

AN APPLICATION OF ECO-PHYSICAL PLANNING METHOD TO DETERMINE LAND USE SUITABILITY ON HILL SLOPE ENVIRONMENT FOR DEVELOPMENT OF HIGHLAND CITIES IN MALAYSIA. Case Study:Ringlelet/Lembah Bertam Town, Cameron Highlands.

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Development in the highlands area of Peninsular Malaysia is in the rapid pace witnessing the increase in large projects such as resort development, golf courses and new townships. The development of houses, hotels and commercial centers involving hill slope environment had been poorly planned in terms of location, density and architecture because of the uncoordinated decision-making. This has led to a series of problem such as traffic congestion, ugly landscape and natural disaster (landslide, soil erosion, flash flood and its association) resulting in loss of life and property damages.

In order to manage urban development on hill slope environment and in sustainable basis, the paper aims to explain that urban development should be permitted in designated areas where potential hill slope environmental hazards due to erosion and landslide could be avoided. To fulfill this aim, we propose The Eco-Physical Planning Method as the approach to determined appropriate land uses well suited to the appropriate conditions of hill slope environment.

The paper will examine how the Eco-Physical Planning Method can identify the suitability of land uses according to hill slope environment. The planning mechanism that is touched by this paper is directly related to with how environmental information can be generated for use in environmental inventory and analysis and the assessment of land-use proposals vis -a-vis the physical environment.

Research finding shows that the Eco-Physical Method is efficient and useful to determine land use development suitability on hill slope environment. The study defines the optimal areas for potential land uses in the hill slope environment at the convergence of all or most of the factors deemed propitious for the use in the absence of all or most detrimental conditions.

THE ROLE OF URBAN SELF-BUILD HOUSING IN DEVELOPING COUNTRIES: A STUDY OF NAIROBI, KENYA

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Urban housing is a key development challenge for most developing countries. In Kenya, urban population growth has over the past two decades far outstripped the development of housing especially for the low- income urban residents who form the largest proportion of urban population. This has led to the mushrooming of slums and squatter settlements in many parts of the city. In the few planned housing areas, conditions have continued to deteriorate due to excess capacity caused by large room occupancy rates, house extensions and illegal development of available open spaces.

The failure by the public sector to meet rising demand for housing has opened the way for people to engage in what is referred to as .Self build.. This involves the construction of own housing incrementally through the utilization of household savings. A case study involving 176 self-builders in three areas of the city of Nairobi, Kenya reveals that the key land-use factors that negatively affect self-build housing include land tenure, basic infrastructure and financing. Preliminary results show that the land tenure system is outdated and inflexible. Lack of clear land tenure and land-use planning process has discouraged financing for self-build housing. To encourage this form of housing as an alternative to public housing, there is an urgent need for formalization of land tenure and review land-use planning approach.

Evaluation of Rural Spatial Management System at the Green Tourism Settlement in Intermediate and Mountainous Areas -A Case Study of Okumeiji Settlement in the Yabu Town, Hyogo Prefecture-

Yukihiko SAITO

The aim of this study was to evaluate existing rural spatial management systems in order to develop a new rural spatial management plan supported by urban residents power, and to realize a coexistence between urban and rural areas, as well as between urban residents' sense of environmental value and rural residents' sense of agricultural value. Rural spatial management systems were evaluated from the viewpoint of maintenance activity by residents already in the common and private spaces, at the settlement encouraged by green tourism in intermediate and mountainous areas. This study is, for examination of the supporting method using volunteers, green tourists, and persons receiving pay from 'land conservation subsidy' as maintenance workers and, for constructing the new rural spatial plan. This evaluation was derived from the survey of hearings (accepted by 44 families of 52 in the settlement), mappings, and collecting materials at Okumeiji village, Yabu town, Hyogo Prefecture. The following results were obtained 1) Regarding evaluation of common space management, various new maintenance activities by various community groups occurred, lead by the beginning of green tourism. Four characteristics were revealed, 2) Regarding the evaluation of private space management, resident families could be classified by combining the frequency of maintenance in rice paddies, with the frequency of maintenance in the vegetable fields and gardens. mapping individual land based on this family classification, private space management could be evaluated from the view point of concern about the decline of maintenance activities.

