

Is Rehabilitating Orang Utans Worth While?

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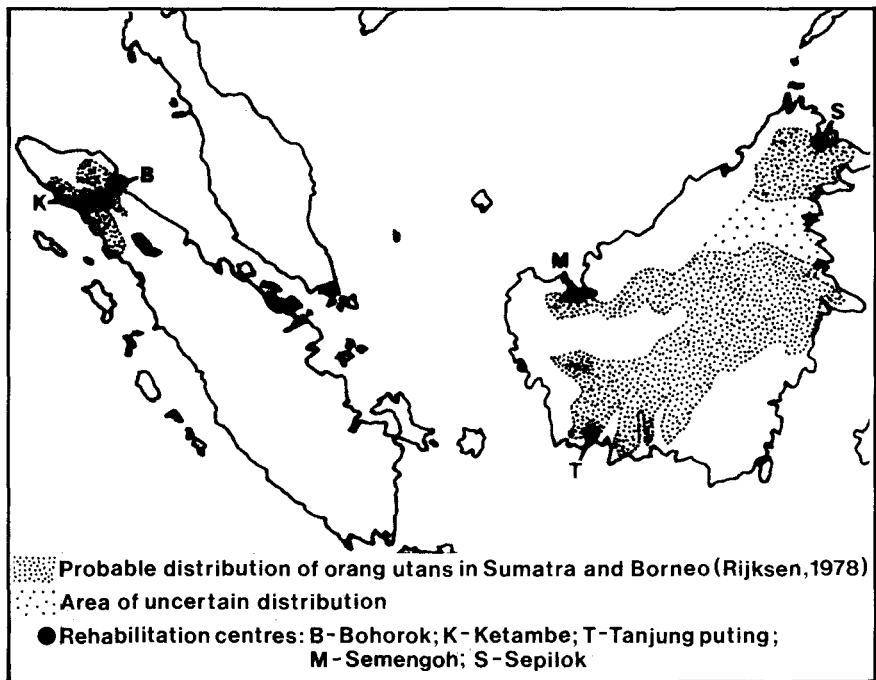


The centres for rehabilitating confiscated orang utans in Borneo and Sumatra have shown that at least some animals can be successfully restored to the wild. But there is still the fear of introducing disease and possibly social stress into wild populations. Two centres, Bohorok and Sepilok, which are largely administered and funded by the Indonesian and Malaysian governments, are extremely popular, have many visitors, and thus have a valuable role in conservation education. The authors, have been working on education programmes at these centres.

In 1962 in Sarawak, Barbara Harrison, concerned at the trade in captive orang utans and its effect on the dwindling wild populations, set out to rehabilitate some captive animals to the wild. Since then five rehabilitation centres have been established in different parts of the orang utan's range – Sepilok in Sabah in 1964, Tanjung Puting in Kalimantan in 1971, Ketambe in 1971 and Bohorok in 1973 both in Sumatra, and Semengoh (originally for gibbons) in Sarawak in 1977. Their effectiveness in orang conservation has been much debated since, but to assess their achievements their different methods and conservation roles need to be examined.

Can Captives be Rehabilitated?

Rijksen has coined the terms 'ecological rehabilitation' to describe the process



by which the animal becomes able to survive on its own in the forest, and 'social integration' to describe its acceptance into the wild population and the development of normal social responses.¹⁰ At Bohorok experience with over 100 orangs over seven years showed that at least the first can be achieved.¹ Important factors for success include:

- if the orang has passed infancy and had spent its early years in the wild before capture;
- if it has been neither too badly nor too well treated in captivity, so that full physical and mental health can be regained;
- if, dependent on the above, independence from human care is encouraged by a gradual but determined process;
- if the centre set-up encourages the animals to remain arboreal and away from the buildings;
- if a young animal can form a close relationship with another individual, and learn by imitation from more independent animals;
- if, after quarantine and/or infancy, minimal contact is maintained with the centre's personnel (who should themselves have regular medical checks), and contact with visitors is always prevented;
- if the centre and environs are isolated by natural barriers from human populations and agricultural areas.

As orangs are generally solitary and wide-ranging, and their tropical rain-forest habitat is difficult to search, no precise figures for 'success' are available. But all centres can cite examples of individuals which have re-adapted well to forest life, and have been seen in healthy condition several months after leaving the area. Several adult female rehabilitants have mated with wild adult males, and in some instances produced offspring. However, all such adult females probably spent their early years as wild orangs, and the extent to which rehabilitants captured as infants can become 'normal' socially integrated wild



ADULT FEMALE
WITH AN
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adults remains debatable. The social structure and behaviour of wild orangs, however, is conducive to rehabilitation. It helps to have a variety of age-sex classes among the rehabilitant group, so that different social interactions can occur, but, as orangs are largely solitary animals, it is not necessary to get together a balanced and integrated group before release, as Brewer found necessary with the more social chimpanzees.⁴

Is Rehabilitation Advisable?

