I. Introduction
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Background

In the recent past an inventory has been launched for wild cucurbits from different regions in the Botany Department of Shivaji University, Kolhapur (MS) under the investigatorship of Dr. N.S. Chavan. The same University and University Grants Commission (UGC) have rendered generous grants for the purpose. Regional surveys on wild cucurbits are undertaken and the regions such as Kolhapur, Solapur, Konkan area, Chandgad etc. from Maharashtra are analyzed. The main objective of this program is to study diversity of wild cucurbits, their ecological amplitude, socio-economic dimensions and potential in the field of food and medicine. Chavan (2000) has completed the survey for Kolhapur and nearby region. She also submitted a report on invitro culture of Momordica species to UGC (2002). The work on wild cucurbits is going on different lines, of which, conservation is one of the important aspect. Protocol for micro-propagation is standardized in the present laboratory for wild cucurbits such as Momordica dioica, M. cymbalaria, Cucumis setosus, (Shirgave, 2004; Chavan 2003; Patil and Chavan 2004). Similarly work is under progress especially for Kedrostis species and harvest of secondary metabolites invitro from Momordica species (unpublished).

Present work is the extension of this particular programme for acquisition of knowledge about occurrence, some aspects of ecology and socio economy of wild cucurbits from Bijapur District of Karnataka.
Family - Cucurbitaceae

Cucurbits are the popular name to the family cucurbitaceae, commonly known as the gourd family. The members are widely distributed in the tropics and warm temperature regions of the world. The family is represented by about 120 genera and 800 species (Nair and More, 1998). Cucurbitaceae is medium sized and phylogenetically specialized and well defined family. Cucurbits are arborescent. About 30 species of nine genera are cultivated for food and a large number of genera and species are widely used in the tropical region for their medicinal properties in various local medicine systems (Nair and More 1998). They have also stated that some of them have found a place in pharmaceuticals also. It is very interesting that the use of some of them (Cucumis, Momordica, Cucurbita etc.) is increased in the recent past.

Cucurbits serve as a versatile material for botanical and genetical studies. These are among the oldest plants used and cultivated by human kind. The cucurbits are ecologically, morphologically and embryologically very much diverse. Such type of variation leads to propose different systems of classification within the family. According to Chakravarty (1982), there are 110 genera and about 640 species distributed in the warmer parts of the world. Most frequent in tropic and sub tropic and very rare in temperate regions. There are 36 genera and about 100 species occurring in India. Cucurbitaceae is highly evolutionary group and vegetative characters are often deceptive in taxonomic analysis. Though
there are number of reports on floristic of cucurbits, there is no specific information on the habitat of wild cucurbits. There is no aquatic species among cucurbits (Chakravarty, 1982) but *Cucumis prophetarum* prefer dryer soil while *Citrullus colocynthis* particularly is xerophytic one. There is one famous compilation by Aronson which is edited by Whitehead (1989) namely *Haloph*. Actually it is the list of halophytic or salt tolerant species reported throughout the world. Only four species of cucurbitaceae are included in the list viz. *Halosycios ragonesei*, *Peponium sublitorale*, *Vaseyanthus bradeedi* and *V. isularies*, but, none of them are from India. All these incidences indicate that still the members of cucurbitaceae are demanding thorough understanding from ecological point of view.

**Cucurbit diversity at regional level and sustainability**

Biological diversity has a variety of contexts (Heyword and Watson, 1995, Perrings *et al.* 1995, and Swanson, 1996). Biodiversity can be dealt at three distinct levels. viz genetic, species and community diversity. Spatio-temporal variations in biodiversity, the factors regulating biodiversity and biodiversity ecosystem stability relationship have been important ecological concerns for long period of time. Biodiversity is not only an important determinant of ecosystem processes and responses but is also crucial for satisfying a variety of human needs. Appropriate integration of ecosystem function of biodiversity with economics is a key issue in the sustainable development. A comparative understanding of
spatio-temporal trends of biodiversity, ecological processes regulating and affected by biodiversity. And socio-economic policy dimensions and biodiversity used at various scales is required for managing biodiversity for sustainable development. Before running behind new technological approaches one should have the data on the basic sciences.

From human use perspective point of view four distinct types of values are attached to biodiversity-direct, indirect optional and intrinsic values. Biodiversity looked at genetic, species or ecosystem level is concentrated in areas inhabited by traditional societies. The societies are closely related with the diversity components posing the threats to it.
In case of any human-nature association the societies are getting the direct, indirect and optimal uses from biodiversity but to make it sustainable search for intrinsic use is the present day's demand. Such type of programme is under implementation by Department of Biotechnology Government of India. This Ministry has developed a separate unit namely National Board for Bioresource Development, and this board in particular is searching the potential local bioresources either as key or subsidiary source for local communities. A part of this programme is implemented at different stations in India and one of the stations is Malvan in Maharashtra (Bhosale, 2000). Traditional livelihood systems are adapted to a range of plant and animal products in contrast to modern system relying on a select few species. This, in term of ecological management implies an efficient utilization of environmental resources and processes to the benefit of mankind.

To illustrate the interrelationship between resources in sustainable development Raskin et al. (1996) have developed a model which is referred as the “Socio-ecological systems”. This system consisting of social, economic and ecological subsystems. Within the social subsystem any attribute of human capital such as culture, lifestyle, organization, belief etc. is included. The economic system related to monetary activities, such as agriculture, industry, transport and services. Natural resources, i.e. hydrosphere, biosphere, biodiversity, are included in the ecological subsystem. The three elements are interlinked to form a balanced triangle.
Any pressure affecting any link between the two subsystems will automatically disturb the balance of the system. As a whole the 'Socio-ecological' model can be applied at the local, regional, national and global scale.

The present work is an attempt to know the cucurbit biodiversity at regional level, its knowledge and values in traditional societies and search for potential species as well as micro-geographic areas of Bijapur district of Karnataka.