternative model*. The project sought to conserve 80 per cent of the vegetation of this scenic, hilly, coffee-growing district in southern India while at the same time developing avenues for education and sustainable livelihoods based on nature and natural resources. Impressed by the holistic and participatory approach of the Coorg project, the International Model Forest Network in Canada invited local organisations and institutions to apply to form the Kodagu Model Forest Trust (KMFT) for the sustainable management of the forest landscape, natural resources and the distinct culture of Kodagu. In order to set up Kodagu RCE, CEE mobilised several organisations, including the trustee organisations. All partners had a stake in bringing about sustainable development in Kodagu. While the focus of KMFT was action, CEE was able to highlight the importance of education for sustainable development, drawing upon its previous work in Kodagu.

In Kodagu, stakeholders came together primarily because the inhabitants have a fierce sense of pride in their identity, culture and surroundings. Having become aware of what was possible, partly due to the achievements of the Coorg project, they wanted to contribute to the sustainable development of their district. Some of the activities taken up by various combinations of stakeholders unfolded in the field of ecotourism, school and college education, teacher training, solid waste management, training of government functionaries, women's literacy, livelihood options for youth and women, and organic coffee farming. These activities are consistent with the ESD goals of tailoring programmes to address regionally-specific issues and of promoting the long-term goals of ESD, such as environmental stewardship, social justice, and improvement of quality of life.

BENEFITS OF PARTNERSHIPS AND CONSTRAINTS FACED BY RCE PUNE AND RCE KODAGU

The RCEs of Pune and Kodagu have offered inclusive forums. Some stakeholders in these regions may be transient or intermittent members, depending on the activities being undertaken, but they all feel energised by working together. As a collective, stakeholders have gained strength from participating in RCE activities. For example, home-stay operators in Kodagu, by working together, have been able to keep out large commercial hotel and resort chains from this popular tourist destination.

In Pune, where informal and impermanent networks for addressing local concerns already existed, the relevance of the RCE as yet another inter-organisational initiative was initially questioned. But common interests and priorities drew stakeholders together, and

the RCE concept, as a long-term involvement with a formal though flexible governance structure, was accepted by stakeholders. The new and inclusive identity and work thrust of the RCE helped in bringing diverse groups together. Stakeholders recognised that partners bring expertise and field experience to the collective body, and that working together increases their ability to take stands, share work and avoid replication of efforts. As members of an identified network, there is comfort in sharing and using information owned or generated by other stakeholders.

While Pune has a history of networking for civic action, trust among partners does not come easy. There is local competition for funds, recognition and branding of activities. Experience also shows that stakeholders might be able to make time for short-term partnerships with well-defined tasks but not for long-term processes like improving governance. Diverse stakeholders find it easier to engage for specific common issues, but it is difficult to sustain their interest in something abstract and long term like ESD, where immediate returns related to their issue may not be visible. Where stakeholders are involved in very specific sectors, they often find it difficult to appreciate larger sustainability concerns.

Interestingly, in Kodagu previous interactions strengthened the renewed partnerships. In the past, various partners working with CEE on different projects had not known each other, nor did they think that they had much in common. The RCE provided a forum for these varied stakeholders to collaborate on different aspects of sustainable development of their district. Previous interactions also altered attitudes, and sceptics were more receptive and willing to collaborate with other stakeholders.

A major constraint experienced by the RCE stakeholders in Kodagu has been working with the district administration, which understands only the conventional meaning of development, and thus, by and large, is not very cooperative in the activities taken up by the RCE.

While common interests draw stakeholders together to form and work as an RCE, for the concept of RCE to work as envisioned, one needs a law-abiding, civic-minded, democratic, non-hierarchical society. The ideal rarely exists in the real world. Each RCE is a (net)work in progress, however, in which partners are learning the principles of democracy, tolerance, acceptance and team work. This, in addition to the work they are doing together, is indeed a significant contribution to moving towards sustainable development.

Kiran B. Chhokar
Programme Director of Higher Education
Centre for Environment Education, India



Beijing

Anji

Tongyeong

Incheon

Greater Sendai

Chubu

Yokohama

Hyogo-Kobe

Okayama

Kitakyushu

Regional Centres of Expertise in Japan

Japan is home to six RCEs, including two of the initial seven pilot RCEs launched at the 2005 UNU-UNESCO Conference on Globalisation and ESD in Nagoya, Japan: RCE Greater Sendai and RCE Okayama.

When the RCE initiative materialised in early 2004, various actors in Japan had already made efforts to promote Education for Sustainable Development (ESD). This was partly because the proposal for the Decade of Education for Sustainable Development (DESD) was made by the Government of Japan and by Japanese NGOs during the World Summit on Sustainable Development (WSSD) in 2002.

Indeed, in the initial years of mobilisation of RCEs, Japanese good practices such as a systematic ESD curriculum at Kesenuma Omose Elementary School in the Greater Sendai Region and the Okayama Kyoyama ESD Environment Project (KEEP) allowed UNU-IAS to talk about RCEs not simply as an abstract concept but also as practices on the ground. In RCE Greater Sendai and RCE Okayama, what was five years ago a localised good practice at one school, Kesenuma Omose Elementary School, and one *kominkan* (Community Learning Centre), Kyoyama Kominkan, is now being institutionalised and scaled up through the UNESCO Associated Schools Project Network (ASPnet) in the City of Kesenuma and in *kominkans* across the City of Okayama.

Some might consider Japan a monolithic, homogeneous society, but the six RCEs in Japan, from the Greater Sendai Region, Yokohama, Chubu, Hyogo-Kobe, Okayama and Kitakyushu, vary tremendously in their sustainability challenges, thematic focus, educational and learning needs, etc., let alone in their governance and management structures. Japanese RCEs demonstrate that RCEs are shaped by local needs and priorities, offering a delightful testimony to the power of RCEs as a facilitative mechanism to translate a global DESD vision into local contexts within which RCEs operate. RCEs individually and collectively aspire to contribute to the goals of the DESD by embracing diversity within and across them.

DESCRIPTIONS OF THE JAPANESE RCEs

RCE Greater Sendai covers four sub-regions: metropolitan Sendai, aiming at a recycling-based city; coastal Kesenuma, focusing on promoting school-based ESD; rural Osaki-Tajiri, focusing on rice-paddy ecosystems and biodiversity; and Shiraishi-Shichikashuku region, focusing on reservoir area conservation. The RCE includes one teacher education institution, Miyagi University of Education. The secretariat is hosted by this institution, which produces the majority of school teachers and superintendents for the region. The central theme connecting all the sub-regions is sustainable food production and consumption.

RCE Yokohama functions as a platform to support ESD activities of youth, especially university students. The City of Yokohama has 29 universities which carry out diverse environmental activities. In order to promote coordination among these activities and form inter-university links, RCE Yokohama regularly organises a networking event called University Student Eco-Networking Café, through which university students can exchange information and interact with one another. RCE Yokohama also organises capacity development sessions for university students who take part in environmental club activities. In these sessions, students learn skills and methods to enhance their voluntary ESD-related activities. Universities in the City of Yokohama also engage in a joint environmental action on a designated day of the year to raise awareness about ESD. The secretariat is hosted by the City of Yokohama.

The geographic scope of **RCE Chubu** includes the basins of rivers that flow into the Ise and Mikawa Bays in central Japan. This is the first RCE in the country whose area of work covers three prefectures: Aichi, Gifu and Mie. RCE Chubu's flagship project is the Ise-Mikawa Bay Watershed Project, which examines various issues affecting the basins of eleven rivers flowing into Ise and Mikawa Bays. The issues range from manufacturing to forest conservation, agriculture, and multicultural harmony. RCE Chubu is also contributing to the Tenth Conference of the Parties of the Convention on Biological Diversity (CBD-COP10), which will be held in Nagoya, Aichi Prefecture, by collaborating with local NGOs and taking the lead in organising RCE input to COP10. The secretariat is hosted by Chubu University.



Japanese RCEs demonstrate that RCEs are shaped by local needs and priorities, offering a delightful testimony to the power of RCEs as a facilitative mechanism to translate a global DESD vision into local contexts within which RCEs operate.

RCE Okayama is a network of schools, NGOs, civil society organisations, businesses, *kominkans*, universities and more, and its work focuses on the areas of environment and international understanding. Currently over 100 organisations engage in activities under this RCE. One of the core members of RCE Okayama, Okayama University, has been a UNESCO Chair in Research and Education for Sustainable Development since 2007, and this has greatly enhanced the University's collaboration with RCE stakeholders. Drawing on the expertise and resources of local universities, intermediary support organisations and other groups, RCE Okayama organises various awareness raising, networking and capacity development activities for the citizens of Okayama. The secretariat is hosted by the City of Okayama.

As a region that experienced the Great Hanshin-Awaji Earthquake (Kobe Earthquake) in 1995, **RCE Hyogo-Kobe** positions disaster mitigation as an important component of ESD. It aims at creating and disseminating a culture of disaster prevention and mitigation, rooted in people's daily lives, through collaboration with international organisations and research institutes in the region. RCE Hyogo Kobe also promotes dialogue and collaboration between scientists and citizens through a science café, which covers themes related to ESD. The secretariat is hosted by Kobe University.

The vision of **RCE Kitakyushu** is to make Kitakyushu a World Capital of Sustainable Development, in which its one million citizens understand the concept of sustainable development and are empowered to take actions to achieve sustainable development. The RCE consists of about 60 organisations and organises working groups on Projects, Research and Development, and Public Relations. The secretariat was originally hosted by the Kitakyushu Forum on Asian Women, an NGO focusing on gender issues, but was transferred to the City of Kitakyushu in 2009.

In March 2006, Japan's Action Plan for the DESD was adopted by the Inter-Ministerial Meeting on the UN DESD. The Plan identified awareness raising, regional initiatives for ESD, and ESD activities in higher education institutions as Japan's priority undertakings in the initial years of the decade. As an example of regional initiatives for ESD, the Plan specifically referred to the UNU's RCE initiative (4-1-b). The RCE initiative is therefore included in the national ESD strategy.

Japanese RCEs exchange information on a regular basis through an e-mail list and participate in one another's events. The coordinators of the Japanese RCEs also meet once a year to discuss challenges they are facing and ways to overcome them. These annual meetings are coordinated by the Japanese RCEs themselves, with input from the Global RCE Service Centre, and the hosting responsibility rotates among the RCEs.

The work of the Japanese RCEs demonstrates that the RCE initiative is promoting not only national but also international cooperation in ESD. For example, RCE Greater Sendai organised the ESD Asian RCE Leaders Youth (EARLY) meetings in 2008 and 2009, bringing together youth representatives from various Asian RCEs. Japanese RCEs often receive visitors from candidate and existing RCEs abroad, especially those from Korea due to their proximity to Japan.

In the Bonn Declaration, adopted at the UNESCO World Conference on ESD in 2009, the Conference participants welcomed the intention announced by the Government of Japan to host, jointly with UNESCO, the next (end-of-decade) world conference on ESD. As we get closer to the DESD wrap-up conference, it is expected that Japanese RCEs will enhance collaboration among themselves as well as with RCEs in the rest of the world.

