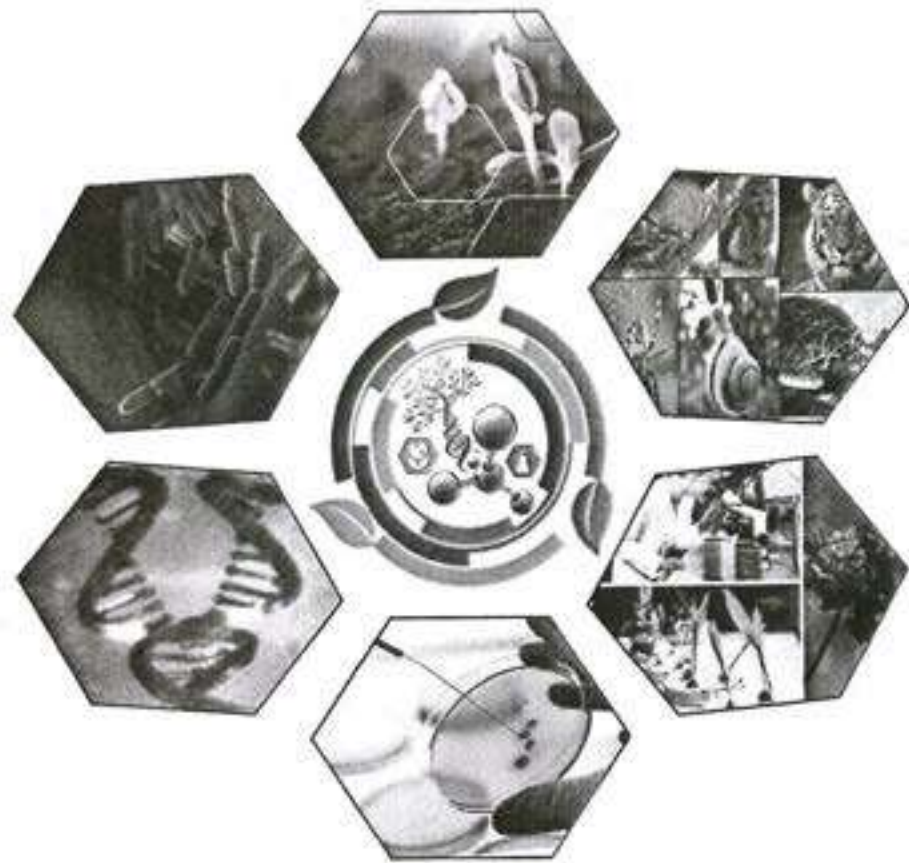


National Seminar on Innovative Approaches in Biosciences

Proceeding



In collaboration with

**Indian Science Congress Association
(ISCA), Jaipur Chapter**

and

**National Bank for Agriculture and Rural Development
(NABARD)**



NABARD

Seema
Principal

Kanoria PG Mahila Mahavidyalaya
JAIPUR



Organized by :
Department of Biotechnology, Botany and Zoology
Kanoria PG Mahila Mahavidyalaya,
JLN Marg, Jaipur – 302015 (Rajasthan)