Strategic Planning System Based on Regional Material Flow Analysis for Environmentally Sustainable Basin Regional Management

Tsuyoshi FUJITA & Tohru MORIKA

Research framework to evaluate alternative scenario-driven policy programs characterized by pollution abatement facilities, infrastructures, activity management, and land use control is firstly presented. Followingly, structures of integrated regional GIS data base in river basin-wide region are presented for a pilot survey in Muko River Basin in Osaka Metropolitan Region in Japan. Thirdly, relative degrees of driving forces for environmental emissions in the river basin region are estimated by analyzing regional characteristics of socio-economic activities increased during the period from 1970's and 1990's. Fourthly, policy programs are designed and their environmental impacts are evaluated by CO₂ emissions and solid wastes of landfill. Tentative policy recommendations are proposed in concluding chapter.

Changes in Residents' Attitudes toward a Japanese River Environment

Sampei YAMASHITA

In planning and managing an environment, it is beneficial to know public attitudes toward the environment. To investigate people's environmental attitudes (perception and evaluation), one of the typical methods is a structured questionnaire, which is usually carried out only once for each research purpose. However, this procedure may be insufficient in that their attitudes can change substantially with time. Thus, in 1988, 1995 and 2002, we carried out an identical questionnaire survey of a Japanese river environment -the Naka River flowing through the city of Fukuoka-involving people living close to the river. This study addresses the responses concerning environmental

perception/evaluation obtained from the multi-year survey and examines how they have changed from 1988 to 2002. Whereas resident's perceptual response to water quality of the river is accurate, their evaluative responses do not necessarily reflect the trend in the water quality. On the other hand, the residents who participate in river cleanups make assessments that are clearly corresponding to the improving tendency of its water quality, compared to the non-participants. From 1988 and 1995, participants in river cleanups have increased in 2002; however, their percentage is still relatively small (24.5%). Therefore, it is fair to say that the differences in environmental perception/evaluation between those who are engaged in the environment, slightly older and in the minority and those who are not necessarily concerned with the environment, younger and in the majority are widening now.

GIS-based Regional Environmental Impact Assessment Caused by Suburbanization Activities Case Study on Muko River Basin Region

El-Lithy KHALED, Tsuyoshi FUJITA & Tohru MORIKA

This paper attempts to estimate the environmental impacts caused by the growth of urban activities and suburbanization effects. Case study in Muko River Basin Region, Hyogo Prefecture, Japan was done for estimating the environmental impacts. The analysis was carried out based on GIS data of 1km grids as well as statistics data for land use, population allocation, urban activities, and other social economical activities in the region. Comparative analysis for changes between 1975s and 1995s are done as follows; First "regression models" to explain the correlation of the environmental changes with several explanatory variables including population, urban activities and other variables are designed. Secondly the environmental loads such as CO₂ emission are estimated by regressed parameters and other indicators. Finally, significant environmental impacts caused by growth of urban activities and suburbanization are identified.

A Study on Inhabitants' Evaluation about Free Use of Vegetable Garden at Unused Sites in a Korea New Town

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In Ilsan new town, that is located around Seoul the capital city of Korea, there are many unused sites where buildings have not been constructed until now. Most of these unused sites have been used as vegetable garden by utilizing the inhabitants' disposal. These unused sites are scheduled for building eventually. So, if these unused sites are gone, the use of vegetable garden cannot be continued. In our previous study on the free use of vegetable garden at these unused sites, the inhabitants' evaluations were not clarified since the interview was with the users only. Therefore, this study is based on a questionnaire survey for the inhabitants in Ilsan New Town. Our analysis is aimed at considering possibilities for creating planned vegetable gardens in the new towns.

As a result, this study found out that on the use of vegetable garden at unused sites in new town, not only the users but also the inhabitants evaluate positively. They both have a strong intention to do farm works at the vegetable garden and create planned vegetable garden near the houses. Therefore, we suggest creating vegetable gardens at the open spaces inside the apartment house complexes by changing their land use plans as a way to make the environment of the new towns more attractive.

Research on the Formation and Design of Soundscape of Urban Park - Case Study of Saga Prefecture Forest Park, Japan

Jian GE & Kazunori HOKAO

In this research, firstly we performed several surveys from various points of view in Saga Prefecture Forest Park, in order to grasp the components and structure of soundscape of urban park, as well as the evaluation of soundscape components by visitors. Then, we analyzed the spatial formation of soundscape, divided the park into several sound zones by Cluster Analysis ; and then elucidated the sound characteristics of each zone. We also analyzed the relative importance of each component and grasped the influence of park soundscape on external residents. The results of this research can not only benefit to the soundscape design of urban parks, but also present a new and valuable angle for the research and design of environmental acoustics and comprehensive environment of urban open space.