The limited resource base of the island countries and remoteness to the world's economic centers pose common challenge to them. JICA executive examines his experience in the Pacific and put the region in a global perspective.
Hawaii: Hawaii to the Pacific is one of the gateways to industrialized world. Hawaii shares with other island countries their cultural and ethnic traits, but is now the central location of many scientific research and environmental monitoring activities. Research centers and their functions will be introduced by University of Hawaii.

Multilateral Environmental Agreements and International, Regional, and Local Policies and Management: Numerous multilateral environmental agreements (MEAs) have been enacted over the past half a century. Each agreement has been designated to cope with a particular environmental issue that came to the attention of international community. As a result, while some agreements support the aims of the other MEAs, others overlap and even contradict each other. MEAs are examined from the view point of implementing countries, particularly in Asia Pacific. Interlinkages Project jointly conducted by the UNU and SPREP looks at the synergies and coordination among MEAs. Negotiation process leading to the Kyoto Protocol will be introduced by one of the principal negotiators.

Monitoring the Earth: Earth Observing Technologies: At the macro level, the earth (land as well as seabed) topology, sea surface temperature, and weather are constantly observed by earth observing satellites of various kinds. The information is gathered, analyzed, and shared by scientific communities for practical use ranging from regional development plans, navigation, fisheries, and weather forecasting. Integrated and sustained Ocean Observing Systems are introduced in this context. At the micro level, sensor technologies are used to monitor the environmental parameters at one particular point, which in turn are recorded on regional basis, providing overall picture of the environmental quality of the region. Environmental visualization sensor technology is introduced together with a plan of forming an environmental observation network based on such technology.

Coral Reef Management and Marine Bio-Diversity: This module looks for

an improved understanding of the dynamics of coral reef ecosystem. Tropical coral reefs provide habitat for variety of living creatures. However, coral reefs and associated ecosystems are now under serious threat because of over-fishing, development of coastal zones causing terrestrial run-off, and the increase in sea surface temperatures caused by anthropogenic CO2 in the atmosphere. Protection of marine bio-diversity calls for measures at local as well as global levels. There are attempts to reexamine traditional practices at community level in preserving marine bio-diversity while there are attempts to revive coral reefs with human help. Experts from the University of the Ryukyus (UR) and the University of the South Pacific (USP) provides their views on coral reef management.

Coastal Zone Research, Planning and Management / Integrated Coastal Management: Indo-Pacific region is the world's richest region for marine biodiversity. Land and sea form a one integrated ecosystem, various types of human activities including agriculture (erosion of top soil, inflow of pesticides and fertilizers), construction (terrestrial run-off, alteration of sea currents and sand movement), fisheries, and leisure activities impact on coastal zone, but there has not been enough exchange of views among stakeholders. Feasibility of an integrated approach to coastal management is discussed by experts on mangroves that symbolizes coastal zone ecosystem.

Watershed and Water Resources Management: Along international rivers such as the Mekong, there is inherent conflict of interest between upstream and downstream communities. Irrigation reduced drinking/industrial water. Drams erected for hydropower generation hampers navigation. In small island environment, even when precipitation is relatively rich, it is not easy to secure enough water because rains quickly flow into the ocean. River basin and watershed has to be looked at as one integrated environmental system: only then water resource management can be discussed. In reality, there are various kinds of established legal rights and customs in different parts of the watersheds.

Utilities Management and Sustainable Development: Utilities management in remote areas and in remote islands poses serious challenge

to local communities and government. In contrast to cities on the densely inhabited regions where there is access to network of transportation, isolated communities suffer both in bringing in needed resources such as energy and taking out solid wastes such as used cars. The remote communities require specific types of technology that do not count on economies of scale but is suitable for creating a closed local system in power supply, for instance. Whereas communication channels have to be accessible to all residents in the communities, some islands suffer from lack of competition on the side of the suppliers. An alternative accessibility may have to be sought. Solid waste management is discussed from the point of view of materials flows; energy supply management is another topic to be taken up, particularly in an island condition.