INDEX

S.No.	Title and Author(s)	Pg No.
1.	ECOTOURISM: A NEW APPROACH TO SAVE BIODIVERSITY ALONG WITH EMPLOYMENT OPPORTUNITIES Anita Gajraj and Ratna Saxena	1
2.	THE ECOLOGICAL, SOCIAL AND TRADITIONAL VALUE OF BIODIVERSITY Anita Jeph	9
3.	INNOVATIVE APPROACHES FOR CLIMATE CHANGE MITIGATION Aparna B. Rathore	14
4.	PRODUCTION OF BIOFUELS FROM VEGETABLE AND FRUIT WASTE Jyoti Kapil, Jyoti Dhariwal and Ranjana Agarwal	19
5.	EXTRACTION, ISOLATION AND IDENTIFICATION OF PHARMACEUTICALLY ACTIVE COMPOUND TETRAPENTACONTANE FROM N- HEXANE EXTRACT OF JASMINUM GRANDIFLORUM L. STEM THROUGH GC-MS Kamakshi Tomar and Shilpi Rijhwani	23
6.	MONITORING PESTICIDE POLLUTION IN AGRICULTURAL FIELDS USING GERBIL (MERIONES HURRIANAE) Meena Godha	27
7.	SUSTAINABLE DEVELOPMENT AND GREEN GROWTH: A CONCEPTUAL FRAMEWORK: A RESEARCH REPORT Namita S. Moyal	31
8.	ELECTROCHEMICAL SYNTHESIS OF MULTIDIMENSIONAL NANOPARTICLES AND THEIR ELECTROCATALYTIC APPLICATIONS FOR SUSTAINABLE FUTURE Nidhi Gupta and Kalawati Saini	35
9.	ECOSYSTEM SERVICES OF MUKUNDARA NATIONAL PARK OF KOTA DIVISION Preeti Nayak and Mamta Choudhary	38
10.	FLUORESCENT IN SITU HYBRIDIZATION (FISH): CURRENT STATUS IN CLINICAL CYTOGENETIC DIAGNOSTICS. Reema Srivastava	41
11.	BACTERIAL ENDOTOXIN TEST Nikita Tanwar, Aratrika Razdan, Ranjana Agarwal, Ritika Bhatt	46
12.	SUSTAINABLE USE OF PLANT GENETIC RESOURCES BY INDIGENOUS PEOPLE Ritu Gupta	49
13.	ANTI-MICROBIAL ACTIVITY OF SECONDARY METABOLITES ISOLATED FROM LEAF, STEM AND ROOT OF M. PARVIFOLIA (ROXB.) KORTH Sapana Khandelwal and Tribhuvan Singh	52
14.	IN VITRO EVALUATION OF LOCALLY AVAILABLE PLANT (FLORAL EXTRACT) AGAINST FUSARIUM OXYSPORUM F.SP. CICERI. Seema Choudhary and P.C. Trivedi	57
15.	ROLE OF 'ZINC' IN MAINTAINING MICROENVIRONMENT OF EPIDIDYMISS IN WEANLING WISTAR RATS: FACILITATING 'A REPRODUCTIVE WELL-BEING IN THE ANIMAL' Seema Jacob, Neena Nair, Ranjana Agarwal and Susheela Bedwal	60
16.	CHANGING SCENARIO OF AIR: AN ANALOGOUS APPROACH ON HEALTH Shalini Jauhari, Shivani Joon and Usha Yadav	65
17.	CLIMATE CHANGE AND ITS IMPACT ON CROP PRODUCTIVITY IN INDIA Vinita Jaiman	69
18.	ALGAE AND ITS SCOPE IN BIOSCIENCES- BIOFUELS AND BIOPLASTICS Yogita Sharma	76

