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Economic Valuation of Medicinal Plants in Jagoi Area, Bau, Malaysia

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Abstract

The use of indigenous plants based on traditional knowledge is widely known among the Bidayuh community in Sarawak. Following a study carried out among the Bidayuh community of Jagoi area, a total of 117 species of plants with economic and cultural significance, particularly plants with medicinal uses, were documented and collected. Of these, 60 species were recorded for medicinal purposes while 57 species of plants were for other uses. The plant family with the most species used were Euphorbiaceae and Moraceae (8 species each), Fabaceae (7 species), Arecaceae, Asteraceae and Dipterocarpaceae (5 species each), followed by Piperaceae, Poaceae and Zingiberaceae (4 species each). Information was obtained by interviews with medicine men and women, recognized as having knowledge of their culture. Information collected included the species of plants used, their specific use, and the method of preparation or applications. In this study, the use of medicinal herbs collected from the forest resources by local communities is an example of non-marketed and marketed direct use. During this study, market visits were made in all local markets in Bau District during weekends. Interviews were conducted with people selling plants and herbal products. The price of the plants and herbal products were noted. For non-marketable resources, the costs of the plants were estimated based on the availability cost and time to get the plants. How easy or difficult it was to obtain the plants and the number of hours spent to get them was also considered. A use and valuation survey on these plant species also revealed that the average value per household was estimated at RM 2,961 per year. With the assumption that 10% of the total population living around Gunung Jagoi depends on the forest area, the total estimated value of plants for the Bidayuh Jagoi community was RM 2,087,505 per year. The results of this study have provided a baseline on the economic value of the resources from the forest and will contribute towards a better management of the area as a community heritage site. The involvement, knowledge and reliability of the information obtained from the active Traditional Medicine Practices (TMPs) helped greatly in producing good estimated potential values of the useful plants as well as the net revenue of the TMPs in the area selected for the study.

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1. Introduction

Traditional medicine continues to play a major role among the people in Sarawak and it is expected to play important roles in the future. The importance of ethno-botanical resources to the native communities of Sarawak is one of the driving forces behind the current trend of community based resource management. For the Bidayuh community, medicinal plants are used, as a direct therapeutic agent because it is easy to get and cheap compared with modern medicines that are often expensive. Today, even though there is wide use of modern scientific medicines, traditional practitioners and their traditional methods of healing are still not entirely forgotten by the modern society. A few studies that focused on the value assessments of ethno-botanical resources were made for the communities surrounding the limestone forests in Bau district in 2004 and Maludam National Park in Betong Division in 2004 (Noweg, 2004; Noweg et al., 2004). In both studies, the annual value of ethno-botanical resources consumed was estimated to be approximately RM 60 and RM 50 per household respectively. A similar assessment made for the communities around peat swamp forest in Kabong, Roban sub-district indicated that annual value of household use of ethno-botanical resources was as high as RM 180 (Noweg & Songan, 2006). These few previous studies in Sarawak, however, do not allow a wide spectrum of comparison.

This paper presents the results of ongoing documentation on the useful plants among the Bidayuh community in Jagoi Bau District of Sarawak. This study is to support the development of the plan to conserve the remaining forested land in the area. Ultimately, the community aims to preserve the precious cultural heritage of their ancestors' use of plants.

1.1. Objectives

The objectives of the proposed study were to document all traditional uses of plant resources in the Bidayuh communities in Jagoi Bau District, and to estimate the economic contribution these resources provide for the welfare of the community. The specific objectives proposed among others included the following:

- i) To conduct documentation of traditional knowledge on important plants of the Bidayuh Community in Jagoi Bau District,
- ii) To study the pattern of medicinal plant use and marketing in and among the communities,
- iii) To estimate the value associated with the use of these plant resources, and
- iv) To estimate value of annual usage of these plant resources by community

2. Methodology

2.1. Study site

The study was carried with the Bidayuh community in Jagoi Bau District of Sarawak. Jagoi is located 60km from Kuching, Sarawak. It is the Jagoi Bidayuh ethnic villages in Bau District, Sarawak. The research covers nine villages around Gunung Jagoi. These villagers are close-knitted communities and share the same cultural identities. Many members of the Bidayuh community in this area are still practicing the traditional medicine, of which wild plants are of paramount importance.

2.2. Documentation, plant collection and specimen identification

The local community leaders were approached to help identify informants who are knowledgeable on what the community considers as important medicinal plants. These informants comprised individuals who are knowledgeable in the use of traditional medicinal plants. They were incorporated in the study as field guides. For this study, plant collections were carried out with the same informants to allow consistency and to avoid conflicting species identification and unreliable information. In the study, field parameters recorded included the details of location, habitat and all related information concerning the use of the plants. The specimens of each species were taken and brought to Sarawak Herbarium (SAR) for identification.

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