



ABOUT THE COLLEGE

Shaheed Captain Vikram Batra Govt. College Palampur, a Co-educational Institute, was established in 1995 in the splendid Dhauladhar. We offer a broad curriculum and a range of opportunities for all our students to achieve excellence in academic, creative, social, cultural, sporting, and community endeavors. The motto of SCVB Government College, Palampur "Tamso Ma Jyotirgamaya" from Brihad Aranyaka Upanishad means "Lead me from darkness to light" and inspires both students and teachers to attain real, true, universal, and constructive knowledge in the world. Our college is covered by the University Grant Commission (UGC) under 2f and 12B and was recently notified as an Utkrishi Mahavidyalaya (a step towards excellence). With professionally competent faculty members, a spacious library, an extensive campus, well-equipped computer labs with Internet Connectivity, a good sports facility, a host of extracurricular activities, 2 NSS units, 1 NCC unit each for Boys and Girls, Rovers and Rangers, we at SCVB Govt. Colleges are committed to working for the overall development of the students by channelizing their energy. The college is equipped with the latest technology, numerous internet labs, a Wi-Fi facility, overall e-surveillance, and the largest library among the colleges in Palampur City. The College strives to impart holistic education and promote the overall development of our students in the moral, physical, and intellectual realms to craft their success and have a towering personality.



ABOUT THE CONFERENCE

Environmental sustainability encompasses the responsibility to conserve natural resources and protect global ecosystems to support the health and well-being of people. The theme focuses on maintaining and sustaining the quality of our planet by avoiding the depletion of natural resources and taking drastic steps in agriculture, forestry, and energy to build up a healthy environment. Projects and decisions should be taken with long-term benefits in mind, leading to economic sustainability. Sustainability in the environment is an extremely urgent and universal issue. We can no longer put off our efforts to fight the climate crisis. The challenge of a sustainable transformation in economies and businesses is balancing the need while making changes to reach sustainability ambitions. Becoming sustainable in environmental, economic, and social terms doesn't happen overnight; it takes many smaller steps. Social sustainability has a pivotal role in improving society's health and well-being by working on central elements like equity, diversity, social cohesion, quality of life, democracy, and governance. A better world is possible if we sincerely work on these three pillars and form a sustainable future. While the benefits of past transformations, such as the green revolution, took decades to emerge, the transformation to sustainable development has a much shorter time frame. It proposes reframing and re-prioritizing the relationships between the economy, society, and environment through transformations. This conference examines many critical determinants of the relationships between these three dimensions of sustainable development as targets for transformations to sustainable inclusive development in India, to which we are committed.

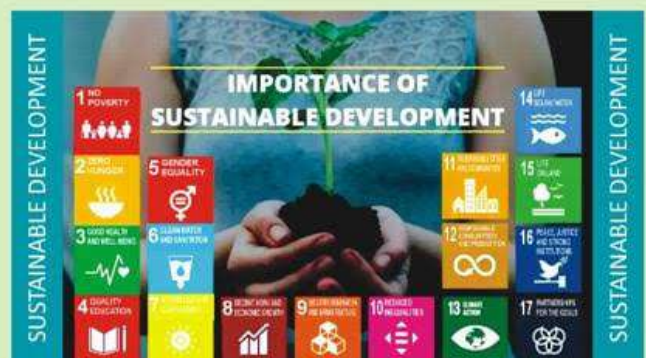
TRANSFORMATIONS FOR SUSTAINABLE DEVELOPMENT IN INDIA



National Conference on TRANSFORMATIONS FOR SUSTAINABLE DEVELOPMENT IN INDIA

April 10-11, 2023

ABSTRACT BOOK



Organized by
Research and Development Committee
SCVB Govt. College Palampur (HP)
Website: <https://www.gcpalampur.ac.in>
Email: gcpalampur@gmail.com
(A NAAC re-accredited Grade 'B' College)

Internet and AI for Sustainable Development

Dr ApernaVolluru

Member European Education Union, Barri, Italy.

Er. MNR Gupta

CEO, International Chamber for Applications of Robotics and Artificial, Hyderabad,

Telanganaskilljobhp@gmail.com

Abstract

This research paper explores the role of the internet and artificial intelligence (AI) in promoting sustainable development. The study focuses on the potential of these technologies to address key global challenges, including climate change, resource depletion, and poverty.

The paper first examines the current state of sustainable development and the challenges that must be addressed to achieve the United Nations' Sustainable Development Goals (SDGs). The authors then discuss the potential of the internet and AI to contribute to sustainable development through a range of applications, including smart cities, precision agriculture, and renewable energy systems. The study also addresses the challenges associated with the use of these technologies in sustainable development, such as data privacy concerns and the potential for increased inequality. The authors propose several recommendations for policymakers and stakeholders to maximize the benefits of the internet and AI while minimizing the risks. The key findings of this research paper suggest that the internet and AI can play a critical role in promoting sustainable development, but their potential must be harnessed responsibly. The study highlights the need for collaboration between stakeholders and policymakers to ensure that the benefits of these technologies are distributed equitably and that their use is aligned with the SDGs.

Key words: sustainable development, internet, artificial intelligence, smart cities, and SDGs.

Role of Artificial Intelligence in Urbanization and sustainable development

Dr. Manish Sharma

Department of Physics, Govt. College Nagrota Bagwan H.P. India. -17604

manisheeshan@gmail.com

Abstract

AI (Artificial Intelligence) can be defined as machines or computers that mimic cognitive functions that are associated with the human mind. Today, approximately 55% of the global population lives in cities whose fabric is rapidly expanding across the planet. This makes urban areas a key focus of sustainability policy. This paper is about the ways and means of using AI in cities for sustainable development considering the advantages and disadvantages at different levels. On the one hand, AI focus is mainly on transport, energy, land use, and climate areas. Some of the key contributions of AI in this domain include – the integration of various transport services into a single on-demand mobility service, optimization of energy production, home technologies focusing on environmental issues, energy saving, monitoring natural changes, and through remote sensing with autonomous drones. Whereas on the other hand, barriers to AI include: biased decision-making, increased urban sprawl, leading to more motor vehicle kilometer traveled, destabilizing property values, establishing heavy energy dependence due to the intensive use of technology, and increasing carbon footprints. The above possibilities and obstacles must be evaluated in relation to the five different levels of autonomy that characterize the decision-making power of AI. With this great power, AI will have to accept great responsibility, and thus it will be crucial to develop responsible and ethical AI before we reach the last level. From an urban perspective, AI technology is advancing rapidly, allowing cities to become increasingly autonomous. Especially in experimental cities, where technological innovation is usually rapid.

Keywords: Planet, Autonomous, Climate, Decision-Making.

Rural Tourism: A Livelihood option for Hilly Regions

Tarsaim Kumar¹ and Mayank Rana²

¹Assistant Professor Public Administration, S.C.V.B G.C Palampur, Distt. Kangra

kumartarsaim123@gmail.com

²Assistant Professor Tourism, S.C.V.B G.C Palampur, Distt. Kangra,

mayank.rana01@gmail.com

Abstract

Rural tourism has a high potential to stimulate local economic growth and social change because of its complementarity with other economic activities, its contribution to GDP and job creation, and its capacity to promote the dispersal of demand in time (fight seasonality) and along a wider territory. Present paper tried to analyze the role of rural tourism towards sustainable livelihood in hilly areas. Recently, rural tourism has become a leading form of tourism which has provided various kinds of positive tourism impacts such as economic, cultural and social impacts to the society. The objective of this paper is to analyze the role of rural tourism towards sustainable livelihood. Rural tourism is still an emerging concept in India. It helps in preserving traditional beliefs, cultural heritage, environment, local resources etc. It has also created employment opportunities, diversification of household income and reduces migration of rural people which is one of the major concerns in today's world. Therefore, for the sustainable development of mountain region rural tourism can serve as a major tool. This paper recognizes the tourism destination in hilly rural areas and role of rural tourism in sustainable livelihood through secondary source of data. The finding of this study exhibits that rural tourism has affected the sustainable livelihood in hilly areas.

Keywords: Rural, Sustainable, Mountain Tourism, rural livelihood.

Social Justice and Sustainable Development

Poonam Sharma

Assistant Professor, History, SCVB Government College, Palampur

Abstract

Sustainable development refers to development that meet the needs of the present, without compromising the ability of future generations to meet their own needs. On the other hand, social justice is based on the values of fairness. Social justice and sustainable development have a mutually supportive relationship where primary concern is improvement of quality of life of people and access to resources while staying within the limits of our planet. Achieving inclusive sustainable development is linked to justice. Social and environmental justice are major challenges in today's world with increasing level of inequality, social injustice, loss of biodiversity, environmental degradation etc. In this context, Sustainable development goals have also been designed to recommend countries developmental goals in order to address social and environmental injustice. This paper will try to understand relationship between social justice and sustainable development in the context of environment. The social dimension of sustainability, concepts like sustainable social development will be discussed. Initiatives taken at the global and local level in this context and how developing societies are implementing sustainable initiatives for human, social and economic development and justice.

Keywords: Social justice, sustainable development, Sustainable development goals, social development

Wetlands as Bird Habitat: A Case Study of Pong Dam Lake Wetland

Anuradha Sharma

Assistant Professor in Zoology, SCVB Government College, Palampur, Distt. Kangra (H.P.)

Email: anuradhaaaa987@gmail.com

Abstract

Wetlands are one of world's key natural resources which contribute to a robust environment in many ways. Due to very high rates of plant productivity wetlands can support various types of habitats and a range of biodiversity. One of the best-known functions of wetlands is to provide a habitat for avifauna. Birds use wetlands for feeding, resting, social interactions, breeding, nesting and rearing young ones. The relation between wetlands and birds is moulded by many factors such as depth & quality of water; availability of food & shelter; presence or absence of predators; type of vegetation; water chemistry; types of soils; geographical & topological location etc. Variation in any of these wetland features can cause differences in the avifaunal diversity of the region. Pong Dam Lake wetland situated in Kangra district of Himachal Pradesh is one of the largest man-made wetlands of Northern India, which came into existence by construction of Pong Dam across the Beas River during 1974. The government of Himachal Pradesh proclaimed this wetland as a Wildlife (Bird) Sanctuary during 1983. Pong wetland has also the distinction of being selected as a 'RAMSAR site' in 2002. Pong wetland supports more than 400 avian species (including resident and migratory birds). It provides a resting site for migratory birds coming from the trans Himalayan zone in winter season, when the wetlands in Europe and North & Central Asia are frozen during the winters. Every year during the months of October to March flocks waterfowls take up migration to Pong wetland for spending winters in more affable climatic conditions. Most common migratory birds visiting Pong wetland during winters include - bar headed geese, brahminy ducks, common shelduck, common pochard, common coots, eurasian wigeons, mallards, shovelers, ruddy shelduck etc. For sustaining the bird diversity, especially the migratory birds, in the region there is a dire necessity for evolving appropriate strategies for protection and conservation of Pong wetland.

Key words: Wetlands, Plant productivity, avifaunal diversity, Migratory birds, Waterfowls, Winter migration

Gastropods Diversity in the Fresh Water Bodies of District Bikaner: A Semi Arid Zone of Southwest Region of Rajasthan

Ankush Sharma

Associate Professor, Department of Zoology, Sri Sai University, Palampur

panku38@gmail.com

Abstract

Rajasthan a desert state of Republic India known for its harsh and inhospitable conditions. Scarcity of water is the main characteristic of this region. Most of water bodies are ephemeral in nature. Water bodies present in this region are small, shallow and maximum water resources face dry periods during summer season. Monsoon rain is the main source of water to these water bodies. So, the quantity and quality of water acts as main limiting factors to the organisms present in this region especially fresh water organisms. So, the diversity of freshwater invertebrates present in this region explains the adaptability techniques used by these organisms for the survival. Present study has been carried out to investigate the gastropods diversity in the semiarid region of northwest region of Rajasthan i.e. District Bikaner. Gastropods are the integral part of any aquatic ecosystem and play an important role in energy flow and food web. Most of the gastropods species are the bioindicator of water quality. Bikaner known for its harsh environmental conditions. Present investigation has been carried out in the five major water bodies i.e. Nal, Darbari, Chundasagar, Gajsagar and Kodemdeshar village ponds and lakes. This study revealed that 6 species of gastropods namely *Gyraulus rotula*, *Indoplanorbis exustus*, *Gabbia orcula*, *Digoniostoma pulchella*, *Bellamya bengalensis*, *Lymnaea acuminata* are present. It has been observed that these species are well adapted for desert conditions (extremes of temperature, high alkalinity and salinity and low oxygen) and even withstand the dry period of summer.

Keywords: Desert, Harsh, Inhospitable, gastropods and adaptation.

Insects and Their Products: To Explore the Unexplored Dimensions

Rajesh Kumar

Department of Biosciences Himachal Pradesh University, Summer Hill, Shimla, H.P.

drkumar83@rediffmail.com

Abstract

Since ancient times, different types of animals have been used by man for variety of purposes such as transport, source of food, medicine and other useful products. Not only, the large-sized animals but smaller ones too have been exploited by human beings. The practice of using products derived from animals is known as zootherapy. In modern societies, zootherapy constitutes an important alternative among many other known therapies practiced worldwide. Products such as blood, meat, whole organs from animals and even from man have been used by kings, queens, rich and royal people to increase their beauty, looks, muscle power, fertility, sexual capacity and to treat a number of diseases. There are many examples of sacrificing animals, men, women, children for performing special religious rituals (Tantra-Mantra, Siddhi) for specific purposes including getting children, life partner, money, victory on enemy, boon from God or to get rid off from bad ailments. After the act, tissues and organs are eaten up as prasada. Animals, their parts, and their products have been used as a source of medicine for prevention and treatment of a myriad of illnesses and diseases in practically every human culture throughout the world. Lot of people consider use of zoo therapeutics as superstition, the pertinence of traditional medicine based on animals cannot be denied because a number of materials have been methodically tested by pharmaceutical companies as sources of drugs to the modern medical science. The phenomenon of zootherapy represents strong evidence of the medicinal use of animal resources. Indeed, drug companies and agribusiness firms have been evaluating animals for decades without paying anything to the countries from where these genetic resources and traditional knowledge come. The insects are often considered to be one of the major biological enemies of man due to their serious and significant destructive activities. The struggle between them is perhaps a never-ending process of evolution. Insects constitute about 55% of total biodiversity and they comprise approximately four-fifths (< 80%) of all of the animals on earth. About one million species of insects have already been identified and several of them are still to be identified. Along with their marine relatives, the crustaceans, they constitute maximum biomass, excepting for plants on earth. Due to their dominance in

terms of total number of individuals (population), omnipresence in all sorts of habitats, total number of known species, their adaptability, fast and rapid rates of reproduction, their successful progress and neck-to-neck struggle with man, the 'super animal', several authors prefer to call the present era as the "age of insects" or "insect menace" or "insect world" or "the rival world" rather than "the era of man". The medicinal use of insects and insect-derived products is called entomotherapy. Although, entomotherapy is an ancient practice, it is still little known in the academic world. Hundreds of insect species have been used as human food, such as grasshopper, caterpillars, beetle grubs and sometimes adults, winged termites, bee, wasp, ant, cicadas, and a variety of aquatic insects. The beauty of insects, their brilliant colours and colour patterns have been utilized by artists, jewellers, and designers as well. A number of insects were found to have been used as food, in rituals and in prevention and treatment of variety of diseases in folk and traditional medicine. Though, plenty of folk and traditional information in this field is available, enough authentic and systematic literature and documentation is not available in this area. Strong database and inventories are required to be prepared and then biologically active constituents of selected animal materials are required to be experimentally tested for successful drug development.

