ABSTRACT OF THE PROJECT

1.	Project Code	
2.	Name of the Project	Monitoring of Changes in flora and fauna in the Reserved Forests along the Thellavagu nallah
3.	Funding Agency/ Agencies	Singareni Collieries Company Limited (SCCL)
4.	Institute/ Directorate (ICFRE Hqrs.)	Institute of Forest Biodiversity (formerly Forest Research Centre), Hyderabad
5.	Name and Designation of Principal Investigator	Dr. A. Ponnambalam, Scientist-C
6.	Name (s) and Designation (s) of Co-Principal Investigator (s) and Associates, if any	Dr. G.R.S. Reddy, Scientist-F
7.	Division	Microbial Biodiversity and Forest Protection Division
8.	Project Discipline	Ecosystem conservation and management (Ecology and Environment)
9.	Objectives of the Project	1.Study of flora in the reserved forests along the diverted Thellavagu nallah VK-7 and monitor changes in the floral composition at six monthly interval. 2. Study of fauna in the reserved forests along the diverted Thellavagu nallah VK-7 and monitor changes in the faunal composition at six monthly interval.
10.	Species involved	*Pongamia pinnata, Prosopis juliflora, Holoptelea integrifolia, Mimosa himalayana, Simarouba glauca, Syzygium cumini*
11.	Experimental Work	The study was aimed at enumeration of the available plant and animal diversity and obtaining a broad representation of floristic variation along the diverted Thellavagu nallah and to monitor the changes in flora and fauna due to its diversion.
a)	Methods adopted	**Flora:** Phyto-sociological aspects of the study were carried out by perambulating and sampling through quadrat method. Plots were selected so as to get a maximum representation of different types of vegetation and were laid out randomly in different parts along the diverted nallah. Accordingly, quadrats of 10 m^2 size for the study of tree layer were laid out in 7 locations along the Thellavagu nallah. To collect information on ground layer and other herbaceous species, quadrats of $1m^2$ size were laid out within the tree quadrats. All species encountered during the transect walk were recorded and their herbarium specimens were also prepared for

		identification. The girth at breast height (gbh) of all individuals of trees and woody climbers in each quadrat was measured. All individuals with gbh ≥ 10 cm were considered and recorded as trees (Parthasarathy and Karthikeyan, 1997). This concept was tested further during the fieldwork. Considering the low stature of species in some parts of hillocks, all individuals ≥ 10 cm gbh were included in tree category. All individuals below 10 cm gbh are considered as saplings and shrubs. Basal area of plants was measured following Phillips (1959). The plants were identified following Gamble (1915-36), Nair and Henry (1983), Henry *et al.* (1987), Henry *et al.* (1989). The primary data recorded on number of individuals in a species and girth was analyzed for secondary attributes like density and frequency following standard phyto-sociological methods of Misra (1968). Relative values were calculated following Phillips (1959). Important Value Index (IVI) was calculated by adding up the three relative values of relative frequency, relative density and relative dominance (Curtis, 1959). **Fauna:**The main objective of the study was to list out the existing fauna in and around the diverted Thellavagu nallah and to monitor their changes occurred due to diversion of nallah. During the course of study, indirect and direct methods of population assessment were followed. In the direct method, the entire area under reference is perambulated in early and late hours and observations were recorded for direct sighting of the animals at random. It was possible to move on both the sides the nallah along entire length of 1.14km from South to north. In the indirect methods observations were recorded for a) Pug marks of the animals, b) Droppings of the animals, c) Interview with local people and d) Interview with local forest officials.
b)	Equipments used, if any	Vernier callipers, Camera
c)	Scope (States covered)	Andhra Pradesh
12.	Date of commencement of the Project	08.06.2010
13.	Date of completion of the Project	07.06.2013
14.	Budget outlay of the Project	Rs. 4.00 lakhs
15.	Expenditure incurred on the Project	Rs. 4.00 lakhs
16.	Reason for financial deviation	N.A

17.	Manpower involved	--
(a)	No. of Scientists/ officers	Two
(b)	No. of Research personnel	Three
(c)	No. of office staff	Nil
18.	Extension of findings to the User Groups	Mining Companies, SFD.
19.	Publications from the findings of the Project	Nil
20.	Patents, if any	Nil
21.	Project Summary/ Achievements/ Findings	Among tree species, *Pongamia pinnata* is the dominating plant species occurring in the study area with higher IVI during the entire project period. Other tree species found in the area are *Prospis juliflora, Mimosa himalayana, Simarouba glauca, Syzygium cumini, Holoptelea integrifolia.* Among herbs, shrubs and trees *Aristida setacea, Waltheria indica, Hyptis suaveolens* are dominating in the study area. The number of plant species showed an increase from the beginning to the end of the study period. Various birds such as Weavers birds, Parrots, Grey francholin, Koyal, Myna were observed during the entire part of the project period. Monkeys, Monitor lizard (*Veranus* Sp.), Butterflies (*Lepidopteran* Sp.) were cited directly in the study area. The presence of wild boars was noticed through the symptoms of soil disturbance. Doves, Red Vented Bulbul, White browed Bulbul, Little Kingfisher, Wag tail, Babblers, Fly catchers, Peacock and Black napped hare were not observed as mentioned in the working plan, Kothagudem division. 2004-05 to 2013-14). In the present study, among the plant species, the number of herbaceous species and trees and shrubs has increased which indicates that the area is ecologically improving as manifested by increased plant diversity.

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