

Capacity Building Programme

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1. Overview

1.1. Background, objectives, and approach

1.1.1. Background

IGES' research projects are focused on conducting strategic policy research. Besides this activity, all of them are also engaged in multi-stakeholder dialogue, information outreach, and capacity building. To strengthen this wide range of capacity-building initiatives and to enhance the organisation's effectiveness, IGES established the Capacity Building Programme (CBP) in 1999. Consequently, the strategic research activities of the CBP are not policy but *implementation*-oriented; they focus on the development of innovative learning and training tools to support IGES' efforts in closing the knowledge-action gap.

1.1.2. Objectives and targets

The Capacity Building Programme connects policy research with policy-making by providing innovative training for decision-makers to formulate research-based policies. Based on Agenda 21 principles and IGES' mission, the CBP's own mission is to support learning for sustainable development through the following objectives:

1. Encourage innovative policy development by making IGES research results easily accessible to policy-makers and policy implementers.
2. Provide a large number of key decision-makers with quality learning through
 - adopting an integrated capacity-development approach,
 - promoting the wise use of eLearning (for narrowing the digital divide), and
 - offering a needs-based combination of eLearning with face-to-face methodologies.

1.1.3. Who needs capacity building?

In view of the above, the beneficiaries of the CBP's activities are the same as IGES' other research projects: policy-makers; decision-makers; leaders and managers who have high impact, broad outreach, and who are stakeholders of sustainable development; governments; businesses; schools and universities; non-governmental organisations (NGOs); and those whose activities have special focus on Asia-Pacific countries.

1.2. Review of achievements

In the second phase of IGES' strategic research, the CBP focused on eLearning (Internet-based learning) as the primary tool of implementation, and combining eLearning with face-to-face training workshops with a

**Report of the Second Phase Strategic Research (April 2001–March 2004):
Capacity Building Programme**

commitment to narrowing the digital divide. The content of training materials was built on IGES' strategic research results, as well as the intellectual capital of the CBP's large international network of organisations involved in policy change for sustainable development.

The following is a list of activities conducted and achievements in the second phase of research:

- **eLearning:** Developed 40 eCourses (tutorial-like, non-academic, practical, short, self-study courses) that promoted the research results of IGES and its partners and strengthened leadership skills for their implementation. The number of eCourses created since the first phase totaled 47 (35 in English, 12 in Japanese), and as of February 2004, more than 4,700 registered users have benefited from the IGES eLearning system, compared with 137 by March 2001 at the end of the first phase (Figure 1).
- **Training material development:** Developed training and learning resource materials for both on-line and off-line use.
- **Training workshop implementation:** Designed and implemented nine face-to-face training workshops in Japan (22 training days, 140 participants from 18 countries).
- **Leadership training through internship:** Provided three- to six-month-long research internships for four LEAD¹ Fellows, providing them with the opportunity to strengthen their leadership abilities and exchange ideas with IGES researchers. A new internship programme with the International Institute for Sustainable Development (IISD), Canada, began and welcomed one intern in February 2004.
- **Network development:** Strengthened the networks of capacity development providers committed to sustainable development.
- **Research:** Conducted research on the impacts of eLearning. The research involved 1,600 staff members of the Kanagawa Prefectural Government, Japan, who took a self-study, asynchronous eCourse on ISO14001. The eCourse was developed based on the existing resources owned by Kanagawa Prefecture.

Table 1. Activities and results can be seen at the following Web sites.