Keywords: Insects, Drugs, Unani, Ayurveda, Diseases

Sustainable development via Empowering women in Kullu district of Himachal Pradesh

Gunjan Hazri

Assistant Professor, Department of English, GC Barotiwala District

Solangunjanhazri2701@gmail.com

Abstract

Women empowerment and sustainable development are closely related. Women empowerment plays a prominent role in moving towards the goal of environmental sustainability and sustainable economic growth. Hilly state of Himachal Pradesh has shown remarkable progress in women's development after the turn of century. 85 per cent of the female work force is in agriculture sector in the state. Women are traditionally book-keeper of ancient practices of agriculture, their conservation methods and cropping pattern, cuisines and medicinal plants. Women in our state are regularly empowered with knowledge through training and capacity-building workshops at root level which has helped them emerge as a leader of change in natural farming. This has led to an unprecedented transformation towards sustainable methodology in agriculture and a change for better for the climate, biodiversity, and food security. This paper will emphasis on the role played by the women of Kullu district in achieving the goal of sustainable development by adopting new and alternate income enhancement opportunities such as conservation of indigenous bees, conservation of traditional crops and value addition to local fruit and forest produce. These women are also been encouraged to adopt energy efficient devices and conservation and sustainable harvest of non timber forest produce from the wild. The current study includes the interview of women of different self help groups and women farmers. These women are trying to make balance with nature and help in attaining sustainability.

Keywords: sustainability, women empowerment, natural farming, conservation, self help group

Constitutional Provisions for Sustainable Development in India

Dr Shrawan Singh

Assistant Professor Political Science, RGM Govt. College Joginder Nagar Mandi HP

shrawandogra@gmail.com

Abstract

Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. India makes up 2.4 percent of the world's land while supporting 17.7 percent of world's population. The compounding result is a severely unsustainable use of natural resources for several generations. Currently, India is experiencing rapid and widespread environmental degradation at alarming rates. Tremendous pressure is placed upon the country's land and natural resources to support the massive overpopulation. As we are all aware the growth of urbanization has changed the economic growth and development of the country is striving to prevent the condition a proper planning has to be made which is concerned with the preservation of the environment. The objective of this paper is to examine the provisions made in Indian Constitution for sustainable development and what initiative the government is taking for the protection of the environment. This paper also comprises the need for sustainable development in India, a right that is available to the citizens and the remedies for their infringement and also consists of the duties of the state towards the citizens for the preservation of the environment. It will also include the suggestions how the right implementation of sustainable development can lead to the effective functioning of the economy for the growth and expansion of the country.

Keywords: Sustainable development, natural resources, urbanization, Constitution, infringement, implementation.

Internet and Artificial Intelligence in Sustainable Development

Dr R.S. Chandel

Department of Mathematics, S.C.V.B. Government College Palampur, Distt- Kangra, H.P

rajchandel9@gmail.com

Abstract

This is the age of the Industrial Digital Voice Assistant (IDVA). People use voice to control their smart devices through IDVA. But the IDVA service using Alexa has a problem of non-determinism. The uncertainty can be that any voice will be picked up by the Alexa device, allowing the smart device to be controlled even when no one is present. IDVA must detect the presence of a physically detected person and only process this sound to avoid insecurity. Thus, to secure the system, a virtual security button (VS Button) is used, which uses Wi-Fi technology capable of detecting any movement of people inside the house. Once it detects that someone is in the house, Alexa is activated and ready to perform its tasks. Hence the result shows that because of inside motion and not for outside motion the work will flow smoothly. With the rise of artificial intelligence (AI), the technological revolution has transformed human life and processes, empowering the products and services in the market today. Artificial intelligence is ushering in new ways of working and doing business, and exploring new global market opportunities. Therefore, companies using AI system should be socially responsible to make AI systems as safe as possible to promote the sustainable development of countries. The result shows that artificial intelligence is undoubtedly life changing and has both positive and negative effects. However, the primary goal of the AI should be to use it for general human purposes. Furthermore, authorities working in an ecommerce environment must put in place appropriate rules and regulations and make the system safe as possible for people.

Keywords: Industrial Digital Voice Assistants, Alexa, VS Button, Machine Learning

Internet and Artificial Intelligence in Sustainable Development

Dr Rajeew Kumar¹ Arvind Kumar²

Assistant Professor Mathematics, Th. J. C. Memorial Utkrisht College SujanpurTihra

Assistant Professor Computer Science, Th. J. C. Memorial Utkrisht College SujanpurTihra

Abstract

The internet and artificial intelligence (AI) have the potential to play a major role in sustainable development. Internet-connected technologies can help monitor and manage natural resources, such as water, air, and energy, and can help to create more efficient transportation, waste management, and other infrastructure. AI can help to process vast amounts of data to help identify trends and patterns in resource use, as well as provide predictive analytics to help plan for the future. AI can also be used to develop better tools and algorithms for environmental protection, such as risk assessment and resource management. Finally, AI can help to develop smart cities and communities that are more efficient and better able to respond to environmental changes. Artificial intelligence can use to conserve resources in many ways. For example, AI can be used to automate processes to reduce energy and water usage, such as smart thermostats that automatically adjust to the optimal temperature for a given environment. AI can also be used to optimize traffic flows, reducing the need for multiple cars on the road. AI can also be used to optimize industrial processes to reduce waste, or to monitor natural resource usage to ensure sustainable practices. Finally, AI can be used to predict and monitor weather patterns to better prepare for extreme weather events and reduce the impacts of natural disasters. Artificial intelligence can used to protect environmental conditions by using AI to monitor and regulate the temperature, humidity, air pollution levels and other environmental conditions. AI systems can be programmed to detect any changes that may occur due to human or natural activities and can alert authorities or take corrective actions automatically. AI can also be used to identify areas that require conservation and can help to create and manage efficient energy use plans. AI can also be used to predict weather patterns identify water shortages and monitor air quality

Endangered Species: Keep the Wild Alive

Tripta Sharma

Assistant Professor Department of Zoology PSR Govt. College Baijnath District Kangra

tanvisharma501@gmail.com)

Abstract

Man and environment should live in harmony for perfect balance. But human out of their greed is destroying nature. Animals are being killed for their skin, horns and feathers jeopardizing all life on earth including humans itself. Deforestation done for urbanization, construction of dams and Highways drastically pushes wild life towards annihilation. Human activities had led to extinction of 869 species in past 500 years. IUCN's (International Union for conservation of Nature) Red data book keeps record of endangered organisms evaluating extinction risk of species. Everyday 10000 acres of Amazon Forest is being lost to deforestation with consequent loss of species within. Himalayan species like Tahr, Snow Leopard, Serow, Tragopan, Griffon Vulture along with Bengal Tiger, Asiatic Lion, Asiatic Elephant, one horned Rhino & plants like Mohra, Atis, Ratanjot, NerDhoop are in the red data book. The government is opening many Wild life sanctuaries, National parks and Biosphere reserves for the conservation of nature and protecting wild life. However, conservation necessitates public participation. Community based conservation is crucial as spiritual country like India can benefit from its sacred faiths. Country where life inside sacred groves are already being defended by communities like *Bishnois* of Rajasthan religiously connected to wildlife like Blackbuck, khejri trees, Chinkara etc. Inculcation of sense of awareness and responsibility towards nature among youth and children will play pivotal role in saving nature and human lineage itself.

Keywords: Endangered species, deforestation, IUCN Red data book, Wild life sanctuaries, sacred groves.

Role of Honeybees in environmental sustainability

Dr. Neena Sharma

SCVB Govt. College Palampur

neenasra009@gmail.com

Abstract

Honeybees play a crucial role in agriculture, pollinating crops such as mangoes, guavas, apples, mustard, cherries, and almonds. The economic value of honeybees in India is estimated to be around 20,000 crores (approximately \$2.6 billion) annually. However, honeybee populations in India are also facing significant challenges. According to a study by the Indian Agricultural Research Institute, honeybee populations have decreased by up to 40% in some regions due to factors such as habitat loss, pesticide use, and climate change. To address these challenges, the Indian government has launched several initiatives to promote the conservation and protection of honeybees. The National Beekeeping and Honey Mission aim to increase honey production and improve the livelihoods of beekeepers. Additionally, the National Horticulture Board has launched a program to create flowering corridors in agricultural areas to support pollinators such as honeybees. Despite these efforts, there is still much to be done to ensure the long-term health and well-being of honeybees in India. This paper discusses different means of implementing sustainable agricultural practices, reducing the use of harmful pesticides, and increasing public awareness about the importance of honeybees. We can protect these essential pollinators and promote sustainable development in India and beyond by following these methods.

Keywords: Honeybees, Pollination, Sustainable Development, Conservation, Pesticides, Economic Value.

Gender Equality and Sustainable Development: Issues and Challenges

Dr Pawan Kumar

Assistant Professor, PSR Govt. College Baijnath Distt. Kangra, HP

Abstract

Sustainable development pertains to the development that meets the needs of the present times without compromising the ability of future generation to meet their own needs. At the Sustainable Development Summit, held on 25th September 2015, United Nations set 17 sustainable development goals. Out of those, Gender Equality and Empowerment of women and girls are the major goals. Gender equality is the most used and discussed term now a days. It is a necessary basic condition for socio economic development of any society. Although gender includes male, female and transgender but in the present paper focus will be mainly on female. The principle of gender equality has been advocated in the Indian Constitution, in its Preamble, Fundamental Rights, Fundamental duties and Directive Principles. Although women constitute one half of the population and various steps have been taken for the upliftment of women yet they continue to be subjugated, subjected to unequal treatment in socio economic and political status. Women have been struggling for self-respect and autonomy since ages. The objective of the present paper is to study the importance of gender equality for sustainable development along with issues and challenges of gender equality in Himachal Pradesh. The secondary data will be used for carrying out the research of present paper.

Keywords: Gender, Equality, Sustainable Development, Indian Constitution

Nature, Extent, and Pattern of Migration according to Region and Residence in Himachal Pradesh

Dr. Surinder Singh

Associate Professor in Economics Government Degree College Bilaspur District Bilaspur,
Himachal Pradesh

surinderemail@gmail.com

Abstract

Population growth affects and, is affected by the general level of economic development in the country. Fertility, mortality and migration are three components that affect population change. Migration determines the size and rate of population growth, as well as its structure and characteristics in any particular area or region. The present study has been undertaken to indentify the causes of migration and also to assess the nature, extent and pattern of migration according to region and residence in Himachal Pradesh. For this purpose, two districts i.e. Lahul & Spiti (tribal region) and Una (non-tribal region) out of twelve districts in Himachal Pradesh have been selected. A total sample comprises 200 households from both tribal and non-tribal region was collected in 2015. Overall, 21.5 percent of persons are migrants, with significant tribal & non-tribal, rural-urban and male-female differentials. Out of total migration in tribal region and rural areas of non-tribal region, proportion of out-migrants is higher as compared to those of in-migrants and return-migrants. Whereas in urban areas of non-tribal region, the percentage of out-migrants is lower than in-migrants. Migration is dominated by person age 15-29 years group as compared to other age groups. Migration among unmarried population has been higher as compared to married one. Higher percentage of male and female in both regions has not been working before migration. Rural to urban migration has been the most dominant migration stream, of the total internal migration, followed by rural to rural. The reason for migration for the migrants in tribal region has been dominated by education attainment, whereas employment has been the main reason for migration in non-tribal region. Short-term migration has been higher from non-tribal region as compared to tribal region. More investment is required especially in education, health sectors, infrastructure and other areas of social sector to improve the income, employment and living conditions of tribal region and rural areas of non-tribal region households to abate undesirable flow of rural workforce to the urban areas.

Keywords: In-migration, Out-migration, Return-migration, Tribal and non-tribal region.

Need to Control Pollution to Restrict Climate Change

Manisha Sharma

Assistant Professor, Department of Chemistry, PSR Govt. College Baijnath. H.P.

mintu1475@gmail.com

Abstract

Climate change describe the significant shift in the atmospheric temperatures (minimum and maximum) and thereafter effects in weather patterns including change in precipitation, shrinking mountain glaciers, cloud bursts, droughts, tornedoes, hurricanes etc. These shifts may be either caused by natural variations caused by solar cycle or ascribed to pollution created by human activities especially by emission of green house gases, evolution of persistent organic pollutants (POPs) and increasing hazardous metals. These pollutants on one hand have direct negative impact on human health and on other side it has great contribution to global warming. This review paper is focused on the impact of pollution on climate change and need of simultaneous preventing measures by making policies, strategies and models to control pollution to recover from environmental impacts.

Key Words: Pollution, climate change, global warming, human health, prevention

Floral Waste Management through Vermicomposting

Ajay Kumar and Rajesh Kumar

Department of Biosciences, Himachal Pradesh University, Shimla (H.P.)

drkumar83@rediffmail.com

Abstract

Management of solid waste is one of the major issues plaguing the universe and creating havoc to the environment. The generation of waste is increasing as a result of anthropogenic activities causing huge environmental pollution and global warming. Solid waste like kitchen waste, household waste, plastic waste, temple waste etc. possesses lots of pollutants like carbon. Large amount of temple floral waste is produced in India during worships, festivals, ceremonies and rituals. During special occasions like Navratri, Shravan month, Shivratri and Diwali etc., this quantity increases many folds. The major part of waste collected from the temple is organic in nature and consist of flowers, milk, coconuts, leaves, fruits, jaggery, camphor etc., which is generally released in running water bodies or dumped on barren land and creates severe environmental pollution and health hazards. Hence, it is the need of the hour to dispose off temple waste using eco-friendly and sustainable methods. Biotransformation of temple waste in nutrient rich compost can be done through vermicomposting. It is a biotechnological process in which organic waste is converted into valuable products by using epigeic earthworms. In the present studies, temple waste was collected from Kalka Mata Mandir, Barsar, Hamirpur (H.P). After pre-decomposition for 30 days, it was mixed with cattle dung and epigeic species of earthworm *Eisenia fetida* were released for decomposition. Physico-chemical analysis of vermicompost so produced was done and it was found that vermicompost prepared from temple waste is rich in organic carbon, nitrogen, phosphorus and potassium content. Vermicomposting resulted in lowering of EC, C:N ratio and increase in nutrients such as nitrogen, phosphorus, potassium, calcium. So, it can be concluded that processing of temple waste using epigeic earthworms may prove helpful in reducing the overall quantum of waste thereby controlling the mounting of solid wastes and environmental pollution.

