Region-specific biodiversity education – the role of People's Biodiversity Register

Biodiversity education is a crucial tool for conservation and sustainable utilization of biodiversity. It is widely acknowledged that 'loss of biodiversity is the problem; conservation biology is an attempt of science to discover solutions and environmental education is the means of getting solutions implemented'. Bharucha[1] has stressed the role of field exposure in formal and non-formal education systems. An innovative approach to nature education that can recreate bonding with nature must be incorporated into the education system. This can only be achieved by introducing the subject in an across-curriculum strategy right from primary level with emphasis on field activities. Environment-oriented textbooks of languages, science, geography and civics can be introduced to deal with the aesthetic, geographical and scientific aspects of biodiversity. The collection and graphic representation of biodiversity information and interpreting data can be incorporated in the mathematics syllabus. Arts classes can be oriented towards bringing the colours of nature into the classroom. Writing skills about the beauty of nature should be developed and social studies curriculum can include topics relating to the human impact on environment, rights and responsibilities of citizens for clean air, clean water and safe food. Computer science can include projects related to biodiversity information database creation. Selection of species in textbooks should be such that more emphasis is on the local species of birds, amphibians, reptiles, fishes and mammals. Lavakare[2] has mentioned that children love to learn through questioning in 'ask clubs'. Celebration of special environmental events, activities such as 'Best out of wastes', 'Tree for a Batch', 'Biodiversity clubs' should be encouraged during school hours.

Biodiversity education should be initiated at the primary level, by introducing students to nature in their immediate vicinity. At the upper primary level children should be encouraged to collect plant parts, flowers, and local medicinal plants, recording their uses and usage, time of flowering and fruiting, etc. At the high-school level, different categories of biodiversity-genetic, species and ecosystem, ways to protect them and to respect traditional knowledge can be introduced.

Diversity of life is distributed regionally and locally, and is not confined to specific areas. Each region and locality has different ecosystems, endemic species and local land races which act as a vital link in the web of life. Only a child who has been brought up to respect this local diversity will develop love and respect towards nature at large. Disconnect between the local contexts and school curricula has been observed[3]. Nowadays students cannot identify by local names even the commonly seen birds or insects of their locality. Thus biodiversity remains a concept in science with no connections to daily life or the locally seen species.

People's Biodiversity Register (PBR) is an authentic document prepared by the State Biodiversity Board in vernacular language that chronicles the local biodiversity of the cultural landscapes at panchayat, municipality and corporation level, prepared in a participatory manner. PBR records people's knowledge and ongoing changes in biodiversity of the area and serves as a baseline database for future management strategies. PBR can be used ideally as a handbook for assessing locally significant elements of biodiversity as part of formal and non-formal education.

The Kerala State Biodiversity Board (KSBB) with the support from National Biodiversity Authority is implementing an innovative approach to biodiversity education, 'Panchayat as a classroom and PBR as a reference book' in the schools of the state. The PBR prepared at Local Self Government (LSG) level will be used as a handbook for identifying local biodiversity, stressing the importance of native species. The PBR will provide real-life exposure to students to get acquainted with the local diversity of agricultural crops, medicinal plants as well as wild flora and fauna of their panchayat and the threats to biodiversity as also traditional knowledge and home remedies widely used in their locality by the older generation.

The students will be involved in collecting and documenting information on locally relevant biodiversity in their panchayat through group projects. The data will be incorporated in biodiversity information database as part of computer science project in an 'across the curriculum strategy'. Right from primary to higher secondary level, various aspects of biodiversity will be introduced interspersed with outdoor activities ranging from diversity in the school playground through local area to panchayat. The educational materials will enable students to understand the importance of local natural resources, develop values and scientific skills such as inventorying and monitoring of bioresources and how everything together makes up the web of life. This initiative of KSBB is a novel approach to connect the younger generation with the native biodiversity and encourage them to act in a proactive manner to deal with local ecological issues.

1. Bharucha, E., *Educ. Change*, **18**, 2012–13.
2. Lavakare, P. J., *Curr. Sci*., 2013, **105**(3), 297.
3. Deo, S. and Phadke, P., *Educ. Change*, **17**, 2011–2012; http://www.ceeenvis.nic.in/

K. P. LALADHAS*
N. PREETHA
B. BAIJULAL
O. V. OOMMEN

Kerala State Biodiversity Board,
Pallimukku, Pettah P.O.,
Thiruvananthapuram 695 024, India
**e-mail: laladhas@gmail.com*