Web site	URL
eLearning (English)	http://iges.net/
eLearning (Japanese)	http://iges-japan.net/
Capacity Building Programme (English)	http://www.iges.or.jp/en/cb/index.html
Capacity Building Programme (Japanese)	http://www.iges.or.jp/jp/cb/index.html

1.3. Degree of attainment of the objectives

1.3.1. IGES eLearning system

The CBP provided a reliable Web-based learning environment and eLearning tools to enhance self-paced, asynchronous, and interactive capacity development activities, which included the following:

1. **Software:** Improved the reliability and user-friendliness of IGES' software (Course Maker, Course Manager Pro) with regular upgrades by incorporating requests from users. Ensured that IGES eCourses became available in CD-ROM format, not just on-line. Based on comprehensive comparative cost-benefit and risk analysis, ranging from short to long term, the CBP began to also use commercial software (Macromedia Flash) to author eCourses, in order to expand interactive learning opportunities, provide courses in other languages, and to make sure IGES' eLearning system is compatible with other eLearning software and platforms. To support the above development, a new eCourse management system was researched, designed, and piloted.

¹ LEAD: Leadership for Environment and Development <<http://www.lead.org/>>

2. **Learner support:** Provided 4,700 registered users (policy-makers, decision-makers) with content and technical and training design support. Designed and started issuing certificates to acknowledge successful and cooperative learning achievements.
3. **Web sites:** Updated and harmonised the CBP's Japanese and English Web sites, resulting in 16,000 Web site visits per month (as of October 2003). A new bilingual Web site was designed and piloted in order to better support IGES' third phase activities.
4. **Strategic alliance of providers:** Developed and further strengthened strategic alliances with like-minded initiatives of eLearning for sustainable development (e.g., LEAD, UNU,² UNEP-IETC,³ eWorld) to leverage resources and enhance the quality of on-line capacity development.

1.3.2. IGES online eCourses

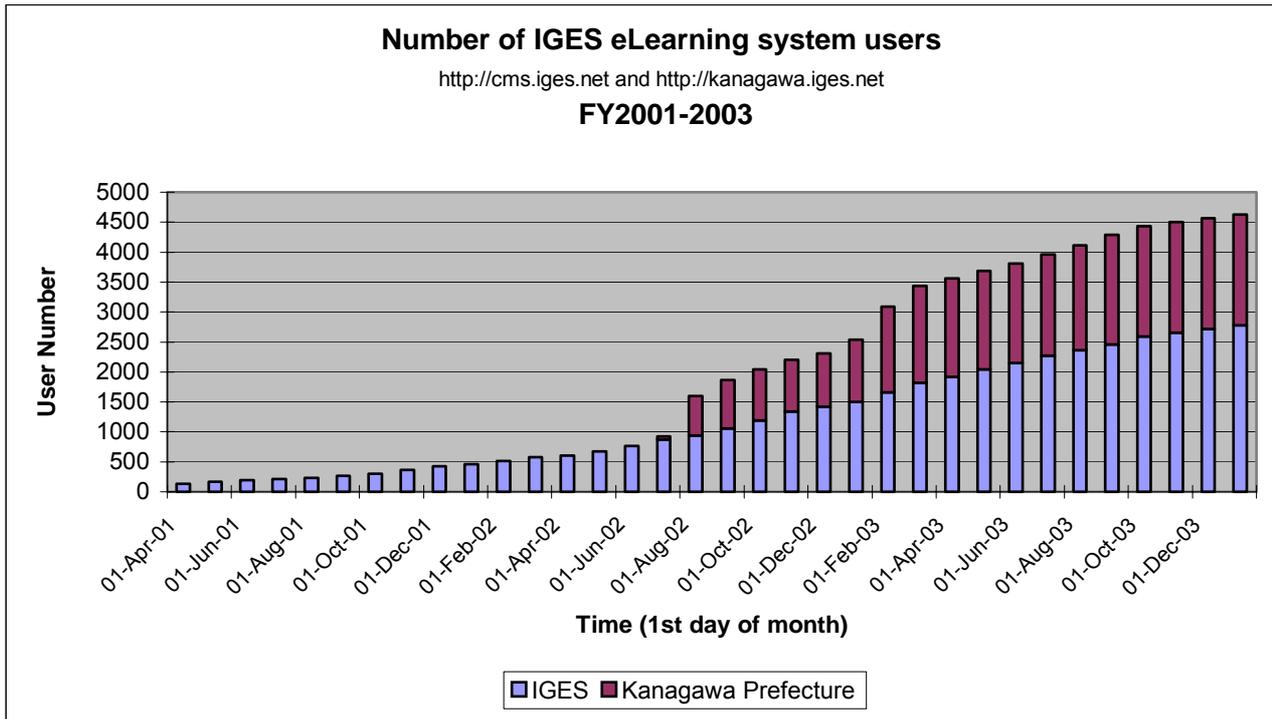
As of 30 January 2004, a total of 4,736 registered learners had used the IGES eLearning system to develop their capacity to implement sustainable development by taking eCourses, authoring their own eCourses, and utilising on-line resources. The CBP now has 47 eCourses available publicly (35 in English, 12 in Japanese). An additional 1,845 learners are using the IGES eLearning system to study their own courses (not available to the public) within a large-scale eLearning project with the government office of Kanagawa Prefecture, and 140 leaders were trained in nine face-to-face training workshops.