*Yoko Mochizuki
ESD Specialist
ESD Programme, UNU-IAS*

Experiences of RCE Tongyeong: working with the government

One of the early RCEs recognised in 2005, RCE Tongyeong was facilitated by the Government of the City of Tongyeong in Korea in collaboration with Yonsei University and Gyeongsang National University. Since its inception, RCE Tongyeong's experiences have been closely linked with a specific stakeholder group: the government, at all levels — municipal, provincial and national.

In spring 2005, researchers at Yonsei University invited the Mayor of Tongyeong City and researchers of local universities to become involved in the global initiative of ESD. The invitation was well-received and between June and October the Tongyeong City Government took the lead in establishing an RCE by participating in international conferences, hosting international seminars and meetings with local stakeholders, and setting up a secretariat within the Department of Planning and Audits, a powerful arm of the municipality.

Since acknowledgement of the RCE in October 2005, the RCE secretariat has been functioning within the education team of the municipal government. Apart from regular education assistance programmes such as supporting school budgets for school meals, the education team's main task has been the promotion of ESD through the RCE. For this purpose, an officer was employed and several local government officers were entrusted with RCE-related tasks.

Tongyeong City has also provided most of the annual budget since 2005, with the exception of project budgets from the provincial and national governments between 2007 and 2010. The provincial Government of Gyeongnam acknowledged Tongyeong City's initiative on ESD and has committed to fund 25 per cent of the budget of the RCE Centre and Eco-Park project, a project which aims to showcase the work of RCEs in the Asia-Pacific region. At the national level, the Presidential Commission on Sustainable Development (PCSD) supported the RCE's efforts until it closed its office in 2009. The Ministry of Environment now supports half of the 20 million USD budget for the Eco-Park project. In 2007, Tongyeong was designated as a Life-long Learning City by the Ministry of Education, Science and Technology and received an annual budget of 160,000 USD for 3 years.

An example of the RCE's activities with the municipal government is the officer training programme. Under this programme, a series of quarterly lectures on sustainable development, the RCE Forum; seminars on eco-city policy-making; and a three-day training workshop on sustainable cities, the Lee SunShin Academy, have been jointly organised by the human resources team of the municipal government, Gyeongsang and Yonsei universities, and the Hope Institute.

Although the secretariat of RCE Tongyeong was initiated by the city government, the steering committee of RCE Tongyeong and its six working groups has gradually begun functioning independently of the municipal administration. This was necessary because the officials change every one to three years and the RCE projects are becoming more specialised. In 2010, RCE Tongyeong's secretariat will be separated from the municipal office as an independent entity, the Tongyeong ESD Foundation.

With the RCE secretariat located within the local government, it was possible to invite a wide range of local stakeholders to take part, including the Office of Education and the media. However, in some situations, the differences of interests, ideas, and institutional mechanisms between some stakeholder groups and the local government created tension concerning the way the RCE works. Moreover, changes in the political situation also posed challenges, especially concerning annual budget support for the RCE.

Overall, the engagement with government has contributed to the firm and timely establishment of the RCE within the education system. Despite the constraints, engagement with various levels of government, particularly through their funding and institutional support, has helped to reach ESD goals. This example shows that with support from international institutions working on DESD such as UNU and UNESCO, RCEs can be an arm of collaboration with all levels of government to promote global ESD goals.

Won Jung BYUN
RCE Tongyeong

Links between RCEs and Higher Education Institutions

All RCEs have at least one HEI or research institution as partner in their network. In 2009, 18 out of 41 reporting RCEs listed Higher Education Institutions (HEIs) as their hosting partner. This statistic, after five years of RCE development, clearly demonstrates the importance of HEIs in RCEs. But what are the reasons for this strong partnership between HEIs and RCEs? What are the benefits and constraints? How does this partnership contribute to global ESD goals?

The table below shows the types of hosting partners (NGOs, HEIs, municipalities, etc) and the number of each type of hosting partner in the various regions of the world.

Table 1: *Institutions hosting RCEs around the world*

	NGO	Higher Education Institutions	Municipalities	Multi-Stakeholder Entity	Enterprise	Other	Total Number of Reporting RCEs
Africa	2	2	-	-	-	-	4
Europe	1	8	2	1	1	3	16
Asia & Pacific	4	5	6	-	-	2	17
Americas	-	3	1	-	-	-	4
TOTAL	7	18	9	1	1	5	41

Source: RCE Annual Report 2009

One of the main reasons for the high number of HEI partners is the requirement for new RCEs to have HEIs as partners in their network, based on the reasoning that these institutions have much experience in networking across borders and working towards innovation. Furthermore, HEIs are expected to provide guidance and leadership in education and have both a social responsibility and a moral obligation to address sustainability challenges.

Conversely, RCEs, conceptualised for participative processes involving various groups of society, can contribute to the further development of HEIs by building a bridge between science and society. RCEs are built upon the vision of mutual learning between science and society and therefore have the potential to strengthen links between research and practice as a global movement with local nodes.

The United Nations University (UNU) expects HEIs to play a central role in developing an integrated regional approach to ESD, bringing the best of science knowledge together with the best of educational practices.

BUILDING BRIDGES

The case of an intergenerational course developed by RCE Graz-Styria in Austria, in cooperation with the Centre for Continuing Education, demonstrates the benefits of transferring research practices and university education to society. In this four day course, university students from various disciplines, practitioners and retired people from various backgrounds learn about the latest research outcomes related to regional and global sustainability challenges and apply their learning in case study workshops. Students learn about real challenges in regional, business or environmental management and apply their academic knowledge to work on practical solutions. Practitioners bring in their experience and receive innovative ideas from students as well as research experience of lecturers and workshop facilitators. Such courses help the university open its gates to society and help raise awareness on sustainable development to regional multipliers. In this case, the RCE acts as the bridge between university study programmes and the Centre for Continuing Education.

TRANSDISCIPLINARY RESEARCH

RCEs also contribute to application-oriented research by promoting and initiating transdisciplinary research projects built on the core principles of:

- Collaboration between science and practice;
- Social problem driven research questions;
- Interdisciplinary approaches; and
- Mutual learning and education during the research process.

A good example of promoting transdisciplinary research, involving universities as well as society, is run by RCE Skåne in Sweden. The RCE is organised primarily as a regional partnership led by Malmö University, the City of Malmö, Lund University, the City of Lund, as well as the Skåne Region. One of this RCE's flagship projects is about food as a means for learning about sustainable development. The aim of the project is to evaluate and develop educational materials and tools on food and education for sustainable development, and to evaluate the results of the education. Organisations involved in the process are Malmö University, City of Malmö, City of Lund, and other municipalities in Skåne as well as the NGOs WWF Sweden and Ecological Garden Centre. Through the cooperation between research, education, NGOs and public institutions, mutual knowledge exchange between HEIs and society has taken place. Furthermore interdisciplinary approaches were reflected in ESD modules.

These cases from Austria and Sweden demonstrate the synergetic effect of RCEs cooperating with HEIs.

*Clemens Mader
RCE Graz-Styria*



4. A Snapshot of RCE Activities Around the World



This chapter is not meant to be a comprehensive list of RCE activities in the last 5 years, nor does it include activities of all RCEs. Rather, the information in these pages gives an idea of the range of RCE activities around the world. Please refer to the chapters on RCE development for more examples of RCE actions.

Europe

RCE BARCELONA'S EDUCATION AND SUSTAINABILITY MAGAZINE

Education and Sustainability (ES) is a magazine aimed at people with an interest in the role of learning in the transition to a more sustainable future. The magazine was founded by RCE Barcelona in 2007 and was distributed to primary and secondary schools in the Catalonia region of Spain (in Catalan language). In 2009, in partnership with RCE Skåne, a Swedish version was launched. Together with RCE London and a broader reach of Spanish partners, the initiative hopes to extend its reach by also publishing in English and Spanish by the end of 2010.

ES offers articles and interviews from sustainability professionals, teachers, students, civil society leaders, philosophers, scientists and others on the role of education in the path to creating a more sustainable future, as well as news pieces on innovative educational initiatives from around the world. In addition, the magazine includes a selection of teaching resources, a glossary of terms, a directory of organisations, a calendar and recommended reading for the central theme of each issue.

ES began as one of RCE Barcelona's flagship projects and has become the network's principal activity, contributing to its mission of stimulating the formal and informal education sectors to integrate sustainability into all types of learning activity, through the sharing and dissemination of inspiring stories and practical teaching resources.

The members of the RCE network participate both in the process of generating content for the magazine (defining the issues to be covered, selecting material, sharing initiatives and identifying key actors for each issue), as well as in the distribution of the publication through their own networks of schools (primary and secondary), teaching resource centres, libraries, municipalities and environmental education centres.

To date, seven issues have been published, 20,000 copies have been distributed and over 150 organisations have been involved. In 2010, the issues to be covered in the magazine are Biodiversity, Health and Ethical Finance. Distribution and subscriptions are managed by one of the RCE partners, the non-profit cooperative Barcelonya.



**Education and
Sustainability**



Dive in!

Learning how to
create a new water culture

PHOTOGRAPH BY JAMES HARRIS



3 Water

2008 | SPRING

© RCE Barcelona

Education and Sustainability magazine

SKILLS FOR SUSTAINABLE DEVELOPMENT: RCE BENE MUNICH

In an increasingly complex world, education must help people to find orientation and reflection, and teachers and learners should understand global relations and changing dynamics. Systems thinking, which enables the understanding of the principles of cause and effect as well as the interactions and interrelations of complex processes, should therefore be incorporated into our education systems.

RCE BenE Munich offers various learning modules for schools, higher education and businesses (BenE stands for “Bildung für eine Nachhaltige Entwicklung” which is German for: Education for Sustainable Development). The RCE teaches multipliers—teachers, moderators, lecturers—who in turn offer workshops on request. The RCE also supports cybernetic school content Ecopolicyade, and offers internationally tested educational materials on systems thinking in a public access database (the Ecopolicyade is a computer simulation game which uses cybernetics to stimulate and promote thinking on Ecopolicy).

The Munich University of Applied Sciences, a member of the RCE network, is developing a certified course for further education on behalf of the Bavarian State Ministry for Science and Arts. This course translates concepts of sustainable development and forms of systems learning into key qualifications and management elements for use by small and medium sized businesses. The project’s intention is to apply management skills used in complex situations to sustainable development issues in municipalities and to develop content for this purpose.

