SUSTAINABLE PRACTICES FOR NATURAL RESOURCES MANAGEMENT

Through Biological Tools

Editor

Dr. Rajani Srivastava Inditute of Environment & Socializable Development Rajio Gaught Socie Comput, Benerat Hindu University

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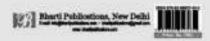
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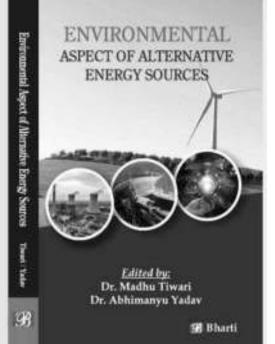
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Renewable Energy Sources : An Assessment in Environmental Scenario

Edited by Dr. Abhimanyu Yadav Dr. Madhu Tiwari



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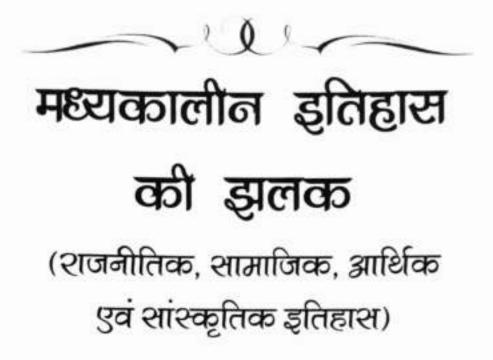
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डॉ. मनोज सिंह यादव





संपादक

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डाँ. चन्द्रभान यादव Author



कशी नरेश राजकीय स्नातकोत्तर महाविद्यालय ज्ञानपुर भदोही

सन् 1192 में तराइन के द्वितीय युद्ध में मुहम्मद गोरी की निर्णायक विजय तथा भारत में राजनीतिक सत्ता के परिवर्तन के फलस्वरूप दिल्ली सल्तनत की स्थापना 1206 ईसवी में हुई थी। दिल्ली सल्तनत के प्रारम्भिक चरण में तीन राज्य वंशों के संस्थापक अपने प्रारम्भिक जीवन में गुलाम रह चुके थे इसलिए भ्रमवश इन तीन राज्य वंशों को एक साथ मिलाकर प्रायः गुलाम वंश के नाम से जाना जाता है। दिल्ली सल्तनत के पहले सुल्तान कुतबुद्दीन ऐबक ने दिल्ली सल्तनत को गज़नी साम्राज्य से अलग कर व्यावहारिक दृष्टि से एक स्वतन्त्र राज्य का रूप प्रदान किया परन्तु उसको ठोस प्रशासनिक ढांचा व राजनीतिक स्थायित्न प्रदान करने का श्रेय इल्तुतमिश को जाता है। इल्तुतमिश की पुत्री रज़िया ने सुल्तान के रूप में अपनी योग्यता का परिचय दिया परन्तु अमीरों के प्रबल विरोध के कारण उसका पतन हो गया।

सुल्तान नासिरुद्दीन महमूद के शासनकाल में वास्तविक शक्ति उसके वज़ीर गियासुद्दीन बलबन के हाथों में रही। सुल्तान नासिरुद्दीन महमूद की मृत्यु के बाद बलबन खुद सुल्तान बन बैठा। बलबन तथाकथित गुलाम वंश का सबसे शक्तिशाली एवं सफल शासक था, उसने लौह एवं रक्त की नीति को अपना कर अपने राज्य को सुदृढ़ किया। बलबन ने अपने राज्य में शान्ति एवं व्यवस्था स्थापित करने में सफलता प्राप्त की। उसने



दक्षिण भारत की राजनीतिक परिस्थितियों से लाभ उठाकर 14वीं शताब्दी में अनेक स्थानीय शक्तियों ने छोटे छोटे राज्य स्थापित किये, शीघ्र ही संगम के पुत्रों द्वारा स्थापित विजयनगर साम्राज्य और हसन गंगू द्वाग स्थापित बहमनी राज्य ने प्रतिष्ठा प्राप्त की और दीर्घकाल तक ये राज्य दक्षिण भारत की राजनीति के नियना बने रहे।

विजयनगर साम्राज्य और बहमनी साम्राज्य का संपूर्ण काल एक-दूसरे के साथ निरंतर युद्धों में व्यतीत हुआ और कभी एक पक्ष विजयी होता तो कभी दूसरा। लेकिन आपसी युद्धों के बावजूद भी इन दोनों ही राज्यों न कला ,साहित्य और स्थापत्य के क्षेत्र में अभूतपूर्व उपलब्धियां हासिल की और इस काल में अनेक विदेश यात्रियों ने इन राज्यों का भ्रमण किया और अपने प्रक्षण लिखे जो इन राज्यों के पूर्ण जानकारी प्रदान करते हैं।

दक्षिण के इन राज्यों के आपसी संघर्ष के अलावा उत्तर के विस्तारवादी मुगल साम्राज्य के साथ भी इनक संघर्ष हुआ। राजनीतिक प्रतिद्वंदिता के चलते बहमनी साम्राज्य का विघटन हो गया और बीजाए गोलकुण्डा, बीदर, बरार और अहमदनगर की रियासतें अस्तित्व में आर्यी लेकिन विजयनगर के साथ इनकी प्रतिद्वन्दता बनी रही। सन् 1565 ई. को राक्षसटंगड़ी के युद्ध में विजयनगर साम्राज्य की पराजय हुई औ साम्राज्य का विजयी राज्यों ने बंटवारा किया हांलाकि विजयनगर राज्य पुनर्जीवित हुआ लेकिन यह पुनर्जीव अल्पावधि का था और धीरे-धीरे विस्तारवादी मुगल साम्राज्य में दक्षिण के इन राज्यों को समाहित कर लिग गया।

| मध्यकालीन इतिहास की झलक (राजनीतिक, सामाजिक, आर्थिक एवं सांस्कृतिक इतिहास



डॉ. मनोज सिंह यादव

असिस्टेन्ट प्रोफेसर इतिहास विभाग काशी नरेश राजकीय स्नातकोत्तर महाविद्यालय ज्ञानपुर भदोही