Initially, the CBP focused on individual capacity development (leadership, human resources). The first real opportunity for organisational development commenced with a long-term, large-scale eLearning project with Kanagawa Prefecture, which is using the eLearning system to increase environmental awareness among all of its 4,000 government employees in the Kanagawa Prefectural office, with the ultimate goal of improving the environmental performance of the organisation and eventually other agencies in the prefecture. These collaborative training projects can be used by IGES to reach out to the desired amount of targeted leaders.

“A la carte” or “just-in-case” training (i.e., self-motivated individuals registering on the IGES system, three to nine per day on average) provided a steady increase, but the real impact can only be achieved with institutionally required participation. (See Figure 1 and Figure 2, below, for the contribution of the eLearning project with Kanagawa Prefecture to the total number of users. See Figure 3 for a sample screen shot of two eCourses.)

2 UNU: United Nations University

3 UNEP-IETC: United Nations Environment Programme International Environmental Technology Centre



**Report of the Second Phase Strategic Research (April 2001–March 2004):
Capacity Building Programme**

judgments, and eventually making decisions (higher-order thinking skills). This transition was made possible by applying additional commercial software (Macromedia Flash), embedding the interactive components in IGES' own software (Course Maker), and/or using stand-alone Flash simulations. This approach took more advantage of using computers, but as it required a more complex development process (multidisciplinary team), it allowed development of fewer courses. A full list of published and updated courses is available at <<http://www.iges.net/ecourses.htm>>.

In addition to experimenting with new approaches and developing new courses, the CBP also designed and implemented a comprehensive course management scheme; popular courses were updated once or twice a year by technical experts to provide users with up-to-date information. Feedback forms allowed the programme to have more effective communication with end-users and answer their questions.

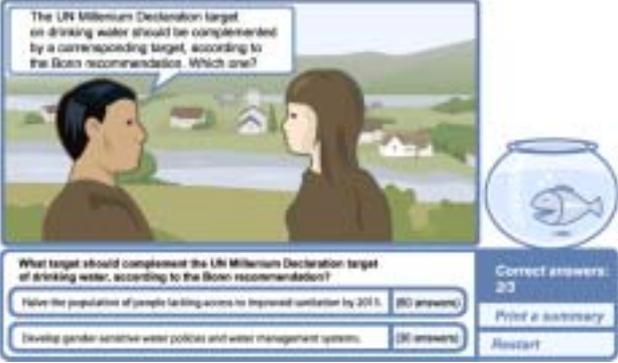
	<p>Sample screen-shot of the eCourse “Urban Environmental Management Systems (EMS)” developed jointly with UNEP-IETC (IGES partner organisation).</p> <p>This eCourse is designed for city managers and political leaders in developing countries and countries with economies in transition. This introductory course raises awareness and demonstrates the importance of environmental management systems (EMS) for improving urban environments.</p> <p>Time required: about 90 minutes</p>
	<p>Sample screen-shot of the online simulation “Freshwater Actions.”</p> <p>This 15-minute simulation supports the users’ decision-making on fresh water issues by introducing 21 priority actions for fresh water based on the Bonn Recommendations in 2001. The user, either as policy-maker, educator, or others, will have an opportunity to review the priority actions and consider which one would be the most important action for their own community/region.</p>

Figure 3. Two examples of IGES eCourses developed in the second phase.

