



Urbanisasi merupakan masalah pokok lingkungan dan sosial yang semakin meningkat di beberapa negara berkembang. Krisis-krisis yang sedang dihadapi seperti pertumbuhan permukiman kumuh menyieratkan pengelolaan lingkungan kota berdasarkan perencanaan integratif. Oleh karena itu, alternatif terbaik merupakan hampiran ekologis sebab pendekatan ini dapat merukunkan kembali kebutuhan manusia dan aspirasinya dengan kesinambungan lingkungan. Hampiran penelitian ini adalah analisa sistem berdasarkan pada konsep Ekosistem. Permasalahan lingkungan yang mencakup kesehatan, pencemaran air, tanah, dan sanitasi secara umum sudah lama dialami di Sangkrah, sehingga penerapan pendekatan ekologi pada perencanaan daerah Sangkrah harus mempertimbangkan factor biologis dan sosial yang menyebabkan masalah lingkungan dan dampaknya. Permukiman manusia diakui bersifat organisme hayati karena ia dapat mengurai sumber daya, merubah bahan-bahan, energi, dan menghasilkan juga produk-produk baru dan limbah. Dengan demikian, penelitian ini memusatkan pada ekologi lingkungan permukiman kumuh Sangkrah sebagai sub-ekosistem yang merupakan bagian dari ekosistem kota Solo.

Survei ini dilaksanakan di Kelurahan Sangkrah, Kecamatan Pasar Kliwon, Kodya Surakarta mulai dari bulan Maret sampai akhiri Juli, th. 1996. Para respondent (150 KK) ditentukan dengan metode sampel strata, dimana dari masing-masing 5 RW yang dipilih, diambil 30 KK. Pemilihan sampel lokasi ditentukan secara purposip.

Penelitian ini yang berjudul: Penerapan Pendekatan Ekologi pada Perencanaan dan Pembangunan Kota, meperhatikan masalah-masalah yang dihadapi Permukiman Kumuh Sangkrah bertujuan mengetahui: (i). peranan pendapatan dan pertumbuhan penduduk melalui migrasi atas terjadinya kekumuhan, (ii). dampak dari permukiman ini atas kesehatan masyarakat, (iii). dampaknya pada lingkungan biologi, (iv). dampak pembuangan sampah pada sifat tanah dan air, (v). kesesuaian sifat tanah untuk pembangunan dan air untuk kebutuhan manusia berturut-turut, dan (vi). menciptakan sebuah model penyediaan pelayanan sosial.

Data yang dikumpul ialah primer dan sekunder, dimana data primer dikumpul dengan menggunakan metode observasi, wawancara dan partisipasi. Selain itu, data aspek abiotis digunakan metode pengukuran lapangan dan untuk peyakinan, sampel air dan tanah diambil dari 6 lokasi dan kemudian dianalisa di Pusat Laboratorium Universitas Sebelas Maret (air) dan Laboratorium Universitas Gadjah Mada (tanah). Analisa data ini dilaksanakan dengan metode regresi berganda melalui perangkat lunak komputer SPSS untuk Windows, 1994. Selain itu, penyesuaian data tanah dan air dilakukan dengan membandingkan dengan beberapa peraturan pemerintah Indonesia mengenai standard masing-masing.

Berdasarkan hasil analisa, penelitian ini berkesimpulan: (a).terjadinya kondidisi kekumuhan dikarenakan pendapatan rendah dan lama tinggalnya para pendatang di daerah, (b). tingkat kesehatan masyarakat sudah dipengaruhi kualitas lingkungan ini, (c). tekanan penduduk sudah mempengaruhi lingkungan biotis, (d). penggunaan lahan Sangkrah sebagai tempat sampah kota telah mempengaruhi kondisi tanah dan air, (e). bukan di semua lokasi Sangkrah, tanahnya dan airnya cocok untuk pembangunan rumah susun dan minnum berturut-turut, dan (f). pelayanan fasilitas sosial tergantung pada banyaknya anak dibawah 15 tahun yang di daerah dan beberapa rumah-tangga yang tidak berfasilitas.