मुसलमानों के आने से पूर्व भी भारतीय समाज विभिन्न वर्गों में विभक्त था, मुसलमानों के आने से उसका जिभक्तिकरण बढ़ गया। स्त्रियों की स्थिति पहले की अपेक्षा और गिर गयी थी। हिन्दु समाज में सामान्यतः लोग निरामिष भोजन करते थे यद्यपि युद्धप्रिय जातियों और शूद्रों में मांसाहार प्रचलित था। सल्तनत काल में दो जिरोधी धर्मों एवं संस्कृतियों को मानने वाले व्यक्तियों को एक साथ रहने के अवसर प्राप्त हुए और दोनों ने एक इसरे को किसी सीमा तक प्रभावित भी किया।

आर्थिक दृष्टि से भारत एक समृद्धिशाली देश था। भारत में प्रायः सभी स्थानों पर विभिन्न प्रकार के अन्न, तलें, फल आदि उत्पन्न किये जोते थे। अधिकांश फसलें वर्ष में दो बार और कहींकहीं तीन बार भी उत्पन्न बी जाती थीं। उद्योगों की दृष्टि से भी भारत अच्छी स्थिति में था। भारत में आन्तरिक और विदेशी व्यापार इन्त था। दूरस्थ प्रदेशों को जोड़ने वाली सडकें पर्याप्त मात्रा में थीं आरे भिन्न-भिन्न वस्तुओं की व्यापारिक पण्डियां विद्यमान थी। परंतु भारत की इस आर्थिक सम्पन्नता का मुख्य लाभ शासक और व्यापारी वर्ग ने प्राप्त क्या था। जनसाधारण की स्थिति शोचनीय तो नहीं परंतु बहुत अच्छी भी नहीं थी।

। मध्यकालीन इतिहास की झलक (राजनीतिक, सामाजिक, आिंक एवं सांस्कृतिक इतिहास)





प्रशासन

डॉ. मनोज सिंह यादव असिस्टेन्ट प्रोफेसर इतिहास विभाग काशी नरेश राजकीय स्नातकोत्तर महाविद्यालय ज्ञानपुर भदोही

मुगल काल में मुख्य रूप से सैन्य शक्ति पर आधारित एक केन्द्रीकृत शासन था। मुगलों ने तुर्क, मंगोल, अफ़गान और भारतीय प्रशासनिक परम्पराओं का समन्वय कर अपनी प्रशासनिक व्यवस्था का विकास किया था। बादशाह इसका सर्वोच्च प्रशासक तथा सर्वोच्च सेनानायक होता था। वह साम्राज्य के सर्वोच्च न्यायाधीश की भूमिका भी निभाता था। बादशाह अपने उच्चस्थ अधिकारियों की स्वयं नियुक्ति करता था। केन्द्रीय शासन के अन्तर्गत उच्च्तम अधिकारी वकील, वज़ीर अथवा दीवान-ए-कुल, मीरबख्शी, मीर-ए-सामाँ, सद्र-उस-सुदर, काज़ी-उल-कज़ात, मीर-एआतिश, दारोगा-ए-डाक चौकी, मीर-ए-बहर, मुहतसिब आदि थे। इन अधिकारियों को केन्द्रीय प्रशासन के अपने दायित्व के अतिरित्तः अपने विभागों से सम्बद्ध प्रान्तों के अधिकारियों पर भी नज़र रखनी होती थी। प्रान्त के सर्वोच्च अधिकारी सूबेदार तथा वित्त विभाग के प्रमुख दीवान की नियुक्ति बादशाह द्वारा की जाती थी। प्रान्तीय प्रशासन को हम केन्द्रीय प्रशासन का ही लघु रूप कह सकते हैं। स्थानीय प्रशासन में सरकार, परगने और ग्राम का प्रशासन आता था।

मुगल साम्राज्य की सुदृढ़ता एवं उसके स्थायित्व का मूल कारण उसकी सक्षम वित्त व्यवस्था थी। केन्द्र में दीवान-ए-कुल तथा प्रान्त में दीवान वित्त विभाग का प्रमुख होता था। मुगलों की राजस्व प्रणाली मुख्य रूप से मुस्लिम प्रशासनिक परम्पराओं के अनुरूप थी। खिराज, खम्स, जज़िया और ज़कात मुख्य कर थे और समय-



