Implementation of tree inventories as a part of floristic studies

Science, Biology

Floristic studies are fundamental requirement for research, which includes creating a list of collected species of flora and understanding ecology or the distribution of plant species to a certain area. It is also taken out by the researchers to gather samples depending on the objectives. Numerous studies about floristic diversity in distinct parts of the world have been conducted in such, that it acts as a guide that will help for other future research studies. Apart from inventory, disturbance intensity on regeneration, phenological assessment, comparison of tree species diversity, monitoring, species-area and species individual relationship have also been studied through floristic analysis. Consequently, floristic inventory is undertaken by many researchers worldwide in different levels following a variety of sampling and measurement techniques based on their respective purposes. It is considered efficient in global and regional scales; however, there is a slight utilization of floristic inventory in local scales. Implementation of such protocols in the local scale also enables other related studies in term of ecological practices to have more notions in floristic inventory.

Tree inventories have been used for a long time as an important management tool. It is one of the many approaches used by most foresters that contain information gathered on individual trees or groups of trees during site visits or by other process. A state-wide evaluation was conducted by Cowett and Bassuk (2014) in New York on street trees and in their study; they tried to evaluate the tree inventory being conducted in the different states in the U. S. using different methods. In their paper, the municipal level street tree inventory provides a more accurate and detailed result than using

the random methods of choosing roadside plots. Urban tree inventories are used for a wide range of purposes. They are an integral part of the urban forestry field, through their ability to provide an overview of the urban tree population for management plan, comparisons of species distribution in different areas and hazard tree monitoring and management. It can also greatly expand the contextual knowledge on urban-based trees, which is currently unavailable in the literature, regarding how different tree species are developing in different cities; thus, it was regarded that tree inventory is a necessity in urban forestry as a whole. In relation to the sample previous study being stated, a review had also been conducted by Nielsen and colleague (2014) on urban tree inventory methods at the single-tree level as a data source. The methods were satellite-supported, airplane-supported, on-the-ground scanning or digital photography, and field surveys. Basically, the methods can be divided into two such as technology and field work, therefore the results found out that field surveys produced reliable data compared to technology, they recommended developing it before replacing fieldwork.

The Philippines where the country is considered as one of the most essential part of the world with biodiversity and abundance of species including trees takes part. According to Cabansag (2016), ecological studies of the inventory of tree species engaged through the transect process in determining species diversity, richness and composition of a forest haven. In urban area, tree inventory in relation to biodiversity is essential that it holds some cases which give impact in critical ecosystem due to its endemism provided. In

addition, fortunate urban residents that are exposed to city biodiversity particularly trees enable them to benefit its abundance and thus making them value nature. It gives majority of health benefits such as relaxation, recreation, appreciation for nature, reducing mortality rate, and so on. Even though indigenous trees are widely promoted in a very few tree planting programme, it failed in many of these aspects due to some technical features that are based on it more willingly than the importance and knowledge it brings to local people. The Luzon region, indigenous trees were characterized by Malaysians that it shows different floristic impacts from Asia continent such as Pinus khesya which is native in Benguet.

In Manila and Quezon City, the Department of Environment and Natural Resources-National Capital Region (DENR-NCR) performed floristic inventory and mapping in mini-forests and 5 public parks that utilized Global Positioning System (GPS) to monitor the tree species composition, diameter, height and the tree’s health condition. In addition, this floristic inventory was done in connection to the Integrated Pest Management (IPM). In Visayas region, the island of Leyte specifically at Mt. Pangasugan where Visayas State University was thought to be the center of studies in terms of comprehensive plant diversity that operate as the place of floristic studies and inventories on the supposed mountain. The said location is considered as “ extremely high critical” level and have been identified as a conservation priority area.

In Cebu, only rural areas like the Cabantug Forest in Argao, was highly focused on at some point in research study in terms of floristic diversity and

other ecological relationships because it is composed specifically of indigenous trees. As of now the floristic inventory is still not studied further in relation to the indigenous trees that thrived in urban settings particularly in Cebu City.