Dengan kesimpulan tersebut, penelitian ini, dapat menyarankan bahwa perlu dilakukan: (a). pengembalian penduduk ke desa atau program transmigrasi, (b). perbaikan kampung, (c). upaya menyokong sektor informal melalui penyediaan fasilitas kredit, (d). perubahan sistem pemilikan atau hak atas tanah, (e). penyediaan bak penampung air, bak sampah, dan MCK untuk setiap RT, dan (f). meningkatkan partisipasi masyarakat dalam pengelolaan lingkungannya dan melibatkan pula sektor swasta dalam proses penyediaan fasilitas untuk mereka yang secara ekonomi mampu.

**KATA KUNCI:** *Pendekatan Ekologi, Lingkungan Permukiman Kumuh, Perencanaan Kota, Ekosistem, Model Pelayanan Fasilitas Sosial.*



Urbanisation is recognised as a major environmental and social problem, which is rapidly growing in many developing countries. The present crises like growth and expansion of slums highlight the need to address urban management through integrated planning. This includes intersectoral planning, interdisciplinary approaches, and different hierarchical planning and policy levels. The best alternative in this circumstance is the Ecological Approach because this approach is able to reconcile human needs and aspirations with environmental sustainability. The approach to this research is primarily a systems analysis because of its emphasis of the ecosystem concept. Environmental health problems, including water, soil, and air pollution, drinking water and sanitation, and the disposal of wastes have been long lasting problems of Sangkrah. Ecological approaches to Sangkrah's planning should include consideration of the biological and social causes and consequences of environmental health problems. Human settlements are recognised as having some of the features of a living organism because they consume resources, transform materials and energy, and create new products and wastes. As such, this research focused on the ecology of Sangkrah slum environment as a sub-ecosystem of Solo City Ecosystem. No attention has been paid to the political and institutional structures within the area, which are the basis for their spatial and temporal patterns of organisation.

The survey was undertaken in Sangkrah slum settlement, Pasar Kliwon County, Solo Municipality from the months of March - July, 1996. The respondents interviewed were determined by stratum method integrated with the proportional sampling method. A total sample of 150 households was chosen, out of which for 5 RWs, 30 samples were drawn from each proportionally according to the populations of its member RTs. The sample locations were chosen purposively with the guidance of the boundaries set by the old dike.

The objectives of this research were: (a). to establish the role of income and population increase in slum occurrence, (b). finding out impacts of slums on health, (c). finding out impacts of this settlement on the biotic environment, (d). knowing the impacts of the former land use on the water and soil conditions, (e). establishing the suitability of these soil and water conditions to construction works and drinking respectively, and (f). constructing an ecologically-based facility allocation model.

Data collected consisted of both primary and secondary data. Primary data on socio-economic aspects were collected with the help of both observation and interview, and group discussion as well as participatory methods. Abiotic data was directly measured in the field from samples taken from 6 locations. Whereas secondary data was collected from responsible departments like PDAM, Puskesmas, Sub-County and County administrative offices. Water and soil samples were analysed from Sebelas and Gadjah Mada University laboratories respectively. Data analyses were done with the computer software programme, SPSS for Windows, 1994. For abiotic components, analysis was matched with related government regulations.

Based on the results of analysis, this research concludes that: (i). slum occurrence and entire environment is more influenced by income and the recency of the in-migrants; (ii). lack of clean water, toilet facilities, and temporary houses influence the quality of health; (iii). high population pressure, building coverage densities have affected the biotic environment; (iv). Sangkrah's soil and water conditions have been affected by its former land use as a garbage dumping ground; (v). soil conditions of Sangkrah in some locations can not support the government's programme of real estates; while its underground well water is not suitable for human consumption in terms of drinking; and (vi). provision of the services depends on the number of children below 15 years, and households without them.

Therefore, this research recommends : (i). ruralisation to reduce land pressure; (ii). settlement renewal programmes; (iii). strengthening the informal sector and formation of co-operations; (iv). involving the private sector; (iv). transforming land tenureship; (v).urban greenery programme based on local species; (vi). provision of water collection tanks, trash bins to RTs.; and ((vii) encouraging community participation in environmental management.

**KEY WORDS:** *Ecological Approach, Slum Environments, Urban Planning, Ecosystem, Facility Allocation Model.*