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Results of preliminary field surveys conducted to gather baseline information on increasing Human Elephant Conflicts as a result of the Kaluganga Right Bank Development Program

The Sri Lanka Wildlife Conservation Society initiated a field research program at the request of the Department of Wildlife Conservation (DWC) and the Mahaweli Authority (MASL) to obtain information on the ecological and socio-economic issues and concerns in regard to the Moragahakanda and Kaluganga development schemes. The SLWCS efforts are an independent assessment and are not part of the IIA and EIA that had been done for both projects by MASL. The information that has been gathered by the SLWCS will make a tremendous contribution to the ongoing discussions to develop solutions to address the environmental, land use, and livelihood issues that will arise due to these projects.

Several surveys were conducted to gather data on socio economic status, elephant and habitat distribution giving special attention to future HEC that will occur in the development as well as in the adjacent areas. The study gave priority to HEC because the success of the overall development project highly depends on mitigating HEC successfully. We already observe a major hindrance to the successful mitigation of HEC due to the fact that the development and resettlement sites have been pre-selected by the MASL before this study.

As noted the first phase of the study was a socio economic and elephant survey to collect baseline data. The elephant survey was initiated with the beginning of the dry season and covered the total area of the Kaluganga development scheme.

The objectives of the survey were to:

1. Estimate the elephant population in the area.
2. Identify the elephant ranging areas.
3. Identify the existing elephant corridors within the impact zone
4. Identify suitable areas for alternate corridors.
5. Identify the suitable resettlement sites,

To achieve these objectives we conducted seven trail transects surveys in May 2008. The surveys will be repeated over two seasons to gather more information. Based on our field research we present the following preliminary findings:

1. The elephant population in the area increases during the dry season and as a result HEC increases too.
2. The increase in elephant numbers during the dry season could be due to the availability of water in the area.
3. The type and quality of habitats play a crucial role. The quality of the habitat determines elephant abundance in an area.
4. There are two existing corridors that go through the project impact area and the proximate areas.
5. According to the MASL the proposed resettlement areas are supposed to be ideal elephant habitat. They state that a large number of herds use the area as a feeding ground during the dry season. Our field research will investigate the MASL observations.
6. There are some suitable habitats that can be integrated to establish Managed Elephant Reserves (MERs) and Elephant Conservation Areas (ECAs), but they are too small for habitat enrichment programs. Once we have identified the most suitable habitats to establish corridors then it is possible to carry out habitat enrichment to link habitat fragments to form corridors.

The population estimates will be completed only after the seasonal surveys are completed, and then will use both past and present data for the analysis and density estimates. We hope to use our past and present data to provide solutions based on advanced GIS modeling. . These solutions will include practical and preemptive solutions to mitigate HEC in the project and adjacent areas.

Summary of socio economic survey of Kaluganga area

There are 37 Grama Niladhari Divisions (GNDs) in the Laggala Divisional Secretary Division of the Matale District in the Central Province. The random sample survey was conducted in 8 Grama Niladhari Divisions (Pallegama, Gonawala, Minirankatiya, Rambukoluwa, Gangahenwala, Karandamulla, Halminiya and Ranamuregama) which have been identified for resettlement. All of these areas will be impacted by the project along with 3 other Grama Niladhari Divisions (Rannamure, Mandumana & Akarahadiya) which are located in the proposed resettlement area. Seven Grama Niladhari Officers and 49 villagers from the area were interviewed and all of them were Sinhalese.

The average number of sub-villages is two. The respondents interviewed were predominantly male (95%), and were between the age groups of 26 to 75. There are approximately 99 households per GND, with 74 permanent, 16 temporary, and 9 mud structures. The majority (94%) of the settlements is legal and 6% are illegal. The oldest GNDs are Pallegama and Gonawala, which are nearly 400 years old. The other GNDs were established after 1900. The main ethnic group in the area is Sinhalese. The majority religion is Buddhism.

Most of the roads are either gravel or dirt and in extremely poor condition. The Hettipola-Naula-Dambulla B road is the main transportation artery through the area. This road is in very bad condition mainly due to it being frequently used by convoys of heavy trucks transporting sand from the Mahaweli River. Only 34% of families have access to electricity and 17% to phone services (mostly mobiles and CDMA). There are very poor healthcare facilities available and the Pallegama Hospital is the only hospital for the whole area. The initial surveys show that the average distance to obtain healthcare for most community members is 5 kilometers by road. In addition, most of these villages have very irregular and poor public transport systems, which in most areas do not exist at all, especially in Rambukoluwa and Gangahenwala. Ninety nine percent of the people have been residing in the same community since their birth, and only 1% has immigrated as a result of marriage. The average monthly income of randomly interviewed villagers was Rs.5965 (approximately US\$55). For 37% of families in the study area the average monthly income was in the range of Rs.1000 to 2500. The survey collected primary data on religion, ethnicity, education, access to services (healthcare, electricity, water, sanitation and housing), livelihood and income from agriculture, awareness of rules and regulations governing protected areas and wildlife, on existing Community based Organizations, land tenure, gender issues, HEC issues, and about community thoughts and perceptions on the Kaluganga- Moragahakanda irrigation scheme.

Human Elephant Conflict in the Area

Human Elephant conflict has begun to increase since recently in the GNDs that were surveyed. Of the total number of villagers that were interviewed, 82% of the families have experienced elephant raids. Ninety five percent were crop damages, 3% were house damages and 2% were human casualties. According to information that had been gathered from 2005-2007 the annual average crop damage in land area is around 6 acres. Paddy and banana are the most raided crops. Each village annually loses Rs.12,240 due to HEC. Two elephants had been killed in the area, one in 2002 at Katumanaoya and the other in 2006 in Rambukoluwa-Sawanpitiya. Both areas are nearby to Kaluganga. According to the villagers, elephant raids are seasonal and they are most intense from the months of May through October which is the dry season. The following areas were identified by villagers as places where elephants gather in large numbers. .

Name of Place	Closet GND
Madugaslanda forest	Rambukoluwa
Hobarakada, Mannakatiya	Gangahenwala
Moragahaulpatha	Karandamulla
Athkimbulawala forest	Akarahadiya
Ambanmulla, Balagollayaya	Minirankatiya
Galwala, Katumanna	Halminiya
Kiulpotha	Gonawala
Makulmada	Pallegama
Galgedawala, Dagavilla	Madumana
Hamagahaulpatha, Kotakumbura	Ranamuregama

ISSUES and FUTURE PLANS

The SLWCS is in the process of securing funding for this project which should hopefully come through by the end of the year. The current field work was conducted by the Society at its own expense. Therefore we have had to limit the scale of the project. We will continue with the research through October 2008. Once we have completed the surveys will call for a meeting at a central location (such as Dambulla or Bakamuna) to bring together the DWC, MASL, FD and other agencies to discuss HEC mitigation and elephant conservation efforts in detail. Both division level and HQ level personnel of all the line agencies should be present at this meeting.