

Conclusion

Karnataka has forest area of 18.99 *per cent* of the geographical area and 84 *per cent* of which is located in the Western Ghat Region, a world acclaimed biodiversity rich hotspot and home to several endemic and endangered species. Western Ghat region, once a contiguous forest has increasingly become fragmented due to intrusive anthropogenic activities. This has consequently threatened the very existence of this fragile ecosystem and demands heightened conservation and protection measures. The forest areas which are declared as Protected Areas enjoin higher degree of protection and Karnataka has 49 Protected Areas.

Data on land-use-land-cover changes, a key health indicator of the forests in the Protected Areas was not available with the Department. An analysis for the period between 1973 and 2016 was done by Indian Institute of Science, Bengaluru at the instance of Audit in 13 sampled Protected Areas for the period between 1973 and 2016 through remote sensing techniques which showed decrease in evergreen / deciduous forest area while areas under cultivation, built-up and open areas had increased.

Audit Objective 1: Protection and Conservation of Wildlife, including their habitats, were adequately planned for and implemented in the administration of the Protected Areas

- ❖ There was delay in preparation of Management Plans and Tiger Conservation Plans in seven Protected Areas and the Management Plans of six Protected Areas had deficient fire management plans
- ❖ Encroachments as per Department were 5,002 acres while it was 31,667 acres as per remote sensing data analysis by Indian Institute of Science as of 2016 in 13 Protected Areas.
- ❖ Rehabilitation of people from Protected Areas is beneficial from conservation point of view and it would be easy in case villagers had volunteered for rehabilitation. However, poor progress was noticed in four Protected Areas where 1,357 families were rehabilitated against 3,653 families volunteering to be relocated outside Protected Areas.
- ❖ Department permitted research activities by the Non-Governmental Organisations, individuals but no mechanism was in existence to monitor submission of these reports. Further, Department was not making use of findings brought out by these reports. Invasive species, and particularly growth of *lantana*, in many Protected Areas has become rampant and widespread. Intervention by the Department has become necessity rather than passive approach hitherto practiced. Though the Department was facing challenges on account of rampant invasion of *lantana* and other weeds, no research activity was commissioned to find a solution to this menace.
- ❖ Protection of wildlife being primary objective and having adequate front line staff in place is utmost important to guard against poaching, fire protection and detection of encroachments. We observed that vacancies in

front line staff persisted during 2012-13 and 2015-16 and 44 *per cent* vacancy existed in front line cadres in two Protected Areas.

Audit Objective 2: Adequate measures were taken to address issues relating to biotic interference and anthropogenic threats in the Protected Areas

- ❖ Given the high percentage of forest cover of the State and the high number of Protected Areas, one of the major management issues confronting the Department is the Human Wildlife Conflict. There are 956 villages in and around the Protected Areas, several of which intrude upon the animals' migratory paths. Along with illegal encroachments, these are the flash points for Human Wildlife Conflicts as animals move out of the forests into these villages, and their contiguous crop fields, in search of food and water. The 53 human deaths, 1,799 cattle deaths and 24,530 cases of crop loss during the audited period brings into stark focus the inability of the short term Human Wildlife Conflict mitigation measures which have, at best, yielded mixed results. However, possible long-term mitigation measures, like securing animal corridors by acquisition of private lands and relocation of villagers, have not received the deserved importance from the Department. Further, the expansion of Protected Areas by adding new areas cleared by NBWL have been held back by the Department citing administrative reasons which is indicative of external socio-political forces acting against issue of such notification.
- ❖ Sustained conservation measures by the Department have borne fruit in certain areas as witnessed from the increase in elephant and tiger populations, but similar focused programme was absent in respect of nearly extinct and endangered endemic species like lion-tailed macaque and Nilgiri langur. However, the increase in elephant and tiger population has given rise to new challenges in the form of ensuring sufficient home range which an animal needs for its continued sustainability. The ever increasing anthropogenic pressure on the forests and shrinkage, degradation and fragmentation of their habitats on one hand and increased population of flagship species on the other hand throws up new types of challenges, which calls for management of abundance as against conservation measure hitherto followed. Unscientific management of these issues may prove costly and counter-productive. As on date, no action plan appears to be in place to address such challenges head on before they spiral out of control.
- ❖ Department has no system of compiling data on animal kills except for elephants and tigers. Apart from poaching of animals, many animals get killed due to vehicular movement for which no data is available. At the instance of Audit, Kudremukh Wildlife Division recorded 1,338 road-kills in 45 days, whereas only 15 road kills were reported during the last five years, which is indicative of under-reporting of road-kills.
- ❖ The cases of poaching for bush meat could be more rampant in Bandipur and Nagarahole Tiger Reserves, where, as many as 834 snares were recovered during occasional anti-snare operations.

- ❖ Developmental and commercial activities in and around the Protected Areas are also the factors adversely impacting wildlife and particularly by Mini Hydel Projects, which are exempted from conducting environmental impact assessment. The natural water course or stream gets altered on account of Mini Hydel Projects and collectively they impact local ecology and environment. Further, many Mini Hydel Projects had violated the lease conditions but still operating by obtaining Stay Orders from the Courts against departmental action.

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