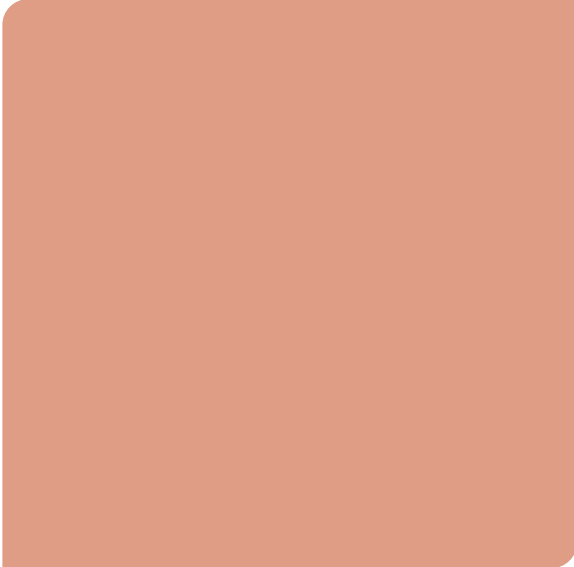
THE OPEDUCA PROJECT OF RCE RHINE-MEUSE

RCE Rhine-Meuse (Netherlands) has developed and implemented a vision on education and school development entirely based on ESD. The concept, developed in cooperation with schools, companies, local government and science institutions, defines and enhances institutional alliances for learning. Aiming at lifelong learning processes on the themes most relevant to the future, such as water, food, energy, social cohesion, etc., an educational system and work plan have been developed to reorient curricula towards education for sustainable development.



© RCE Porto

Citizens participating in RCE Porto's River Ambassadors programme get hands-on training in eliminating invasive species.



© RCE Oldenburger Münsterland

Special glasses help simulate differences in perception from alcohol consumption. A Schutzengel workshop held in Emstek to raise student awareness.



© RCE Porto

Birdwatching in the Douro estuary nature reserve, Portugal.



Content is developed and shared within and between Open Educational Regions (OPEDUCA) where schools (primary up to university) cooperate with diverse organisations such as science institutions, business sector, municipalities, centres for environmental education, libraries, etc. The way in which the various organisations merge in a joint effort towards ESD is called the OPEDUCA Concept. One of the aspects of this concept is that the cooperation between partners is moulded into a structural alliance; all are partners in OPEDUCA irrespective of differences. RCE Rhine-Meuse is the linchpin acting behind the scenes to push the process forward until it gathers momentum.

Instead of curricula and textbooks, OPEDUCA is based on ongoing learning lines on themes relevant for our future. Learning and content are constructed by teachers, pupils, students, scientists and staff from leading organisations. Learning in OPEDUCA is Anytime, Anywhere, with Anybody and through Any device (completely open source, both real life and web based). Primary and higher education schools cooperate and work with OPEDUCA, and teachers and students are trained and educated in a Master's degree in OPEDUCA over a 2.5 year period. The enhancement of entrepreneurial skills in teachers and pupils is one of the basic constructs of the project.

THE SCHUTZENDEL PROJECT OF RCE OLDENBURGER MÜNSTERLAND

RCE Oldenburger Münsterland (Germany) aims to address the challenges faced by a rural region with a strong agricultural base. Although one of the smallest RCEs, it has a strong vision of shaping behaviour and attitudes for informed citizenship. The RCE started with Schutzengel (Guardian Angel), a project to support young adults to become engaged in civic society, which is being implemented in cooperation with the regional government, the police department and the local road safety organisation. Through this project, it is hoped that young people will learn to be prudent on the road, and to override group pressures, so as not to endanger their lives and those of others. The project offers young people a wide range of courses that deal with issues of road safety, sense of civic duty and communication.

SUSTAINABLE DEVELOPMENT CONFERENCE TO LAUNCH RCE EAST MIDLANDS

A conference on learning for sustainable development was organised in September 2007 to launch RCE East Midlands — the first RCE in the United Kingdom (UK). The conference attracted about 160 delegates and explored some of the activities, challenges and opportunities facing ESD practitioners regionally, nationally and internationally.

The conference included several video messages, presentations by ESD professionals, 14 workshops and 30 exhibitors. The conference also addressed government policies and initiatives in support of ESD and global citizenship regionally, nationally and internationally; RCEs and United Nations activity; national and regional ESD activity in the UK, across the schools, formal education, higher education, youth, adult and continuing education, voluntary and business sectors; and next steps for the ESD and global citizenship agenda regionally, nationally and internationally.

STUDENTS IN NEWCASTLE DISCUSS ESD

Students from Newcastle, UK, had the opportunity to discuss various aspects of sustainable development pertaining to their lives at a conference co-organised by RCE North East on 26 June 2008. Education for Sustainable Development was one of the several topics on which workshops were organised. Participants explored the rift between the prevalent Culture of Consumption and environmental self-righteousness.

AGRICULTURE WORKSHOP IN OESTE, PORTUGAL

In 2009, CREIAS-Oeste, an RCE in western Portugal, held a workshop on biodiversity and water in agriculture in Cadaval, Portugal. The workshop was jointly organised by several RCE members, including APAS, a regional Farmers' Association; COTHN, a centre of applied research for agriculture; and CEIFA, a member of the Steering Committee of CREIAS-Oeste. The workshop programme consisted of two main panels: biodiversity and water, each with a variety of presentations by recognised experts, and an open discussion space after each panel. About 100 people participated in the event, most of them local farmers, mainly fruit producers, and representatives of regional public and private institutions involved in agriculture.

Oeste is an important agricultural region in Portugal and cultivates livestock, vegetables and fruits. Despite widespread knowledge about the negative impacts of excessive chemical use in agriculture and the advantages of integrated biological approaches, most farmers in this region still use environmentally harmful techniques in rodent and pest control in the belief that environmentally friendly ones may decrease yield. In the biodiversity panel of the workshop, speakers emphasised the importance of local fauna for agricultural productivity. Participants agreed that the use of herbicides and pesticides in the region should be reduced and that pest-control products should target specific species.

The next session of the workshop focused on the use of water in agriculture. Traditionally, vegetables and fruits such as tomatoes, grapes, olives, and pears were produced in Oeste with almost no irrigation. This has changed in the last few decades, and agriculture across the entire country is now dependent on irrigation. Irrigation techniques are often inefficient, however. The government has now introduced a water tax to reduce water use in agriculture, and although climate change is expected to make water scarcity more acute, farmers in the region continue to call for free access to water. The lively discussion on the topic at the workshop showed that there is still a long way to go in convincing people about the real scarcity of water.

In spite of the controversial topics discussed at the workshop, participants found the event enriching as it focused on real challenges faced by farmers and introduced alternative ideas for making agriculture sustainable.

RCE RHINE-MEUSE SUSTAINABILITY CONGRESS

In January 2009, RCE Rhine-Meuse (Netherlands) organised a provincial congress with the motto: Sustainability Pays. Over 300 visitors from the Dutch province of Limburg and the bordering EU region participated in 22 workshops spread through the day.

The goal of the event was to facilitate inspiring workshops, in combination with an info-market, to inform the public about existing sustainable technologies that are regionally available, and about exciting and tangible sustainable initiatives that may act as pilot activities.

Topics covered in the workshops included Sustainable Public Procurement, Climate Friendly Entrepreneurship, Cradle 2 Cradle, Reduce-Reuse-Recycle, Sustainable Building, and Corporate Social Responsibility.

Discussions at the congress addressed the fact that current sustainability practice is innovative and concrete, and that there is sufficient public awareness on the need for sustainability. As a consequence there are a number of grassroots initiatives and available technologies. Governments should therefore accommodate rather than legislate.

LEARNING FOR BETTER CITIES

A proposal has been developed on behalf of RCE Skåne, with leadership from Malmö City Council and Malmö University, and Barcelona, the RCE Barcelona partner managing distribution of the Education and Sustainability (ES) magazine, for a project which aims to promote the role of learning for creating sustainable cities at the Shanghai EXPO 2010.

To enable individuals and organisations from different parts of the world to create better, safer, healthier and more sustainable cities, this project aims to facilitate knowledge, interaction and dialogue about the transition to more sustainable urban futures.

The project has three core objectives:

- **Knowledge:** Disseminate reflections, tools and practical learning resources for urban sustainability, highlighting good practice examples from Barcelona, Malmö and other participating cities.
- **Inspiration:** Inspire individuals to make a personal commitment to making their city more sustainable through participatory sustainability pledges at the exhibition stand.
- **Dialogue:** Exchange good practices in urban sustainability through facilitated dialogue between expert sustainability practitioners from various cities, to provoke new policy and practice.

Barcelona will manage the project in collaboration with Lind Communication, the coordinator of ES Sweden. Costs will be shared between participating cities with support from the private sector, in accordance with Barcelona's partnership policy.

SUSTAINABLE DEVELOPMENT TRAINING IN PORTO

RCE Porto launched the Metropolitan Sustainability Academy at the end of 2009 to provide citizens of all ages with practical training on sustainable development issues. Its first training session focused on energy and climate change, and the 21 participants in the course benefited from workshops and other activities, such as a visit to a demo solar house. These participants, now called Climate Ambassadors, will soon open their houses to an expert team to check the potential for energy saving.

Training sessions will be held periodically on various topics and courses are offered by the RCE Porto team with the participation of several RCE members who provide their expertise.



Are We There Yet?

Journeys of Student Engagement in Sustainability

3rd November 2009, 10.00 am – 3.30 pm

Centre for Active Learning, Francis Close Hall
Campus, University of Gloucestershire

A national forum to share good practice and explore opportunities for improving student engagement in sustainability within higher education.

The conference will look at progress made in engaging students in sustainability. It will showcase volunteering and community initiatives

as well as campus activities, and explore the lessons learnt. Involving speakers from student unions and several universities, the event aims to generate valuable insights into student engagement.

The event is a collaboration between University of Gloucestershire (Sustainability Team and RCE Severn) and University of Bradford (Ecoversity and RCE Yorkshire and Humberside).

For more details contact Seek Pang on **01242 715378** or email **spang@glos.ac.uk**



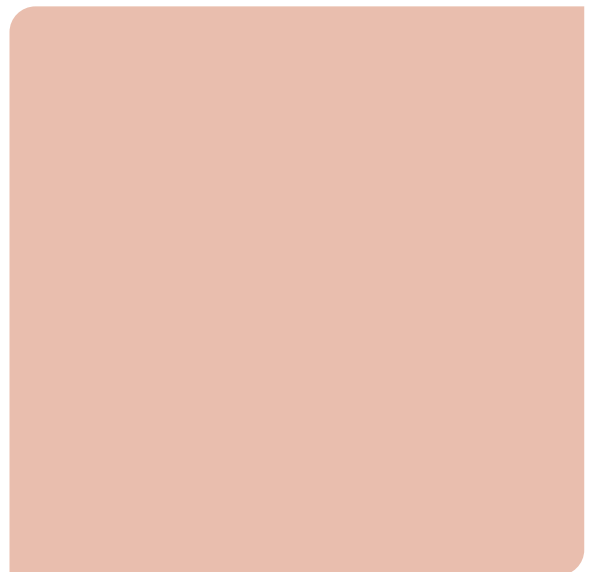
ACTIVISM AT SCHOOL, ACTIVISM FOR LIFE

Between July 2008 and May 2009, RCE Ireland carried out an action research project called Situated Cognition and ESD Activism, funded by Irish Aid, part of the Department of Foreign Affairs in Ireland.

This action research project investigated whether Situated Cognition approaches can increase the effectiveness of key skills learning on the development action-orientation of students, and how to integrate these key skills effectively into given subjects with Development Education and ESD. The project also focused on how key skills may give rise to students having the freedom to choose their own forms of action, and if those forms of action differ from those taken before the intervention.