Thus orang utan rehabilitation is possible, but doubts have been expressed about its advisability.^{5-7,10} One problem is the danger of introducing disease and/or social stress into the wild populations. Careful quarantine, continuous vigilance over health and prevention of contact with visitors can minimise the danger of introducing disease, and the orang's solitary arboreal life-style also helps. But as logging operations continue to reduce their range, and orangs retreat into reserve forests, overcrowding can stress a previously balanced population and jeopardise breeding. MacKinnon noted a reduced birth rate in a population affected by logging operations, and speculated that it could be due to overcrowding and stress.⁶ Introducing rehabilitant orangs into such an area could only make the situation worse.

Two possible solutions are either to stop rehabilitation altogether and put confiscated animals in zoos or other institutions, or to move the rehabilitation centres outside the present range of wild orangs, as advocated by Rijksen and Rijksen-Graatsma.¹¹ Unfortunately, both solutions are unrealistic because the centres are too well established and too attractive a proposition for the national governments to consider closing or moving them. But with continued habitat destruction the supply of confiscated orangs is unlikely to stop.

So what is the solution? There is no ideal alternative to rehabilitation, but protected areas established outside the present range of wild orangs could serve as release areas for orangs from existing centres. They could also be populated with wild orangs translocated from patches of forest due to be logged. This depends on being able to find suitable areas, in both Sumatra and Borneo, and, with the present amount of habitat destruction in both islands, it is a very difficult proposition.

How do the Centres Contribute to Conservation?

When orang utan rehabilitation was started in the early 1960s, there was little reliable information on the status of the wild populations, and the extent of the threats to them. But the trade in captured animals was thriving, and it was felt that rehabilitated animals might make a positive contribution to dwindling wild stocks. In the last ten years, with four centres in operation, there has been a substantial decrease in open trade, but a dramatic increase in habitat destruction. Research on wild populations has enabled better estimates to be made of numbers, and it is clear that decreasing habitat, rather than hunting pressure, is now the major factor limiting their chances of survival in the wild.

What then is the contribution of the rehabilitation centres to orang utan conservation? It can be summarised in four categories: enforcement of wildlife protection laws, conservation education, tourism development and habitat protection.

Law Enforcement

In Indonesia, the 1925 Fauna Protection Ordinance prohibited the killing of orang utans, and in 1931 and 1932 additional regulations prohibited all forms of trade in, or possession of, orang utans. However until recently the law was rarely enforced and both hunting and trade flourished. With CITES restricting trade in endangered species, the export market has dwindled, and since the establishment of the rehabilitation centres, the open internal trade in captured animals has decreased. The publicity the centres attract has stimulated a greater local and international awareness of the protection laws for endangered species, and the centres have also caused an increase in detection and confiscation of captive animals. However, the internal market still exists, and the only punishment for keeping an orang utan – confiscation – is not much of a deterrent; prosecution is necessary. In Kalimantan in 1979 a shop-keeper near the Tanjung Puting centre was successfully prosecuted for keeping an orang; the fine was nominal but the shame of court proceedings was considerable. A further difficulty is the status of many offenders – about 25 per cent of Bohorok orangs were obtained from army, police and other government



NEW SEPILOK
FOREST NATURE
EDUCATION
BUILDING
John Rayne

STUDENTS AT
BOHOROK
Rosalind Aveling



officials. While this situation is difficult to combat, the fact that many high officials have released their captive orangs to the centres provides a lever which can be used against offenders in lower ranks.

In Malaysia, the 1963 Fauna Conservation Ordinance made it illegal to capture, keep or kill an orang utan within the Malaysian state of Sabah. The number of orang utans confiscated from private owners in recent years has decreased substantially; most of the infant orangs recently received at Sepilok were confiscated directly from timber camps. The law is enforced by wildlife personnel of the Forest Department, and the publicity surrounding Sepilok has contributed to a dramatic reduction in the illegal orang trade in Sabah.

Conservation Education

A key factor in the conservation of wildlife and natural habitats is education. The long-term advantages of conserving natural ecosystems must be understood by both villagers and policy-makers. But in developing countries there is no broad basic knowledge of the issues involved in conservation, most people do not realise its urgency or long-term importance, and it can be difficult to spark their interest. Herein lies the great value of the rehabilitation centres: the orang utans attract people's interest, which can then be channelled and developed to convey a broader conservation message.

But does the presence of visitors hinder the rehabilitation process? Rijkse reports that 'the attention of occasional visitors at the Ketambe centre considerably delayed or even totally spoiled the efforts to rehabilitate several of the orang utans',¹⁰ but experience at Bohorok has shown that the two can be combined. A wooden barrier, combined with staff intervention, prevented contact between visitors and orangs, most of whom showed little interest in visitors; those that did were quickly and firmly discouraged.