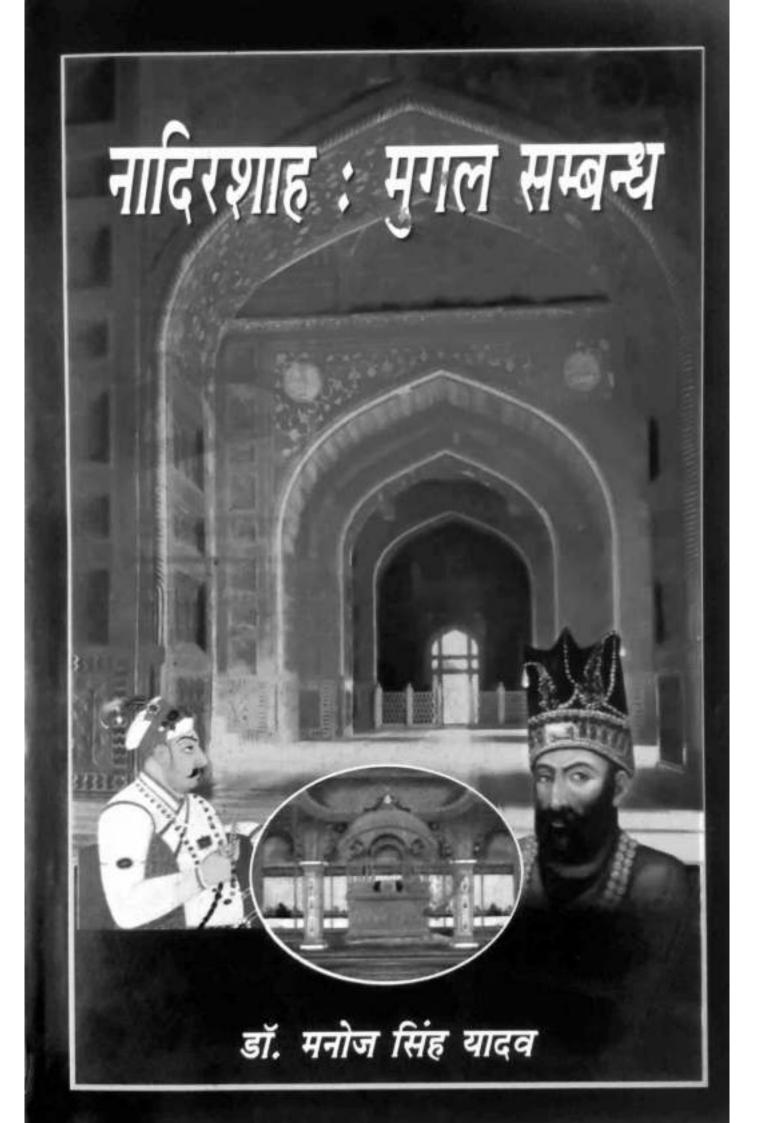
डॉ. मनोज सिंह यादव असिस्टेन्ट प्रोफेसर इतिहास विभाग काशी नरेश राजकीय स्नातकोत्तर महाविद्यालय जानपुर भदोही

बागीरदारी प्रथा सामन्तवादी शासन प्रणाली का एक प्रकार थीं। सल्तनत काल में अमीरों को उनके नकद वेतन के बदले में उन्हें उसके समतुल्य आय के इक्ते (जागीर) प्रदान किए जाते थे। बलबन और अलाउद्दीन खिलजी ने जागीरदारी प्रथा का दमन किया जब कि फ़ीरोज़ तुगलक ने इसका पुनरुत्थान किया। अकबर ने मनसबदारी व्यवस्था के अन्तर्गत उच्च पदीय मनसबदारों को वेतन के बदले में जागीरें आवंटित कीं। जागीर वंगानुगत नहीं होती थी तथा समय-समय पर उनका हस्तान्तरण भी होता था किन्तु पूर्व शासकों और बमीदारों का उनके गृह क्षेत्र में जागीर-ए-वतन प्रदान की जाती थी। जागीरदार अपनी आवंटित जागीरों में प्रशासक की भूमिन्डा भी निभाते थे। जागीरदारों की गतिविधियों पर सम्बद्ध सूबेदार, फ्रौजदार व शिकदार के माध्यम से राज्य का नियन्त्रण रखा जाता था। धीरे-धीरे सैनिक व राजनीतिक कारणों से जागीरदारों की संख्या बढ़ती चली गई और जागीरों की कमी पड़ने लगी। औरंगज़ेब के शासनकाल के उत्तरार्ध से जागीरदारी व्यवस्था राज्य पर एक भारी आर्थिक बोझ बन गई और परवर्ती काल में उसमें और भी अधिक अव्यवस्था व अगजकता व्याप्त होने के कारण उसका पतन हो गया।

कृषि प्रधान देश भारत में राज्य की आय का मुख्य स्रोत भू-राजस्व रहा है। मौर्य तथा गुप्त काल में आमतौर पर उपज का छठा भाग भू-राजस्व के रूप में लिया जाता था। भू-राजस्व निर्धारण में भूमि की नापजोख किए जाने

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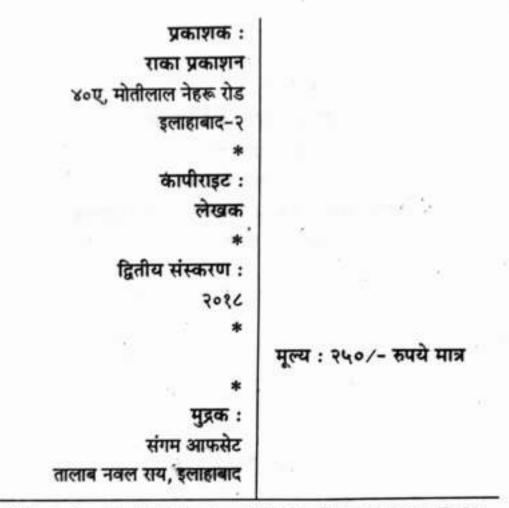


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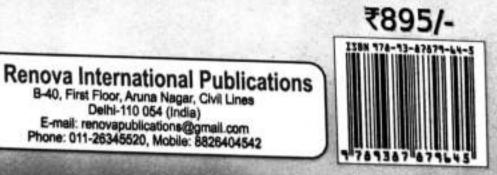
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एचआईवी/एइस के क्षेत्र में बचाव जागरूकता 0 121 जी रहे लोगों के जीवन में गुणवत्तापूर्ण सुधार जय से अपनी सेवाएं दे रहे हैं। आपने मनोविजान माथ-साथ एचआईवी/एड्स के क्षेत्र में भी राष्ट्रीय स्तर के कई शोध पत्र प्रकाशित कर चुके हैं । आपने चार पुस्तकों की रचना के साथ कई पुस्तकों में अध्याय लेखन का भी कार्य किया है । आप एचआईवी/एड्स के प्रति जागरूकता के लिए समाचार पत्रों एवं पत्रिकाओं में गुणवत्तापूर्ण लेखन व्यापक रूप से करते हैं । आप विश्वविद्यालयों, महाविद्यालयों एवं प्रशिक्षण संस्थानों के शिक्षण एवं प्रशिक्षण कार्यक्रमों में विगत 16 वर्षों से अपना व्याख्यान देते आ रहे हैं। आपकी मानसिक स्वास्थ्य, परीक्षण, परामर्श, मनोचिकित्सा एवं दिव्यांगजनों के कल्याणर्थ कार्य करने में गहरी रुचि है। आपके विशिष्ट योगदान के लिए कई संस्थाओं ने आप को सम्मानित है।