Seema
Principal
Kanoria PG Mahila Mahavidyalaya
JAIPUR



INDEX

S.No.	Title and Author(s)	Pg No
1	ECOTOURISM, A NEW APPROACH TO SAVE BIODIVERSITY ALONG WITH EMPLOYMENT OPPORTUNITIES Anita Gajraj and Ratna Saxena	1
2	THE ECOLOGICAL, SOCIAL AND TRADITIONAL VALUE OF BIODIVERSITY Anita Jeph	9
3	INNOVATIVE APPROACHES FOR CLIMATE CHANGE MITIGATION Aparna B. Rathore	14
4	PRODUCTION OF BIOFUELS FROM VEGETABLE AND FRUIT WASTE Jyoti Kapil, Jyoti Dhariwal and Ranjana Agarwal	19
5	EXTRACTION, ISOLATION AND IDENTIFICATION OF PHARMACEUTICALLY ACTIVE COMPOUND TETRAPENTACONTANE FROM N-HEXANE EXTRACT OF JASMINUM GRANDIFLORUM L. STEM THROUGH GC-MS Kamakshi Tomar and Shilpi Rijhwani	23
6	MONITORING PESTICIDE POLLUTION IN AGRICULTURAL FIELDS USING GERBIL (MERIONES HURRIANAE) Meena Godha	27
7	SUSTAINABLE DEVELOPMENT AND GREEN GROWTH: A CONCEPTUAL FRAMEWORK: A RESEARCH REPORT Namita S. Moyal	31
8	ELECTROCHEMICAL SYNTHESIS OF MULTIDIMENSIONAL NANOPARTICLES AND THEIR ELECTROCATALYTIC APPLICATIONS FOR SUSTAINABLE FUTURE Nidhi Gupta and Kalawati Saini	35
9	ECOSYSTEM SERVICES OF MUKUNDARA NATIONAL PARK OF KOTA DIVISION Preeti Nayak and Mamta Choudhary	38
10	FLUORESCENT IN SITU HYBRIDIZATION (FISH): CURRENT STATUS IN CLINICAL CYTOGENETIC DIAGNOSTICS Reema Srivastava	41
11	BACTERIAL ENDOTOXIN TEST Nikita Tanwar, Aratrika Razdan, Ranjana Agarwal, Ritika Bhatt	46
12	SUSTAINABLE USE OF PLANT GENETIC RESOURCES BY INDIGENOUS PEOPLE Ritu Gupta	49
13	ANTI-MICROBIAL ACTIVITY OF SECONDARY METABOLITES ISOLATED FROM LEAF, STEM AND ROOT OF M. PARVIFOLIA (ROXB.) KORTH Sapana Khandehwal and Tribhuvan Singh	52
14	IN VITRO EVALUATION OF LOCALLY AVAILABLE PLANT (FLORAL EXTRACT) AGAINST FUSARIUM OXYSPORUM ESP CICERI Seema Choudhary and P.C. Trivedi	57
15	ROLE OF 'ZINC' IN MAINTAINING MICROENVIRONMENT OF EPIDIDYMISS IN WEANLING WISTAR RATS FACILITATING 'A REPRODUCTIVE WELL-BEING IN THE ANIMAL' Seema Jacob, Neena Nair, Ranjana Agarwal and Susheela Bedwal	60
16	CHANGING SCENARIO OF AIR: AN ANALOGOUS APPROACH ON HEALTH Shafini Jauhari, Shivani Joon and Usha Yadav	65
17	CLIMATE CHANGE AND ITS IMPACT ON CROP PRODUCTIVITY IN INDIA Vinita Jain	69
18	ALGAE AND ITS SCOPE IN BIOSCIENCES- BIOFUELS AND BIOPLASTICS Yogita Sharma	76

Seema
Principal

Kanoria PG Mahila Mahavidyalaya
JANPUR



ECOTOURISM: A NEW APPROACH TO SAVE BIODIVERSITY ALONG WITH EMPLOYMENT OPPORTUNITIES

Anita Gajraj and Ratna Saxena

Department of Zoology, Kanoria P.O. Mahila Mahavidyalaya, J.L.N. Marg, Jaipur - 302004.