Key words: Floral temple waste, composting, vermicomposting, Physico-chemical analysis, Epigeic, *Eisenia fetida*.

Cost Effective Water Pollution Remediation Studies through Agricultural By products

Dr.Naisergik Deepika Khanna¹and Dr. Anil Kumar²

Assistant Professor, Department of Chemistry, Govt. College Hamirpur¹, Govt. College
Nadaun²

naisergikdeepikakhanna@gmail.com¹, anilthakur.iitd@gmail.com²

Abstract

The presence of heavy metals over permissible levels causes hazardous effect on soil and aquatic system of any kind, consequently having concern on human health. Toxic metal compounds coming to earth's surface not only reach earth's water (seas, lakes, ponds), but also contaminate underground water in trace amount by leaking from the soil after rain and snow. Therefore earth's water may contain various toxic metals. One of the most important problems is the accumulation of toxic metals in food structures. The contaminated food can cause poisoning in humans and animals. Thus removal of heavy metals from wastewater is important for the protection of environment and human health. Several industrial and agricultural processes and mining activities have increased the concentration of toxic contamination in water and wastewater around the world. The main sources of heavy metals includes waste from the electroplating and metal finishing industries, metallurgical industries, tannery operation, chemical manufacturing and ground water contamination from hazardous sites. Efforts have been made by many scientists to use agricultural wastes such as sawdust, rice husk, peanut, coconut shell etc. which are easily and widely available as adsorbents to adsorb heavy metals from aqueous solutions. This technique has advantage over the other methods because of simple design within a sludge free environment and also involved low investment in term of both initial cost and land required.

Keywords: Water pollution, heavy metals, adsorption and agricultural by products.

Environment Issues and Literature

Dr Vishal Kumar

Assistant Professor of English, RGM Govt College Joginder Nagar

Distt mandi

vishalatul@yahoo.com

Abstract

Environment is a part of earth's existence and is omnipresent in literature and life. It is in the form of Nature that Environment has been present in all literature since the dawn of English letters to the contemporary era. In the contemporary world, the relationship between environment and literature has been emerged as 'Ecocriticism.' Eco-criticism is the analysis of representation of life and the connection among literature and the environment. This conviction emanates from the view that the arts of imagination and the study thereof can contribute significantly to the highlighting and understanding of environmental problems: the multiple forms of Eco degradation that threaten human existence. In representing problems associated with nature, literature plays a critical role and is the reflection of modern-day society. If the current amount of pollution persists another few years, then the situation will be disastrous for existence of life on earth. Consequently, the unsustainable exploitation of environment has become a cause of concern for many departments and disciplines including literature. By highlighting such troubles, the literature becomes Environmental literature which advocates an extra sensitivity and ecological understanding of man with environment. The methodology used here is a review of literature. The purpose of this paper is to emphasize the role, literature can play in elevating the thinking of society and maintaining the quality of our planet.

Keywords: Literature, Environment, Ecocriticism, Society, Nature.

Anthropogenic Activities and Biodiversity Threats: An Overview

Dr. Rajiv Kumar

Associate Professor RNT Govt. Degree College Sarkaghat District Mandi H.P.

Email: rajeevrana78@gmail.com

Abstract

Biodiversity includes plants, animals and the micro-organisms; their genetic variability expressed in terms of varieties and populations; their habitats, ecosystems and natural areas. Biodiversity provide food, clothing, medicine and spiritual nourishment to human beings. Humanity impacts the planet's biodiversity in multiple ways, both deliberate and accidental Biodiversity threats are one of the major concerns of present scenario. These threats arise due to environmental problems that appear both due to natural processes as well as anthropogenic activities. Human activities that affect biodiversity are in fact critical environmental issues. These not only adversely affect humans but also other forms of life. Biodiversity is the foundation of human life and necessary for the existence and survival of humans and their sustainable development. So biodiversity conservation is not only a necessity to save the species but also helps in the conservation of habitats and such action is also likely to mitigate climate change. It is almost evident that habitat destruction and fragmentation, overexploitation, invasive species and climate change have the potential to create havoc in biodiversity loss. A major role in this regard is imparted by humans and their unsustainable and indiscriminate activities including overpopulation. The biggest threat to biodiversity to date has been the way humans have reshaped natural habitats to make way for farmland, or to obtain natural resources, but as climate change worsens it will have a growing impact on ecosystems. The main direct cause of biodiversity loss is land use change. Second is overexploitation for things like food, medicines and timber. Climate change is the third most significant direct driver of biodiversity loss. Thus, the major threats to biodiversity are human activities.

Keywords: Anthropogenic activities, Biodiversity threats, Ecosystem, Environment, Climate change.

Climate Change: Impact and Solutions.

Sunita Saklani¹ Poonam Sharma² and Bhagwati Prashad Sharma³

Department of Zoology¹; Department of Mathematics²; Department of Botany³

Sidharth Govt. Degree College Nadaun, NSCBM Govt. College Hamirpur.

sunsaki786@gmail.com; poonamnit82@gmail.com bp76sharma@gmail.com

Abstract

Climate change signifies the periodic shift in climate of earth brought about by anthropogenic activities which are influencing ecosystems and are leading to changes in its average conditions, which is a major cause of concern in present times. It also adds on to the other pressure already existing on ecosystems which include degradation, faunal loss and fragmentation etc. These changes pose threat to viability and resiliency of ecosystems and consequently affects the well-being of humans, who depends upon these for their existence. The outcomes of these threat are now being observed in different parts of the world with further expectation to grow, if in time mitigation steps are not taken. So, there is an urgent need to identify the vulnerable region and start taking its management steps in such a way so that maximum resiliency can be achieved in existing ecosystems and climate change impact can be reduced.

Keywords: *Climate change, Ecosystems, Anthropogenic activities, Faunal loss.*

The Toxicological impact of Diclofenac on liver of Mice

Deepak Mohan

Associate Professor in Zoology, R.G.M.Govt. College, Joginder Nagar Distt. Mandi, HP

dpk222191@gmail.com

Abstract

Non-steroidal anti-inflammatory drugs (NSAIDs) were the major cause of toxicity in the environment as evident by the fact that there was major decline in the population of vultures in the first decade of this century. Lot of research has already been done on the toxicity of these drugs. One of the most common NSAIDs is Diclofenac sodium, which was in frequent use as a pain killer in veterinary. Despite the ban in India and other Asian countries, the drug is commonly being used by the livestock owners. The present paper is an attempt to workout the impact of drug on the histopathological parameters in liver of mice. The mice of same weight group were subjected to both lower and higher dose of Diclofenac for a period of 28 days and mice were sacrificed after 7, 14, 21 and 28 days to dissect out the liver for histopathological studies. The sections obtained after microtomical procedures were studied to find out the changes in the histological architecture of the liver. The prominent changes observed in the present study include hepatic hypertrophy, increased sinusoidal spaces, PMNL (Polymorphonuclear lymphocytes) and appearance of intercellular spaces. These changes can be as a consequence of drug toxicity as liver being the chief site of detoxification of drugs.

Key words: Diclofenac, Histopathological, Microtomical, Sinusoidal, Polymorphonuclear.

A Study on Income tax Deductions and the Awareness among the Individuals Tax Payers

Neha Choudhary

Assistant Professor Commerce, Government College Nagrota Surian, District Kangra, H.P.

nehachoudhary210@gmail.com

Abstract

In India tax is divided into 2 parts Direct Tax and Indirect Tax. Income Tax is a kind of direct tax which is levied on the Income of the Individuals and the burden to assess the tax liability falls on the Individuals. Tax planning is an important aspect of the tax payment (Robert, 2020). The tax structure of India provides various deductions as part of saving so, as to encourage the habit of savings among the Individuals. Efficient tax planning enables us to reduce our tax liability to the minimum (Saravanan K., 2017). There are 2 tax regimes in the country old tax regime and new tax regime which the individual can opt for calculation of tax liability. The present paper will study about the various Income tax deductions available to the individuals for the assessment of tax liability and the awareness among the taxpayers regarding these deductions.

Key words:- Income Tax, Deductions, Tax payers, Tax regime, Assesse.

Role of Artificial Intelligence in Sustainable Development

Anil Kumar

Assistant Professor in Mathematics S.C.V.B. Government College Palampur

anilk3791@gmail.com

Abstract

The growing field of Artificial Intelligence (AI) has the potential to play a critical role in promoting sustainable development. Sustainable development is an essential concept that aims to balance economic growth, social development, and environmental protection to meet the needs of current and future generations. AI can contribute to sustainable development by enhancing efficiency, reducing waste, and optimizing resource management. One significant area where AI can make a difference is in energy and resource management. AI algorithms can help optimize energy systems to reduce waste, increase efficiency, and decrease carbon emissions. In agriculture, AI can improve crop yields and reduce water usage by providing real-time data on soil moisture, temperature, and crop health. AI can also help reduce food waste by predicting demand and optimizing supply chain management. Another critical area where AI can play a vital role is in addressing climate change. By analyzing data from satellites and other sources, AI can help identify areas most vulnerable to climate change and develop strategies to mitigate its impact. AI-powered systems can also help monitor and enforce environmental regulations, identifying areas where resource extraction may be causing environmental harm. In conclusion, AI has enormous potential to contribute to sustainable development by improving efficiency, reducing waste, and optimizing resource management.

Keywords- Artificial Intelligence, sustainable development, climate change, algorithms, environmental protection.

Role of Women in Sustainable Development in India

Deepthi Sharma

Assistant Professor Department of English, PSR Govt College Baijnath

deeptikaushal123@gmail.com

Abstract

Women are critical to India's long-term prosperity. Women, as the backbone of rural economies, are involved in a variety of activities that contribute to the long-term viability of their communities, such as agriculture, forestry, and livestock management. In recent years, there has been a rising acknowledgment of the need to empower women and incorporate them in sustainable development decision-making processes. The Indian government has implemented a number of programmes and policies targeted at increasing women's participation in sustainable development. The National Rural Livelihoods Program, which aims to give women with access to loans and training in sustainable agriculture, and the Mahatma Gandhi National Rural Employment Guarantee Act, which ensures employment possibilities for women in rural regions, are two examples. Furthermore, non-governmental groups and community-based organisations have played an important role in encouraging women to participate in sustainable development activities. The Self-Employed Women's Association (SEWA), for example, has worked to empower women in the informal sector by providing them with finance, training, and other tools. Overall, women's roles in sustainable development in India are vital, and attempts to increase their engagement and empowerment will be critical for the country's long-term sustainability and development goals. The aim of my research paper is to present different dimensions of sustainable development being done by women in India.

Keywords: Sustainable, Development, Women, Society, and Economic.

Dynamics between Institutional Investors (FII & DII) on Indian Stock Market

Sahil Mahajan

Assistant Professor Commerce, S.C.V.B Govt. Degree College, Palampur

sahil7.overseas@gmail.com

Abstract

Any country's ability to grow economically depends on the presence of efficient Financial markets. The stock market is primarily driven by Institutional capital. This is a result of their huge investments, which are typically out of the reach of individual investors. The market's liquidity is largely provided by FIIs and DIIs. Keeping track of their inflows and outflows can aid in the larger-scale forecasting of market events. FIIs have historically had a greater impact on domestic markets. Yet, previous studies showed that DIIs have partially offset the FIIs' recent rally. Three key variables (FII, DII & Sensex) that best indicate the state of the Indian capital market were used in this study from a variables viewpoint. For a period of six years, from January 2016 to December 2021, monthly data was gathered. The three variables, Sensex (BSE), FII, and DII (both dependent and independent), are all analysed in this study in order to determine whether they are stationary before being used in an econometric analysis. The ADF test was used to examine the validity of the unit root test. The goal of this study is to examine the causal relationship; the Granger causality test has been used to interpret relationships and causality.

Key Words: FIIs (Foreign Institutional Investors), DIIs (Domestic Institutional Investors), BSE, ADF

Social Justice and the Sustainable Development

Dr. Vikas Rana¹ and Surender Kumar²

¹Assistant Professor English, Th.J.C.Memorial Govt.Utkrisht College SujanpurTihra

²Assistant Professor Geography, Th.J.C.Memorial Govt.Utkrisht College SujanpurTihra

Abstract

Social justice and sustainable development are two closely related concepts that are often used in the same discussion. Social justice involves the fair distribution of goods and services among all members of society and a commitment to equal access to opportunities and resources. Sustainable development focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs. Both social justice and sustainable development are important concepts that should be addressed in any discussion of development or environmental protection. Social justice is important because it ensures that all people have access to the same resources and opportunities, regardless of their background or economic status. Sustainable development is important because it focuses on protecting the environment for future generations and creating a more equitable and sustainable world. When both concepts are considered together, policies and initiatives can be implemented to address both social justice and sustainable development. For example, initiatives such as renewable energy sources, green building practices, access to clean water and sanitation can help to create a more equitable and sustainable world. Moreover, policies that promote access to education, healthcare, and economic opportunities can help to ensure that all people have the same access to resources and opportunities. The goal of sustainable development cannot be fulfilled until there is no discrimination of any kind in any country and equality to all, freedom of ideological expressions and the right to choose one's own destiny. To achieve the goal of sustainable development all countries must create legal and policy frameworks that promote equal access to resources, services, and opportunities regardless of gender, race, ethnicity, religion, or other identity. This includes the right to equal access to education, employment, healthcare, housing, and other services that are essential for human development. Additionally, countries should ensure that their economic policies promote equitable distribution of wealth, resources and reduce inequality and poverty. In addition to creating legal and policy frameworks, countries also need to ensure that all citizens have the ability to exercise their rights, such as the right to freedom of speech, the right to freedom of assembly, the right to freedom of religion, the right

to vote, and the right to be free from discrimination. This includes providing legal protections from discrimination and harassment in the workplace, in educational institutions and in public spaces. Finally, countries should ensure that their policies are in line with global sustainability goals such as reducing greenhouse gases emissions and preserving natural resources. This includes implementing renewable energy sources and investing in green infrastructure. Countries should also be committed to eliminate gender-biased violence and ensuring that all people have the right to live in safety and dignity.

