

Environmental and Sustainable Education

in the Zoological and Botanical Garden of Jászberény in Hungary

by Zoltán Orbán

Our zoo is one of the smallest in Hungary, its area being only 4.2 hectares. Due to financial and space limitations, instead of trying to build a large, thematic collection we emphasise educational activities based on high quality displays. We started an experimental environmental education programme in 2001. The aim of this trial was to develop and establish display methods and zoo-pedagogical programmes through which the number of people taking part in educational programmes on sustainable development (integrated system view, life-long learning, activity-centred attitude, global and local scale) could be maximised.

Methods

Our pedagogical work is based on the display of naturally behaving animals, and their direct observation is led by zoo educators. The activity of animals can be boosted by increasing the richness of their habitats in the zoo, thus exposing the animals to more stimuli. This work is realised by the transformation of enclosures into spaces resembling the natural habitat of the given species.

The naturalness and biotope-like appearance of enclosures is achieved through alteration of the terrain, planting trees and herbaceous plants, placing rocks and keeping several species together (for example, brown bears with a wolf pack). This visual foundation serves as a basis for an ever increasing choice of educational activities and themes.

“Feeding Show”

This programme is centred on natural food gathering, feeding or predatory activities of selected species, and we try to enable these animals to perform the most complex natural action-chain in the zoo. Therefore the animals – just like in real life – must swim, jump or crawl to retrieve food, and they have to actively search for it. In 2003, every single day, eleven times at 8 locations (for example lynx, tiger, wild boar, racoon), we present 30-minute feeding programmes backed by a mobile audio system.

“Animals in action” presentations

In these programmes the animals (golden eagle, eagle owl, long-eared owl, coatis), led by the zoo educators, move around in a free manner; they search for food and hunt for imitation prey.

Thematic programmes

These programmes are centred on any aspect of zoo activities that can be demonstrated in an interesting way. The topics and locations are decided by the leaders of the visitor groups through discussions with educators in advance; they might involve the feeding of animals or in-depth presentation of animals.

“The zoo visits your home”

This programme exists in two forms. One involves visits by our staff, with some easily transportable animals, to educational institutes, where they give a biology lesson. The other form, most popular among kindergartens, is where we provide animals and expertise on how to set up a mini-zoo or “living corner” in a yard or indoor space.

Zoo-camp

Over each of the 10 weeks of the summer school break, we invite 15 children for five-day periods, spending full days at the zoo. The children spend the nights at home. They can take part in the feeding and care of animals, and might also participate in daily educational activities.

Field work

Two of our zoo educators are carrying out zoological research activities. Based on their knowledge and expertise we organise half-day sessions where the participants can take part in bird ringing and research on fish.

Night programme

Here visitors can familiarise themselves with the otherwise hidden night-life of the animals living in our zoo. The range of programmes is based on nocturnal species, and includes “feeding shows” (brown bears, wolves, lions) and “animals in action” presentations on the night life and hunting of eagle owls as well as on bat ringing, astronomy and insect life in the field.

“Action desk” programme

Hands-on information can be collected at several special interest locations in the zoo. We present not only popular species, but also animals such as insects and snakes. At the topic tables all the animals can be handled, in addition to biofacts such as bones, feathers and eggs. Visitors can also talk with the keepers in charge of the target species and, of course, with the educators.

The topic tables are colour-coded accord-

ing to the material and information being presented. White species tables give detailed and complex information, and always contain a chapter on conservation. Green signifies more general biological material on the species concerned, and also indicates where staff are available to answer visitors' questions. The yellow tables give out useful information on feeding programmes, while blue tables cover the zoo's activities in the service of environmental and nature conservation.

Results

During the first three years of the experimental programme the number of visitors increased 40% from an annual 43,000 to 60,000. The number of educational programmes and the number of participants and interested groups has also risen. By 2003, the numbers taking part in educational programmes exceeded the number of visitors, and this means that all the visitors took part at least in one educational programme. To achieve this we had to increase the number of full time and part-time educators every year to match the increase in the available educational programmes (Table 1).

The organised groups in all the three years came mainly or exclusively from educational institutions – mostly kindergarten and lower elementary school groups. In the first two years, when programmes were organised exclusively or mainly for pre-arranged groups, the participants were mainly children. In 2003, due to the introduction of new educational forms and increase in the number of available programmes, the ratio of adults to children became more equal (Table 2).

Conclusions

As our experiment shows, educational programmes are labour intensive (creativity, organising, planning, know-how), and they do not require large monetary investment. Due to the positive price/value ratio the education-centred approach might prove very useful for small or economically disadvantaged zoos, and they might compensate for their drawbacks through these activities, increasing prestige, income and attendance. Moreover, smaller zoos with lower visitor numbers might be more suitable for educational activities than the larger institutes receiving millions of visitors annually. An educational team, fine-tuned to the number of visitors and tasks, can provide high-quality, continuous

educational services for both the general public and educational institutes. Through the appropriate structuring of educational programmes, both children and adults can be targeted, successfully stimulating wide interest in environmental education and promoting positive attitudes towards sustainability and conservation.

Table 1

Data on the success of the zoo programme

	2001	2002	2003
number of zoo educators	2	6	18
number of participants	2,374	8,543	81,757
number of programmes	50	281	2,087
total number of groups	50	281	2,732
pre-arranged organised groups	50	208	531
non-organised groups	0	73	2,201
proportion of visitors taking part in the programmes (n = 12 months)	5 %	14 %	125 %

Table 2

Age distribution of participants in the zoo programme, 2001-2003

	2001	2002	2003
children	91 %	69 %	54 %
adults	9 %	31 %	46 %

snake girl at Jászberény



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