

# **Course- FRW- 602 Wildlife Management & Research**

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## **9<sup>th</sup> Lecture**

### **ZONATION**

#### **Criteria for selection of areas to protect:-**

Protected areas can be located and managed to protect biological diversity at three levels: ecosystem, species and gene levels. The ecosystem level involves protecting unique ecosystems, representative areas for each main type of ecosystem in a nation or region, and species-rich ecosystems and centers of endemic species. The species level is giving priority to the genetically most distinct species (e.g., families with few species or genera with only one species), and to culturally important species and endemic genera and species while the gene level is giving priority to plant and animal types that have been or are being domesticated, to populations of wild relatives of domesticated species, and to wild resource species (those used for food, fuel, fiber, medicine, construction material, ornament, etc.).

#### **Zoning**

Zoning refers to what can and cannot occur in different areas of the protected areas in terms of natural resources management, cultural resource management, human use and benefit, visitor use and experience, access, facilities and Protected Area development, maintenance and operations. Through management zoning the limits of acceptable use and development in the Protected Area are established. Often, when there is not enough information about the area, zoning is an action

that occurs during the implementation of the management plan. It allows areas to be set aside for particular activities such as protection of key habitats or nursery areas and breeding sites, research, education, anchoring, fishing and tourism.

Zoning helps to reduce or eliminate conflict between different users of the Protected Areas, to improve the quality of activities such as tourism, and to facilitate compliance. Zoning is a widely accepted method to keep people out of the most sensitive, ecologically valuable, or recovering areas, and to limit the impact of visitor. The zones reflect the intended land use, existing patterns of use, the degree of human use desired, and the level of management and development required. Zoning can ameliorate incompatible land uses in given areas, while allowing for sustainable resource extraction that benefits local communities they consistently attempt to determine where resources will be extracted or preserved and who will claim authority and access to these areas. It is designed to allocate geographical areas for specific levels and intensities of human activities and of conservation. Zoning can also be temporal, that is an area set aside for different uses at different times, within the course of the day, over the week or seasonally (Eagles, et al., 2002).

### **Objectives of Zoning**

- i. To classify conservation and sustainable use zone in the target protected areas based of scientific data
- ii. To clear priority of focused area for management action plan
- iii. To get consensus of people for management plan
- iv. Zoning helps managers, operators, visitors and local communities to understand what park values are located where;
- v. Zoning oriented to establishing standards of acceptable human impact helps to control the spread of undesirable impacts; and
- vi. Zoning provides a better understanding of the distribution and nature of different recreation and tourism opportunities within and around the protected area.

### **Core zones, or Sanctuaries**

Habitats that have high conservation values, are vulnerable to disturbances, and can tolerate only a minimum of human use should be identified as “core zones” (or sanctuaries) and managed for a high level of protection. No disturbing uses should be allowed. The first step in designing a

protected area would normally be to delineate the core zones. The sizes of these zones can be most important in determining their usefulness as sanctuaries. Small areas of habitat generally have fewer species than larger ones. It is essential to delimit an area large enough to sustain a breeding population of the key species and their support systems including key habitats.

### **Peripheral zones**

Sites that have special conservation value but that can tolerate different types of human uses, and that are suitable for various uses are candidates for dedicated zones in a protected area. Different neighboring habitats are to be mapped and the protected area boundary extended to include as many of these as is practical. The types and locations of required zones must be determined to fit the range of activities planned for the protected area (water sports, recreational fishing, commercial fishing, research, education, and special protection zones). Areas remaining among and around these use zones can be classified as general conservation zones.

### **Buffer zones**

Areas surrounding the core zone where only low impact activities are allowed, such as research, environmental education, and recreation. On a larger scale, buffer zones can also surround the entire Protected Area. There may be need for a buffer zone wherein a more liberal, but still controlled, set of uses may be permitted. The buffer surrounds the protected area and is established to safeguard the area from encroachment and to manage processes or activities that may affect ecosystems within the protected area.

The term buffer zone (sometimes also called 'multiple use' or 'transitional zone') is relatively new, although the principle has been in use for a long time. The concept of buffer zone management can be approached from various angles, which makes it difficult to give an overall definition.

Approaches in Buffer Zone Management Buffer zones can be located inside a conservation/protected area (in which case there is a core zone), or outside it (so no core zone is needed). Two buffer zone situations Boundary of conservation area There are various approaches in buffer zone management related to the specific approaches in and opportunities for nature conservation. The different nature conservation approaches, which are illustrated in figure are

Protected Areas (with and without buffer zones), Integrated Conservation and Development Projects (ICDP), Man and Biosphere (MAB) and Land Use Planning (LUP).

### **Benefits of Buffer Zones**

Buffer zones may provide a variety of benefits, depending on the type of buffer zone, natural conditions, investments made and other factors. These benefits can be categorised as biological, social, economic, institutional or policy-related benefits.

**Biological benefits:** Providing a filter or barrier against human access and undesirable use of the core zone or conservation area; Protecting the core zone or conservation area from invasion by exotic plant and animal species; Providing extra protection against storm damage, drought, erosion and other forms of damage; Extending the habitat and thus increasing the population of large, wide-ranging species in the protected areas; Enhancing environmental services provided by the reserve, e.g. watershed protection;

**Social benefits:** Providing a flexible mechanism for resolving conflicts between the interests of conservation and those of the inhabitants of adjacent lands; Improving the earning potential and quality of the environment of local people; Building local and regional support for conservation programmes; Safeguarding traditional land rights and cultures of local people; Providing a reserve of animal and plant species for human use and for restoring species, populations and ecological processes in degraded areas;

**Economic benefits:** Compensation to people for loss of access to the strictly protected core zone or conservation area; Increased benefits from protected area for direct users such as: - income from tourism, - research permit fees from scientists, - income of local people employed in area; Increased value of protected area from indirect use: - watershed effects, - protective role of buffer; Increased value of protected area for non-users: - existence value of wild life, - existence value of protected vegetation;

**Direct benefits** - income generated in buffer zone: - new employment opportunities, - change in productivity, - benefits of newly introduced crops or technologies, - income generation from

transit movements to and from park (roadside stalls, resting places, food & drink establishments, hotels etc.);

**Indirect benefits from buffer zone:** - new & improved infrastructure, - new & improved market opportunities, - improved access to public services;

**Other benefits:** - increased visitor flows (and income generation) at regional and national level,  
- the value from biodiversity and the conservation of habitat (i.e. future direct and indirect uses),  
- intra-household re-allocation of resource rights and returns;

**Institutional and policy-related benefits:** Introduction of participatory planning methodologies, Direct and indirect users' awareness of value of natural areas and consequent willingness to contribute to their establishment, Establishment of local level monitoring mechanisms involving local population, Involvement of local population in management of conservation and buffer zones, and Increased responsibility with local government for regional planning and implementation that includes nature conservation components.