Key words: social justice, poverty, gender biased, renewal energy

Sustainable Development in India: A Critical Analysis

Dr Madan Lal Guleria

Associate Professor, Commerce Government PG College NagrotaBagwan Distt. Kangra H.P.

guleriamadan@yahoo.com

Abstract

The long-term survival of the mother earth has direct linkage with sustainable development. Sustainable Development refers to the process of economic development which meets the needs of present generation without compromising the ability of future generation to meet their needs. The importance and relevance of sustainable development is reflected in its multi-dimensional effects on maintaining this beautiful world safe and secure for our future generations. To achieve sustainable development of prosperity and for protecting planet by 2030, SDG, i.e. Sustainable Development Goals have been developed. There are 17 SDGs and have specific targets for each. The survival of human beings has been largely threatened by the ongoing changes taking place in earth system, which in turn make it quite challenging to achieve sustainable development. To reduce poverty and address rising inequality in the face of these environmental changes, there is urgent need to raise important social and economic aspects of sustainable development in addition to the environmental dimensions. Here the main focus is on economics but similar issues rise in other social and behavioural science disciplines. There is an urgent need for more rapid integration of social and behavioural disciplines into the core of sustainable development and for more rapid integration of sustainable development into the core of these disciplines. This research paper attempt to analyse sustainability concepts, such as sustainable growth, sustainable development and sustainable resource use along with evaluating the progress, India has made in sustainable development.

Keywords: Sustainability, Sustainable Development, SDG, Sustainable Development Goals, Environmental Dimensions.

Transforming India for Sustainable Development: Exploring the Role of Longevity in Blue Zones, Medicinal Herbs, Proper Sleep, Music, and Centenarians

Dr B.S. Chauhan, GC Sanjauli, Shimla **Dr Praveen Jarrate**, GC Dhami,

Dr Jagdish Pareek, Director, HIO, Jaipur

Abstract

India, the second-most populous country in the world, faces significant challenges in achieving sustainable development. One crucial aspect of sustainability is longevity of life, which is determined by factors such as lifestyle, environment, and access to healthcare. This paper explores various transformations for sustainable development in India, with a particular focus on promoting longevity of life. One promising avenue is the concept of Blue Zones, regions of the world where people live the longest and healthiest lives. By studying the lifestyle, diet, and social habits of people in these regions, India can adopt similar practices to promote longevity. Additionally, India's rich tradition of medicinal herbs offers a valuable resource for promoting health and wellness. Proper sleep and relaxation practices, such as yoga and meditation, are also essential for promoting longevity. Music is another area that has been shown to have a positive impact on health and wellbeing. Studies have found that listening to music can lower stress levels, reduce anxiety, and improve mood. India's rich musical heritage offers a unique opportunity to incorporate music into health and wellness practices. Moreover, India has a growing population of centenarians, people who live to be 100 years old or more. By studying the lifestyles and habits of these individuals, India can gain valuable insights into promoting longevity. Finally, happiness is a critical component of sustainable development, and research has shown that happy individuals tend to live longer and healthier lives. India can learn from famous studies around the world that explore the relationship between happiness and longevity. Overall, this paper argues that promoting longevity of life is a crucial aspect of sustainable development in India. By adopting practices from Blue Zones, utilizing medicinal herbs, promoting proper sleep and relaxation practices, incorporating music, studying centenarians, and fostering happiness, India can create a more sustainable future for its citizens.

Keywords: Sustainable development, Longevity of life, Blue Zones

Role of Literature in Ecological Sustenance

Prateek Deswal

Department of English, Govt College Jhandutta Distt Bilaspur

patrickdeswal.601@gmail.com

Abstract

In the history of humanity, the term literature has been ascribed varied definitions. It has been considered an expression of human intellect, mirror of society, artistic representation of written art form, expression of imaginative faculty and so on. In fact, each age has given it a new meaning according to prevailing conditions of that particular time. Literature has always become the voice of humanity and subsequently in wake of the contemporary environmental threats endangering the earth ranging from global warming, ecological imbalance, ground water depletion to loss of biodiversity, it is of paramount importance for literature to become voice of a threatened and naïve humanity. The relatively fresh streams of eco-literature and ecocriticism aim to foreground literary works which lay stress on ecological issues and convey them in a manner that not only enhances awareness but influences the consciousness of people to opt for development in sustained manner. The paper is an attempt to analyze the manner in which various forms and streams of literature possess the capacity to influence emotions and raise consciousness about environment sustenance among people.

Keywords: Environment, literature, Ecology, humanity.

“Let food be your medicine and medicine be your food”

Tartary buckwheat: A magical herb against post-menopausal neurobehavioral complications

Anil Kumar Rana, Supriya Sharma, Rajneesh Kumar, Damanpreet Singh

Pharmacology and Toxicology Laboratory, Dietetics and Nutrition Technology Division,
CSIR-Institute of Himalayan Bioresource Technology, Palampur-176061, Himachal Pradesh,
India

Academy of Scientific and Innovative Research (AcSIR), Ghaziabad-201002, India

Abstract

This study aimed to investigate the potential of tartary buckwheat whole seed extract in managing neurobehavioral complications associated with menopause. Menopause is a natural aging process that results in decreased levels of sex hormones in females, leading to alterations in dendritic arborization of the neuron and subsequent neurobehavioral complications. Hormone replacement therapy is commonly used to manage postmenopausal conditions but is associated with adverse effects. In this study, ovariectomized middle-aged rats, which mimic clinical postmenopausal conditions, were treated orally with hydroalcoholic extract of tartary buckwheat whole seeds. The results showed that treatment with the extract after the critical window period rescued the cognitive as well as behavioural cascades. mRNA expression analysis revealed that ovariectomy led to elevated oxidative stress and neuroinflammation, which disrupted the integrity of the blood-brain barrier. However, treatment with the extract suppresses the elevated level of oxidative stress and neuroinflammation, by normalizing the expression of the targeted genes. Protein expression analysis revealed that Gsk-3 β was activated differentially in the brain, as indicated by β -catenin protein expression, which was normalized following extract treatment and rescued the altered neurobehavioral process. In conclusion, this study provides evidence that tartary seed extract may be a viable option for managing neurobehavioral complications associated with menopause. The extract may offer a safer alternative to hormone replacement therapy, which is commonly associated with adverse effects.

Key words: Gsk-3 β , Estrogen, Oxidative stress, Neuroinflammation, Cognitive impairment

Gender Equality and Sustainable Development

Manju Bala

Assistant Professor, Department of English SCVB Govt College Palampur Email
manjuthakur11884@gmail.com

Abstract

Gender equality is when people of all genders have equal rights, responsibilities and opportunities. Everyone is affected by gender inequality including men and women, families and especially children. Sustainable development is the development that meets the need of the present without compromising the ability of future generations to meet their own needs. Gender equality gives all genders especially women opportunity to enhance economic productivity, improved development for the next generation and make institutions and policies more representative. In our country gender equality is still an issue. Women's contribution to the total GDP is about 17 to 18 %. Sustainable development is beyond imagination until gender equality is the norm. In order to bring gender equality our governments in India from time to time have been bringing forth policies such as Beti Bachao Beti Padhao, Rastriya Mahila Kosh, Pradhan Mantri Matru Vandana Yojana etc. When all genders get equal opportunities only then the economic growth of the nation can enhance. In this paper I am trying to emphasis on the correlation of gender equality with sustainable development particularly the economic aspect of the development.

Keywords: India, gender equality, women, economic aspect, sustainable development.

Role of Economic Reforms in Sustainable Development of India

Kalpna Rishi

Associate Professor, Economics S.C.V.B Govt. College Palampur (H.P.)

Abstract

After Independence of India, there was slow growth rate of our economy. Even with great efforts, the economy was unable to achieve a greater GDP growth rate. The 1991 Balance of payment (BOP) crisis led to economic reforms. Economic changes were implemented as a part of the government's Liberalization, Privatization, and Globalization (LPG) programme in an effort to strengthen the Indian economy as a whole. Reforms expanded competition in industries like banking, giving customers more options and boosting productivity. Also, it has encouraged more investment through stock market and the expansion of private firms in these industries. India was able to recover from the 1991 financial crisis in just two years because to economic reforms. Being India apart of BRICS nation Economic reforms have played a major role in it. The main purpose of this paper is to study the overall impact of Economic Reforms in Sustainable development of our country.

Keywords- GDP, BOP, BRICS, LPG.

Global Warming: A Threat to Entire World

Dr. Sanjay Gupta

Associate Professor, Department of Chemistry, PSR Govt. College, Baijnath

sanjayprajya@gmail.com

Abstract

“Global Warming” is a term of concern for the entire world which refers to the increase in the global temperature due to the increase in the green house gases like CO₂, N₂O, CH₄, fluorinated gases, sulphur oxides, water vapors etc. The credit/discredit for the shift in the global temperature and weather patterns for the past few years can be given to the humans. These green house gases present in the atmosphere absorb energy and do not allow the heat to escape into the space leading to the increase in the atmospheric temperature, commonly known as Green House Effect. The main reasons for global warming are carbon emissions due to burning of fossil fuels, transportation, electricity production industry etc. The main pollutant among the greenhouse gases is carbon dioxide and the global warming potential is measured which evaluates the extent of carbon dioxide. According to the Intergovernmental Panel on Climate Change 2018 report, human-induced global warming reached approximately 1°C above pre-industrial levels in 2017 and is expected to reach 1.5°C in 2030 if it continues with the existing rate. Impacts of global warming include the melting of glaciers, rising sea levels, intense heat waves, drought etc. To control the impacts of global warming, Government of many countries have passed many laws, organized various global summits, various environmentalists and many other agencies are contributing for this noble cause.

Keywords: Global Warming, Green House Effect, Climate Change 2018, Government, atmosphere.

Biomass Burning in North India: Impact on Air Quality and Climate

Tanbir Singh

SCVB Government College, Palampur, Himachal Pradesh

dr.tanbirsingh@gmail.com

Abstract

In recent decades, air pollution has become a global public health threat, which majorly impacting low and middle-income countries. In north India, due to unsustainable agricultural residue management practices, open burning of biomass significantly contribute to atmospheric emissions which deteriorate the air quality and leads to climatic variabilities. The study quantifies the emissions of major pollutants emitted from biomass burning in North India. A comprehensive district-wise emission inventory of key pollutants (particulate matter, GHGs, trace gases and NMVOC) emitted during open agricultural residue burning was developed. The results show that paddy and wheat contribute majorly to residue generated and burnt (>90%). Crop residue burned in the states of Punjab and Haryana, resulting in an emission of 137.2 Gg and 56.9 Gg of PM_{2.5}, 163.7 Gg and 72.1 of PM₁₀ Gg and 34.8 Tg and 17.3 Tg of CO₂ equivalent greenhouse gas emissions in respective states. The results of spatial distribution analysis show that pollutant distribution dominates over the south-western part of Punjab and the north-western region of Haryana. The proximity of these states to national capital, and favourable meteorology along with transboundary movement of air masses causes high air pollution episodes in this region. Further, study highlighted the best available sustainable approaches and proposes an integrated crop residue management model to minimize the adverse impact of open biomass burning on public health, environment and climate.

Keywords: Biomass burning, Air pollution, PM_{2.5}, Fire counts, emission inventory

Innovation and Technology for Sustainable Development in India

Devashri Deulkar

Department of Computer Science, IIT Kharagpur

devashrideulkar@gmail.com

Abstract

This paper explores the role of innovation and technology in promoting sustainable development in India. It discusses the importance of innovation and technology in various sectors such as agriculture, energy, and waste management, and presents some examples of innovative solutions that can contribute to sustainable development. Sustainable development is a key priority for India, given its economic growth and the challenges of environmental degradation and social inequalities. Innovation and technology have a critical role to play in achieving sustainable development goals and addressing these challenges. Innovation and technology can contribute to sustainable development in various sectors, such as agriculture, energy, and waste management. For instance, precision agriculture technology uses sensors and drones to provide real-time data on crops, helping farmers to reduce water usage and optimize fertilizers. Renewable energy technologies like solar and wind power can reduce carbon emissions and improve energy security. Waste management technologies like composting and recycling can reduce the amount of waste sent to landfills, thereby reducing pollution. The adoption of innovative solutions for sustainable development in India faces challenges such as inadequate funding, lack of awareness, and inadequate policy frameworks. However, there are also opportunities for promoting innovation and technology, such as the growing start-up ecosystem and the availability of talent and resources. To address the challenges and leverage the opportunities, there is a need for an enabling environment that encourages the adoption and diffusion of innovative solutions. The paper recommends building a conducive ecosystem for innovation, promoting research and development, building capacity and awareness, and fostering collaboration among stakeholders. These recommendations can help to promote innovation and technology for sustainable development in India and contribute to building a sustainable future. By harnessing the potential of innovation and technology, India can build a sustainable future and achieve its sustainable development goals.

Keywords: Sustainable development, innovation, technology, agriculture, energy, waste management.

Innovation and Technology for Sustainable Development

Dr Suresh Sharma

Associate Professor of Mathematics, SCVB Govt. College Palampur

chandsuresh066@gmail.com

Abstract

Innovation and technology are essential drivers of sustainable development. Therefore, it is imperative that innovation and technology initiatives address all three aspects of sustainable development —environmental, economic, and social— along with their interrelationships. The role of government in building innovation and technology capabilities is fundamental, and it includes the technological dissemination and promotion of innovation, research, and development at the national level. The present system of promoting research and development leads to restricted access to the benefits of innovation and underinvestment in social priorities. Technology and innovation directly impact the fulfilment of basic human needs and tackle the environmental challenges of sustainable development, particularly climate change adaptation. Innovation and technology are essential in finding answers to the sustainability crisis that we are currently facing. In this paper, the author expressed his views that there is a need to look at the broader context in which technology and innovation operate. In this regard, the contributions of innovation and technology to a new sustainable development require a deep understanding of the relationship among the three pillars of sustainable development. Understanding this approach to innovation and technology for sustainable development offers immense opportunities to connect with society and culture and to promote economic security, especially for the poor and vulnerable groups in society. Once the technologies or innovations are created, patent protection should not be the hurdle to accessing the new technology or innovation; no one should be excluded from the access. The government has a great role in building innovation and technology capabilities, including designing and implementing industrial policies and stimulating the development of systems that encourage the dissemination and acquisition of knowledge. A country's educational institutions play a significant role in transitioning from old to new technology. Thus, there is a need that the curriculum of college and university education should be framed in such a way that it enhances the transfer of technology between different sectors of the economy and the application of such technology in business activities.

Keywords: Innovation, technology, sustainable development, society, economy.

