ponsibility for its protection. Yet at the same-time, many Asian countries are also saddled with the problems of feeding expanding human populations. According to the Chairman, Mr Lyn de Alwis, elephant conservation in Asia will not succeed without the support of the people, especially those who live along the periphery of the elephant reserves who bear the brunt of elephant depredations. Therefore resolving human-elephant conflicts was given a very high priority in the AESG's agenda.

In addition to presentation of country reports by AESG members, much time was given to the formulation of projects in a number of working groups. These include the following main topics:

(1) Establishing and managing elephant ranges in Asia,
(2) Developing census capability for long-term monitoring of elephant populations,
(3) Understanding long-term ecological processes in Asian elephants,
(4) Translocation and monitoring of problem elephants,
(5) Establishment of training schools for elephant handlers (mahouts),
(6) An economic evaluation of captive elephants in Asia,
(7) Education, awareness and publicity,
(8) Research on reproductive biology of captive elephants, and
(9) Updating the Asian elephant action plan.

Implementation of Asian Elephant Action Plan. Projects developed at the 4th AESG Meeting in Bogor Period: 1993 - 1994

A: ESTABLISHING AND MANAGING ELEPHANT RANGES IN ASIA

Every country should develop a network of protected areas which are linked by buffer zones of multiple use that are compatible with the demands of elephants and other wildlife to ensure the long-term survival of important elephant populations. Some of these reserves may be Trans Frontier Reserves (TFR). Within these Managed Elephant Reserves (MER), human activities such as low impact shifting cultivation, controlled livestock grazing, subsistence hunting and gathering, sustained yield forestry and extraction on non-timber products may be permitted in the buffer zone areas between of around the wholly protected core areas.

Under each project the following activities will be undertaken:—

1. Surveys will be carried out of priority MERs and elephant distribution, land-use, vegetation etc. will be mapped on 1: 50,000 or smaller scale, with the help of satellite imagery.

2. Stratify each MER into protected areas (existing or potential), buffer zones, corridors etc. so as to create a viable elephant range for the long-term survival of the species.

3. The AESG/AECC would open and maintain dialogue with the Governmental Organizations of the respective countries to establish and manage the MERs. AESG/AECC will also offer technical assistance to the Governments to manage these areas.

Projects:

1. *Lao PDR:* Identification of a Managed Elephant Range in South-eastern Laos.

2. *Vietnam:* Identification of a Managed Elephant Range in the region of Mom Ray or Yok Don reserves.

3. *Indonesia:* Identification of a Managed Elephant Range in the region of Gunung Leuser National Park in northern Sumatra.

4. *Indonesia:* Identification of a Managed Elephant Range in the region of Kerinci-Seblat National Park.

5. *Bhutan/India:* Establishment of a Managed Elephant Range in the Mangyal/Manas/Dungsun (Bhutan), and Manas/Buxa/Barnadi (India) region.

6. *Thailand:* The western Thailand complex (TY-HHK/Kaeng Krachan) has been identified as the most important area for elephant conservation in the country. TY-HHK core area has already been recognized as a World Heritage site. National Environment Board of Thailand has prepared a Management Plan for the whole area of Western Thailand to be implemented in phases. However, this plan currently does not focus on the Asian elephant but would in fact form an ideal basis for a comprehensively managed elephant range.

This project therefore proposes to undertake the following activities with a view to promoting the conservation of elephant in western Thailand:—

1. Prepare a basic map of the complex based on the available information to identify the necessary corridors between the protected areas within the complex and make recommendations to protect them.

2. Initiate a programme of basic surveys and simultaneous training of personnel in the methodology within this complex.

3. Carry out census of elephants in the area and studies of the elephant movement and habitat utilization.

4. Hold small-scale, in-situ workshops to train other wildlife personnel in elephant survey and management techniques.

5. Gather all information pertaining to elephant distribution, number, status etc within the west Thailand and other conservation areas and compile a data base.

(Tentative budget: US$ 50,000/— for 3 years)

Executants (Thailand): Schwann Thunnhikorn/Mattana Srikrajang/Belinda Stewart-Cox/Rongrarap

B: DEVELOPING CENSUS CAPABILITY FOR LONG-TERM MONITORING OF ELEPHANT POPULATIONS.

Objective information concerning the density and number of elephants in Asia is lacking for a number of range countries. This has been a serious drawback in assessing the viability of elephant populations throughout much of the species range in Asia in general and in the dense tropical rainforest habitats in particular. This project therefore proposes to impart training in census techniques to wildlife personnel in the range countries and also arrive at objective estimates of elephant densities and numbers in some of the important areas. It proposes to achieve this by using census methods that are already established or currently under development. Training workshops and demonstration censuses would be held in participating countries.

