Human ecology assignment

HUMAN ECOLOGY: ROLE OF FOOD AND WATER. What is Human Ecology? Ecology is the science of relationships between living organisms and their environment. Human ecology is about relationships between people and their environment. In human ecology the environment is perceived as an ecosystem (see Figure 1. 1). An ecosystem is everything in a specified area – the air, soil, water, living organisms and physical structures, including everything built by humans. The living parts of an ecosystem – microorganisms, plants and animals (including humans) – are its biological community.

Ecosystems can be any size. A small pond in a forest is an ecosystem, and the entire forest is an ecosystem. A single farm is an ecosystem, and a rural landscape is an ecosystem. Villages, towns and large cities are ecosystems. A region of thousands of square kilometres is an ecosystem, and the planet Earth is an ecosystem. Although humans are part of the ecosystem, it is useful to think of human – environment interaction as interaction between the human social system and the rest of the ecosystem (see Figure 1. 1).

The social system is everything about people, their population and the psychology and social organization that shape their behaviour. The social system is a central concept in human ecology because human activities that impact on ecosystems are strongly influenced by the society in which people live. Values and knowledge – which together form our worldview as individuals and as a society – shape the way that we process and interpret information and translate it into action. Technology defines our repertoire of possible actions.

Social organization, and the social institutions that specify socially acceptable behaviour, shape the possibilities into what we actually do. Like ecosystems, social systems can be on any scale – from a family to the entire human population of the planet. [pic] Figure 1. 1 – Interaction of the human social system with the ecosystem The ecosystem provides services to the social system by moving materials, energy and information to the social system to meet people’s needs. These ecosystem services include water, fuel, food, materials for clothing, construction materials and recreation.

Movements of materials are obvious; energy and information are less so. Every material object contains energy, most conspicuous in foods and fuels, and every object contains information in the way it is structured or organized. Information can move from ecosystems to social systems independent of materials. A hunter’s discovery of his prey, a farmer’s observation of his field, a city dweller’s assessment of traffic when crossing the street, and a refreshing walk in the woods are all transfers of information from ecosystem to social system.

Material, energy and information move from social system to ecosystem as a consequence of human activities that impact the ecosystem: ??? People affect ecosystems when they use resources such as water, fish, timber and livestock grazing land. ??? After using materials from ecosystems, people return the materials to ecosystems as waste. ??? People intentionally modify or reorganize existing ecosystems, or create new ones, to better serve their needs.

With machines or human labour, people use energy to modify or create ecosystems by moving materials within them or between them. They transfer information from social system to ecosystem whenever they modify, reorganize, or create an ecosystem. The crop that a farmer plants, the spacing of plants in the field, alteration of the field’s biological community by weeding, and modification of soil chemistry with fertilizer applications are not only material transfers but also information transfers as the farmer restructures the organization of his farm ecosystem.