Sustainability in the Scaling of New Technologies and Solutions

Himkant Sharma

Department of Electronics and Electrical Communication Engineering, IIT Kharagpur

himkantsra009@gmail.com

Abstract

With this new era of machine learning, big data, and cryptography has also come a great deal of excitement and enthusiasm from the public and professionals to deploy these to create new startups or enhance their current products/services. But this can take away attention from the sustainability and scalability of these technologies. Most of these new technologies become feasible because of the increase in the amount of computational power we have, but more computational power also results in an increase in energy demands. We saw this with the cryptocurrency craze which lasted, for the most part, from early 2021 to the beginning of the year 2023. There was a rush to use the sudden increase in interest to raise funding by promising new products based on new technologies in the near future. But what was not realized earlier was the cause of the eventual downfall of the craze. The cryptocurrency was too power inefficient to be scaled up sustainably. We need to be aware of this possibility as the past may repeat itself with the new A.I. models, most famously LLMs, and text-to-image models which are being developed majorly for more accuracy and not efficiency. The increase in computational power should be matched by an equal focus on energy efficiency and environmental sustainability. It will remain essential in the future to remain aware of the lessons of the past and ensure that sustainability and scalability remain at the forefront of development efforts.

Keywords- Scalability, Machine learning, Operational sustainability, Cryptocurrency, Computational Power.

Impact of Forest fires on Bio-diversity of Himachal Pradesh

Seema Kumari¹ and Dr Ajay Kumar²

¹Assistant Professor English, SCVB Govt. College Palampur.

²Assistant Professor Public Administration, Govt. College Dharamshala

Abstract

The present paper is an attempt to study the impact of forest fires on bio-diversity of Himachal Pradesh. Bio-diversity refers to the variety of life forms, such as the plants, animals and micro organisms, the genes they contain and the eco-system they form. Bio-diversity performs a number of ecosystem services. It includes the soil formation through decomposition of dry leaves and other plant parts and it helps to conserve soil moisture. Bio-diversity of plant species accelerates and maintains the rain fall level and in turn protects the water resources in the country. The climatic regulation and stability depend on the bio-diversity of plant species. Through maintaining the bio-diversity, we can prevent the unpredictable events like deforestation, decertification and global warming. Bio-diversity estimation helps to preserve and conserve the endangered species. Bio-diversity helps in minimize the effects of atmospheric pollution by discharging required level of oxygen. The multiplication of number of species of plants and animals explains the status of breeding stock and population reservoirs and their expected increase in number in the near future. Through assessment of existing status of bio-diversity, the future potential can be predicted. There is an urgent need of policy formulation at state level as well as national level towards forest fire protection and bio-diversity conservation. The above discussion highlights the unsustainable nature' of bio-diversity. However, the bio-diversity is essential for the continued existence of a healthy planet and our own well being.

Key Words: Bio-diversity, Forest, species, Fire, Global

Maintaining Sustainable Development: A Challenge for Generations to Come

Kehar Singh

Assistant Professor Department of Political Science Govt. Degree College Telka, District
Chamba, Himachal Pradesh

kssharma57@gmail.com

Abstract

Sustainable development is such development in which the pace of development is maintained in a uniform manner. Which continues in the same form from one generation to the next? And in this, resources are also used thoughtfully in such a way that, while meeting the needs of the present generation, efforts are made to preserve those resources for the coming generations as well. But at present, the development competition between developed and developing countries is not only harming the environment but also wasting natural resources. Natural gas, natural oil, coal and other minerals are getting depleted due to the present uneven development. In our desire to grow quickly, we have misused the resources badly. We today's generation are using these natural resources indiscriminately to fulfill our interests, but our future generations will be deprived of them. And meeting the requirements of these natural resources at that time would be a huge challenge for the coming generations. Due to the indiscriminate development of the present, the environment is also being harmed a lot. Because of which water, air, noise and soil pollution is increasing. Because of which people are falling prey to various diseases. Global warming is increasing on the earth. There is a shortage of drinking water. Due to its effect on the living creatures on the earth, they are also gradually becoming extinct. Therefore, while maintaining a balanced pace of development and using resource properly, it should be our first priority to meet the needs of the present generation as well as to preserve them for the coming generations.

Keywords-: Sustainable, Development, Generation, Preserve, Resources.

The role of Financial Institutions in Encouraging Sustainable Growth in India

Swaraj Shridhar Sutar

Bachelor of Business Administration, Dr. D.Y. Patil Deemed to be University, Navi Mumbai
Maharashtra,
swaraj.sutar10@gmail.com

Abstract

This research paper investigates the critical role of financial institutions in encouraging sustainable growth in India. The study delves into how these institutions can promote sustainable development across environmental, social, and economic aspects, making sustainable growth a reality. The research entails an extensive literature review, supplemented with interviews with financial institutions and businesses in India, and case studies. The study aims to provide insights into the key drivers and barriers of financial institutions in promoting sustainable growth in India, the effectiveness of different financial instruments, such as green bonds, sustainability-linked loans, and impact investing, and the policy and regulatory frameworks in place to support or hinder sustainable practices in financial institutions and businesses. The findings of the study are expected to contribute to the existing body of literature on sustainable finance and offer insights into the unique challenges and opportunities for sustainable growth in India. Moreover, the research aims to provide policymakers and financial institutions with recommendations to promote sustainable growth in India. The research strives to make a significant contribution to the discourse on sustainable finance, exploring the potential of financial institutions to achieve the United Nations' Sustainable Development Goals in India, and the sustainable growth journey in India. In conclusion, this research paper focuses on the role of financial institutions in promoting sustainable growth in India. The study provides a comprehensive analysis of the challenges and opportunities for financial institutions and businesses to integrate sustainability practices, the effectiveness of various financial instruments, and the policy and regulatory frameworks to facilitate sustainable finance.

Keywords: Financial institutions, sustainable growth, Sustainability, Policy framework, and Impact investing.

Characterizing and Measuring Sustainable Development

Balak Ram¹ and Sanjay Kumar²

¹Assistant Professor, Economics, Govt. College Dharamshala

²Assistant Professor, Political Science, Govt. College Dharamshala

Abstract

Sustainable development has broad appeal and little specificity, but some combination of development and environment as well as equity is found in many attempts to describe it. However, proponents of sustainable development differ in their emphases on what is to be sustained, what is to be developed, how to link environment and development, and for how long a time. Despite the persistent definitional ambiguities associated with sustainable development, much work (over 500 efforts) has been devoted to developing quantitative indicators of sustainable development. The emphasis on sustainability indicators has multiple motivations that include decision making and management, advocacy, participation and consensus building, and research and analysis. We select a dozen prominent examples and use this review to highlight their similarities and differences in definition of sustainable development, motivation, process, and technical methods. We conclude that there are no indicator sets that are universally accepted, backed by compelling theory, rigorous data collection and analysis, and influential in policy. This is due to the ambiguity of sustainable development, the plurality of purpose in characterizing and measuring sustainable development, and the confusion of terminology, data, and methods of measurement. A major step in reducing such confusion would be the acceptance of distinctions in terminology, data, and methods. Toward this end, we propose an analytical framework that clearly distinguishes among goals, indicators, targets, trends, driving forces, and policy responses. We also highlight the need for continued research on scale, aggregation, critical limits, and thresholds.

Keywords: Sustainable, Assessment, Measurement, Indicator

Sustainable management of environment and culture: a Case Study of Saurabh Van Vihar

Dr Anita Surroch

Associate Professor of Sociology, SCVB Government Utkrisht College Palampur

Himachal Pradesh

anitasurroch@gmail.com

Abstract

Human society has made series of endeavors to ensure harmony between societal life, preservation of culture and conservation of ecosystems. The 'Earth Summit' held in Rio de Janeiro, Brazil in 1992, adoption of the 2030 agenda for Sustainable Development in 2015 which is almost in the halfway of its journey, are among a few mega serious efforts by the world community of nations to achieve sustainable development across the globe. Goal 15 of the 17 Sustainable Development Goals of agenda for 2030 stresses the need to 'protect, restore and promote sustainable use of terrestrial ecosystems.' Culture of human society is strongly associated with environment. In view of the global and Indian concerns to strike balance between present needs without compromising the ability of future generations to meet their own needs, it's a worthwhile to take stock of realisms at micro level. Therefore, a case study has been undertaken to understand and analyze various dimensions environment and cultural practices of Saurabh Van Vihar which is nestled in the lap of the White Mountain, Dhauladhar. Necessary information was elicited from primary sources using longitudinal observation method and also by conducting interview of stakeholders. Exploratory and descriptive research designs were used in the study. The data was analyzed making use of functional theory of Emile Durkheim and Tolcatt Parsons. The study unearths that Government of Himachal Pradesh raised Saurbh Van Vihar in a sprawling area of thirty five acres as a mark of respect and tribute to Captain Saurabh Kalia, the Kargil war hero who made his supreme sacrifice in this war. The Vihar displays the human values like spirit of bravery, sacrifice and patriotism which are integral part of the culture of Himachal in general and local culture of Palampur in particular. This realism can be corroborated from the fact that inhabitnts of Palampur has a unique distinction of having first PVC Major Som Nath Sharma, PVC Captain Vikram Batra and Ashok Chakta Sudhir Walia in the Kargil war and war heroes like Captain Saurabh Kalia. The Saurabh Van Vihar preserves hydrosphere, lithosphere, atmosphere and biosphere and blends culture and civilization with the environment. It is evident from the fact that a massive swimming pool-cum boating lake making use of fresh gravity water of the Neugal, the tributary

of river Beas, pathways across the Van Vihar using local stones, children park, Kargil war scene showing statues of the soldiers with guns in their hands fighting with enemy army. A dozen of huge aquariums housed in a building where fishes of different sizes and colors brought from different parts of the earth i.e. from Amazon river to Brazil, China and Japan of Asia to Europe, USA and Canada to pacific ocean and of course local rivulet Neugal which offers visitors an opportunity to have a glimpse of these aquariums. The chirping birds, cool breeze, rays of the Sun filtering through the leaves of trees create a perfect environment to do Yoga, Paranayama and dhyana on the spot developed on the top of a rock for Meditation and Yog in the Vihar. The semicircular bridges connecting different boulders and allowing pedestrians to cross flowing water, massive embankment to protect the Van Vihar and above all Kargil Amar Shaheed Captain Saurbh Kalia memorial amidst rich flora having thousands of pine, cedar and vast variety of other tress and herbs together is a portrayal of Indian culture & civilization, ethos and discerns human actions to protect and preserve environment, ecosystem which exhibit sustainable development in Saurbh Van Vihar.

Key words: culture, ecosystem, pavements, aquarium, flora.

Religion and environment in Himachal Pradesh: An Analysis

Dr Sujit Kumar Surroch¹ and Dhanbir Singh²

¹Associate Professor of Sociology, SCVB Government Utkrisht College Palampur

Himachal Pradesh

sujitsurroch@gmail.com

²Assistant Professor of Geography, SCVB Government Utkrisht College Palampur

Himachal Pradesh

ghanbirsingh2@gmail.com

Abstract

Nestled in the Western Himalayas, the state of Himachal Pradesh is a land of Gods, Kailashas, forests, floral and faunal wealth, national parks, sanctuaries, rivers and a home to above seven million people. With highest proportion of the people inhabiting rural areas among all the 28 states and 8 union territories in India and the state being endowed with bountiful natural resources, the people here endeavor to live in harmony with nature. A study has been conducted to understand religious adherence and to examine state of forests, national parks and beliefs & practices associated to the environment in the state. Data was collected from various primary secondary sources using longitudinal observation and interview methods. Exploratory and descriptive research designs have been used in the study. Overwhelming majority of the people (97.51%) profess *Sanatan* (Hinduism-95.17%, Sikhism-1.16%, Buddhism-1.15% and Jainism-0.03%) in Himachal Pradesh. Apart from expressing exceptional reverence & devotion to the Gods and Goddesses, local deities, Gurus, sages & seers, lakhs of pilgrims undertake pilgrimage to all the three Kailashas (Mani Mahesh, Kinner Kailash and Shrikhand) located in Chamba, Kullu and Kinnour respectively after long on foot arduous journeys which is indicative of affinity of the people with Mother Nature. The data unearths that an area under forests in the state has increased from 37033 sq. kms in 2019 to 37948 in 2021 registering an increase of 915 kms in 2 years. Thus in a total area of 55673 square kilometers more than two third area (68%) comprising of 37948 has been legally classified as a forest area in the state. However actual area under forest cover is 15443 sq. kms. which is about 28% of total area of state and 41% of area legally classified as forest area. The state has 5 national parks. The Great Himalayan National Park, a UNESCO World Heritage site and the largest national park in the state is located in tribal district of Lahul Spiti. Worth mentioning is the fact that area of this national park is higher than the area of Bilaspur district. Furthermore, total area of five national parks located in the state is higher than combined area of Hamirpur and Una districts. As many

as 3256 species of plants including globally rare 643 medicinal plants and 17 species of medicinal plants which are endemic to the Himalayan region of India reflects rich and wide range of floral diversity in this hill state. Similarly rich faunal wealth in the form of 8342 species of animals including Snow Leopard, the state animal and Western Tragopan, the state bird are indicative of environmental richness in the land of Gods. More than two third of landmass earmarked for forests, area more than combined area of two of the twelve districts comprising national parks, and the people showing their reverence to the environment worshipping it in totality and also different elements of its dimensions viz. hydrosphere, lithosphere, atmosphere and biosphere reveals how religion and environment are interconnected to each other. However, in the name of development, construction of hydroelectric power projects, cement projects and acts of deforestations, the offshoots of development put a question mark to globally, nationally and locally widely publicized and acclaimed efforts in the direction of sustainable development. Thus there is a need to take holistic stock of realism sooner than later so that future generations are not deprived of reaping fruits of the developmental activities of today.

Key words: Forests, national park, world heritage, sanatan.

Role of Physics in Sustainable Development: A Review

Sunil Kumar Katoch

Associate Professor, SCVB Government College Palampur

katochsk1@gmail.com

Abstract

In the fast changing global scenario, the sustainable development should be mandatory criteria in evaluating the objectives and outcomes for any project in any field of life. However after initial confusion the definition of sustainable development, now the concept of the sustainable development is clearly mentioned in the modern literature. Furthermore the majority of products used so frequently in all aspects of modern life today are products of science, technology and engineering. Most of them originate from metals and materials extraction and processing industries. Despite this, confusion again exists in the perception of the society about the general role of science, technology and engineering on sustainable development. Science and technology is sometimes not even considered as a solution provider for sustainable development. However it is worth mentioning that “Green Growth” is the most vital component of development while preserving the precious resources of earth planet for future generations. Physics plays an important part in all our lives and particularly in our understanding of the “Green Growth” and climate. Pioneering efforts to reduce energy consumption, diminish pollution, and develop more efficient processes are currently being researched and developed by teams of physicists and colleagues from neighboring disciplines. For example, innovation in advanced materials research has reduced the cost of solar electricity 100-fold in the last two decades. Ongoing innovations in hydrogen energy storage, generation of electricity, nuclear power, superconductivity, areas of spintronics, semiconductor devices, and quantum science and technology, are all part of the suite of innovation programs that will play a key role in expanding future green energy resources. The presence of Physics could be seen in in the study of Recycling versus waste, linearity versus circularity, automation versus manual work and various phenomena occurring in the biosphere in terms of their advantages and disadvantages in the light of the new framework of sustained development thereby concluding that recycling, circularity and automation are genuine sustainable activities. The roles of Physics & Technology and Government are pillars of sustainability. It is suggested that the winning formula is a close and strong cooperation between them in equal levels and as equal partners.