From 1977 to 1979, Bohorok centre received about 5000 visitors each year, 80 per cent of them Indonesian. Up to 50 visitors were allowed in twice a day, and accompanied to the feeding site in the forest to watch the semi-wild orangs come for supplementary food. This is the most effective time to convey a conservation message; a talk was given, and questions and discussion encouraged. Visitors also saw a photographic exhibition, with explanatory leaflets, which outlined the concept of rainforest conservation and the plight of endangered fauna like the orang utan.

To reach a wider audience audio-visual presentations are useful, and Bohorok has projection equipment and some slide shows about conservation. A Visitors' Centre in the nearby village, with extended educational facilities and permanent personnel, has been proposed but awaits funding. Regina Frey,

a previous director of Bohorok, set up a mobile audio-visual unit in 1975, which was taken by Indonesian students to towns and villages in North Sumatra and Aceh provinces for slide shows on conservation topics.

As a result of its close proximity to a large town and the publicity it has attracted, Sepilok centre receives many visitors – over 17,000 in 1978, mostly Malaysian. Current policy requires no contact between visitors and orangs, and usually visitors only see orangs at feeding times, when they are accompanied by rangers to the feeding site established in 1979 in the forest nearby. Sepilok's situation is ideal for an educational centre and is now being exploited. A recently completed building will house exhibits dealing with the rainforest ecosystem and its conservation, an audio-visual room and a library/study intended primarily for young people to use. Audio-visual equipment slide programmes, books, information boards and educational pamphlets, some locally produced, will be used at the centre for a proposed mobile a-v unit based there.

Tourism Development

The main target of education is national visitors, but attracting foreign visitors shows how conservation can be of economic benefit to a country. If the national governments are to be convinced to conserve large areas of natural forest, economic arguments such as income from tourism are useful. Large-scale tourism is not as feasible with tropical rainforest as with the more easily seen wildlife of the African savanna, so centres where it is at least possible to see orang utans and some other animals in their natural environment are especially valuable.

Habitat Protection

The major threat to the survival of both Sumatran orangs *Pongo pygmaeus abelii* and Bornean *P. pygmaeus pygmaeus* is destruction of their habitat, primary tropical rainforest. Large-scale logging projects and extensive slash-and-burn agriculture are the main causes, and unfortunately the few remaining areas of primary lowland forest – the optimal habitat for orangs and many other species – are those most coveted by loggers and cultivators.

In Sumatra the Gunung Leuser National Park – a complex of reserves combined into one of Indonesia's first national parks in mid-1980 – covering 830,000 hectares, is within the orang utan's range, but about half the area is mountainous (above 1800 metres) and only sub-optimal orang habitat. For the Bornean orang, there is suitable habitat in existing reserves in both Sabah and Sarawak, most notably Sarawak's 184,000-ha Lanjak-Entimau Protected Forest, which is proposed as a wildlife sanctuary. Several small reserves and national parks in Sabah contain suitable habitat for orangs, in particular Danum Valley Reserve (62,000 ha), but part has already been logged. In Kalimantan two large reserves, Kutai (200,000 ha) and Tanjung Puting (205,000 ha) lie within orang habitat.

Maintaining the integrity of these reserves is extremely difficult in face of increasing pressure from developers and the problems of monitoring/policing large and sometimes isolated areas. However, the rehabilitation centres have provided active foci for protecting Gunung Leuser, Tanjung Puting and Sepilok reserves, helping the conservation authorities to detect and stop illegal intrusions by loggers and cultivators. Also the centres often stimulate the only

publicity the reserves receive. As the remaining forest areas outside reserves diminish, it is even more important that the active presence of the centres and their scientists should continue, and their long-term status be publicised. Some villagers and timber companies have already enquired when the 'nature conservation concessions' will end!

Long-term Prospects for the Orangs

The aim of orang utan conservation is to ensure the survival of viable populations – that is, populations large and healthy enough to be self-perpetuating into the foreseeable future, and capable of avoiding the genetic impoverishment caused by inbreeding. But no one knows for sure what constitutes a viable population; what number, at what density, will be self-perpetuating and remain healthy?

Rijksen estimates the remaining Sumatran orangs at 5000-15,000, and Bornean orangs up to six times that number.¹⁰ However these figures cannot be used to assess survival prospects, which depend directly on the survival prospects of the habitat. Practically all remaining orang habitat outside reserves has been allocated as timber concessions, and even within reserves and other protected areas a considerable amount has already been logged. So only those orang utan populations within large areas of reserve forest can be expected to survive into the 21st century – and then only if the integrity of those reserves can be preserved in spite of the many factors working against them.