Nine teachers in the Limerick area, from various subject areas, participated in the project. Three main methodologies were used: cognitive apprenticeship, knowledge building and problem-based learning.

Questionnaires and interviews with students and teachers were used to analyse the success of the project. Most teachers and students found it a valuable and interesting experience, with many students indicating a change towards increased activism in their daily lives at school and at home, in areas such as recycling, buying more fair trade products and choosing food products according to their food miles. A teacher's booklet called *Activism at School, Activism for Life* was produced which summarises the findings of this research project.



Asia

RCE OKAYAMA'S KOMINKAN SUMMIT AND LIFELONG LEARNING FESTIVAL

Between 27 October and 3 November 2007, the Okayama University and Conference of Okayama International NGO Network (COINN), the constituent entities of the Okayama ESD Promotion Commission, held the *Kominkan* Summit in Okayama, Japan, in cooperation with UNESCO Bangkok, Asia-Pacific Cultural Centre for UNESCO (ACCU), and related organisations.

At the conference, the staff from *kominkans* (Community Learning Centres) in Okayama and staff from Community Learning Centres (CLCs) in other Asian countries shared their experiences of learning activities for building a sustainable society.

The Summit adopted the Okayama Declaration, which emphasises the roles of *kominkans* and CLCs for promoting behavioural change of the local population and for strengthening the network of stakeholders in their community through ESD philosophy.

In November 2007, RCE Okayama held the National Lifelong Learning Festival to bring together the various organisations in the area and to make their ESD activities known. About 35,000 people participated in the event.

RCE INCHEON HELPS CLEAN OIL SPILL

In January 2008, RCE Incheon in the Republic of Korea mobilised a group of volunteers to help clean up a massive oil spill that polluted the rich ecosystem of the country's western coast. The oil spill (66,000 barrels of crude oil) was the result of a collision in December 2007 between a Hong Kong registered tanker and a Korean owned barge. .

Volunteers participating in the containing action witnessed that the spill not only affected the coastal ecosystem, but also the economy of the surrounding community. The RCE's activity raised awareness about the importance of pollution control.

PROMOTING HEALTH IN SCHOOLS

Data on the health of school children shows that sanitation-related habits and nutrition play an important role in ensuring the retention of children in schools. Understanding the urgency of promoting good health and sanitation in schools, RCE Lucknow in India and its formal partner, the Uttar Pradesh Education Department, worked together in 2008 on the theme of sustainable health with a focus on schools.

Starting in March 2008, RCE Lucknow and the Uttar Pradesh State Education Department Agency – the State Council of Education, Research and Training (SCERT) held training programmes for key resource persons (trainers) at the state level. Two preliminary training programmes were held with the participation of 50 district level key resource persons from 22 districts. This capacity building programme was the first step of a larger programme which expected the participants to train teacher trainers at the district level, who would then reach out to teachers and thus to schools. The programme organisers aimed to reach all 70 districts in the state of Uttar Pradesh.

The training programme covered various aspects of health education such as personal hygiene, malnutrition, environmental sanitation and pollution, disease prevention, preparation for school health and sanitation plans.

RCE TONGYEONG'S GLOBAL YOUTH CHALLENGE

Through RCE Tongyeong's Youth Global Challenge Programme, *Bridge to the World* 2008, three teams of 17 young people successfully completed a study tour of RCE Munich (Germany), RCE South Pacific, and RCE Toronto (Canada).

Strong self-researched proposals to visit fellow RCEs (under a study topic related to local and global sustainable development) were submitted by teams made up of 257 middle and high school students. Following fierce competition, three teams: *Passion Infinity Evergreen* and *TTL* won the *Bridge to the World* 2008 award.

After a launching ceremony, attended by the Mayor, the three teams set out on a 15-day-trip with the mission of finding the key to sustainable development. Team *Passion Infinity* visited RCE South Pacific in Fiji to see the reality of climate change and flew to the threatened island nation of Tuvalu. Team *Evergreen* met members of RCE Munich in search of ways to make a youth-friendly eco-city, and team *TTL* went to Toronto to observe the participation of youth in a local festival.



© RCE Tongyeong
At an event in Tongyeong, Korea.



Observations of the young leaders presented at the reporting ceremony, held in the presence of the Mayor, the Chairperson of City Council, and the Superintendent of the Education Office impressed the audience. The reports of the three teams were published and distributed to schools.

RCE Tongyeong's *Bridge to the World* programme is organised annually to strengthen youth leadership and to foster networks among RCEs for a sustainable future.

RCE PENANG AND RCE YOKOHAMA STUDENT EXCHANGE

A group of 18 students from Universiti Sains Malaysia (USM), Penang, visited Yokohama in December 2008 to learn about RCE Yokohama's sustainable development activities and initiatives, and to exchange opinions with their counterparts.

During the visit, the students presented the activities related to sustainable development they had implemented at USM and had open discussions with students from the host universities on the topic of sustainability. The students attended seminars on ESD at Yokohama National University and Yokohama City University and also participated in the Junior UN Eco (JUNEC) Workshop — Asia Conference Winter Session, held at the UNU headquarters in Tokyo. About 40 Japanese secondary school students also participated in the conference. The students from USM benefited from a tour of Ferris University's eco-campus and also visited the wind turbine at Yokohama Port, a symbol of the city's action on environmental issues.

RCE CEBU HELPS PROMOTE ECO-TOURISM

Since the autumn of 2008, RCE Cebu has been promoting ecotourism at the forest reserve of Camp 7 Minglanilla, situated about an hour's drive from Cebu in the Philippines. The initiative is part of the showcase project: *Promoting ESD through Conservation and Sustainable Use of Forest Resources and Empowerment*, implemented in partnership with the Asia Pacific Forum for Environment and Development (APFED). The Institute for Global Environmental Strategies (IGES), which is actively contributing to DESD, is the APFED Secretariat.

The ecotourism project being developed by RCE Cebu in partnership with Camp 7 residents, envisions encouraging youth in the area to be effective eco-managers of their forest. The Camp 7 eco-tour includes exploration of caves and streams as well as visits to the sites of projects on apiculture and floriculture and a seedling nursery that are run jointly by the Department of Environmental and Natural Resources (DENR) and the local community.

Future plans include partnering with bird watching groups, botanists and herbalists to share the stewardship of the 123-hectare forest reserve.

To widen collaboration, the RCE has arranged meetings with municipal officials about the development of the seven caves found at Camp 7. The municipal officials in turn held a dialogue with the area officials. Together they initiated a cave clean-up and dialogue with the DENR to assess the tourism potential and biodiversity value of the caves.

A youth group that participated in the cave clean-up is working towards having their organisation registered officially, and has started a livelihoods programme based on marketing seedlings on a small scale.

The RCE has also assisted in organising an educational tour to the existing ecotourism site of Kawasan falls in Cebu province, for the Camp 7 officials, the youth group, women's group, cooperatives, senior citizens group, health workers and police, to gain insights on managing an ecotourism site. RCE Cebu plans to broaden project partnership and collaborate with local and global partners, and experts on forest management, to assist the residents in preserving the Camp 7 forest.

Americas

INNOVATIVE ESD RESEARCH AND PROJECTS CELEBRATED

The RCE Saskatchewan Recognition Programme, held annually, provides recognition to innovative research, projects, and activities promoting ESD in the prairie region of Canada. The intent is to celebrate the efforts of organisations and individuals who are building capacity for ESD in Saskatchewan.

Twenty-seven projects were recognised in 2008. The diversity of the projects recognised reflects the wide range of excellent educational projects in the areas of climate change, health and healthy lifestyles, reconnecting to natural prairie ecosystems, farming and local food production, sustaining and bridging cultures, and sustainable infrastructure, including water and energy. Each of the recognised projects exemplifies regionally appropriate approaches for ESD, and many of the projects offer insight into how to sustain rural communities and livelihoods.

Twenty-two projects were recognised in 2009. The range of projects included private sector projects aimed at sustainability in both urban and rural centres, post-secondary and school projects, and a range of non-profit projects involving multi-stakeholder community partnerships. Projects focused on a range of topics, including healthy lifestyles and wellness; alternative energy, such as a solar fair and wind technology; appropriate riverside development; anti-racism work; a media project profiling a pioneer in organic agriculture; projects supporting natural prairie; and a provincial ESD Action Framework.

RCE GREATER SUDBURY LAUNCHES BIODIVERSITY ACTION PLAN

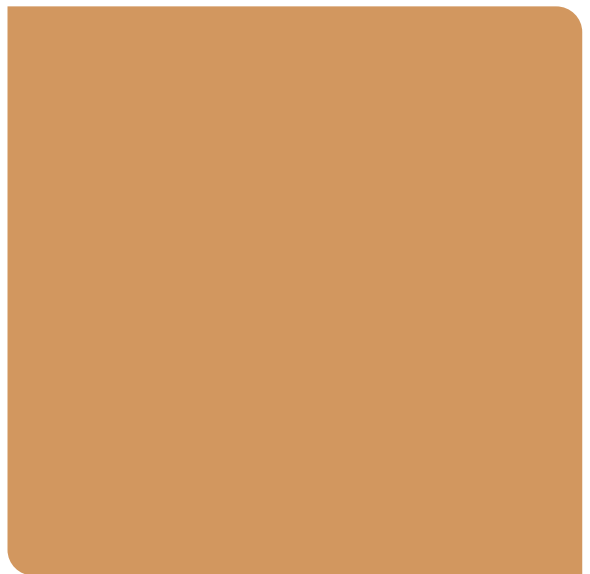
The Canadian RCE network, and specifically RCE Greater Sudbury team, is playing a key role in supporting the International Year of Biodiversity (IYB). Members of the RCE network felt that the best way to support the 2010 IYB was to share best practices in biodiversity education and conservation initiatives and build on current projects.

One RCE action in support of the IYB was the recent launch of a Biodiversity Action Plan by RCE Greater Sudbury. The Greater Sudbury Biodiversity Action Plan provides a comprehensive way to address the risks to plant communities and wildlife habitat identified by the Ecological Risk Assessment (ERA) portion of the Sudbury Soils Study. The ERA, one of the most comprehensive studies of its kind ever undertaken in North America, evaluated the ecological risks associated with seven Chemicals of Concern (COCs): arsenic, cadmium, cobalt, copper, lead, nickel, and selenium. While COCs occur naturally in the area, their levels in the soil have increased over the years through particle deposition from smelter emissions. The two main local mining companies, Vale Inco and Xstrata Nickel, accepted to work with the Greater Sudbury community to manage the risks identified by the Sudbury Soils Study's ERA.

The Greater Sudbury Biodiversity Action Plan was developed with the help of community members. Over several months, members of the community participated in Biodiversity Stakeholder Involvement Sessions, Have Your Say Workshops, and a telephone survey. The community had a chance to review and comment on the Draft Biodiversity Action Plan before release of the final plan in December 2009. The Biodiversity Action Plan is intended to be a living document, so the community will continue to have an opportunity to provide input into the future.



© Greater Sudbury
Water festival in Sudbury, Canada



RCE SUDBURY'S SNOWFLAKES INITIATIVE

A community project to create metal fabricated snowflakes to illuminate the City of Greater Sudbury, Canada, during the holiday season of 2008 was implemented by RCE Sudbury and partners to create employment opportunities for women from the local domestic violence centre. The project identified local merchants who would be interested in purchasing the products which utilise energy efficient light bulbs that last at least five years.