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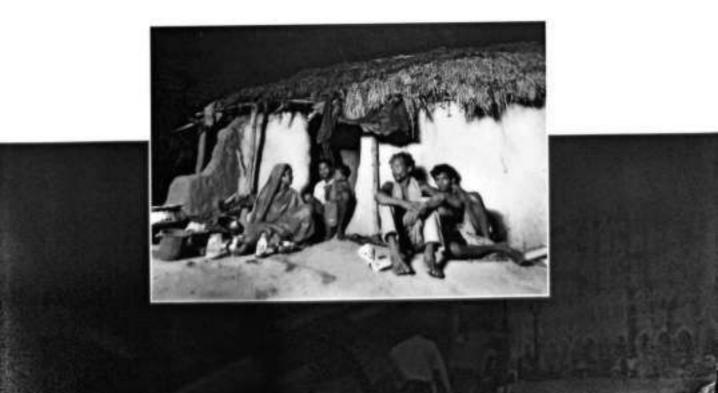
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इस सम्पादित पुस्तक में लेखक द्वारा व्यक्त विचार उनके व्यक्तिगत हैं जिसका प्रकाशक से कोई संबंध नहीं है।

भारत में प्रकाशित

झपसू यादव 'अखण्ड पब्लिशिंग हाउस' के द्वारा प्रकाशित।



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इस पुस्तक में लेखक द्वारा व्यक्त विचार उनके व्यक्तिगत हैं जिसका प्रकाशक से कोई संबंध नहीं है।

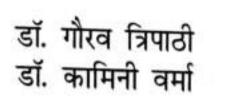
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झपसू यादव 'अखण्ड पब्लिशिंग हाउस' के द्वारा प्रकाशित।

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Editor



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झपसू यादव 'अखण्ड पब्लिशिंग हाउस' के द्वारा प्रकाशित।

भारतीय संस्कृ में राष्ट्रीय तत्व

डॉ. कामिनी वर्मा



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यह पुस्तक इस शर्त पर विक्रय की जा रही है कि प्रकाशक की लिखित पूर्वानुमति के बिना इसका व्यावसायिक अथवा अन्य किसी भी रूप से उपयोग नहीं किया जा सकता। इन्हे पुनः प्रकाशित कर विक्रय या किराए पर नहीं दिया जा सकता है तथा जिल्दबंद अथवा किसी भी अन्य रूप में पाठकों के मध्य इसका परिचालन नहीं किया जा सकता। यह सभी शर्त पुस्तक के खरीदार पर भी लागू है।

इस पुस्तक का प्रकाशन सावधानीपूर्वक किया है। पुस्तक की सामग्री या कहानी के किसी चरित्र या घटना का किसी से कोई परोक्ष या अपरोक्ष सम्बन्ध नहीं। अगर कोई साम्यता है तो वो संयोग से ही होगी जिसके लिए प्रकाशक एवं लेखक का कोई उत्तरदायित्व नही।

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SUSTAINABLE PRACTICES FOR Natural Resource Management Through Biological Tools

Dr. Rajani Srivastava



SUSTAINABLE PRACTICES FOR NATURAL RESOURCES MANAGEMENT

Through Biological Tools

Editor

Dr. Rajani Srivastava

Institute of Environment & Sustainable Development Rajiv Ganghi South Campus, Banaras Hindu University



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Post-Harvest Management of Nuts and Dry Fruits-Essential for Sustainable Management of Our Food Resources

Ravindra Kumar Pandey Author

ABSTRACT

Nuts and dry fruits are rich in carbohydrates, proteins, fats, vitamins and minerals. They are rich in omega 3 fatty acids and antioxidant minerals such as selenium. They are consumed and stored for future use. They are very susceptible to fungal contamination during their storage and transportation. Sometimes during storage they absorb moisture from the environment and moisture invites fungal growth. Several fungi grow and produce mycotoxins in the stored nuts and dry fruits. Mycotoxins are carcinogenic and heat stable. Due to the growth of fungi the appearance, taste and palatability of the nuts are reduced. Several chemical antimicrobials are used to control deterioration in storage but they create health hazards. The antimicrobials obtained from the green plants have promising future. Eugenol, thymol, cinnamic acid isolated from plants have antimicrobial properties. These antimicrobials can be added in the packaging materials and in particular to polymer films.

Keywords: Mycotoxins, Antimicrobials, Polymer films

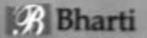
INTRODUCTION

Cashew nut (Anacordium occidentale L.), Almond (Prunus amygdalus Batsch.), Walnut (Juglans regia L.) and Cudduppa almond or Cheronjee (Buchnania lanzen Spreng.) are the major nuts and dried fruits. The nutritional contents of these nuts are very high. Cashew nut contains 18% carbohydrates, 46.7% fats, 12.8% proteins and high amount of minerals such as Mg, Ca, K, P and Fe. It is also rich

¹ Department of Botany, K.N. Govt. P.G. College, Gyanpur, Bhadohi, U.P.