1.3.3. Face-to-face training workshops

Face-to-face training workshops were conducted in cooperation with and for organisations representing the sectors of academia, business, industry, NGOs, media, and government. These workshops were designed with a blended approach (combining face-to-face with on-line training). The following workshops were provided by the CBP in cooperation with IGES partner organisations:

- LEAD 4th National Training Session for Cohort 8, at Shonan Village Centre and Keio University, 16–20 April 2001. Organised by IGES and LEAD Japan.

**Report of the Second Phase Strategic Research (April 2001–March 2004):
Capacity Building Programme**

- Kanagawa Prefecture-IGES eLearning Project (ISO14001 staff training), on-line, Kanagawa Prefectural Governmental Office, April to March in fiscal year (FY) 2002. Organised by IGES and Kanagawa Prefecture.
- Environmental Education Training for NGO Staff in Indonesia, at IGES, Hayama, Japan, 3–4 July 2002 (FY2002). Organised by IGES and Japan International Cooperation Agency (JICA).
- LEAD-Japan 4th National Training Session for Cohort 9, at IGES, Hayama, Japan, 8–12 July 2002. Organised by IGES and LEAD Japan.
- Environmental Education Course Focused on Aquatic Environment, at UNU-IAS, Tokyo, Japan, 9 October 2002 (FY2002). Organised by Japan International Cooperation Agency (JICA) and the International Lake Environment Committee Foundation (ILEC).
- International Symposium on Environmental Education 2002, “Supports for School Environmental Education,” at Sendai International Centre and Izumity 21, 3–5 December 2002. Organised by Miyagi University of Education.
- LEAD-Japan 4th National Training Session for Cohort 10, at IGES, Hayama, Japan, 15–18 July 2003. Organised by IGES and LEAD Japan.
- Environmental Education Course Focused on Aquatic Environment, at UNU-IAS, Tokyo, Japan, 1 October 2003 (JFY2003). Organised by Japan International Cooperation Agency (JICA) and the International Lake Environment Committee Foundation (ILEC).
- eWorld Meeting IV, at United Nations University (UNU), Shibuya, Tokyo, Japan, 14 November 2003. Organised by UNU/IGES/UNEP-IETC.

1.3.4.a. LEAD internships

Four LEAD Research Fellows from four countries (Hungary, Russia, China, and India) contributed a total of 18 months of research to the CBP and other IGES research projects (Climate Policy, Forest Conservation, Environmental Education, Long-Term Perspectives and Policy Integration), as well as the Intergovernmental Panel on Climate Change/Technical Support Unit activities. The result of their work includes two published eCourses (*Community-based Learning for Sustainable Development* and *Carbon Budget Mode*), two draft eCourses (*Eco-Tourism* and *Environmental Education in Nagaland, India*), a research book on a carbon budget model (in Russian), and new networks to link IGES activities.

1.3.4.b. IISD internship

The CBP initiated a new internship scheme with the International Institute for Sustainable Development (IISD), Canada. The first intern arrived in March 2004 and started research activities to contribute to eCourse development.

1.3.5. Research

In cooperation with the Kanagawa Prefectural government, the CBP conducted research on the impact of eLearning in FY2002–2003. Based on 281 valid respondents (out of 436 takers of our eCourses), the research confirmed the following: (1) the eCourse significantly increased the learners’ knowledge of ISO14001; (2) learners’ perception of ISO14001 became more comprehensive by taking the eCourse, growing from a simplistic view of general environmental issues to a multi-faceted view of environmental management, including both process and content issues; and (3) taking an eCourse increases the willingness to act, but it does not necessarily close the knowledge-action gap.

