

COURSE : DISASTER MANAGEMENT (MA/MSc PART I)

Paper : I

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Topic : Traditional Indian Knowledge About Disasters

INTRODUCTION :

Indian history cites many instances of coping with natural and human-made disasters, from invasions and wars to droughts, floods, famines, earthquakes, and cyclones. The location of the sub-continent with its unique geoclimatic features, together with a dense population, makes for an interesting mix of vulnerability and resilience. Through the centuries, people have had to cope with frequent hazards through distinctive settlement patterns, livelihood preferences, sociocultural practices, and traditions.

In addition to religious literature promoting the need for harmony between humans and their environment, scholastic and scientific literature in ancient India dealt with aspects of disaster preparedness and mitigation. One example is the philosopher, astronomer and mathematician Varahamihira (505-587 AD) who wrote about earthquakes, their causes, and predictability in the BrihadSamhita. In it he discusses signs of earthquakes and correlates them with cosmic and planetary influence, underground water and undersea activities, unusual cloud formations, and abnormal behavior of animals. These became part of folklore and form the basis of coping mechanisms extant at community level today. The Atharva Veda discusses drought mitigation strategies and the Arthashastra, a treatise on public administration by Chanakya (4th century BC), has a section on famine relief and mitigation measures.

Traditional Indian Knowledge

India is a vast country that is extremely vulnerable to a large extent and diversity of natural as well as man-made disasters, with boundaries between the two blurred due to increasing human influence superseding over natural systems. Natural disaster's impact on the community and development's sustainability are occurring in aggravated and multiplied size and intensity due to complexity of environmental disfigurements, ecological imbalances and socio-economic disparities. Ecosystems sustain themselves in a dynamic balance based on cycles and fluctuations, which are non-linear processes..... ecological awareness, then, will arise only when we combine our rational knowledge with an intuition for the non-linear nature of our environment. Such intuitive wisdom is characteristic of traditional, non-literate cultures.

Besides, documented practices like in "*Arthashastra*" a world famous book of Vishnu Gupta written as *Kautilya* recognized as first known book on political science and public administration, although not a reference under catalogue on environment but depicted several important provisions and guidelines on natural resource management and

disaster risk reduction. It held strong attitudes on forests, fauna, punishments, town planning, etc. and have enumerated the clauses on provisions for water management, relief and preparedness, etc. Work on documenting traditional knowledge with the ethnic communities in the hilly states of India has already started and taking a good pace. Rawat and Sah (2009) have documented and discussed the traditional knowledge on water and drought management in Kumanon Himalaya that in turn also reduced flood risk and likely impacts of flash floods on community's resources. Indigenous knowledge is often used interchangeably with local knowledge, but sometimes a distinction is drawn between the 'indigenous' to describe primitive communities living in remote areas and the 'local' to describe people or community who have lived in an area for a long period of time. There are two major cosmovision traditions in India. *The 'Great Tradition'*, which represents the Sanskrit or classical tradition described in the Vedas and the 'Folk Tradition', representing popular Hindu tradition and the tradition of the tribal peoples. The rituals and practices of the Hindu tradition, both classical and folk, is a continuing history. Traditional knowledge for disaster risk management and response comprised from drawn from the three facets, i.e. – ecological, social, and nature-human interface, and addresses issues of risk perception and warnings, disaster avoidance or reduction, impact control and preparedness for the situations.

Indicators as Traditional Knowledge

Boundaries of most natural systems are fuzzy and thus amenable to contraction and expansion over time and space due to interaction of various natural and human variables. Fuzzy boundaries often require homeostatic indicators of threshold values so that changes conform to system properties and goals. The homeostatic indicators are a kind of buffer solutions which do not tell us the precise moments of change which may take place in a system. Indicators are also like thumb rules which guide and regulate our relationship with nature within and outside. Nature within refers to our tendencies to internalize external shocks through various psychological, spiritual and social responses. The stresses produced by these emotions become evident through various indicators that we can experience and feel in day-to-day life. The nature without or outside is what we perceive through categories that we inherit as well as create or recreate. These categories also require indicators so that we can make sense of changes in these categories and deal with them accordingly .

In all dry land regions of the world are found local communities who have long histories of interaction with the natural environment. Associated with many of these communities is a cumulative body of knowledge, know-how, practices and symbolic representations. These sophisticated sets of understandings, interpretations and meanings are part of a cultural complex that encompasses language, naming and classification systems, resource use practices, ritual, spirituality and worldview. This

local and indigenous knowledge is a key resource for empowering communities to combat desertification .

Traditional ecological knowledge represents experience acquired over thousands of years of direct human contact with the environment. Indigenous and local communities often have their own names and classifications (or 'taxonomy') for resources, places (particularly significant sites such as fishing grounds, and possibly fish spawning aggregation sites), and marine-related activities.

Traditional Knowledge refers to the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation (United Nations Convention on Biological Diversity - UNCBD). Traditional Knowledge Systems are a body of knowledge that is ancient and deep rooted in the cultures and habits of the people. They have the origins in the remote past. Ancient knowledge and technology incorporates the wisdom distilled through millennia of experimentation and trial and error. This knowledge is non-sentential and often not well documented in the modern sense rather it is transmitted to generations orally and through practice and gradually perfected by tradition. Now the traditional knowledge is in danger of extinction and its disappearance would not only cause the loss of people's capability to keep and pass on the artistic and natural heritage, but also of an extraordinary source of knowledge and cultural diversity from which appropriate innovative solutions can be derived today and in the future more importantly to manage the natural resources and disaster risks.