RENEWABLE ENERGY SOURCES An Assessment in Environment Scenario

<u>Edited by:</u> Dr. Abhimanyu Yadav Dr. Madhu Tiwari



Renewable Energy Sources : An Assessment in Environmental Scenario

Edited by

Dr. Abhimanyu Yadav Dr. Madhu Tiwari



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Book Title :	Renewable	Energy	Sources :	An	Assessment	in
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Water Pollution in India and its Impact on Society

Author Ravindra Kumar Pandey

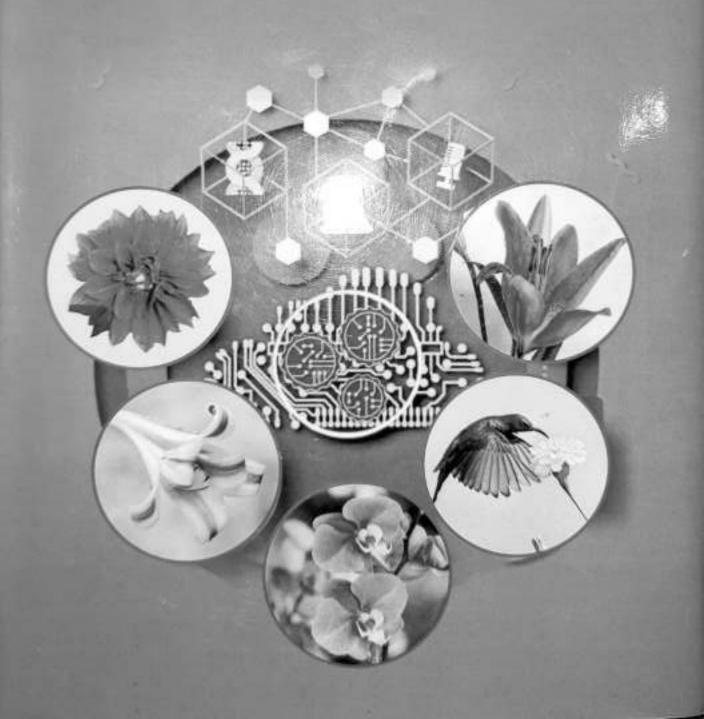
ABSTRACT

Water pollution is the contamination of water bodies. Water pollution results when contaminants are introduced into the natural environment. Inadequate release of treated wastewater into natural water bodies can lead to degradation of aquatic ecosystem and public health problems. Water pollution is the leading worldwide cause of death due to water-borne diseases. Water has regenerative capability in the sense that it could absorb pollution loads up to certain levels without auecting its quality. In fact there could be a problem of water pollution only if the pollution loads exceed the natural regenerative capacity of water. The control of water pollution therefore is to reduce the pollution loads generated from anthropogenic activities to its natural regenerative capacity. This chapter mainly highlight the concept, extent, causes of water pollution, its effects. The elements of pollutants and methods used to prevent the water pollution in environment are also discussed. Key Words: Pollution, Anthropogenic.

Faculty of Sciences, Department of Botany, K. N. Gout. P.G. College, Gyanpur

ADVANCES IN BIOSCIENCES

Dr. Amit Tiwari • Dr. Piyush Mishra



Advances in Biosciences

Editor

Dr. Amit Tiwari Dr. Piyush Mishra



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Post-Harvest Decay Control of Fruits and Vegetables using Essential Oils

Author Ravindra Kumar Pandey

Department of Botany, Faculty of Sciences, Kashi Naresh Government P.G. College Gyanpur Bhadohi-221309 Email-rituravi20@gmail.com

Abstract

Fresh fruits and vegetables play a vital role in human health and nutrition but they destroy very easily due to their high water and nutrient content. Unfortunately the loss of fresh fruits and vegetables is very high due to decay caused by pathogens during poor postharvest handling. Attempts have been made by horticultural industries to reduce the post-harvest microbial decay by use of synthetic fungicides which have created human health concerns. Therefore attempts are being made to reduce post-harvest microbial decay by use of essential oils extracted from plants and proven to be efficient in prolonging shelf life of fruits and vegetables without affecting there sensory properties. Essential oils are secondary plant metabolites and they are synthesized in different parts of the plants and they act as defense system against herbivores and pathogens. They are volatile compounds therefore this property is exploited in post-harvest application as fumigants. Further essential oils are obtained from renewable sources and they do not cause environmental pollution as synthetic fungicides do. Further essential oils can be incorporated into chitosan and alginate based materials as edible coatings.

Keywords Essential oils, Metabolites, Antimicrobial

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Editors Dr. Madhu Tiwari Dr. Abhimanyu Yadav - 7



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Algal Biofuel: A Sustainable Source of Alternative Energy

Suman Gupta'

ABSTRACT

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Renewable Energy Sources an Assessment in Environmental Scenario

Edited by

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Plastic Pollution and Climate Change

Suman Gunta

ABSTRACT

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Dr. Suman Gupta

Super Foods And Its Importance In Our Daily Diet

<u>Editor</u> Dr. Latika Yadav Volume-1

<u>Co-Editor</u> Dr. Madhu

ABOUT BOOK:

uper foods have grown in popularity over the previous decade, becoming a hot topic of discussion in the community's health and wellness. During the COVID-19 pandemics, the concept of super food gained prominence. Super food is a marketing term for foods that claim health benefits due to their high nutrient density. Between 2011 and 2021, the number of food and beverage products on the market that contain benefits due to their high nutrient density. Between 2011 and 2021, the number of foods might be a good entry into healthy eating, and the terms "super food," "super fruit," or "super grain" more than doubled. Super foods might be a good entry into healthy eating, and the terms "super food," "super fruit," or "super grain" more than doubled. Super foods might be a good entry into healthy eating, and the terms "super food," "super fruit," or "super grain" more than doubled. Super foods might be a good entry into healthy eating, and the terms "super food," "super fruit," or "super grain" more than doubled. Super foods might be a good entry into healthy eating, and the terms "super food," super fruit, or "super grain" more than doubled for super foods might be a good entry into healthy eating, and the terms "super food," super foods are said to be nutritious powerhouses that include high levels of antioxidants, phytochemicals, vitamins, On the other hand, Super foods are said to be nutritious powerhouses that include high levels of antioxidants, phytochemicals, vitamins, this book, we hope that we can educate people about many super foods, their nutritional and medicinal characteristics, production, this book, we hope that we can educate people about many super foods, their nutritional and medicinal characteristics, production, this book, we hope that we can educate people about many super foods, their nutritional and medicinal characteristics, production, information on super foods. We believe that this attempt will benefit students, researchers, academicians, and the general public.