Priority countries for 1993–1994:

1. Vietnam
2. Lao PDR
3. Indonesia (Sumatra)
4. Sri Lanka
5. Malaysia (Peninsular)

Executants:

1. *Vietnam:* Le Vu Khoi/Do Tuoc/Nguyen Dang/Shanthini Dason.

2. *Lao PDR:* Bouaphanh Phanthavong/Vene Vongphet/Sangthong Southammakoth/Shantini Dason/Ajay Desai.

3. *Indonesia (Sumatra):* Widodo Ramono/ Kurnia Rauf/Haerudin Sadjudin/Bintoro/ Uma Ramakrishnan/Charles Santiapillai.

4. *Sri Lanka:* Sarath Kotagama/Lyn de Alwis/Sarath Dissanayake/de Silva/Eric Wickramanayake/R. Sukumar/J.A. Santosh/ Charles Santiapillai.

5. *Malaysia (Peninsular):* Mohd. Khan/Shariff Daim/Tadjudin Abdulla/Surendra Varman/Ajay Desai.

C: UNDERSTANDING LONG-TERM ECOLOGICAL PROCESSES IN ASIAN ELEPHANTS.

In order to develop a sound conservation strategy for the long-term survival of the Asian elephant, it is vital that long-term studies of the key ecological processes must be undertaken in important representative habitats. These processes include demography, elephant-vegetation interaction, habitat utilization and ranging pattern and elephant-human conflicts. Systematic research must form the basis for improved management of elephant populations and their habitats throughout the range in Asia.

1. Assessing the impact of poaching on the demography and viability of elephant populations in Asia.

Poaching of male elephants for ivory in certain regions such as Southern India has resulted in highly skewed sex ratios (female-biased). The consequence of this for the fertility, demography and genetic viability of the population has to be investigated. This project will make a comparative study of demography in a Southern Indian elephant population having a skewed sex-ratio with another population in Sri Lanka, having a normal sex-ratio. The outcome of this project would also be of interest to researchers on African elephant populations which have been subject to poaching pressure.

Executants:

R. Sukumar/J.A. Santosh (India); Dissanayake/de Silva/Charles Santiapillai (Sri Lanka)

2. Monitoring of elephant populations in Sri Lanka.

It has been more than two decades since the first island wide assessment of the distribution and number of elephants was carried out by the Smithsonian Institution and the Department of Wildlife Conservation in Sri Lanka. In the meantime, Sri Lanka has undergone enormous changes as a result of development programmes. Therefore it is essential that a proper assessment of existing reserves and the current status and distribution of the elephant be carried out.

2.1. Ranging pattern of the elephants in Ruhuna National Park.

On going studies indicate that the elephant population in Block I of the Ruhuna National Park is moving out of its habitat in dry season. Given the lack of information on its precise dry-season range, it is proposed to monitor the movement of the elephant population both within and outside of Block I on a long-term basis.

Executants: Sarath Kotagama/Sarath Dissanayake/de Silva/Charles Santiapillai

2.2 An assessment of the status of the elephant in Uda Walawe National Park.

Uda Walawe supports a large elephant population. But to date, there has been no serious study carried out to assess the status of this population, its ecology and movement patterns. This study proposes to initiate a long-term monitoring programme to address these issues.

Executants: Sarath Kotagama/Park Warden/Sarath Dissanayake/de Silva/Charles Santiapillai.

2.3 Elephant movement in and around the Wasgamuwa National Park.

This project will address the movement of the elephant populations both within and outside the Wasgamuwa National Park in the Accelerated Mahaweli Development Area.

2.4 Distribution of elephants in Sri Lanka. A revised map of the distribution of the elephant in Sri Lanka will be prepared on the basis of the information so gathered in the surveys.

2.5 An ecological study of the elephant population in the Huay Kha Khaeng/Thung Yai wildlife sanctuaries in Thailand.

2.6 An ecological reconnaissance survey of the elephant population in the Tabin Nature Reserve in Sabah, Malaysia.

D: TRANSLOCATION & MONITORING OF PROBLEM ELEPHANTS

To set up a regional tranclocation and monitoring unit in the Indo-China region (Laos, Cambodia & Vietnam) to move problem elephants which do not constitute a viable population into secure protected areas. The elephants so moved will be monitored using radio-telemetry to assess how they adapt to their new habitat.