The Snowflake project served as a tool to build relationships with community partners while addressing issues relating to social inclusion and economic development with minimal environmental impact.

GOOD THINGS ARE GROWING IN SUDBURY

Food sustainability is one of the twelve regional challenges identified in the Healthy Community Strategy of RCE Greater Sudbury. In 2004 the City of Greater Sudbury Food Charter was passed unanimously by many community agencies. The Food Charter calls for the development and implementation of a community food security mandate that supports research, policies, and programmes that will foster:

- Population health and wellness
- Community development
- Investment in a regional food system
- Development of a sustainable food system

Community members from across the City of Greater Sudbury and beyond are taking steps to ensure that the mandate of the Food Charter is met. The Eat Local Sudbury Co-operative is an example of the Charter's purpose in action. The Co-operative was formed in 2006 after a group of concerned farmers and consumers met and realised that action needed to be taken to support and invest in a regional and sustainable food system. The Co-operative's goal is to increase the production, availability and consumption of locally-grown food in Sudbury.

In Greater Sudbury, a group of individuals and organisations formed the Sudbury Food Connections Network with the intention of both introducing and implementing a local food charter. In keeping with this charter, the network established a sub-committee responsible for supporting the development of food growing ideas, such as community gardens and food based social enterprise ideas. Members include the Canadian Diabetes Association, the Social Planning Council of Sudbury, the Aboriginal People's Network of Ontario, the Sudbury and District Health Unit and The Foodshed Project.

Working together, these organisations provide the support, expertise and access to resources necessary for community groups to get projects off the ground. One such project is Greater Sudbury's first ever public access community garden. This garden is located in the downtown core and has attracted the interest of many downtown social service organisations, residents, and businesses. The garden is supported by the Diocese of Sault Ste. Marie which provides the vacant lot to the community group at no charge. Some of these community plots have been specifically designated for local food-bank and meal programmes.

The garden, once an unused and vandalism prone area has become a place of much positive activity. From children learning how to harvest fresh snow peas and build raised garden beds; to at-risk youth bringing fresh vegetables back to their drop-in centre kitchen to cook up; to people recovering from drug and alcohol addiction learning how to tend their own raised garden bed; to people on low incomes having a source of nutritious and affordable food – good things are happening.

Next steps include expanding the number of raised beds in the community garden, developing a community garden network to share resources and lessons learned, and exploring the possibility of using solar powered greenhouses to extend the growing season and provide opportunities for social enterprise.

The Good Food Box Program is a community based food programme that provides an example of transformative education. The food in the Good Food Box Program is a starting point for awareness raising, skill development and behaviour change on many issues including healthy eating, sustainable food production and community involvement. The Good Food Box Program has been recognised as a Healthy Community Initiative by RCE Greater Sudbury.

These and other initiatives are supporting the City of Greater Sudbury Food Charter and creating a healthy and sustainable food system for the community.

Africa

PROMOTING ECO-CONSUMERISM IN KANO, NIGERIA

Waina, a crusty omelette usually served with freshly baked bread, is a very popular delicacy in northern Nigeria. It is produced *en masse* on any occasion and is available in every local restaurant. The current method for cooking *waina* consumes a great deal of firewood, however, due to the design of the traditional mud cooking mould that has been used from time immemorial. These traditional cooking moulds are inefficient, polluting and demand the use of fuel wood from forests.

ECOSEC, a stakeholder of RCE Kano, has designed and developed an alternative *waina* cooking method. In this case, the mud mould has been replaced with an aluminium one that can be used either with electricity or locally produced methane biogas.

The local production of methane biogas uses *calabash* (a type of gourd) and mud pots together with decomposing vegetables and food remnants. This local production supplements refined gas where available. Due to public pressure, plans are now underway to start compressing this locally generated biogas into modern cylinders for wider consumption. It is anticipated that packaging this product in modern cylinders will have greater acceptability to the public.

The development of the *waina* aluminium mould led to the creation of the Eco-Consumer Forum by RCE Kano, which identifies eco-friendly goods available in the region and enumerates their advantages for the public. This activity increases public awareness of sustainable livelihood options and sensitises them to sustainability issues facing the region.

RCE SWAZILAND HOSTS ENVIRONMENTAL EDUCATION CONFERENCE

Between 28 to 31 July 2008, members of RCE Swaziland hosted the Environmental Education Association of Southern Africa (EEASA) annual conference, workshop and annual general meeting. The vibrant event attracted many participants from southern African countries.

Plenary sessions, keynote papers, poster sessions, roundtable discussions and workshops all provided useful forums to discuss environmental education processes and ESD orientations. This high-profile event also included a session by the acting Prime Minister of Swaziland and various ministers.

RCE KANO AND KORANIC SCHOOLS

Koranic schools in the Kano state of Nigeria number four times that of western conventional schools. The number of pupils in these schools is five times the number of pupils and wards in conventional schools. This has become a subject of debate between conservatives and progressives in recent times.

RCE Kano observed that most students of Koranic schools take up jobs away from the village, thus increasing rural-urban migration. The RCE is working with both teachers and students in these schools to promote the understanding that life in rural areas provides opportunities for farming, that the local and traditional food in rural areas is more nutritious than that available in cities, and that some students are too young to live away from their parents. The RCE is also reaching out to parents and is planning to recruit ex-students in the programme.

SHARING LEARNING RESOURCES FOR A BETTER WORLD

A new research project on teaching resources and materials for sustainability is being developed by the RCE Barcelona Education and Sustainability programme and the RCE KwaZulu Natal Share-Net programme. This research project aims to find out more about existing sustainability teaching practices, which resources and materials for sustainability work well, where the gaps are, how people receive training and personal development for sustainability and what role new technologies have in learning for sustainability.

The first phase of research consists of interviews with teachers and educators, from formal and informal sectors, and an online questionnaire followed by analysis from the participating RCEs. So far RCE Barcelona, RCE Skane, RCE KwaZulu Natal and RCE Makana have been involved.



ENDNOTES

1. The initial seven RCEs were acknowledged as pilot RCEs, before the establishment of a formal process to apply to become an RCE. The seven RCEs launched in June 2005 are from Barcelona (Spain), Greater Sendai Area (Japan), Okayama (Japan), Pacific (Pacific Island Countries), Penang (Malaysia), Rhine-Meuse region (Netherlands, Belgium, and Germany) and Toronto (Canada). Five more RCEs (Ghana, Jordan, Tongyeong, Cebu, Yokohama) were acknowledged before the creation of the Ubuntu Committee of Peers for the RCEs in April 2006.

2. Although an RCE cannot be created in a village where there is no Higher Education Institution, smaller scale community-based activities, such as an environmental education project in a village school, can constitute RCE activities. While there may be activities that cover the entire geographic scope of an RCE, such as development of a website dedicated to the RCE or teaching materials for school teachers in the region, it needs to be noted that the geographic scope of each RCE activity does not always coincide with that of the RCE.

3. At the WSSD, eleven leading educational and scientific organisations, under the leadership of UNU-IAS, signed the Ubuntu Declaration, which aims to strengthen collaboration between science and technology researchers and educators, better integrate the latest science and technology for sustainable development into educational programmes (all subjects - all levels) and to strengthen cooperation between formal and non-formal education. The eleven organisations, now called the Ubuntu Alliance members, are presented below:

- Academy of Sciences for the Developing World (TWAS)
- African Academy of Science (AAS)
- Association of University Leaders for a Sustainable Future (ULSF)
- Copernicus-Campus
- Global Higher Education for Sustainability Partnership (GHESP)
- International Association of Universities (IAU)
- International Council for Science (ICSU)
- Science Council of Asia (SCA)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- United Nations University (UNU)
- World Federation of Engineering Organizations (WFEO)

The World Conservation Union (IUCN) and the United Nations Environment Programme (UNEP) were invited to join the Ubuntu Alliance in 2006. The Association of African Universities (AAU) joined in 2009.

4. It should be noted that “science” in the RCE concept includes both natural sciences and social sciences.

5. The Ubuntu Alliance, at its meeting in June 2005 in Nagoya, agreed that UNU, in the framework of the Ubuntu Alliance, will promote the development of RCEs in a way that reflects regional variations in ESD. The first batch of seven RCEs were followed by five more towards the end of 2005 and early 2006. The Ubuntu Committee of Peers for the RCEs, at its first meeting on 6 December 2006 in Paris, recommended the UNU to acknowledge 23 new RCEs. It also adopted the criteria for acknowledging new RCEs. For discussion of the RCE initiative as a recognition scheme promoted by a UN agency, see Mochizuki (2008).

6. Current Member States of SADC are: Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe.



LIST OF ACRONYMS

AAU	Association of African Universities
ASEAN	Association of Southeast Asian Nations
CBD	Convention on Biological Diversity
CEE	Centre for Environment Education, India
CLC	Community Learning Centre
COP	Conference of the Parties
CSD	Commission on Sustainable Development
CSR	Corporate Social Responsibility
DESD	Decade of Education for Sustainable Development
EE	Environmental Education
EFA	Education for All
ESD	Education for Sustainable Development
EU	European Union
GHESP	Global Higher Education for Sustainability Partnership
HEI	Higher Education Institution
IAU	International Association of Universities
ICT	Information and Communications Technology
MDGs	Millennium Development Goals
MESA	Mainstreaming Environment and Sustainability into African Universities
MEXT	Ministry of Education, Culture, Sports, Science and Technology, Japan
NGO	Non-Governmental Organisation
ProSPER.Net	Promotion of Sustainability in Postgraduate Education and Research Network
RCE	Regional Centre of Expertise
SADC	South African Development Community
SADC-REEP	SADC Regional Environmental Education Programme
SCP	Sustainable Consumption and Production
SD	Sustainable Development
UN	United Nations
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNESCO-APEID	UNESCO Asia-Pacific Programme of Educational Innovation for Development
UNU	United Nations University
UNU-IAS	UNU Institute of Advanced Studies
WHO	World Health Organization
WSSD	World Summit on Sustainable Development

RESOURCES

PUBLICATIONS ON RCE

SPECIAL ISSUES AND SECTIONS OF PEER-REVIEWED JOURNALS

- *International Journal of Sustainability in Higher Education*, 9(4), Special Issue on the Role of Higher Education Institutions in RCEs. Edited by Rietje van Dam-Mieras, Zinaida Fadeeva, and Yoko Mochizuki (2008).
- *Journal of Education for Sustainable Development*, 4(2), Special section on the case studies of RCEs. Edited by Zinaida Fadeeva and Yoko Mochizuki (2010).