ABOUT EDITOR



Dr. Latika Yadav is currently working as Assistant Professor and Head in the Department of Home Science, Government Degree College, Punwarka, Saharanpur, Uttar Pradesh. She completed her B.Sc. Home Science from Acharya Narendra Deva University of Agriculture and Technology. Ayodhya, U.P. M.Sc (Foods and Nutrition) from Banaras Hindu University. Varanasi, U.P.; Ph.D in Foods and Nutrition from Maharana Pratap University of Agriculture and Technology. Udaipur, Rajasthan and B.Ed in Home Science from Dr. Bhim Rao University. Agra, U.P. She earned a University Gold Medal in B.Sc. and was the department topper in Ambedkar University. Agra, U.P. She earned a University Gold Medal in B.Sc. and was the department topper in M.Sc. She was awarded a Ph.D. scholarship by the UGC, the NFOBC-JRF. She has qualified ICAR JRF (2008), UGC -NET (2010, 2013, 2014). ASRB NET (2018) and Rajasthan SET (2013). She cleared various competitive NET (2010, 2013, 2014). ASRB NET (2018) and Rajasthan SET (2013).

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Dr. Madhu is Assistant professor in Deptt of Home science, Kashi Naresh Govt. PG College, Gyanpur, Bhadohi, U.P. She holds a Doctorate degree in Food and Nutrition from Punjab Agricultural University in 2014. She was awarded UGC-NET(2011), ICAR-SRF (2010), ASRB-NET (2018) as well as UGC- Junior research fellowship(2011) in Ph.D. besides that she was also awarded with ICAR- Junior research fellowship(2008) with rank Second and she completed her M.Sc from Acharya NG Ranga Agricultural University and done dissertation from National Institute of Nutrition(NIN), in Deptt of Microbiology, HYDERABAD with highest OGPA. She has completed B.Sc from Narendra Dev University of Agriculture and technology Ayadhya, U.P. throughout merit scholarship. She has associated with various academic and research experience specially in UNICEF sponsored

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SUPER FOODS AND ITS IMPORTANCE IN OUR DAILY DIET

(Volume I)

Editor Dr. Latika Yadav

> Co-Editor Dr. Madhu

Kripa-Drishti Publications, Pune.

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Super Foods And Its Importance In Our Daily Diet

<u>Editor</u> Dr. Latika Yadav Volume-II

<u>Co-Editor</u> Dr. Madhu

ABOUT BOOK:

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(Volume II)

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HEALTHY DIET FOR HEALTHY LIFE

4B

Dr. Madhu Dr. Latika Yadav



HEALTHY DIET FOR HEALTHY LIFE

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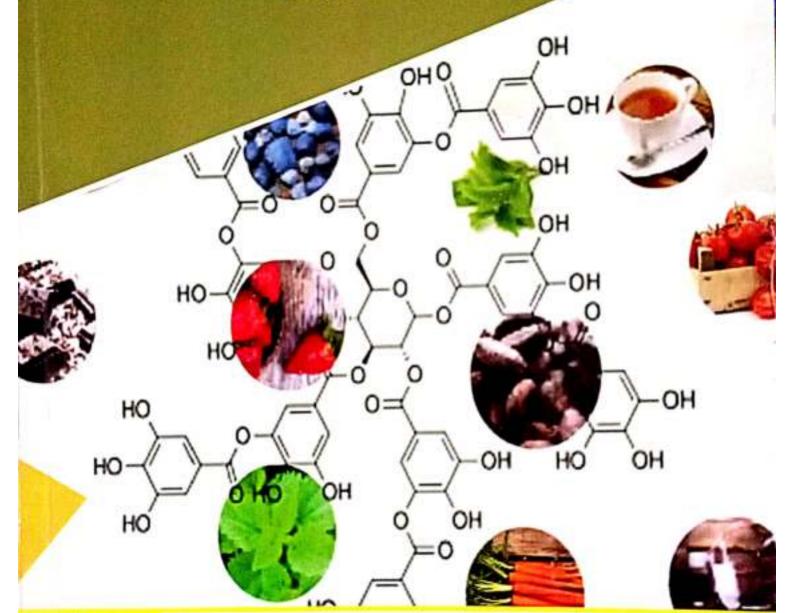
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HEALTHY DIET FOR HEALTHY LIFE

By: Dr. Madhu & Dr. Latika Yadav

POLYPHENOLS IN HEALTH AND DISEASES

First Edition



Dr. Latika Yadav Dr. Sadhna Singh Neelesh Kumar Maurya

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First Edition

Editors Dr. Latika Yadav Dr. Sadhna Singh Neelesh Kumar Maurya

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Polyphenols in Health and Diseases

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Polyphenols in Health and Diseases

Chapter 9 Role of polyphenols as functional food in non insulin dependent diabetes

Madhu¹ and Suresh Bhise²

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Abstract

Non insulin dependent diabetes (Type 2 diabetes) is becoming global well-being solicitude. Concurrently hereditary and environmental hazards components such as poor eating ways and lack of physical activity, are known to play a role in the development of type 2 diabetes. Plants engender polyphenols, which are very essential functional foods in our diet. They are classified into several groups due to their different chemical structures. Flavanoids, lignans, stilbenes, and phenolic acids are the four primary families of polyphenols. Polyphenols are a category of plant-extracted organic compounds. Thry posses antioxidant characteristics and anti-inflammatory that have been linked to a lesser predominance of metabolic syndrome such as obesity, non insulin dependent diabetes, and high blood pressure. Furthermore, in that respect broad recognition that foods high in phytochemicals and polyphenols may play a sustancial function in maintaining human cardiovascular health, and existing scientific testimony suggests that constant dietary ingestion of these feed improves glucose metabolism. Present research associate polyphenol-rich dietary patterns to glucose metabolism and emphasize the compounds' potential benefits in the prevention of type 2 diabetes. Several in vivo and in vitro research have been conducted to date 10 evaluate their health consequences. They become acknowledge being a prooxidant nature with more antioxidant properties. Polyphenols shows a vital role in protecting the body from extrinsic stimulant and in eliminating reactive oxygen species(ROS), which are produced usually result of certain disorders Polyphenols also protect against certain diseases and slow down their progression through several ways.