Executants: Shariff Daim/Johnsingh/A.B. Fernando/Krishnamurthy/Jacob Cheeran. (with local participation)

E: ESTABLISHMENT OF TRAINING SCHOOLS FOR ELEPHANT HANDLERS (Mahouts):

With the absorption of domesticated elephants into a number of new uses such as in eco-tourism, timber extraction in countries which hitherto did not possess trained elephants, captive breeding centres etc, the need for constantly increasing number of elephant trainers, handlers and even managers is apparent. The AESG is of the view that this increased influx is likely to lead to inexperienced elephant keepers being recruited for these purposes, leading both to poor elephant management and even mortality. In this process it is likely that traditional methods of elephant handling which laid so much emphasis on elephant and keeper understanding one another will be lost. The most suitable way in which these relationships can be both continued and passed on is to establish a school in which these knowledgeable persons can be employed and utilized. The AESG proposes to establish two schools: one in India (where the Government has already expressed a keen interest) and another in Thailand. The AESG also encourages the establishment of similar schools in countries such as Sri Lanka, Burma and Laos, where such traditional methods are still flourishing or should be revived.

F: AN ECONOMIC EVALUATION OF CAPTIVE ELEPHANTS IN ASIA.

Large numbers of captive elephants exist in countries such as India, Sri Lanka, Burma and Thailand. However in some of these countries such as India and Thailand, given the total ban on logging, maintenance of captive elephants is becoming an economic liability. Therefore there is a decreasing demand and incentive to holding elephants in captivity in timber camps. Although elephants in captivity in general have a poor reproductive performance, the timber camp elephants have been an exception. They have been an important (if not the only) source of supply of captive bred elephants to other institutions such as zoos, temples and private individuals. Therefore this project will address the importance of elephants bred in captivity in activities such as timber extraction in production forests, eco-tourism, etc. and will attempt a complete economic analysis of maintaining elephants in captivity in such timber camps in two countries: India and Thailand.

G: EDUCATION, AWARENESS AND PUBLICITY

The AESG recognizes the urgent need to launch educational, awareness and publicity programmes to enhance the long-term survival of the Asian elephant both in Asia where the elephant exists and in the developed countries which are potential sources for funding for conservation projects. This campaign will need the services of a team of professionals drawn from WWF and IUCN with support from countries where the elephant ranges.

H: RESEARCH ON REPRODUCTIVE BIOLOGY OF CAPTIVE ELEPHANTS

Timber camp elephants in parts of India and Burma seem to be the most productive of captive elephant populations. These camps could become ideal sites for research into the reproductive biology of elephants that would ultimately help in conservation plans for captive as well as wild elephant populations. Examples of such research include study of fertility cycles in female elephants, development of contraceptive implants for ultimate use in over abundant wild elephant populations, control of musth in bull elephants, genetic profiles of elephants to determine their subspecific status, quantifying genetic variation in elephant populations, nutritional requirement of elephants and health care of calves.

I: UPDATING THE ASIAN ELEPHANT ACTION PLAN

Since its compilation in 1987, much of the information contained in the IUCN/SSC Asian Elephant Action Plan has become out dated and should therefore be revised to make it more authoritative but also to facilitate its implementation. This will be carried out by three sub-committees (for South Asia, Indo-Malayan and Indo-China).

Opening Address by the Director General

Ir. Sutisna Wartaputra
of Directorate of Forest Protection & Nature Conservation at the IUCN/SSC Asian Elephant Specialist Group Meeting
20 May 1992, Bogor, Indonesia

Chairman, Distinguished participants,

It is a great pleasure to be here today and attend the IUCN/SSC Asian Elephant Specialist Group Meeting - the first to be held in Indonesia.

In the late 1980s, international concern about the future of the African elephant led to the eventual shut down of the trade in ivory and signified an important achievement for those involved in the conservation of this spectacular species. But what about the Asian elephant? How has it fared so far?

Let us pause here to look at the facts: There are over half a million elephants in Africa and they range over a total land area of 7.5 million square kilometres. Their main threat is poaching for the ivory. But against this consider the plight of the Asian elephant: there are only about 55, 000 elephants in the wild in Asia and these are distributed discontinuously in thirteen of the Asian countries from the Indian sub-continent in the west to Indo-China in the east.The entire Asian elephant population inhabits a total land area of 500,000 square kilometres or about the size of Thailand! The principal threat to the survival of the Asian elephant is not poaching but habitat loss, which is far more diffcult to control given the pattern of human population growth in Asia and the relative poverty of the people and their aspirations to a better life.