ARTICLES IN PEER-REVIEWED JOURNALS

- Fadeeva, Zinaida & Mochizuki, Yoko (2007). Regional Centres of Expertise: Innovative Networking for Education for Sustainable Development. *Journal of Education for Sustainable Development*, 1(2): 229–237.
- Mochizuki, Yoko (2008). The RCE Initiative as a Policy Instrument for Sustainable Development: Can it Match the World Heritage List and the Global Compact? *Journal of Education for Sustainable Development*, 2(1): 61–71.
- Mochizuki, Yoko & Fadeeva, Zinaida (2008). Regional Centres of Expertise on Education for Sustainable Development: An Overview. *International Journal of Sustainability in Higher Education*, 9(4): 369–381. Special Issue on RCE.
- Glasser, Harold (2008). Hans van Ginkel: On the Vision, History and Status of the Regional Centres of Expertise in ESD Programme (Interview). *Journal of Education for Sustainable Development*, 2(1): 109–117.

REPORTS IN PEER-REVIEWED JOURNALS

- Aipanjiguly, Sampreethi, Mochizuki, Yoko, & Fadeeva, Zinaida (2008). Emerging Communities of Practice: Regional Centres of Expertise Discuss Themes and Evaluations. *Journal of Education for Sustainable Development*, 2(1): 17–20.
- Aipanjiguly, Sampreethi & Mochizuki, Yoko (2009). Third International RCE Conference Convened in Barcelona. *Journal of Education for Sustainable Development*, 3(1): 27–31.
- Aipanjiguly, Sampreethi (2009). 4th International RCE Conference: From Mobilisation to Assessment. *Journal of Education for Sustainable Development*, 3(2): 147–150.

BOOK CHAPTERS

- Fadeeva, Zinaida (2007). From Centre of Excellence to Centre of Expertise: Regional Centres of Expertise on Education for Sustainable Development. In Arjen E.J. Wals, ed., *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis*, Wageningen, The Netherlands: Wageningen Academic Publishers: Chapter 13: 245-264.
- Mochizuki, Yoko (2007). Partnerships between Environmentalists and Farmers for Sustainable Development: A Case of Kabukuri-numa and the Adjacent Rice Fields in the Town of Tajiri in Northern Japan. In Arjen E.J. Wals, ed., *Social Learning towards a Sustainable World: Principles, Perspectives, and Praxis*, Wageningen, The Netherlands: Wageningen Academic Publishers: Chapter 21: 385-404.

POLICY REPORTS AND WORKING PAPERS

- Mochizuki, Yoko (2005). Articulating a Global Vision in Local Terms: A Case Study of a Regional Centre of Expertise on Education for Sustainable Development (RCE) in the Greater Sendai Area of Japan, *UNU-IAS Working Paper No. 139*.
- Mochizuki, Yoko (2006). Initial Lessons Learnt from the UNU Initiative Regional Centre of Expertise on Education for Sustainable Development (RCE), *UNU-IAS Working Paper No. 150*.
- UNU-IAS (2005). *Mobilising for Education for Sustainable Development: Towards a Global Learning Space based on Regional Centres of Expertise*. Yokohama: UNU-IAS.

OTHER PROGRAMME PUBLICATIONS ON ESD

- Aipanjiguly, Sampreethi (2009). Networking for ESD. *ESD Currents: Changing Perspectives from the Asia-Pacific*, Bangkok: UNESCO Bangkok: 10-11.
- Fadeeva, Zinaida (2009). An Academic Network for ESD. *ESD Currents: Changing Perspectives from the Asia-Pacific*, Bangkok: UNESCO Bangkok: 13.
- Fadeeva, Zinaida & Mochizuki, Yoko (2008). "Sustainable Production and Consumption." In APCEIU, *Teacher Training for Learning to Live Together: A Training Manual for EIU and ESD*, pp. 251-266. Seoul, Korea: Asia-Pacific Centre of Education for International Understanding (APCEIU) (under the auspices of UNESCO): 251-266.
- Mochizuki, Yoko (2008). "Convergence and Divergence between EIU and ESD: Towards a Culture of Peace and a Sustainable Future." In APCEIU, *Teacher Training for Learning to Live Together: A Training Manual for EIU and ESD*. Seoul, Korea: Asia-Pacific Centre of Education for International Understanding (APCEIU) (under the auspices of UNESCO): 49-58.
- Mochizuki, Yoko (2010). Global Circulation and Local Manifestations of Education for Sustainable Development with a Focus on Japan. *International Journal of Environment and Sustainable Development*, 9(1/2/3): 37-57 (Special Issue on Sustainable Development and Environmental Education).
- Tabucanon, Mario (2008). Asia-Pacific University Network Formed to Integrate ESD and SD into Higher Education. *Journal of Education for Sustainable Development*, 2(1): 73-75.
- Tabucanon, Mario (2009). Asia-Pacific Higher Education Institutions Form Alliance on Sustainability in Postgraduate Education and Research. *Journal of Education for Sustainable Development*, 3(1): 23-25.

FORTHCOMING PUBLICATIONS

- *International Journal of Sustainability in Higher Education*, 11(4), Special issue on Core Competencies and Capabilities for Sustainable Development and Education for Sustainable Development—with a focus on institutions of higher education. Edited by Zinaida Fadeeva and Yoko Mochizuki (forthcoming/autumn 2010).
- *Global Environmental Research*, 14(2), Special Issue on Education for Sustainable Development (ESD): Creating Synergies for Learning for a Sustainable World. Edited by Frans Lenglet, Zinaida Fadeeva and Yoko Mochizuki (forthcoming/spring 2011).

RCEs AROUND THE WORLD (AS OF MARCH 2010)



ASIA-PACIFIC (28)

COUNTRY	RCE	MONTH AND YEAR OF ACKNOWLEDGEMENT*	MAIN CONTACT
Cambodia	Greater Phnom Penh	December 2009	Royal University of Agriculture (RUA)
China	Anji	January 2007	UNEP-Tongji Institute of Environment for Sustainable Development
	Beijing	January 2007	Beijing Normal University
India	Bangalore	November 2008	Centre for Environment Education (CEE) Southern Regional Cell
	Delhi	November 2008	The Energy and Resources Institute (TERI)
	Guwahati	January 2007	Centre for Environment Education (CEE) North Eastern Regional Cell
	Kodagu	May 2007	Kodagu Heritage Interpretation Center, Centre for Environment Education (CEE) Madikeri
	Lucknow	January 2007	Centre for Environment Education (CEE) Northern Regional Cell
	Pune	January 2007	Centre for Environment Education (CEE) Central Regional Cell
Indonesia	Bogor	January 2007	SEAMEO BIOTROP (Southeast Asian Regional Centre for Tropical Biology)
	East Kalimantan	November 2008	Gedung Rektorat Universitas Mulawarman
	Yogyakarta	August 2007	Universitas Gadjah Mada
Japan	Chubu	August 2007	Chubu University
	Greater Sendai	June 2005	Miyagi University of Education's UNU-RCE Promotion Committee
	Hyogo-Kobe	August 2007	Kobe University
	Kitakyushu	January 2007	City of Kitakyushu

COUNTRY	RCE	MONTH AND YEAR OF ACKNOWLEDGEMENT*	MAIN CONTACT
	Okayama	June 2005	City of Okayama
	Yokohama	April 2006	City of Yokohama
Kyrgyzstan	Kyrgyzstan	May 2007	State Agency of Environmental Protection and Forestry; Bishkek Humanitarian University
Malaysia	Penang	June 2005	Universiti Sains Malaysia
Philippines	Cebu	April 2006	University of the Philippines Visayas – Cebu College
	Ilocos	September 2009	Mariano Marcos State University
	Northern Mindanao	November 2008	Xavier University
Korea	Incheon	January 2007	Incheon Center for International Cooperation and Exchange (ICICE); Local Agenda 21 for
	Tongyeong	November 2005	Tongyeong ESD Foundation
Thailand	Cha-am	March 2008	The Sirindhorn International Environmental Park Foundation under the Patronage of Her Royal Highness Princess Maha Chakri Sirindhorn (NGO)
	Trang	January 2007	City of Trang
Pacific island countries	Pacific	June 2005	University of South Pacific

EUROPE (22)

Austria	Graz-Styria	August 2007	University of Graz (Karl-Franzens-Universität Graz)
Belgium/ Netherlands/ Germany	Rhine-Meuse	June 2005	RCE Rhine-Meuse (registered as a foundation under the Dutch law)
Belgium/ Netherlands/ Germany/ France/ UK	Southern North Sea	January 2007	UNU-CRIS (United Nations University - Comparative Regional Integration Studies)
Germany	Hamburg	March 2008	Hamburg University of Applied Sciences (chair); Ausbildungszentrum-Bau in Hamburg, the vocational training centre for the main crafts (coordination)

	Munich	January 2007	City of Munich
	Nuremberg	March 2008	H-46 Future Agency for Schools (under the school administration of the City of Nuremberg)
	Oldenburger Münsterland	December 2009	University of Vechta
Greece	Crete	December 2009	Department of Education, University of Crete
Ireland	Ireland	August 2007	Limerick University
Portugal	Açores	December 2009	University of the Azores
	Creias-Oeste	August 2007	The Centre of Studies, Information and Education for the Environment, Ida (CEIFA ambiente, Lda)
	Porto Metropolitan Area	February 2009	Portuguese Catholic University
Russia	Nizhny Novgorod	December 2009	Nizhny Novgorod State University of Architecture and Civil Engineering (NNGASU); Volgo-Vyatsky Public Administration Academy (VVAGS)
	Samara	August 2007	Samara State University of Architecture and Civil Engineering (SSUACE)
Spain	Barcelona	June 2005	Politècnica de Catalunya (UPC)
Sweden	Skåne	January 2007	Malmö University (Malmö högskola)
UK	East Midlands	January 2007	There is no secretariat but several working groups are in place. A chair of the management group takes a role as RCE coordinator.
	London	December 2009	London South Bank University
	North East	August 2007	Newcastle University
	Severn**	March 2008	Gloucestershire University
	Wales	December 2009	Swansea University
	Yorkshire & Humberside	November 2008	Bradford University

MIDDLE EAST AND AFRICA (13)

COUNTRY	RCE	MONTH AND YEAR OF ACKNOWLEDGEMENT*	MAIN CONTACT
Egypt	Cairo	November 2008	Sekem Development Foundation
Ghana	Ghana	June 2005	Kwame Nkrumah University Of Science and Technology (KNUST)
Jordan	Jordan	November 2005	Currently in transition (used to be hosted by UNU-International Leadership Institute, which was closed.)
Kenya	Greater Nairobi	June 2007	National Environment Management Authority (NEMA)
	Kakamega-Western Kenya	September 2009	Kakamega Office, National Environment Management Authority (NEMA); iEARN Kenya-International Education and Resource Network
Malawi	Zomba	March 2008	University of Malawi
Mozambique	Maputo	March 2008	Universidade Eduardo Mondlane
Nigeria	Kano	November 2007	Byero University; ECOSEC Services & Investment Ltd.
	Lagos	November 2007	Horeb Educational Consulting
South Africa	KwaZulu Natal	January 2007	Wildlife and Environment Society of South Africa (WESSA)
	Makana & Rural Eastern Cape	January 2007	Rhodes University
Swaziland	Swaziland	March 2008	University of Swaziland
Uganda	Greater Mbarara	March 2008	Mbarara University of Science and Technology

AMERICAS (12)

Argentina	Chaco	March 2010	Center of Environmental and Resource Management (CEGAE)
Brazil	Curitiba-Paraná	January 2007	Federal University of Parana (UFPR)
Canada	British Columbia (North Cascades)	December 2009	Science and Environmental Education, Faculty of Education, Simon Fraser University

	Montreal	August 2007	ICI Environment, Biosphère
	Saskatchewan	January 2007	Luther College, University of Regina; Saskatchewan Institute of Applied Science and Technology (SIAST)
	Greater Sudbury	January 2007	City of Greater Sudbury
	Toronto	June 2005	Currently in transition
Columbia	Bogotá	September 2009	Institute for Environmental Studies (IDEA)- National University of Colombia; National Pedagogical University
Guatemala	Guatemala	September 2009	Institute of Interethnic Studies, San Carlos University
Mexico	Western Jalisco	August 2007	University Center of the South Costa, University of Guadalajara (Centro Universitario de la Costa Sur, Universidad de Guadalajara)
USA	Grand Rapids	January 2007	Grand Valley State University
	North Texas	August 2007	Currently in transition

*The month and year of acknowledgement is based on the date that the letter of acknowledgement of the RCE was signed by the Rector of the United Nations University. This date does not necessarily coincide with the actual date indicated on the Certificate of Acknowledgement since RCEs are often launched in conjunction with major local/regional events to build momentum for ESD.