Keywords: Polyphenols, functional food, antioxidants, phytochemicals, and insulin-resistant dependent diabetics.

The Mushcoom An Incredible Natural Resource

Mr. Balwant Singh Dr. Vinay Kumar Singh

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26 Mushroom's As Cheapest Source of Functional Food and Medicine for Poor Man Dr. Madhu

Introduction

Mushrooms have been ingested since the dawn of time; the ancient Greeks believed that mushrooms gave warriors extra vigor in combat, and the Romans regarded them as "Food of the Gods." Mushrooms have been revered as a health food and a "elixir of life" in Chinese culture for ages. They've been a part of human society for thousands of years, and their sensory traits have piqued the interest of some of history's most influential civilizations; they've also been lauded for their delectable gastronomic qualities. The practice of eating mushrooms is known as mycophagy. Wild edible mushrooms were picked and consumed in ancient times, and this tradition may be traced back to that period.

Mushrooms are members of the Fungi kingdom. Fungi are one of the ecosystem's principal decomposers. They can be found all throughout the earth, existing in mysterious ways or sprouting from the bodies of dead species. Fungi are often neglected as a source of nutrients. Many funguses, such as *Agaricus xanthodermus, Amanita gemmata, Cudonia circinans, Entolona sinuatum, Hapalopilus nidulans*, and others, are toxic to humans.



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C Author

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Medicinal Plant: A Boon for Diabetics

-Dr. Madhu*

Abstract

Many people have benefited from medicinal herbs for decades. La before the prehistoric period, plants were employed for medical purposes of to the existence of many more phytochemicals such as flavonoids and mine that serve as antioxidants, medicinal plants have shown a mature tendency the treatment of numerous diseases as well as lifestyle disorders. According the World Health Organization, 80 percent of people throughout the work use herbal medicines for some component of their primary health care. Anon 21,000 plant species have the potential to be utilized as medical plants, accordin to the WHO. Approximately 800 plants have been identified to have am diabetic properties. The use of medicinal plants is seen to be quite safe, there are no or very few adverse effects. The fact that these medicines and tune with nature is the largest advantage. The golden truth is that here remedies may be used by people of all ages and genders. Aloe, Tulsi, Net Turmeric, and Ginger are medicinal plants that can help with a variety diseases. Apart from that, onion (Allium cepa), garlic (Allium sativum), All vera (ghrita kumara), fenugreek seeds (Trigonella foenum-graecum), ash geo (Benincasa hispida), beetroot (Beta vulgaris), jamun (Syzygium cumin), (Tinospora cordifolia), bael (Aegle marmelos). Diabetes is a long-term metabli illness that can lead to significant consequences such as retinoput neuropathy, nephropathy, and foot difficulties. The current review need

Assistant Professor, Deptt of Home Science, Kashi Naresh Govt. PG College Guiff

ONCOLOGY IN GLOBAL WORLD

It's Advance and Research

Vipin Kesharwani Sagarika Kabra Deepika Saini

Oncology in Global World It's Advance and Research

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20. Nutraceuticals in Cruciferous Vegetables and its Role in Cancer Prevention

Dr. Madhu*

Nutraceuticals As Phytochemicals

Plant-derived compounds possess phytochemicals agents that have been exert its good health effects either direct, by altering particular atomic targets, or indirect, by impacting metabolic processes through stable conjugates. Plants have evolved a broad spectrum of phytochemicals properties to protect itselves from highly ROS (Reactive oxygen species) and as a defensive mechanism. These products, which include phytochemical-rich extracts to achieve favourable physiological benefits, cannot be termed "food."

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Home Science As a Vocational Subject : Challenges and Opportunities

Dr. Anamika Chauhan Dr. Deepika Dhawan



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HOME SCIENCE/COMMUNITY SCIENCE: AN EMPLOYMENT OPPORTUNITIES

Dr. Madhu

Introduction:

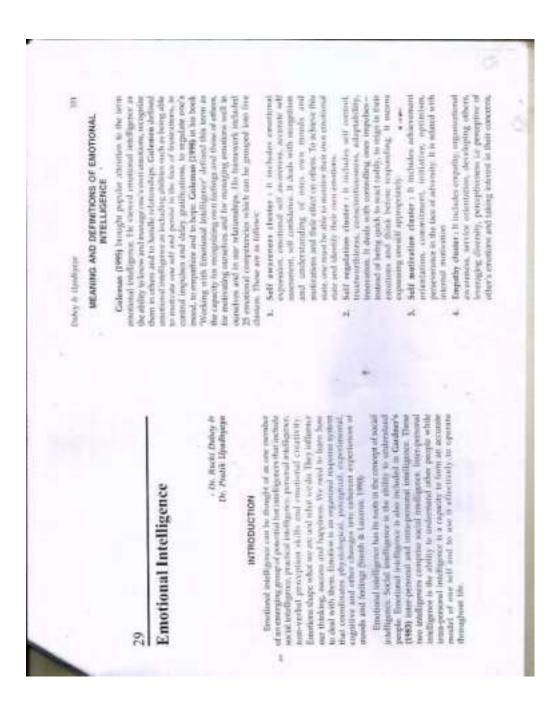
Youth's full and effective engagement in social, economic, and political growth is dependent on their knowledge and education. To ensure that young people, particularly underprivileged youth, acquire the information, capacities, skills, and ethical values required to fulfill their role as agents of overall development, more focus must be paid to raising participation rates.