Corresponding Author: Dr Anita Gajraj E-mail: anita_gajraj@yahoo.co.in

Abstract

Exploitation of mother nature in our quest for material wealth has resulted in global warming and massive pollution of our environment. There has been massive destruction of forest habitats in the name of development and tourism. This also caused biodiversity degradation and resulted into reduction in variety of foods and other products, poorer gene pools for animals and plants leading to weaker crops and livestock and also climate change due to rainforest destruction. Fortunately, ecotourism is emerging as one such responsible endeavor in order to undo some of this damage. The concept of ecotourism provides the local communities with an alternative form of revenue, thus reducing the communities impact on the forest and safeguarding the natural habitat along with different flora and fauna. It is defined as "responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education". Ecotourism is entirely a new approach in tourism. Ecotourism is a preserving travel to natural areas to appreciate the cultural and natural history of the environment, taking care not to disturb the integrity of the ecosystem, while creating economic opportunities that make conservation and protection of natural resources advantageous to the local people. In India, there are numerous Botanical and Zoological Gardens, which are working towards the enhancement of the Ecosystem and can be used for ecotourism sites. Ecotourism focusing about economic, socio-cultural and environmental benefits for the government, private sector and local communities if well implemented. Revenue from tourist visits help create job opportunities for locals, which in turn, lead to the diversified economy for them. More importantly, ecotourism can support conservation and environmental management properly carried out. Ecotourism can also be a tool to raise awareness about the environment and to educate the public on conservation.

Key-words: Ecotourism, Biodiversity, Environmental conservation, Employment

Introduction

Humans have travelled far and wide since the beginning of time. Food, water, safety and or acquisition of resources were the initial travel motivations. Travel for pleasure or exploration soon emerged. The area covered under travel has always depended upon the mode of technology. The earliest travellers walked or rode on domesticated animals. The invention of the wheel and the sail provided new modes of transportation. Each improvement in technology increased individual's opportunity to travel. As roads were improved and governments stabilised, interest in travel

increased for education, sightseeing and religious purposes.

The word tourism is related to 'Tour', which is taken from a Latin word 'tornus' which means a tool for describing a circle or turner's wheel. Only from this word the notion of 'round tour' or 'package tour' developed which is the very much essence of tourism. The concept of tourism as a phenomenon involves the movement of people within their own country or across the national borders. Tourism involves basically three elements namely man (human element as the creator of the act of tourism), space (the physical element to be necessarily covered by



the act itself), and time (the temporal element which is compared by the trip itself and the stay at the destination). Conceptually, tourism is defined as the sum of phenomenon and relationships arising from the travel and stay of nonresidents in so far as they don't lead to permanent residence and are not connected with an earning activity (Burkart and Medlik, 1974).

Tourism industry in India plays a significant role in transforming the society and economy. Pandit Jawaharlal Nehru's oft-quoted remark, namely "welcome a tourist and send back a friend" has been the essence of Indian tourism approach in the post-independence era. In India we can observe many facets of tourism like agro-tourism, adventure tourism, cultural tourism, medical tourism, rural tourism, sports tourism, pilgrim tourism, beach tourism, backwater tourism, monsoon tourism, garden tourism, literary tourism and experiential tourism.

Experiential tourism is an ideal derivative of ecotourism for its seemingly endless benefits to all concerned. It is, in its simplest form, any type of tourism that allows the tourist either individually or in a group as a unique opportunity to experience true life in the host destination in its myriad forms. Ecotourism is a new concept in tourism, which was originally sparked off by the idea of making harmonious co-existence with nature a reality once again. The World Conservation Union (IUCN) defines ecotourism as: "environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features - both past and present) that promotes conservation, has low negative visitor impact, and provides for beneficially active socio-economic involvement of local populations" (IUCN, 1996).

The travel industry defines ecotourism as: "purposeful travel that creates an understanding of cultural and natural history, while safeguarding the integrity of the ecosystem and producing economic benefits that encourage

conservation. The long-term survival of this special type of travel is inextricably linked to the existence of the natural resources that support it" (Ryell and Grasse 1991; Bandy, 1996).

The International Ecotourism Society defines ecotourism as: "responsible travel to natural areas that conserves the environment and improves the welfare of local people". The idea of ecotourism is in fact an old one, which manifested itself during the late 1960s and early 1970s, when researchers became concerned over inappropriate use of natural resources (Fennell, 2002).

Until recently, there has been some confusion surrounding the origin of the term 'ecotourism', as evident in the tremendous volume of literature on the topic. For example, Orams (1995) write that the term can be traced back only to the late 1980s, while others (Fennell, 2002) suggest that it can be traced to the late 1970s, through the work of Miller on eco-development.