1.3.6. Communication

The CBP contributed to the following events with presentations and publications:

- LEAD Training for the Trainers Workshop, London, U.K., November 2001

**Report of the Second Phase Strategic Research (April 2001–March 2004):
Capacity Building Programme**

- Asia-Pacific Climate Change Symposium, Bangkok, July 2002
- 18th Annual Conference on Distance Teaching and Learning, Wisconsin, U.S., August 2002
- EnTA (Environmental Technology Assessment) Workshop, UNEP-IETC, September 2002
- International Symposium on Environmental Education 2002, “Supports for School Environmental Education,” Sendai, 3–5 December 2002
- APFED 3rd Substantial Meeting, China, 23–26 January 2003
- Integrated Capacity Development in ASEAN, preparatory workshop, Tokyo, 20–21 January 2003
- The 6th UNESCO/Japan Seminar on Environmental Education in the Asian-Pacific Region, Tokyo, Japan, February 2003
- Third Workshop on Public Awareness for Acid Deposition Problems, at the Acid Deposition and Oxidant Research Center, Niigata, Japan, 20–21 February 2003
- World Water Forum 3, Kyoto, Japan, March 2003
- Integrated Capacity Development in ASEAN region, Kuala Lumpur, March 2003
- Research on Innovative and Strategic Policy Options (RISPO) of the Asia-Pacific Environmental Innovation Strategy (APEIS), First Plenary Workshop, Bangkok, March 2003
- Asia-Pacific Environmental Innovation Strategy (APEIS), Second Meeting of Research Coordination Committee, Bangkok, March 2003
- LEAD International Cohort 10 training, Mexico, April/May 2003
- eWorld Meeting, Osaka, Japan, May 2003
- UNFCCC, SBSTA, Bonn, Germany, June 2003
- Production Workshop on PLANET 3 “Waste Management,” Ahmedabad, India, August 2003
- eWorld Meeting, Tokyo, Japan, November 2003
- United Nations Framework Convention on Climate Change, Conference of the Parties, at its ninth session, Milan, Italy, 1–12 December 2003
- The Fourth Workshop on Public Awareness for Acid Deposition Problems, Niigata, Japan, 19–20 December 2003
- 2nd Conference on Improvement and Dissemination of Environmental Information, Tsukuba, Ibaraki Prefecture, Japan, 5–6 February 2004
- The 7th UNESCO/Japan Seminar on Environmental Education in the Asia-Pacific Region, Kesenuma, Miyagi Prefecture, Japan, 11–14th February 2004

2. Self-evaluation

Overall, the Capacity Building Programme in its second phase was conducted by a productive, creative, and dedicated team that collaborated with an excellent network of strategic partners. The CBP’s major achievements sprung from its clear vision and innovative capacity development approach, which resulted in the creation and management of a functioning bilingual eLearning system that offers 47 courses and free, downloadable courseware, a high and exponentially increasing number of users (4,736 as of 1 January 2004), which all strengthened the CBP’s performance in supporting and communicating IGES research projects in the Asia-Pacific region and worldwide.

2.1. Evaluation of achievements

The CBP was successful in increasing both the intellectual and social capital of leaders in the Asia-Pacific region. It developed a noteworthy number of high-quality capacity development materials (available on- and off-line), trained a significant number of high-impact leaders (on- and off-line), and strengthened the network of sustainable development practitioners to help close the knowledge-action gap. The following sections detail some of the aspects used to evaluate the CBP’s achievements.

2.1.1. Influence on policy-making processes

The CBP first started with setting up a comprehensive evaluation and monitoring system (with appropriate and sensitive indicators) in FY2002 in order to assess the direct and indirect aspects of its efforts on policy-making. Preliminary data, anecdotal records (feedback from the users of IGES eCourses), and participant assessments gathered from end-of-workshop evaluation forms suggest that learners highly valued IGES eCourses for their research-based content, practical approach, and relevance. It is recommended that closely monitored, regular, and long-term contact is needed with learners to objectively assess the direct influence on policy-making of the CBP's activities, and indirectly—through the content—of the activities of the other IGES research projects.

