

## Conservation Genetics of Sumatran Rhinoceros: non-invasive assessment of population status in Indonesia

Asian Rhino project provided funding support during 2012 for the non invasive genetic assessment of rhino populations in Indonesia.

A progress report recently highlighted the following outcomes:

- A panel of 18 microsatellite loci for Sumatran Rhino were selected for further genetic population monitoring work using faecal DNA samples.
- For Sumatran rhinos, a total of two individuals from four samples were identified from Way Kambas National Park (WKNP), and three individuals from three samples identified from Bukit Berasan Seletan National Park (BBSNP). Both the individuals from WKNP are females, while one male and two females were identified in the three individuals from BBSNP.
- Using reference samples from the Sumatran Rhino Sanctuary, it was also shown that these loci can successfully be used for kinship analysis of Sumatran rhinos.

An estimate of effective population size, heterozygosity and levels of inbreeding in Sumatran rhinoceros in WKNP and BBSNP, information that is vital for population management of the species, will be carried out once analysing is complete for the entire field collected faecal samples.

The conservation impact of this project is yet to



Scientists and researchers from Aaranyak, YABI and Eijkman Institute meeting to discuss Sumatran rhino genetic analysis in Eijkman Institute, Jakarta.

be fully achieved. Once the collection of data is complete and results are analysed, a true picture of the population size and sex ratio of Sumatran rhinos in Way Kambas National Park and Bukit Berasan Seletan National Park will be apparent.

Once this data is available, appropriate management interventions can be made as to how best the populations need to be managed.

These decisions can only be developed once there is a good understanding of the number of rhinos present and the percentage of the population that is actually contributing to breeding.

We look forward to further updates as this important work continues and ARP hopes to be able to provide additional fundraising support.



Dung sample of Sumatran rhino in Way Kambas National Park (Photo: Udayan Borthakur); Rhino faecal sample (Photo Courtesy: Eijkman Institute for Molecular Biology); DNA extraction process (Photo Courtesy: Eijkman Institute for Molecular Biology).