If viable populations are to be maintained despite a continuing decrease in habitat, the question of 'management' arises, in order to increase orang density in a given area. The whole question of management is fraught with scientific disputes and political complications, and most conservationists agree that, where large enough natural areas exist, they should if possible be maintained in that natural state, which can be the product of millions of years of evolution. But where man's activities have resulted in the chopping up of such areas into 'islands', reducing stability and genetic variability, perhaps there is something to be gained by further interference. In this situation it is usually the larger animals that are the first to die out; their slow reproduction rate makes them less adaptable to changing conditions.

The advisability of management measures depends very much on why, how and where they are undertaken. In Sikundur reserve in north Sumatra, for example, where selective commercial logging was followed by some replanting, the management measures were directly deleterious to the more endangered species like orang utan, hornbills and gibbons.³ This was an area of prime lowland forest which, together with other contiguous lowland and montane forest of the reserve complex, formed an ecosystem of over 800,000 hectares that would be viable and valuable if left intact. A different type of management is described by Proud for the Samunsan Wildlife Sanctuary in Sarawak.⁸ There an experiment to improve the habitat for gibbons, by increasing the area of forest canopy available for foraging, involves removing competition from food trees by selectively poisoning overtopping trees of no food value to the gibbons. Such activities are very much experiments, and the effects can take a long time to show up. Because of this time lag, perhaps some well-monitored and limited experiments should be started now in small 'island' areas, while other areas and populations still survive so that the last population or area is not being risked.

Roles and Prospects of the Centres

The five rehabilitation centres have different situations and roles which need to be recognised in assessing future prospects. Tanjung Puting and Ketambe are mainly research centres, studying the complex interrelationships of untouched tropical rainforest, which is a vital pre-requisite to management and conservation. But their relative inaccessibility and the long-term nature of the research make them inappropriate for either conservation education (except for specialist field courses) or tourism development. Moreover, in order not to reduce the validity of research on the natural ecosystem, rehabilitant orangs have to be kept out of the study area. Ketambe actually stopped rehabilitation in 1979, and the remaining orangs were transferred to Bohorok; at Tanjung Puting, rehabilitant and study populations are separated by a river barrier.

Bohorok and Sepilok (and potentially Semengoh) centres can provide opportunities for some kinds of research, but they are accessible from heavily populated areas and attract many visitors, so their major role is conservation education. There are plans to continue and develop education and tourism at both Bohorok and Sepilok, but the rehabilitation programmes have to go on, for it is the orangs that attract people to the centres in the first place. Continuing rehabilitation also helps to ensure that the protection laws are enforced and prevents a resurgence of the trade.

But the critics of rehabilitation have valid fears about disease and possible social stress as a result of introducing rehabilitated orangs into areas with stable wild populations, and efforts to reduce these possibilities must continue, including the search for alternative release areas and the maintenance of strict quarantine for orangs and strict visitor control. The Indonesian Directorate of Wildlife Conservation (PPA) took over full management of Bohorok early in 1980, and now directs and funds the centre.² Plans to station a full-time Indonesian education officer there may soon be realised with the help of the Green Indonesia Foundation (YIH). Sepilok is the responsibility of the wildlife section of the Sabah Forest Department. The Canadian volunteer organisation CUSO has allocated funds for a volunteer for two years to help develop the education programme at Sepilok, pending the appointment of Malaysian staff which is held up by administrative reorganisation of the game branch and forest department.

Thus in both Indonesia and Malaysia, orang utan rehabilitation is already largely undertaken and funded directly by the national governments. But continued international interest in the centres will help ensure that the potentially negative aspects of rehabilitation are minimised, while maximising the positive contribution that the centres make to orang utan conservation. In both countries conservation education receives relatively low priority, or is not included in government budgets for nature conservation; it is for local conservation education that international funds and expertise are necessary and can be most effective in helping to save the orang utan and its forest habitat.

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Oman Protects Marine Wildlife

Oman, which has over 1700 kilometres of coastline on the Gulf of Oman and the Indian Ocean, is making considerable efforts to protect its coastal waters. A new fisheries law passed in 1981 restricts the types of fishing gear that may be used, the areas that may be fished and the seasons for fishing, and protects all marine mammals and sea turtles.

Four sea turtles occur in Oman: loggerhead, green, ridley and hawksbill, possibly also leathery. The loggerhead nesting grounds on Masirah Island are probably the largest in the world – at least 30,000 nesting females every year – together with 6000 green turtles. All commercial exploitation of turtles is banned; hunting and egg collecting is allowed only to local people for food, but even that has a close season from mid-July to mid-October, and efforts are made to persuade people to take only eggs laid below the high water mark.

Bird Trade

The Bird Business, Greta Nilsson's 1978 study of the commercial cage-bird trade, now available in a second edition from the Animal Welfare Institute, PO Box 3650, Washington DC 20007, \$5, includes a chapter on the Indian trade by Tim Inskipp.