2.1.2. Timeliness in terms of stakeholders' needs

The increasing number of registered users on IGES' eLearning system suggests that the tools created by the CBP, especially the eLearning courses, are sought by stakeholders to meet their capacity development needs on demand. The topics of the IGES eCourses reflect current and important issues of sustainable development. They were designed with busy decision-makers in mind—the courses are short (30 minutes per lesson), self-directed (offering maximum flexibility), and can be accessed any time on-line (24 hours a day, 7 days a week). The availability, and therefore the impact, could be further improved by offering the eCourses off-line on CD-ROM.

2.1.3. Uniqueness and originality

The CBP took a unique approach to serve decision-makers in their efforts to implement sustainable development measures. This strategic approach was originally built on the CBP's three assets (see below): eCourses, IGES' own courseware, and a large international network of knowledge providers. The combination of these three assets gave the CBP comparative advantage in narrowing the digital divide. IGES' CBP was one of a relatively few groups—if not the only one—that offers this special combination of eLearning tools for sustainable development free-of-charge.

1. **eCourses:** IGES' short, self-paced, practical, non-academic, self-study, and asynchronous eCourses provided structured learning, based on clear learning objectives and embedded assessment that made learning more effective, applicable, and superior to simple information-transfer methods such as news media or tutorials. Well-designed eCourses give learners the comfort of covering the most essential issues of the topics (unlike browsing through even well-structured Web sites) with ample resources provided for follow-up.
2. **Software:** IGES offered free-of-charge computer software for both authoring eCourses (Course Maker) and managing eLearning (Course Manager Pro). Most other like-minded organisations offer “only” content eCourses. The CBP wanted to do more, i.e., empower its learners not only with knowledge and strategic skills but also with both perspectives of course participant and course developer. Authoring an eCourse can spark new ideas, new models. Moreover, learning by doing—in this case, eCourse authoring—was also the best way to develop a critical use of eLearning. Developing and offering IGES' own software for partners in need was an excellent idea. However, upgrading software became a significant challenge over time, because IGES' small team (without in-house programming expertise) could not compete with aggressive, cutting-edge commercial software development enterprises. A transition strategy was developed that recommended using commercial software for course development and maintaining IGES software only to the level absolutely necessary to support existing on-line courses. The transition strategy did not support investing in IGES software in the long run.
3. **Network of unique knowledge providers:** The experience and reputation of IGES researchers and its board of directors, trustees, advisors, and strategic partner organisations (e.g., UNEP, UNDP, UNU, LEAD) offered the CBP a niche of special knowledge, both local and global, with varied cultural and developmental backgrounds. Using this knowledge as content (with appropriate instructional design and special eLearning tools) created an increasing demand for IGES eCourses that help reach the critical mass for decision-making in sustainable development.

2.1.4. Effectiveness and efficiency

Preliminary data collected in FY2002 imply that there is a significant positive change in learners' attitudes towards the discussed environmental issues immediately after completing IGES eCourses. Feedback from learners also suggested that the use of flexible (self-study, asynchronous) and short eCourses were effectively supporting busy, high-mobility decision-makers who would not be able to participate in courses several weeks long.

Although developing and maintaining an eLearning system was a major investment on IGES' part, using eCourses produced major savings on the side of learners and stakeholders. The major savings include travel costs, time, and intangibles such as flexibility. In this respect, the IGES eLearning system significantly contributed to the desired development processes.

2.2. Evaluation of project management

2.2.1. Project management

The CBP was one of the two IGES projects with a full-time project leader, and it had an interesting project management history during the reporting period. Glen Paoletto, who founded the CBP, returned to his residence in Australia on 1 April 2002 and continued managing the project (on-line) from there as a consultant, in close cooperation with the IGES Secretariat, through to 31 January 2002. Andrea Deri, who visited IGES and stayed with the CBP for three months in 2001 as a LEAD Fellow, re-joined it as programme manager on 1 February 2002 (until 27 January 2004). The programme was managed by Reiko Koyama, eLearning Project Coordinator, for the last two months of FY2003.