Keywords: sustainability, sustainable development, green growth, technologies, Physics.

Global Warming: A Challenge to India

Vikas Kalotra

Assistant Professor (History), Government College Nagrota Bagwan

vikaskalotra07@gmail.com

Abstract

For more than a decade global warming has been the focus of much research and analysis. Despite the global implications of the problem, the overwhelming majority of the researchers involved worldwide in studying the problem and its possible solutions but the participation from industrialized countries is more, and participation of lesser-industrialized countries has been limited. On average, the world's temperature is about 1.5°C higher than during the start of the industrial revolution in the late 1700s. That may not seem a lot to you, but that is an average estimate this number is only increasing. Many scientists believe that the main four reasons for global warming, according to recent studies, are greenhouse gases, deforestation, pollution and per capita carbon emissions. Many parts of the world face far more severe changes in temperature that affect the planet's overall health. In 1950, the world's CO₂ emissions were at 6 billion tonnes which had quadrupled in volume until 1990, just 40 years later to 22 billion tonnes. Not only that, unchecked CO₂ emissions today have reached a whopping 35 billion tonnes.. Therefore, in light of the above, this paper looks at impact of global warming on India through different perspective. The paper begins by briefly discussing global warming. The following section highlights the impact of global warming on India through the help of recently occurred climate related events. It is clear that the issue of climate change raises difficult questions of science and economics, which have been debated widely over the years. What has been ignored for long is the legal side of the problem of climate change, which is equally significant for fruitful outcome. In this background, an attempt is made in this paper to analyze global warming and its impact on India from different perspectives.

Key Words: Global Warming, Carbon Emission, Greenhouse, Deforestation, Industrialization

Exploring Ecological Interconnectedness in Amitav Ghosh's *The Hungry Tide*

Dr Subhash Verma

Assistant Professor of English, RNT Govt. Degree College Sarkaghat, Mandi

subhash.hpu@gmail.com

Abstract

The present paper is an attempted to study *The Hungry Tide* penned by Amitav Ghosh from ecocritical perspective or through the looking glasses of ecocriticism. In *The Hungry Tide* an attempt has been made to give an account to the environmental crisis faced by people and how it feels to live life hand-in-hand with nature in Sunderbans. It presents the emotional bond between the human and non-human members in a micro world of Sunderbans as this place gives way to the land, humans and non-human for existing in harmony. Ghosh here deliberately writes about the hostility of nature by emphasizing upon the fact that nature is made more hostile by certain group of people for their own benefit as mangroves are axed down, animals are ruthlessly hunted and poached and fishes and prawn are caught along with their eggs. As a result of this non-stop human intrusion, nature adopts an ugly face and ultimately decides to take revenge. The novel ends with the message that humanity must establish and maintain harmonious relations with nature. Ghosh proposes a co-path in terms of social and environmental justice by urging humankind to inculcate social ecological and deep ecological vision to make this co-existence possible.

Keywords: Ecocriticism, nature, Sunderbans, ecological, environment.

Role of Biotechnology in Textiles

Sugandha

Department of Textile and Apparel Designing, CSK Himachal Pradesh Krishi

Vishvavidyalaya, Palampur (H.P.) ssugandha631@gmail.com

Abstract

Biotechnology has several applications in foods, pharmaceuticals, energy and environmental protection fields and now generated place in various areas of textiles. Retting of flax was the first bio-technological applications in textile processing. The application of enzymes in industrial textile processes began around 1857. Amylases were the only enzyme applied in textile processing. They are now used in broad range of textile applications including designing, degumming, biopolishing; bio-stoning, silk and wool finishing etc. enzymes include cellulases, lipases and proteases. The scope of enzyme in textile industry is very wide. Biotechnology can play a significant role in reducing hazards associated with the production of dyes and can help to degrade pollutant dyes from effluent and solid wastes generated by different dyeing industries enzymes are now available that can degrade a wide range of stains and their use allows mild washing conditions at lower temperature which saves energy and protects the fabric. Application of biotechnology in textile industry can be improved in natural fibre with highly improved and modified properties besides providing opportunities for development of absolutely new polymeric materials and treatment of waste of textile manufacturing and processing. It also transforming traditional textile production into environment friendly processing. Biotechnology also offers the prospect of innovative industrial processes that use less energy and focus on renewable resources. In the textile sector, biotechnology plays a vital role. It is dependable, cost-effective and environmentally friendly. Biotechnology is being used in numerous sections of the textile industry and makes operations more efficient and time saving with the increased realization of the immense potential of biotechnology applications in textile industry, major initiatives have been launched worldwide to encourage research and development activity in this field.

Keywords: Biotechnology, environmental protection, polymeric materials, environment friendly, development.

Insects and Their Products: To Explore the Unexplored Dimensions

Rajesh Kumar

Department of Biosciences, Himachal Pradesh University, Summer Hill, Shimla, H.P.

drkumar83@rediffmail.com

Abstract

Since ancient times, different types of animals have been used by man for variety of purposes such as transport, source of food, medicine and other useful products. Not only, the large-sized animals but smaller ones too have been exploited by human beings. The practice of using products derived from animals is known as zootherapy. In modern societies, zootherapy constitutes an important alternative among many other known therapies practiced worldwide. Products such as blood, meat, whole organs from animals and even from man have been used by kings, queens, rich and royal people to increase their beauty, looks, muscle power, fertility, sexual capacity and to treat a number of diseases. There are many examples of sacrificing animals, men, women, children for performing special religious rituals (Tantra-Mantra, Siddhi) for specific purposes including getting children, life partner, money, victory on enemy, boon from God or to get rid off from bad ailments. After the act, tissues and organs are eaten up as prasada. Animals, their parts, and their products have been used as a source of medicine for prevention and treatment of a myriad of illnesses and diseases in practically every human culture throughout the world. Lot of people consider use of zoo therapeutics as superstition, the pertinence of traditional medicine based on animals cannot be denied because a number of materials have been methodically tested by pharmaceutical companies as sources of drugs to the modern medical science. The phenomenon of zootherapy represents strong evidence of the medicinal use of animal resources. Indeed, drug companies and agribusiness firms have been evaluating animals for decades without paying anything to the countries from where these genetic resources and traditional knowledge come. The insects are often considered to be one of the major biological enemies of man due to their serious and significant destructive activities. The struggle between them is perhaps a never-ending process of evolution. Insects constitute about 55% of total biodiversity and they comprise approximately four-fifths (< 80%) of all of the animals on earth. About one million species of insects have already been identified and several of them are still to be identified. Along with their marine relatives, the crustaceans,

they constitute maximum biomass, excepting for plants on earth. Due to their dominance in terms of total number of individuals (population), omnipresence in all sorts of habitats, total number of known species, their adaptability, fast and rapid rates of reproduction, their successful progress and neck-to-neck struggle with man, the ‘super animal’, several authors prefer to call the present era as the “age of insects” or “insect menace” or “insect world” or “the rival world” rather than “the era of man”. The medicinal use of insects and insect-derived products is called entomotherapy. Although, entomotherapy is an ancient practice, it is still little known in the academic world. Hundreds of insect species have been used as human food, such as grasshopper, caterpillars, beetle grubs and sometimes adults, winged termites, bee, wasp, ant, cicadas, and a variety of aquatic insects. The beauty of insects, their brilliant colors and color patterns have been utilized by artists, jewelers, and designers as well. A number of insects were found to have been used as food, in rituals and in prevention and treatment of variety of diseases in folk and traditional medicine. Though, plenty of folk and traditional information in this field is available, enough authentic and systematic literature and documentation is not available in this area. Strong database and inventories are required to be prepared and then biologically active constituents of selected animal materials are required to be experimentally tested for successful drug development.

Keywords: Insects, Drugs, Unani, Ayurveda, Diseases.

Women's Empowerment: a Key Factor for Achieving Environmental Sustainability

Dr Chetna Sharma

Assistant Professor, Department of Zoology, PSR Govt. College Baijnath, District Kangra

vchetna.cool@gmail.com

Abstract

Sustainable development is an approach to developing or growing by using resources in a way that allows them to renew or continue to exist for future generations. It meets the requirements of the present without compromising the ability of future generations to meet their own needs. The implementation of the Sustainable Development Goals (SDGs) is high on the United Nations General Assembly agenda, which are described as '*a universal path to transform the world.*' The realization of the 17 Goals (and 169 targets) by 2030 will only be possible if the role and participation of women is fully recognized and incorporated in the hard work of implementation. Gender equality and women's empowerment (Goal 5) is not only important in its own right, but also has a crucial role to play across all the goals and targets. Women bring new perspectives, raise issues that others overlook, and listen to those that others ignore. Women have played a vital role in the global environmental movements. Women can act as catalyst for sustainable development by including and elevating their voices in decision making mechanisms. One woman brings hope to her family; many women bring hope to humanity.

Keywords: Environmental sustainability, Sustainable Development Goals, UN General Assembly, Women empowerment, Gender equality.

Growth and Structure of Public Expenditure in Himachal Pradesh

Sanjeev Kumar

Associate Professor Economics, Government College Shivrinar, District Kangra (H.P)

sk31sharma@gmail.com

Abstract

An analysis of growth and structure of public expenditure is of special importance particularly in Himachal Pradesh because of the peculiar circumstances in which the state is placed. An important reason for this research lies in the fact that the findings and conclusion of non-hill states cannot be fully applicable in context to Himachal Pradesh due to variety of inherent constraints and peculiar features of the state. Main objective of the present study is to analyse the growth and structure of public expenditure in the pre and post- reform period in Himachal Pradesh. To study the growth of different items of public expenditure in the state the exponential growth rates are calculated. The Structure of overall public expenditure and how it has changed over the period of time is studied in terms of percentage. It was found out that public expenditure of Himachal Pradesh has risen quite steadily over a period of time. The foremost policy implications of the study are that since public expenditure has been increasing continuously over a period of time, it has to be checked and kept within the limits.

Keywords: Himachal Pradesh, Public Expenditure, Growth, Period, Increasing

Impact of Nematodes on Living Organisms and Environment

Rakesh Chandel

Associate Professor in Zoology SCVB Govt. College Palampur

rakesh67chandel@gmail.com

Abstract

The nematodes are invertebrates roundworms are free living, inhabit in marine, freshwater and terrestrial environment e.g. *Caenorhabditis* sp. and parasitic both in plants and animals, including humans. Majority of nematodes are microscopic but the animal parasitic nematodes are quite large in size. The parasitic nematodes of plants e.g. *Meloidogyne* sp., *Pratylenchus* sp. and animals and animal e.g. *Ancylostoma* sp., *Enterobius* sp. *Ascaris* sp. etc., have direct importance in agriculture, the environment and in human health, but majority of nematodes in the environment are not parasites. The nematode parasitizing the other organisms is important in cycling the minerals and the nutrients in the ecosystem and also causes various diseases in the organisms. Some of these nematodes play important role in decomposition or biodegradation of toxic compounds. Omnivorous nematodes present in the soil and feed on different organisms act as environment indicators of soil health. The Insect-parasitic nematodes help in regulating the insect population and used in the biological control of insect pests e.g. *Heterorhabditis* sp. and *Steinernema* sp. Plant parasitic nematodes associated with roots and soil, damage the annual crops of single species and lawns and ground covers and result in the poor growth of plants.

Key words: Nematode, Parasites, human, health, environment.

Public Debt of Himachal Pradesh: A Granger Causality Approach

Dr Rakesh Kumar Pushap

Assistant Professor Economics, Government College Nagrota Bagwan, District Kangra (H.P)

pushp24feb@gmail.com

Abstract

The present study makes an attempt to analyse the debt position of Himachal Pradesh and discusses various issues impinging upon its growth and structure. Main objective of the study is to examine the causal relationship between public debt and financial indicators of Himachal Pradesh, i.e. economic growth (in terms of GSDP), public expenditure, revenue receipts, grant in aid and repayment of old debt. For the analysis, present study covers a period of 37 years i.e. from 1980-81 to 2016-17. Various statistical tools and techniques such as exponential growth rate, granger causality test and multiple regressions have been used to carry out the analysis. Test results indicate uni-directional causality in many of the cases. Economic growth (in terms of GSDP), public expenditure, revenue receipts and grant in aid do Granger cause public debt. However, public debt does not Granger cause economic growth (in terms of GSDP), public expenditure, revenue receipts and grant in aid. Analysis also revealed the existence of feedback effect in case of causality between repayment of old debt and public debt. Lastly, economic growth (in terms of GSDP), public expenditure, grant in aid and repayment of old debt appeared as positive determinants of public debt however, revenue receipts stood as a negative determinant of public debt in Himachal Pradesh.

Keywords: Public Debt, Granger, Causal Relationship, Himachal Pradesh, Growth

An Evaluation of Non-destructive Corrosion Monitoring Techniques for Reinforced Concrete Structures

Aishwarya Thakur¹, Jainender Sharma² and R.P.P.Singh³

¹Assistant Professor, Department of Civil, Sri Sai University, Palampur

aishwaryathakur195@gmail.com

²Assistant Professor, Department of Civil, Sri Sai University, Palampur

jainender1986@gmail.com

³Professor, Sri Sai University, Palampur, raminder_212003@rediffmail.com

Abstract

Corroded steel rebar inserted in reinforced concrete (RC) structures reduce durability and working life of structure and causing early failure, which is very expensive in terms of maintenance and inspection of structures that are deteriorating. Therefore, monitoring rebar corrosion is essential to prevent structural failures due to premature corrosion. Many researchers have discovered that the main reason of damage in steel reinforcement is corrosion. The initiation of corrosion in steel reinforcement started long before the formation of crack seen in the concrete surface area, and this initiation cannot be detected visually. So, with the help of a non-destructive test, we can determine corrosion before the formation of a crack. This paper presents an additional study of NDT for corrosion investigation. The methods discussed in this paper for corrosion assessment is acoustic emission, fiber optic method, ultrasonic pulse velocity, and open-circuit potential; summarizing its advantages, limitation, and appropriateness for use in the field. For other researchers, this will be useful in getting the basics for corrosion monitoring, different methods, and equipment. This paper demonstrates that an acoustic emission sensor can detect corrosion early in a structure. The AE is capable of sensing corrosion in real-time, so it can act as an efficient NDT method. Compared to other NDT methods, this method has an advantage.