**Originally acknowledged as RCE West Midlands. The name was officially changed to RCE Severn in September 2008.

REFERENCE MATERIALS

The Ubuntu Declaration

The Ubuntu Declaration was signed during the World Summit on Sustainable Development in Johannesburg in 2002. It provided conceptual underpinnings for the strategy of the ESD programme of UNU-IAS and the concept of RCEs.

THE UBUNTU DECLARATION

Education, Science & Technology for Sustainable Development

In an effort to make integrated solutions work for sustainable development and to mobilize the education sector to contribute to sustainable development;

We, the education and scientific organizations of the world,

United Nations University; United Nations Educational, Scientific and Cultural Organization; African Academy of Science; International Council for Science; International Association of Universities; Copernicus-Campus; Global Higher Education for Sustainability Partnership; Science Council of Asia; Third World Academy of Sciences; University Leaders for a Sustainable Future; and World Federation of Engineering Organizations,

Call for an initiative to strengthen science and technology education for sustainable development.

Cognizant that integrated solutions for sustainable development depend on the continued and effective application of science and technology, and that education is critical in galvanizing the approach to the challenges of sustainable development.

Endorsing the Earth Charter as the inspiring, fundamental and balanced set of principles and guidelines for building a just, sustainable and peaceful global society in the 21st century, which should permeate all levels and sectors of education.

Noting that science is all science - natural, social and human.

Recognizing the necessity to bridge the knowledge gap between the nations of the world through a fundamental redress of the distribution of education for sustainability.

Acknowledging that the ultimate goal of education in all its forms is to impart knowledge, skills and values to empower people to bring about changes.

Concerned that education has not been utilized as a vehicle for attaining sustainable development.

Reaffirming the indispensable role of education in achieving sustainable development, and the important role education plays in the mobilization of science and technology for sustainability as contained in Chapter 36 of Agenda 21.

Recalling the Lüneburg Declaration on Higher Education for Sustainable Development of 10 October 2001, and its emphasis on the indispensable role of higher education informing and supporting all education in addressing the critical challenges of sustainable development.

And recognizing that the Scientific and Technological community, as represented by the International Council for Science, Third World Academy of Sciences, and World Federation of Engineering Organizations in the WSSD process has called for a new social contract between science and technology and society for sustainable development.

Determined to work towards the goals contained in the Millennium Declaration, Monterrey Consensus and the Doha Development Declaration.

Call on Governments of the World Summit for Sustainable Development and the Post-Summit agenda to:

Designate educators as the tenth stakeholder group in the WSSD process.

Call on educators, Government and all relevant stakeholders to:

Review the programmes and curricula of schools and universities, in order to better address the challenges and opportunities of sustainable development, with a focus on:

- Plans at the local, regional and national country levels;
- Creating learning modules which bring skills, knowledge, reflections, ethics and values together in a balanced way;
- Problem-based education at primary and secondary levels in order to develop integrated and non-instrumental approaches to problem solving at an early stage in the education cycle;
- Problem-based scientific research in tertiary education, both as a pedagogical approach and as a research function;

Promote efforts to attract young people to the teacher profession both to meet the Millennium Development goals of universal access to primary education as well as to further strengthen primary, secondary and tertiary education. In developed countries the major challenge in the coming years will be to offset the high outflows of experienced teachers reaching retirement age or taking up other challenges.

Develop mechanisms to continuously inform teachers and update programmes on major progress in scientific and technological knowledge relevant for sustainable development.

Promote knowledge transfers in innovative ways in order to speed up the process of bridging gaps and inequalities in knowledge. This is the shared responsibility of teachers, schools, research and education institutions and governments.

To achieve these challenges and objectives, we are resolved to work towards a new global learning space on education and sustainability that promotes cooperation and exchange between institutions at all levels and in all sectors of education around the world. This space must be developed on the basis of international networks of institutions and the creation of regional centres of excellence, which bring together universities, polytechnics, and institutions of secondary education and primary schools. We invite all other responsible stakeholders to join us in this endeavour.

The Bonn Declaration

Item 15 n) of the Bonn Declaration (2009) calls for supporting “centres of expertise and innovation that develop and share knowledge, and create resources for ESD”.

The UNESCO Strategy for the Second Half of the DESD calls for “cooperating with UNU in the framework of RCEs” in order to “generate knowledge, share new approaches and enhance evidence-based policy dialogue” (UNESCO 2010).

BONN DECLARATION

We, the participants gathered at the UNESCO World Conference on Education for Sustainable Development held in Bonn, Germany on 31 March to 2 April 2009 issue the following statement and call for action:

1. Despite unprecedented economic growth in the 20th century, persistent poverty and inequality still affect too many people, especially those who are most vulnerable. Conflicts continue to draw attention to the need for building a culture of peace. The global financial and economic crises highlights the risks of unsustainable economic development models and practices based on short-term gains. The food crisis and world hunger are an increasingly serious issue. Unsustainable production and consumption patterns are creating ecological impacts that compromise the options of current and future generations and the sustainability of life on Earth, as climate change is showing.
2. A decade into the 21st century, the world faces substantial, complex and interlinked development and lifestyle challenges and problems. The challenges arise from values that have created unsustainable societies. The challenges are interlinked, and their resolution requires stronger political commitment and decisive action. We have the knowledge, technology and skills available to turn the situation around. We now need to mobilise our potential to make use of all opportunities for improving action and change.
3. The impacts of unsustainable development, priorities, responsibilities and capacity differ between regions and between developing and developed countries. All countries will need to work collaboratively to ensure sustainable development now and in the future. Investment in education for sustainable development (ESD) is an investment in the future, and can be a life-saving measure, especially in post-conflict and least developed countries.
4. Building on the Jomtien, Dakar and Johannesburg promises, we need a shared commitment to education that empowers people for change. Such education should be of a quality that provides the values, knowledge, skills and competencies for sustainable living and participation in society and decent work. The Education for All agenda underlines that the availability of basic education is critical for sustainable development. It similarly emphasises pre-school learning, education for rural people and adult literacy. Achievements in literacy and numeracy contribute to educational quality, and will also be critical to the success of ESD.
5. Through education and lifelong learning we can achieve lifestyles based on economic and social justice, food security, ecological integrity, sustainable livelihoods, respect for all life forms and strong values that foster social cohesion, democracy and collective action. Gender equality, with special reference to the participation of women and girl children in education, is critical for enabling development and sustainability. Education for sustainable development is immediately necessary for securing sustainable life chances, aspirations and futures for young people.

Education for sustainable development in the 21st century

6. Education for sustainable development is setting a new direction for education and learning for all. It promotes quality education, and is inclusive of all people. It is based on values, principles and practices necessary to respond effectively to current and future challenges.
7. ESD helps societies to address different priorities and issues *inter alia* water, energy, climate change, disaster and risk reduction, loss of biodiversity, food crises, health risks, social vulnerability and insecurity. It is critical for the development of new economic thinking. ESD contributes to creating resilient, healthy and sustainable societies through a systemic and integrated approach. It brings new relevance, quality, meaning and purpose to education and training systems. It involves formal, non-formal and informal education contexts, and all sectors of society in a lifelong learning process.
8. ESD is based on values of justice, equity, tolerance, sufficiency and responsibility. It promotes gender equality, social cohesion and poverty reduction and emphasises care, integrity and honesty, as articulated in the Earth Charter. ESD is underpinned by principles that support sustainable living, democracy and human well-being. Environmental protection and restoration, natural resource conservation and sustainable use, addressing unsustainable production and consumption patterns, and the creation of just and peaceful societies are also important principles underpinning ESD.
9. ESD emphasises creative and critical approaches, long-term thinking, innovation and empowerment for dealing with uncertainty, and for solving complex problems. ESD highlights the interdependence of environment, economy, society, and cultural diversity from local to global levels, and takes account of past, present and future.

10. Linked to different needs and the concrete living conditions of people, ESD provides the skills to find solutions and draws on practices and knowledge embedded in local cultures as well as in new ideas and technologies.

Progress in the UN Decade of Education for Sustainable Development

11. During the first five years of the UN Decade of Education for Sustainable Development, led and co-ordinated by UNESCO, many countries have made progress in implementing ESD and have designed innovative policy frameworks. A number of UN agencies, NGOs, regional bodies, and partner networks are engaged in concrete activities that support specific areas of ESD. Many people and organisations are committed and engaged in action. Efforts towards better understanding, promotion, implementation and assessment of the quality of ESD are underway. A global monitoring and evaluation framework has been designed. Efforts at the global level have been complemented by regional strategies and initiatives.

12. We recognise that education is a significant factor in improving human well-being. We now have the knowledge and experience available to significantly improve the contents, methods and purposes of education. We know how to begin re-orienting education systems to emphasise lifelong learning. Through ESD we are learning how to improve links between formal, non-formal and informal education. We know the importance of strengthening and sharing knowledge of educational change processes.

13. Science has provided us with a better knowledge of climate change and of the Earth's life support systems; it has gathered significant knowledge about HIV and AIDS, malaria, tuberculosis, heart diseases, and other serious health challenges. We know more about natural systems, and human impacts on them, and the ways that biodiversity supports our well-being. We know that current economic thinking has to change, and that there is a need to avoid unsustainable production and consumption and promote and support the emergence of 'sustainably developed' countries. Social science has provided insight into ethical, cultural, cognitive and affective aspects of human development, as well as sociologies of change.

14. We now need to put this knowledge into action. This is especially important to strengthen and extend the outcomes of the UN DESD in the next five years, but also to ensure longer term implementation of ESD.