Sustainable Fisheries: More species are found on tropical reefs than any other aquatic environment. Deep-sea fishery is prevalent the Pacific and Indian Oceans. Over-fishing is threatening marine environment and fishing industries. International river such as the Mekong poses peculiar environmental concerns for conflicting objectives between economic development and environmental sustainability. While fisheries are often the dominant basis of economic life in the Asia Pacific, its sustainability is being questioned. Experience from various parts of Asia Pacific will be exchanged.

Sustainable Agriculture: In some parts of Asia Pacific, slash-and-burn is still practiced, resulting in destruction of forests and erosion of top soil, leaving a lasting damage to the region as well as impacting on the global climate change. Application of pesticides and chemical fertilizers brings some short-term benefit in terms of increased yields but are increasingly recognized for their lasting damages to the soil. Asia Pacific is densely inhabited and increased food production is a mandate in many parts of the region. How to achieve agricultural practices that are sustainable is the focus of this lecture. An experience is introduced where pest species control succeeded in eradicating damaging insects without the use of pesticides. A success story in identifying and diffusing high-yield rice is know as "Green Revolution", and the topic is taken up in a special lecture.

Annual government spending per pupil in OECD countries:
Primary $4,229
Secondary $5,174
Higher $11,422
(UNESCO Education Today, No.5, April-June 2003, p.5)
Education funding worldwide:
Government 63%
Private 35%
International aid 2%
(international aid for education: $5.98 bil in 1999, $4.72 bil in 2000)
(same as above)

United Nations University organizes six-week International Course in Tokyo every year. The topics include:
(1) Armed conflicts and peacekeeping
(2) Environment and sustainable development
(3) Human rights
(4) International cooperation and development.
The tuition fee per course is US$900 ($1,350 for two courses).
plus accommodation,
plus airfare.
(90 minutes / day * 5 days * 6 weeks = 90 minutes * 30 = 2 credits)
$900 * 10 courses * 2 credits = $18,000 / 2 years???

3. Prospects

SLIDE Next Step: Holistic approach advocated

Holistic:
(Although EE is an integral component of ESD), ESD is more ***holistic*** in its approach and in the diversity of issues covered. (UNESCO Bangkok, 2004, p.4)
The multi-sectoral nature of ESD and the *holistic* implementation approach advocated by UNESCO and others requires that implementing agencies and private organizations coordinate with each other to ensure that all facet of sustainable education are adequately covered in all areas of this vast and

diverse region.
Multi-stakeholder cooperation and the forging of partnership at many different levels will be a crucial component to a successful Decade. (p.5)

(Continued) Next Step: Credit Transfer and Mutual Recognition of Qualifications

Credit transfer and mutual recognition of qualifications are both essential for increased trade between nations in educational services.
Recognition of qualifications gained in one country by other countries is fundamental for increased credit transfer and mutual recognition,
while in turn facilitating increased mobility of students, academics and professional labor depends on enhanced credit transfer and mutual recognition.
(UNESCO, 2003, pp.11)

Credit transfer and the mutual recognition of academic and professional qualifications are being driven in Asia and the Pacific region by economic globalization process and by rapid progress of ICT.

Unlike European Union where the main leadership has come from national governments and ministers, in Asia and the Pacific the main leadership has come mainly from IGOs and NGOs, including UNESCO, AUN (Asia University Network), and UMAP (University Mobility in Asia and the Pacific). UNESCO's role=implementation of the regional convention flro recognition of studies, diplomas, and degrees in higher education in Asia and the Pacific, which was adopted in December 1983 and ratified by 19 member states as of the end of 2002 (two more to join). (UNESCO, 2003, p.12)

UNEP's strategic partnerships at the sub-regional levels, covering South East Asia, South Asia, Northeast Asia, Central Asia and the South Pacific, will be important to ensure cconsistent linkages between intergovernmental processes, civil society fora, and knowledge management. (UNESCO Bangkok, 2004, p. 5)

SLIDE Partnership

Higher education institutions can
establish websites providing information on qualifications,