Keywords: Reinforcement, Concrete, Failures, Equipment, Sensor

Environmental Sustainability of Indian Tea Industry

Neeraj Kaushal

Assistant Professor, Department of Economics, Government College Dharamshala,

neerajkaushal1987@gmail.com

Abstract

“We were always sustainable”. Sustainability is a key factor in the growth of environmentalism. The tea industry is evolving towards a greener future as demand for sustainable products increases and tea consumption rises. When it comes to the environment, the economy and the society, tea is developing into a sustainable industry. Since tea is the second most consumed beverage in the world after water, it has attracted a lot of attention in recent years. There is climate change, and it has an impact on tea. Many challenges, including global warming, water use and transportation are directly relevant to environmental sustainability and climate change within the tea sector. This study consists of environmental sustainability of tea, major issues in the tea industry and the importance of choosing sustainable tea options. The major issues in the tea industry are biodiversity loss, soil erosion, use of pesticides that are harmful to our health and ecosystems, non-sustainable tea bags pollute and are only 70-80 per cent biodegradable, poor quality and less flavourful tea herbs and unfair treatment of tea farmers and works.

Keywords: Sustainability, environmentalism, economy, global warming, biodiversity, ecosystem.

Modern Practices for Sustainable Development

Sunita Sirmoria Katoch

Assistant Professor of Economics, SCVB Govt. College Palampur (HP)

sunitakatoch70@gmail.com

Abstract

The Sustainable development is organized precept that aims to meet human blossoming goals while enabling natural systems to provide necessary resources and ecosystem services to human beings. Sustainable development always encourages conserving and enhancing of resources by gradually changing the manners in which human being grow by using the technologies. All over the world, the concept of sustainable development has been adopted for overall development of the society. Humans have made a very impressive economic progress, especially during the past two centuries, in creating material and luxuries of life style the credit goes to such practices which have been adopted by the government keeping in mind the present scenario. The main objective of the study is to discuss the initiatives taken and modern practices adopted by the Government of India which are the integral parts of Sustainable Development in urban as well as rural areas of the country through Make in India, Skill India, Digital India, Swachh Bharat Abhiyan and Jal Jiwan Mission etc. Information for this paper has been collected from secondary sources. In this study it has been observed that through various programmes including Swachh Bharat Abhiyan, Make in India, Digital India Skill India which reinforce each other and fill the gaps of each other has heralded a new era of sustainable development. All policies focusing on Integrated Planning and Decentralized Implementation to benefit the most disadvantaged sections of society are ensuring equitable governance.

Keywords: Sustainable Development, Social infrastructure, Countrywide, Rural Territory, Life Style.

Circadian Disruption of Sleep and Meal Timings in a Sample Population of Himachal Pradesh-India

Bovinder Chand

Department of Zoology, S.V. Government College Ghumarwin (Himachal Pradesh), India
bovinder_katoch@yahoo.co.in

Abstract

Due to today's busy life, meal, and sleep timings in humans have become highly irregular. Artificial light and screen exposure from electronic gadgets like televisions, computers, and mobile phones are affecting sleep quality. In the last 3-4 decades, there has been a tremendous shift from the agricultural profession to office jobs, which has altered day and night time light exposures. Alteration in the day and night time light exposure results in the disruption of sleep-wake rhythms. Work pressures and shift work are also playing a role in the deterioration of sleep quality and duration. Similar to disruptions in sleep-wake routines, meal intake routines have also become extremely irregular due to various factors. The easy availability of fast food and packaged food has altered our food choices and food habits. The normal three meals a-day pattern is getting diminished due to erratic snacking habits. Sleep and food play important roles in our well-being. The deterioration in the quality of these factors, along with their circadian misalignment with body clocks, results in various health disorders. This study was carried out to find the extent of circadian disruption of meal and sleep timings in rural and urban populations of Himachal Pradesh. The findings of the study indicate that lifestyle changes have affected the residents of Himachal Pradesh to a significant extent, resulting in irregularity in sleep-wake cycles, sleep fragmentation, reduced sleep duration, and irregular meal timings, which can have negative effects on health.

Keywords: Circadian rhythms, Fast Food, Health, Lifestyle, Sleep, Rural, Urban.

Sustainable Development and Sustainability Approach in India

Sapna

Assistant Professor History, Atal Bihari Vajpayee, Govt College Naura
sapnachoudhary1455@gmail.com

Abstract

Sustainable development is referred as the idea that human beings should sustain by meeting their basic needs while also making sure that the future generations can meet their basic needs. The three core elements of sustainable development are economic growth, social inclusion, and environmental protection it is crucial to harmonize them. It is time to achieve environmental sustainability, social sustainability, and economic sustainability. Environmental sustainability prevents nature from being used as an inexhaustible source of resources and ensures its protection and rational use. We can achieve environment sustainability by investment in renewable energy, saving water, supporting sustainable mobility and innovation in sustainable construction and architecture. Social sustainability it can foster gender equality development of people, communities, and culture to help achieve reasonable and fairly distributed quality of life healthcare and education. Economic sustainability focuses on equal economic growth that generates wealth for all, without harming the environment. Investment and equal distribution of economic resources and eradicating poverty in all its form. If the people can contribute their local resources and practices into the process of change, the development becomes not only sustainable but also gets accelerated. To make the process of sustainable development feasible and operational, it is important to established a common focus that can integrate the outlook and efforts of various participants in development worldwide, realizing the diversity in terms of geography, society. The crying need is for sustainable development which aims at development which does not have a negative impact.

Key words: Development, Environment, Investment, Distribution, Sustainability

Role of Psychology in Sustainable development

Dr. Ravinder Kour

Associate Professor, G.C.W Parade ground, Jammu

kourravinder6898@gmail.com

Abstract

Psychology plays an essential role in achieving sustainable development. It helps us understand the human behaviours and attitudes that influence our decision-making process regarding the environment. Psychology can aid in identifying the motivations behind our actions, and provide insights into how we can change them to promote sustainability. One way psychology is used in sustainable development is through the concept of behavior change. By understanding how people think and act, we can create effective strategies that encourage sustainable practices. This could include education, awareness-raising campaigns, and incentives to encourage pro-environmental behaviors. Another important aspect of psychology in sustainable development is the study of the social and cultural factors that influence our behaviors. This includes understanding the impact of social norms, values, and beliefs on environmental attitudes and actions. By addressing these underlying factors, we can create sustainable behaviors that are integrated into society. Furthermore, psychology can play a role in promoting sustainable policies and practices within organizations. By creating a culture that values sustainability, businesses, and institutions can make more environmentally friendly decisions, reducing their impact on the environment. Overall, psychology is a powerful tool for achieving sustainable development. By understanding human behaviour, attitudes, and motivations, we can create effective strategies that promote sustainability.

Keywords: Decision – making, Pro- Environmental behaviour, Awareness Campaigning Camps, Sustainable Practices & Policies, Environmental friendly decisions.

E-governance as a Solution for Sustainable Development in India

Nivedita Parmar

Associate Professor, SCVB Govt. College Palampur

Abstract

E-governance has emerged as a promising solution for ensuring sustainable development in India. In recent years, the Indian government has made significant efforts to leverage the potential of technology to improve the delivery of public services, promote transparency and accountability, and enhance citizen participation in governance processes. E-governance has the potential to create a more inclusive, efficient, and responsive governance system, which can contribute to achieving the sustainable development goals. The key drivers of e-governance in India include the growing internet penetration, the availability of affordable technology, and the increasing demand for better public services. The Indian government has implemented several initiatives such as the Digital India program, which aims to transform India into a digitally empowered society and knowledge economy. The use of technology in areas such as healthcare, education, and agriculture has also been encouraged. E-governance can contribute to sustainable development in several ways. It can help reduce corruption and improve transparency and accountability in governance. It can also enable better service delivery, leading to improved social and economic outcomes. Additionally, e-governance can enhance citizen participation in governance processes, leading to more inclusive and democratic decision-making. This paper will show how e-governance has significant potential for contributing to sustainable development in India. It is important to ensure that e-governance initiatives are implemented in a way that is inclusive, transparent, and accountable.

Keywords: e-governance, sustainable development, India, technology, public services

Applied Biology for Sustainability

Dr. Pushpanjali Khare

Associate Professor, Department of Botany, Magadh Mahila College, Patna University
Patna, Bihar

khare.pushpanjali2@gmail.com

Abstract

Applied Biology plays crucial role in promoting sustainability, which is essential for ensuring the well being of both humans and the environment. Applied Biology involves the use of biological knowledge and techniques to address practical problems and develop sustainable solutions. Sustainable development involves meeting the needs of the present without compromising the ability of future generations to meet their own needs. Applied biology can contribute to sustainability in various ways, such as by developing sustainable agricultural practices, promoting renewable energy sources and developing environment friendly technologies. One of the key areas in which applied biology can promote sustainability is in agriculture. Sustainable agriculture practices such as conservation agriculture, integrated pest management and precision farming can improve crop yields, reduce environmental degradation and enhance the resilience of agro-ecosystems. Applied biology can also promote sustainability by developing and promoting renewable energy sources such as biofuels and biogas. Additionally, applied biology can help in the development of environment friendly technologies such as biodegradable plastics and eco-friendly materials. The role of applied biology in sustainability is significant and requires interdisciplinary approaches involving experts from diverse fields. Collaboration between scientists, policymakers and other stakeholders is necessary to develop and implement sustainable solutions. Moreover, education and awareness programs on the role of applied biology in sustainability are essential to promote sustainable practices and behaviours. The applied biology has a critical role to play in sustainability. Sustainable agricultural practices, renewable energy sources and environment friendly technologies are some of the key areas where applied biology can contribute to sustainable development. Collaboration and education are necessary to promote sustainable practices and behaviours.

Keywords: Applied biology, Sustainability, Agriculture, Renewable energy, Environment friendly

Assessing the Environmental Impacts of Hydropower Projects: A Case of Chamera-II Project of Chamba

Dr. Promila Devi¹ and Anju Devi²

¹Assistant Professor, Geography, Govt. Degree College Killar (Pangi), Chamba, (HP)

promilageo@gmail.com

²Assistant Professor, History, Govt. Degree College Kandaghat Solan, (HP),

thakuranju2641@gmail.com

Abstract

The production of electricity from hydropower results in several environmental impacts that, in only some instances, have been analysed from an economic valuation approach. Moreover, as environmental impacts largely depend on the specific characteristics of the case study, benefit transfer techniques are inadequate for valuation. Present paper tries to analyze the impact of hydropower plants along with the trend and pattern of socio-environmental development in western Himalayan state of Himachal Pradesh. The main objective of the present study was to address the major environmental problems of hydroelectric power projects Chamera-II in Chamba district of Himachal Pradesh. The study has been conducted with reference to three reference years at an interval of 10 years e.g. 1991, 2001 and 2011. The study utilizes the primary as well as secondary sources of data, collected from field survey and various government data providing agencies. In order to examine the environmental impacts in the study area the percentage method have been used. The study reveals that the installation of Chamera Hydropower Project-II didn't pose serious negative impacts on the environmental conditions as per the local perception. The study also reveals that about 83% of the total households' feel that environmental conditions are still better and the project has not exercised serious negative impacts on the environmental setting.

Keywords: Environmental impacts, Western Himalayan State, Hydro Electric Power Project, Environmental conditions.

The Himalayas: Climate Change, Melting Glaciers and Loss of Biodiversity

Dr. Vinay Kumar

Assistant Professor, Department Of Botany

Gautam College, Hamirpur District Hamirpur (H.P.)

Pincode: 177001

cvinay79@gmail.com

Abstract

The beauty of the Himalayas is timeless. The majestic Himalayas are not merely a range of mountains, cradle of Indian civilization and have exerted great influence over thought, culture and moreover on biodiversity popularly known as “Abode of Snow”. It is spread over 2000 km across South Asian region and parts of seven countries including India. The mountain range is the source of many rivers (Indus, Ganga, Brahmaputra) that nourish the land. The Himalayan region encounter 55,000 glaciers enabled 40-50% earth’s fresh water, critical source of irrigation, drinking water and energy to trillion of people. Climate change which is result of global warming is due to various human activities (excessive burning of fossil fuels, deforestation, road construction, forest fire, construction of dams and hydroelectric projects, mountaineering) causing the glaciers to melt and loss of biodiversity. At present, meltdown of the Himalayan glaciers is accelerating. Excessive meltdown may cause floods initially, but in the long run will reduce the water reaching the rivers. Overall climate change is also resulting in less snow in the middle and lower heights of the range. Consequently, many of the Himalayan communities are not getting enough water for irrigation and other purposes. Moreover, increase in population with overuse of water, depletion of ground water, pollution in water bodies like holy rivers, oceans and lakes by disposing our pollutant material and other wastes worsening the condition with effectively loss of the biodiversity aquatic as well as terrestrial habitat.

Keywords: Majestic Himalayas, Deforestation, Water pollution, biodiversity, Holy rivers.

Bioaccumulation studies of heavy metals in polluted soils by Earthworm species

Ruchi Sangal, Assistant Professor, Sidharth Govt. College Nadaun Distt –
Hamirpur (H.P)

Anjna Kumari, Assistant Professor, NSCNM Govt. College, Hamirpur (H.P)

Abstract

Earthworms are soil macrofauna regarded as “soil ecosystem engineers” and play keystone roles in soil formation and the decomposition of organic matter. About 80% of biomass of terrestrial invertebrates is represented by earthworms which play an important role in structuring and increasing the nutrient content of the soil. Therefore, they can be suitable bio indicators of chemical contamination of the soil in terrestrial ecosystems, providing an early warning of deterioration of soil quality. The presence as well as the absence of earthworm species and their relative abundance provide a gross indication of the health of the soil. Earthworms accumulate a considerable content of metals in their tissues and could serve as useful biological indicators of contamination in soil. Earthworms are widely recommended as model organisms for monitoring soil quality and assessing the ecotoxicity of pollutants because they are vulnerable and sensitive to soil contaminants. Earthworms are divided into three functional ecotypes according to their specific physiological habits: epigeic, anecic and endogeic. Epigeic earthworms always live in the soil surface layer and feed on residual leaf litter, while anecic and endogeic earthworms live in deeper soil with vertical and horizontal burrows, and all of them play diverse roles and occupy different niches in soils. Therefore, it is interesting and worth studying the metal bioaccumulation abilities of different earthworm ecotypes to reveal their specific resistance strategies. The present study deals with different contaminated sites at Distt Hamirpur of Himachal Pradesh.

KEYWORDS: Macrofauna, metal contamination, bioindicators.

Growth of “Digital India” Programme

Arun Chander

Associate Professor, Commerce

SCVB Govt. College Palampur (H.P.)

Abstract

To transform India into a digitally empowered society, the programme Digital India was launched. It was established on July 2, 2015 with the goal of ensuring that citizens may access government services online through enhancing online infrastructure, expanding internet connectivity, or by constructing our nation. The government has taken the initiative to connect and inspire the Indian economy with Digital India. The program's main emphasis is on e-governance options that employ technology to enhance how the government communicates with its constituents. Innovation, convenience of work, new career prospects, and economic growth are all benefits of digitalization. The present study focused on different aspects of digitalization on various sections of Indian Economy.