One of the consistent themes emergent in the literature supports the fact that Geballos-Lascurain was the first to coin the phrase in the early 1980s. He defined it as 'traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas' (Fennell, 2002).

Ecotourism can be distinguished from nature tourism by its emphasis on conservation, education, traveller responsibility and active community participation. Nature tourism, low impact tourism, green tourism, bio-tourism, ecologically responsible tourism and others have been used in literature and marketing, although they are not necessary synonymous with ecotourism. In some foreign countries ecotourism is also termed as green tourism. Another name of ecotourism is ecological tourism. The main components of ecotourism are nature camps, eco-friendly accommodation,



trekking and nature walks, viewing of wildlife and river rafting, adventure activities, fishing, health promotion and spa, conservation awareness and environment education.

Ecotourism Initiatives in India

Mohan Krishan Khanna has identified ecotourism resources of India in his book 'Ecotourism in India'. In his opinion the geographical diversity of India makes it home to a wealth of ecosystems which are well protected and preserved. These ecosystems have become the major resources for ecotourism. In the 1990s, ecotourism has emerged as one of the most important sectors in tourism in India. During 1998, the Government of India prepared a policy document on ecotourism. The government of India has initiated vital role on ecotourism in 2002 tourism policy. The explanation of nature and strength could be seen in the sixth principle of 2002 tourism policy. This principle describes that ecotourism is a broader sense than those of nature tourism; it helps to eliminating poverty, generating employment even for the unskilled people, increasing the economic status of woman, preserving local culture and encouraging tribal and local crafts. In the ecotourism program, the Government of India supports state governments in the purchase of trekking and camping equipment, and also helps projects which use renewable energy resources. Non-governmental Organizations (NGOs) work as watchdogs to see that the tourism activities are managed on sustainable principles. NGOs also help the government and private sector in feasibility studies, development of strategies etc. Ecotourism lies mostly in the public sector and projects are being developed by government, but private sector support is expected by way of provision of accommodation, conduct of tours etc. There are not many ecotourism projects financed by international funding agencies.

All definitions of ecotourism showed that the concept of ecotourism is derived from seven

components. These are as follows: (1) Contributes to conservation of biodiversity, (2) Sustains the well-being of local people, (3) Includes an interpretation/learning experience, (4) Involves responsible action on the part of tourists and the tourism industry, (5) Delivered primarily to small groups by small-scale businesses, (6) Requires lowest possible consumption of non-renewable resources, (7) Stresses local participation, ownership and business opportunities, particularly for rural people.

Ecotourism in Rajasthan

Rajasthan is a north-western state of India, which shares its border with Indian states like Uttar Pradesh, Haryana, Madhya Pradesh, Punjab and Gujrat, and internationally with Pakistan. Major features include the ruins of the Indus Valley Civilisation at Kalibanga, the Dilwara Temples, a Jain pilgrimage site at Rajasthan's only hill station, Mount Abu, in the ancient Aravalli mountain range, and, in eastern Rajasthan, the Keoladeo National Park near Bharatpur, a World Heritage Site known for its bird life. Rajasthan is also home to three national tiger reserves, Ranthambore National Park in Sawai Madhopur, Sariska Tiger Reserve in Alwar and Mukundra Hill Tiger Reserve in Kota.

The weather of Rajasthan is broadly classified into four distinct seasons. They are - Pre-monsoon, which is the hot season preceding the monsoon and extends from April to June, the Monsoon that occurs in the month of June in the eastern region and mid-July in the western arid regions, the Post-monsoon that commences from mid-September and continues till November and the Winter that extends from December to March, January being the coldest month of the year. The average temperature in winter ranges from 8° to 28°C (46° to 82°F) and in summer the average temperature ranges from 25° to 46°C (77° to 115°F). The best time for visit of Rajasthan is October to April month when weather can be found pleasant not hot and humid.