A call for action

15. The progress of ESD remains unevenly distributed and requires different approaches in different contexts. In the coming years, there is a clear need for both developed and developing countries, civil society and international organisations to make significant efforts to:

At policy level in member states

- a) **Promote ESD's contribution to all of education and to achieving quality education**, with particular regard to fostering the linkages between ESD and EFA within a coherent and systemic approach. Foster the goals of the ESD agenda in international fora and at the national level.
- b) **Increase public awareness and understanding about sustainable development and ESD**, by mainstreaming and expanding the learning and insights gained in the first five years of the UN DESD into public awareness policies and programmes and various forms of informal learning. This should include promoting the role and contribution of the media for fostering public awareness and understanding of sustainability issues. It should also include capacity-building of media professionals.
- c) **Mobilize adequate resources and funding in favour of ESD**, in particular through integrating ESD into national development policy and budgetary frameworks, into UN common country programming processes and other country-level policy frameworks (such as sector-wide approaches), as well as into EFA and MDG initiatives. Promote and include ESD in the priorities of foundations and donors.
- d) **Re-orient education and training systems to address sustainability concerns through coherent policies at national and local levels**. Develop and implement ESD policies through co-ordinated inter-sectoral/inter-ministerial approaches that also involve business and the corporate sector, civil society, local communities and the scientific community.
- e) **Develop and strengthen existing international, regional and national enabling mechanisms and cooperation for ESD that respect cultural diversity**. Establish regional and country-level committees, networks and communities of practice for ESD that strengthen local-national, and national-global links, and that enhance North-South-South and South-South co-operation.

At practice level

- f) **Support the incorporation of sustainable development issues using an integrated and systemic approach in formal education as well as in non-formal and informal education at all levels**, in particular through the development of effective pedagogical approaches, teacher education, teaching practice, curricula, learning materials, and education leadership development, and also by recognizing the significant contribution of non-formal education and informal learning as well as vocational and work-place learning. Sustainable development is a cross-cutting theme with relevance to all disciplines and sectors.

g) **Reorient curriculum and teacher education programmes to integrate ESD into both pre-service and in-service programmes.** Support teacher education institutions, **teachers and professors** to network, develop, and research sound **pedagogical practice**. Specifically support teachers to develop ESD strategies that can work with large class sizes, and to evaluate ESD learning processes.

h) Promote evidence-informed policy dialogue on ESD, drawing upon relevant **research, monitoring and evaluation strategies**, and the **sharing and recognition of good practices**. Develop national ESD indicators that inform the effective implementation and review of ESD outcomes and processes.

i) **Develop and extend ESD partnerships to integrate ESD into training, vocational education and workplace learning** by involving civil society, public and private sectors, NGOs, and development partners. ESD should become an integral part of the training of leaders in business, industry, trade union, non-profit and voluntary organizations, and the public services. Re-orient TVET programmes to include ESD.

j) **Involve youth in the design and implementation of ESD.** Engage the commitment, solidarity and potential of youth and their organisations and networks in enhancing ESD. Foster young people's ownership of ESD questions and issues.

k) **Enhance the major contribution and key role of civil society** in stimulating debate and public participation, and initiating ESD actions. Explore ways to further this involvement and commitment.

l) **Value and give due recognition to the important contribution of traditional, indigenous and local knowledge systems for ESD** and value different cultural contributions in promoting ESD.

m) ESD should actively promote **gender equality**, as well as create conditions and strategies that enable women to share knowledge and experience of bringing about social change and human well-being.

n) **Develop knowledge through ESD networking.** Identify and support schools, universities and other higher education and research institutions, education centres and education networks that could serve as centres of expertise and innovation that develop and share knowledge, and create resources for ESD. Explore the potential of specific geographical and bioregional sites which can serve as spatially defined 'laboratories' for ESD.

o) Encourage and enhance **scientific excellence, research and new knowledge development** for ESD through the **involvement of higher education institutions and research networks** in ESD. Mobilise the core functions of universities: teaching, research and community engagement to strengthen global and local knowledge of ESD, and utilise the UNESCO ESD Chairs and UNESCO programme networks in this process. Establish institutional and organisational structures that facilitate flexibility, student participation, and multi-disciplinary programmes and develop model projects that can respond to the complexity and urgency of ESD. Reward structures should be developed and implemented to support ESD initiatives and research in higher education.

p) **Develop institutional mechanisms** during the UN Decade of Education for Sustainable Development and other ongoing Decades, such as the UN Decade for Action 'Water for Life' that will ensure that ESD continues to be implemented beyond those Decades.

q) **Engage the expertise available within the UN system** to strengthen ESD in key sustainable development conventions; for example, those focusing on biodiversity, climate change, desertification and intangible cultural heritage.

r) **Intensify efforts in education and training systems to address critical and urgent sustainability challenges** such as climate change, water and food security by developing specific action plans and/or programmes within the UN DESD umbrella and partnership framework.

16. The participants in the 2009 World ESD Conference request UNESCO, as lead agency responsible for the UN DESD, to:

a) Enhance its leadership and co-ordination role for the UN DESD based on the International Implementation Scheme in co-operation with other UN agencies and programmes such as UNEP, UNU, the EFA convening agencies (UNICEF, UNDP, UNFPA and the World Bank) - amongst others, and incorporate ESD into 'one UN' strategies at country level, particularly through UNDAF processes.

b) Support member states and other partners in the implementation of the UN DESD, particularly through upstream capacity-building and policy advice on the development of coherent national strategies, monitoring and evaluation, recognising and sharing good practices on ESD, advocacy and global partnership development, with due consideration to post-conflict and least developed countries.

c) Represent and/or promote the ESD agenda in other major education and development forums such as international conferences and negotiations such as the G8, G20, Copenhagen Climate Change Conference, EFA High-Level Group, UN Chief Executives Board, and UNESCO world conferences (amongst other ongoing events and activities).

d) Utilize the expertise that exists within UNESCO biosphere reserves, world heritage sites and other science, culture and education programmes, such as TTISSA (Teacher Training Initiative for Sub-Saharan Africa), ASPnet schools and LIFE (Literacy Initiative for Empowerment) to further ESD objectives and ensure that key priorities for ESD are integrated into longer term programmes and strategies within UNESCO.

e) Promote ESD-related research through UNESCO's programmes in order to enhance the quality and evidence-base of ESD. Further develop the global monitoring and evaluation system to evaluate ESD and take initiatives to develop international strategies and practices that can lead to a successful conclusion of the UN DESD with visible and concrete outcomes.

f) Highlight the relevance and importance of education and training in the UN Summit on Climate Change (COP 15) in Copenhagen, Denmark, in December 2009 in consultation and co-operation with other partners.

g) Intensify efforts and initiatives to put climate change education higher on the international agenda, in the framework of the DESD, in the context of UNESCO's strategy for action on climate change, and as a component of UN-wide action.

17. Furthermore, the participants in this conference undertake to work towards implementation of this Declaration.

18. The participants encourage the mobilization of adequate funding in support of the recommendations contained in this Declaration.

19. The participants in the World ESD Conference express their gratitude to the German Government for hosting this conference, and welcome the intention announced by the Government of Japan to host jointly with UNESCO the end-of-decade world conference on ESD.

CONTRIBUTING AUTHORS AND EDITORS

Sampreethi Aipanjiguly is Communications Coordinator for the ESD Programme at UNU-IAS. She has a background in communications and environment conservation, and has previously worked on both issues in India, the US, Ghana, the Mediterranean region and in the Eastern Himalayan region.

Won Jung Byun is Chief Coordinator of RCE Tongyeong, Korea, responsible for organising a local ESD network and developing ESD programmes.

Kiran Banga Chhokar, Ph.D., is Programme Director of Higher Education at the Centre for Environment Education in India. She is also co-editor of the peer-reviewed international Journal of Education for Sustainable Development, and the focal point for RCEs in India.

Zinaida Fadeeva, Ph.D., is Research Fellow for the ESD programme of UNU-IAS. She conducts research and policy analysis related to the topics of core competencies for sustainable development and ESD, network management, assessment of sustainability initiatives and education for sustainable production and consumption. Before joining UNU-IAS, she worked as Research Associate at the International Institute for Industrial Environmental Economics at Lund University, Sweden.

Jos Hermans, Ph.D., h.c. Rus, is an economist. Retired recently, he is now coordinator of European RCEs. Jos was the Dean of a Business School in the Netherlands in the 1990s and Head of International Relations of Zuyd University in the Netherlands in the last years of his career. In this last position he was also co-founder of the Netherlands RCE Rhine-Meuse. Apart from his work for UNU-IAS, he is active on behalf of the Dutch development programme in Africa, where he is involved in higher education.

Clemens Mader, Ph.D., is an assistant professor at the University of Graz, Austria and the coordinator of RCE Graz-Styria. His research and lectures focus on sustainability leadership, urban and institutional sustainability processes as well as theories and practice of ESD. He lectures on intergenerational and interdisciplinary courses at the University of Graz in Austria, at the Hiroshima University in Japan and at the University of Novi Sad in Serbia.

Yoko Mochizuki, Ph.D., is a sociologist of education. She is part of the Global RCE Service Centre. Prior to joining UNU-IAS, she was an Adjunct Assistant Professor in the Department of Human Development, Teachers College, Columbia University in New York. Her current research focuses on the theory and practice of ESD and the sociology of international development. She also lectures on globalisation and education at Keio University in Tokyo.

Roger A. Petry, Ph.D., is an Assistant Professor of Philosophy at Luther College at the University of Regina (Canada). He regularly teaches courses in critical thinking, ethics, sustainable development, and philosophy of religion. His research interests include university innovation for sustainable development and strategic dimensions in moving to new production systems. Roger Petry is co-coordinator of RCE Saskatchewan.

Katsunori Suzuki is an environmental specialist and a professor at Kanazawa University. He has worked in environmental administration for more than 30 years in Japan and with international organisations such as the United Nations Economic and Social Commission for Asia and the Pacific, the World Bank and UNU-IAS. His specialties are environmental policies, international environmental regimes and education for sustainable development.

Mario T. Tabucanon is currently a Visiting Professor affiliated with the ESD Programme of UNU-IAS. He has been a longtime Professor of Industrial Systems Engineering and Management at the Asian Institute of Technology based in Thailand. He has published extensively in the area of Multiple Criteria Decision Making.

UNU-IAS — Promoting Research and Actions to Advance Partnerships for ESD across Geographic, Knowledge & Sectoral Boundaries

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 its role as the think-tank for the UN, aims to contribute, through research and capacity building, to efforts to resolve pressing global problems. UNU-IAS conducts research, postgraduate education and capacity development, both in-house and in cooperation with an interactive network of academic institutions and international organisations.

The Education for Sustainable Development (ESD) programme of UNU-IAS aims to develop the capacity of the public at large, and decision makers in particular, to integrate ESD components into national development planning and implementation by the end of the Decade of Education for Sustainable Development (DESD, 2005-2014). The programme focuses on advocacy and dissemination of ESD principles, promotion of Regional Centres of Expertise on ESD (RCEs), and strengthening ESD activities of higher education institutions, particularly through ProSPER.Net (Promotion of Sustainability in Postgraduate Education and Research Network).



ACKNOWLEDGED BY



UNITED NATIONS
UNIVERSITY

For more information:

The Global RCE Service Centre
United Nations University -
Institute of Advanced Studies (UNU-IAS)
Yokohama, Japan
rceservicecentre@ias.unu.edu