Keywords- Digitalization, Indian Economy, electronically

Title: Zebrafish as a chronic seizure model of epilepsy and associated cognition deficit

Savita Kumari^{1,2}, Shubham Nilkanth Rahmatkar^{1,2}, Damanpreet Singh^{1,2}

savita.16793@gmail.com

rahmatkarshubham8888@gmail.com

damanpreet@ihbt.res.in

Abstract

Epilepsy is a serious brain disorder that affects 60 million people worldwide. It is among the most common neurological disorders which involve anomalous electrical activity leading to seizures. The conventional method of epilepsy treatment with antiepileptic drugs (AEDs) is inadequate, as 30% of patients remain unresponsive toward AEDs. Therefore, there is a pressing need of developing new AEDs which greatly depend on better screening tools and advanced animal models. Nowadays, zebrafish have gained enormous importance as a research model for imitating various neuropathological conditions. This organism has been used as a powerful acute tool model for the screening of various antiepileptic agents over traditional rodent models. However, the chronic animal models of epilepsy have a better resemblance with clinical epilepsy. Therefore, in the present study, an attempt to develop and validate a chronic epilepsy model and associated comorbidities in the adult zebrafish was made. Concisely, a sub-convulsive concentration of pentylenetetrazole (PTZ) was administered until the appearance of tonic-clonic seizures and later behavioral tests for the presence of epilepsy-associated comorbid conditions were carried out. In the end, fish groups were sacrificed and brains were isolated for neurotransmitter and gene expression studies. A significant effect on the expression levels of genes and neurotransmitters in accordance with the behavioral tests was found in the PTZ-treated fish.

Keywords: Cognitive deficit; Epilepsy; Zebrafish; Pentylenetetrazole; Antiepileptic

महिलाओं के संवैधानिक अधिकार और भारत का सतत विकास

डॉक्टर शैलजा वासुदेवा

एसोसिएट प्रोफेसर

राजनीति विज्ञान विभाग

शहीद कैप्टन विक्रम बत्रा राजकीय महाविद्यालय पालमपुर, हिमाचल प्रदेश

किसी भी देश की सतत विकास के लिए महिलाओं तथा पुरुषों की समान भागीदारी बहुत मायने रखती है। भारत के स्वतंत्रता प्राप्ति से पहले और स्वतंत्रता प्राप्ति के बाद महिलाओं का योगदान सराहनीय रहा है। इतिहास गवाह है कि दिल्ली पर रजिया सुल्तान का 4 वर्ष तक राज रहा। आज भी रजिया सुल्तान के बहादुरी के किस्से को याद करके उनकी गिनती विश्व की सशक्त महिलाओं में होती है। और भारत के स्वतंत्रता संग्राम में भी महिलाओं की महत्वपूर्ण भूमिका रही है। लक्ष्मी बाई से लेकर सरोजिनी नायडू तक सब महिलाओं ने भारत के स्वतंत्रता संग्राम में बढ़-चढ़कर भाग लिया था। भारत में स्वतंत्रता प्राप्ति के बाद भी महिलाओं की भागीदारी सामाजिक, राजनीतिक आर्थिक व सांस्कृतिक हरेक क्षेत्र में उभर कर सामने आई है। स्वतंत्रता प्राप्ति के बाद भारत का संविधान 26 जनवरी 1950 को लागू हुआ और इस संविधान के द्वारा भारतीयों को कई संवैधानिक अधिकार दिए गए। महिलाओं को भी उनके सर्वांगीण विकास के लिए कई अधिकार भारतीय संविधान द्वारा प्रदान किए गए। मेरा यह शोध पत्र इस बात पर प्रकाश डालता है कि भारतीय संविधान ने महिलाओं को जो अधिकार दिए हैं जैसे की समानता, स्वतंत्रता, कानूनी, एवं राजनीतिक इत्यादि इन सभी अधिकारों से महिलाएं कितनी शक्तिशाली हुई हैं और महिलाओं को इन संवैधानिक अधिकारों ने किस तरह एक स्वच्छंद तरीके से ऊंचाई की बुलंदियों में पहुंचने में मदद की है और सशक्त महिलाएं कैसे भारत के चौमुखी विकास में अपना योगदान दे रही हैं। मेरा यह शोध पत्र महिलाओं के समाज, राजनीति, विज्ञान, व्यापार, कला, साहित्य एवं संस्कृति को उभारने में और इसके विकास में क्या योगदान रहा है उस पर प्रकाश डालेगा एवं महिलाओं के योगदान से भारत के सतत विकास में क्या योगदान रहा है उसकी भी विस्तृत व्याख्या करेगा।

कीवर्ड्स (संकेत शब्द) – भारत, महिलाएं, संविधान, अधिकार, सतत विकास

Spatial Pattern of Drinking Water Resources in Himachal Pradesh

Pooja Devi¹ Nem Raj² Hirender Kumar³

¹Assistant Professor, Geography, Shaheed Captain Vikram Batra Govt. Degree College, Palampur, Kangra (H.P.) nemrajhpu1994@gmail.com

²Assistant Professor, Commerce, Pandit Sant Ram Govt. Degree College, Baijnath, Kangra (H.P.) poojarana13490@gmail.com

³Research Scholar, Department of Geography, Himachal Pradesh University Shimla hkgeog1996@gmail.com

Abstract

Water is an important aspect for every living being. It is a basic resource which supports economic growth and maintains daily life. Clean water and sanitation are the important indicators of sustainable development goals also. One-third of the developing countries are facing scarcity of water. India also has only seven percent of fresh water to meet the demand of 17 percent of population of the world population. Tap and hand pumps are the major sources for supply of drinking water in the state of Himachal Pradesh. The main objective of the study was to examine the availability of drinking water from tap and hadpump between 2001 and 2011in Himachal Pradesh. The study was entirely based on secondary sources of data collected from Census of India in two different years i.e. 2001 and 2011. District has been taken as the unit of study. Simple percentage method and Choropleth mapping techniques have been used to show the findings of the study. The maps have been prepared on ArcGIS Platform. The study reveals that the availability of drinking water average from tap was 83.78 percent in 2001 and has significantly increased to 89.10 percent in 2011. The study area experienced a declining trend of availability of drinking water from handpump during the study period. It also became evident that the national average of availability of drinking water from handpump has higher than the state average during the study period (2001-2011). Overall the study area has witnessed a progressive trend in availability of drinking water in the study area during the selected time frame.

Key words: *Water, resource, sustainable development goals, Choropleth mapping techniques, ArcGIS Platform*

Swelling Response of Cellulosics and 2-Acrylamido-2-methylpropanesulphonicacid Based Biphasic Hydrogels for Smart Applications

Swati Mahajan Bhatnagar

Department of Chemistry, SCVB Govt. College Palampur. H.P. 176061

Email: mahajanswati11@gmail.com

Abstract

Cellulose extracted from pine needles, a renewable resource of Western Himalayas was derivatized to get cyanoethyl cellulose, cellulose phosphate and hydrazinodeoxy cellulose. Interpenetrating Network Polymers (IPNs) were synthesised with these backbones using 2-Acrylamido-2-methylpropanesulphonicacid as monomer and N, N-methylene-bis-acrylamide as crosslinker in aqueous medium by **gamma ray initiation method**. IPNs were characterized by elemental analysis, FTIR and Scanning Electron Micrography. Swelling response of these hydrogels was recorded in different media (water, 0.5M HCl, 0.5M NaOH and 5.0% NaCl). Their swelling behaviour is found to be characteristic of both structural and environmental factors. Smart responses have been observed due to biphasic nature and incorporation of various electrolytic groups in these polymers. These are proposed as potential candidates for enrichment technologies, sustained drug delivery and environment management applications

Key Words: 2-Acrylamido-2-methylpropanesulphonicacid, cellulosics, swelling interpenetrating networks, ,

GENDER EQUALITY FOR SUSTAINABLE DEVELOPMENT IN INDIA

Dr. Madhu Bala

Assistant Professor Department of Commerce, Govt Degree College Jawali, Distt Kangra (HP)

Email Id: rmrbbhatia@gmail.com

Abstract

Sustainable Development is the development that meets the needs of the present without compromising the ability of future generation to meet their own needs. Sustainable development depends on an equitable distribution of resources for today and for the future. Sustainable development cannot be achieved without gender equality. In September 2015, the United Nations General Assembly adopted 17 sustainable development goals to make the world a more sustainable and equitable society for all and aimed to achieve them by 2030. Women have a critical role to play in all of the SDGs. Gender equality is a fundamental human right and is a prerequisite for sustainable development. Sustainable development Goal 5 aims to achieve gender equality by ending all forms of discrimination, violence and harmful practices, including trafficking and sexual exploitation against women and girls. The objective of present research paper is to study the concept of sustainable development and current status of gender equality for sustainable development in India. For achieving the objective of the study, secondary data have been used.

Key Words: *Sustainable Development, Women Empowerment, Gender Equality*

Artificial Intelligence: Pool to Sustainable Development

Dr. Nidhi Sharma

Department of Hindi

Govt. College Nagrota Bagwan H.P. India. -176047

nidhieera@gmail.com

Abstract

Artificial intelligence (AI) is the pool that sustainable development needs to effectively design, implement, advise, and plan for the future of our planet and its sustainability. Technologies like artificial intelligence will help us build more efficiently, use resources sustainably, and reduce and manage the waste we create, among many other things. According to a study published in Nature, artificial intelligence could help achieve 79% of the Sustainable Development Goals. In this paper, we discuss how combining artificial intelligence with sustainable development will help all industries design a better planet that addresses current needs without compromising future generations due to climate change or other grand challenges. Traffic management is a clear example of the contribution of artificial intelligence to sustainability. The use of artificial intelligence in urban mobility makes it possible to predict traffic jams and propose alternative routes. The most innovative solutions in agricultural sustainability are drones that help farmers with surveillance and hyperspectral image analysis for comprehensive pest control. The more than 400 million people worldwide affected by diabetes could theoretically be allowed by an artificial intelligence wearable device that can detect potential early signs of diabetes through heart rate sensor data. Artificial intelligence is therefore a key element in terms of predicting errors and minimizing problems that can affect sustainable development. AI is not a silver bullet for all of humanity's problems. However, it has the potential to become a formidable tool in the toolbox.

Keyword: Mobility, Sustainability, Traffic Management, Agriculture, Sensor.

Effectiveness of Consumer Protection Act in Himachal Pradesh

Dr. Vijay Kumari Sharma

Assistant Professor, Commerce Department
GDC Kotla Behar, Kangra HP 177111.
missvijay26@gmail.com

Abstract

The Consumer Protection Act was enacted in 1986 with the objectives of providing better protection for consumer interests. The Act mandates the establishment of consumer protection council at the Centre, States and Districts with a view to safeguard the consumers. Accordingly, Himachal Pradesh Government has also established Consumer Disputes Redressal Commission (CDRCs) at State and District levels to provide justice to the consumers. Since their inception, State Consumer Disputes Redressal Commission (CDRC) and District Consumer Disputes Redressal Commissions (CDRCs) of Himachal Pradesh are meant for resolving the complaints of the consumers but cases of consumer disputes remain pending at both levels. This paper attempts to evaluate the effectiveness of Consumer Protection Act in Himachal Pradesh on the basis of the performance of Himachal Pradesh State Consumer Disputes Redressal Commission and Districts Consumer Disputes Redressal Commissions. The effectiveness of the Act has been evaluated in term of disposal of cases by these redressal agencies in the State. For analyzing the performance of the Commission, data have been analyzed with the help of percentage, correlation coefficient, mean and interpreted accordingly.

KEY WORDS: Consumers, Himachal Pradesh State Consumer Disputes Redressal Commission, District Consumer Disputes Redressal Commissions, Cases.



ABOUT THE COLLEGE

Shaheed Captain Vikram Batra Govt. College Palampur, a Co-educational Institute, was established in 1995 in the splendid Dhauladhar. We offer a broad curriculum and a range of opportunities for all our students to achieve excellence in academic, creative, social, cultural, sporting, and community endeavors. The motto of SCVB Government College, Palampur "Tamso Ma Jyotirgamaya" from Brihad Aranyaka Upanishad means "Lead me from darkness to light" and inspires both students and teachers to attain real, true, universal, and constructive knowledge in the world. Our college is covered by the University Grant Commission (UGC) under 2f and 12B and was recently notified as an Utkrishi Mahavidyalaya (a step towards excellence). With professionally competent faculty members, a spacious library, an extensive campus, well-equipped computer labs with Internet Connectivity, a good sports facility, a host of extracurricular activities, 2 NSS units, 1 NCC unit each for Boys and Girls, Rovers and Rangers, we at SCVB Govt. Colleges are committed to working for the overall development of the students by channelizing their energy. The college is equipped with the latest technology, numerous internet labs, a Wi-Fi facility, overall e-surveillance, and the largest library among the colleges in Palampur City. The College strives to impart holistic education and promote the overall development of our students in the moral, physical, and intellectual realms to craft their success and have a towering personality.



ABOUT THE CONFERENCE

Environmental sustainability encompasses the responsibility to conserve natural resources and protect global ecosystems to support the health and well-being of people. The theme focuses on maintaining and sustaining the quality of our planet by avoiding the depletion of natural resources and taking drastic steps in agriculture, forestry, and energy to build up a healthy environment. Projects and decisions should be taken with long-term benefits in mind, leading to economic sustainability. Sustainability in the environment is an extremely urgent and universal issue. We can no longer put off our efforts to fight the climate crisis. The challenge of a sustainable transformation in economies and businesses is balancing the need while making changes to reach sustainability ambitions. Becoming sustainable in environmental, economic, and social terms doesn't happen overnight; it takes many smaller steps. Social sustainability has a pivotal role in improving society's health and well-being by working on central elements like equity, diversity, social cohesion, quality of life, democracy, and governance. A better world is possible if we sincerely work on these three pillars and form a sustainable future. While the benefits of past transformations, such as the green revolution, took decades to emerge, the transformation to sustainable development has a much shorter time frame. It proposes reframing and re-prioritizing the relationships between the economy, society, and environment through transformations. This conference examines many critical determinants of the relationships between these three dimensions of sustainable development as targets for transformations to sustainable inclusive development in India, to which we are committed.

TRANSFORMATIONS FOR SUSTAINABLE DEVELOPMENT IN INDIA



National Conference on TRANSFORMATIONS FOR SUSTAINABLE DEVELOPMENT IN INDIA

April 10-11, 2023

ABSTRACT BOOK



Organized by
Research and Development Committee
SCVB Govt. College Palampur (HP)
Website: <https://www.gcpalampur.ac.in>
Email: gcpalampur@gmail.com
(A NAAC re-accredited Grade 'B' College)