2.2.2. Cooperation with other IGES projects and external organisations

The CBP, by design, relies on trustworthy cooperation to produce good-quality training materials. Cooperation with the other IGES research projects was good, reliable, and its quality is steadily improving. As always, cooperation depends on the attitudes, enthusiasm, and dedication of individual researchers; however, project leaders can also be provided significant support.

The CBP maintained similarly good, productive, creative, reliable, and high-trust cooperation with external organisations. The impressive number of collaborative projects (see below) demonstrates the width and breadth of the CBP's network, both in Japan and internationally.

2.2.3. Fund-raising

The CBP was successful in securing joint-project funding with UNEP-IETC and UNFCCC⁴ (for joint eCourse development and other capacity building activities), and even more successful in negotiating major in-kind contributions from the following organisations:

1. Acid Deposition and Oxidant Research Centre (ADORC): joint eCourse development on acid rain monitoring
2. Griffith University, Australia: provided feedback on IGES eCourses (reviewing IGES eCourses was an assignment of the Griffith University's Masters Course on Environmental Education)
3. Hayama Town Hall, Japan: joint training workshop for LEAD-Japan Cohort 9
4. International Lake Environment Committee (ILEC): joint training workshop for young university teachers from all over the world
5. Japan International Cooperation Agency (JICA): joint training workshop for Indonesian environmental education leaders from NGOs

4 UNFCCC: United Nations Framework Convention on Climate Change

**Report of the Second Phase Strategic Research (April 2001–March 2004):
Capacity Building Programme**

6. Kanagawa Foundation for Academic and Cultural Exchange (K-FACE): joint training workshop for citizens of Kanagawa Prefecture
7. Kanagawa Prefecture Government, Japan: large-scale joint eLearning project for government officials by using IGES eLearning system and know-how
8. LEAD-International (Leadership on Environment and Development): LEAD-IGES research internship programme
9. LEAD-Japan: joint training workshop for Cohort 9 and Cohort 10 Associates
10. LEAD-Pakistan: provided feedback on IGES eCourses; joint on-line training delivery for LEAD Associates and Fellows
11. United Nations Environment Programme International Environmental Technology Centre (UNEP-IETC): joint eCourse development for the 2002 World Summit on Sustainable Development, titled “Urban Environmental Management Systems”
12. United Nations University Institute of Advanced Studies (UNU/IAS): joint workshops, sharing software
13. Miyagi University of Education, Sendai, Japan: joint organisation of an international environmental education conference

3. Conclusion

Through the second phase activities, the CBP identified that the following organisational model and culture can provide it with the best way forward in the next phase:

1. Better identify IGES’ eLearning niche within the growing community of on-line capacity development providers for implementing sustainable development.
2. Develop more eCourses to communicate the significant outputs of IGES research projects through closer cooperation with those projects.
3. Graduate from one-time capacity development interventions that target individual capacity development to more long-term organisational and/or institutional development perspectives.
4. Develop long-term memorandums of understanding (MoU) with a few strategic partner organisations to make sure that the IGES eLearning system is used by the desired target audience (quality and quantity), and that the CBP is making the desired impact on policy innovation. Continue to secure joint-funding or leveraging resources to contribute significantly to the CBP’s budget.
5. Explore the potential of forming an alliance of like-minded on-line capacity development providers—e.g., UNU-IAS, UNEP-IETC, LearnSD, etc.—to innovate the currently available tools for on-line learning.
6. Consider working with new software development companies to increase reliability, stability, compatibility, productivity, and learning impact, and to improve IGES software and eLearning activities. Also consider using commercial software.
7. Improve teamwork, communication, and cooperation among the CBP’s team members.
8. Better utilise existing research on eLearning and capacity development in order to improve the quality of the CBP’s overall activities.
9. Establish an easily-maintained evaluation and monitoring system for IGES eLearning activities.
10. Improve the CBP’s Web site with a new, user-friendly design, and update it regularly.