'Home science' is made up of the phrases 'home' and 'science.' The term "house" refers to the family's primary residence, whereas "science" refers to knowledge based on facts, principles, and laws. In an ever-changing world, home science teaches a scientific approach to modern housekeeping for achieving home welfare and maintaining family life (SCERT, 2011). House science encompasses all aspects of a person's life, including their home, family members, and resources (Vyas and Shastri, 2011). Home science is a unique field that combines

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NEW HORIZONS OF TEACHING AND LEARNING IN THE LIGHT OF NEP 2020

Pratik Upadhyaya Ruchi Dubey

NEW HORIZONS OF TEACHING AND LEARNING

In the present scenario, new methods of teaching and learning are being adopted by teachers and students according to their own interests and needs to fulfil the requirements of the new millennium. The present book and to meet the challenges of the new millennium. The present book provides an insight on new methods of teaching and new methods of learning. The book has covered diverse aspects of teaching and learning. MOOD constructives, cooperative learning, blended learning, experiential learning, e-learning, flipped classroom, gamification, multicultural education, emotional intelligence, social intelligence, spiritual intelligence, metacognition, , etc. The book also includes few research based chapters on creativity, online teaching and learning resistance.

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RENEWABLE ENERGY SOURCES An Assessment in Environment Scenario

<u>Edited by:</u> Dr. Abhimanyu Yadav Dr. Madhu Tiwari

Bharti

Renewable Energy Sources : An Assessment in Environmental Scenario

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Assessment of Renewable Energy Sources on Environment

Preetam Kumar¹

ABSTRACT

Ongoing concerns about the climate change have made renewable energy sources an important component of the world energy consumption portfolio. To meet the nation's energy objective of a secure, competitive, and environmentally energy system, broad development of a range of energy technologies are developed. Renewable power is booming as innovative work that brings down the cost and displacing harmful fossil fuel in power sector. Renewable energy are-solar energy, wind energy, bio mass energy, hydro energy etc. Renewable energy is usually more environment friendly but these are more site specific. Renewable energy sources are generally thought of harmless but it does not mean they have no environmental consequences at all. Renewable energy sources are contributing to nation but on the other side it also disturbing the environment, it requires large area of land, disturbing eco-system and more. This chapter is all about the environmental and socio economic impact affecting the natural balance associated with renewable power generation. It's true that renewable sources energy is cost effective but improvements are still necessary.

Keywords: Renewable energy sources, Environmental change, Sustainable development, Fossil fuel.

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INTRODUCTION

Renewable energy sources are obtained naturally from the environment and it's again generated after some interval of time. The rapid increase in energy consumption particularly in the past several decades has raised fears of exhausting the globe reserves of petroleum and other resources in the near other. This energy focused on sustainable development. Renewable resources are part of the earth natural environment. Renewable energy sources are enhancing the efficiency and also reducing the prices. After facing a global warming and other problems caused by fossil fuel, environment demand to focus more on renewable energy sources for future generations. Renewable energy is currently unevenly and insufficiently exploited. Benefits of renewable energy sources exist but it also has environmental and socio economic impact. Many private and public enterprises are searching for new renewable energy sources to meet up their energy solution requirements and also trying to reduce the effects arising out of using renewable resources. Renewable energy is found in deep underground, the air, sunlight, also in oceans. Governments, intergovernmental agencies, interested parties and individual in the world today look forward to achieve a sustainable future due to opportunities created in recent time to replace fossil fuel energy with renewable energy sources.

This chapter deals the following renewable energy sources

- Solar energy
- Wind energy
- Hydro energy
- Geothermal energy
- Biomass
- Ocean thermal energy

(a) Solar Energy

Solar energy converts the sunlight heat into other form of energy for use. Two types of ways are used to harness solar energy; Photovoltaic and Solar thermal. Solar photovoltaic technology uses semiconductors to convert sunlight into direct current electricity and solar thermal utilize sun heat for heating or electricity production. 30 Renewable Energy Sources : An Assessment in Environmental Scenario

Adverse impacts of using solar energy system also exist.

- These systems require exotic input like cadmium sulphide is toxic and explosive and generate air pollutants like antifreeze agents, rust inhibitors.
- They require large portion of permanent land for installation and reclamation is not done until the plant is decommissioned.
- Soil erosion, wind diversion, potential decrease in evaporation rate from soil.

(b) Wind Energy

Wind energy captures the natural wind in our environment and converts the air motion into mechanical energy. Wind requires low operations and maintenance costs after initial construction. India wind energy sector is led by indigenous wind power industry and show the consistent progress. Expansion led to strong ecosystem and produces no air and water pollution.

Wind power sector has number of other environmental effects that limits its potential.

- Wind turbine produce noise from air passing over the blades and moving parts of the turbine.
- Birds get killed when they collide with the rotating blades of a turbine.
- Migratory species are at a higher risk than resident species.
- Wind power uses land as wind turbine will be spaced a certain distance apart and land in between regarded as occupied.
- Turbine causes interference in communication systems.
- Wind mills that are placed near lake become warmer because of reduced evaporation from their surface.

(c) Hydro Energy

Hydro power converts the flowing water into electricity. Now a days hydro plants produce electricity using turbines and generators.

Assessment of Renewable Energy Sources on Environment

Hydro power energy impacts the environment in following ways

 Damming a river disturb the ecosystem by flooding upstream landscape, disturb the habitats for wildlife.

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- Loss of vegetation in flooded areas creates methane and other harmful gas.
- Carbon dioxide emissions occur during construction which results in small amount of greenhouse gas emissions.
- Construction of large dam has virtually ceased because most underdeveloped site are under environmental protection.
- Hydro energy causes socio economic damage by displacing local populations.
- Require large amount of financial support for building dam which is not cost effective.

(d) Geothermal Energy

Geothermal energy is a heat that comes below the earth surface. It is most abundant in the rocks and fluid below the earth curst. In order to generate power from geothermal energy, mile deep wells are dug into underground reservoirs to access the stream and hot water, which are used to drive turbines connected to electricity generators.

Geothermal energy cons towards the environment are

- The extraction of geothermal energy from the grounds leads to a release of greenhouse gases like hydrogen sulfide, carbon dioxide, methane and ammonia.
- Improper drilling leads escaping of minerals and gases from underground.
- Locations may cool down after a while making it impossible to harvest more geothermal energy in future.
- Reservoirs can be depleted if fluid is removed faster than replaced.
- If the heat is not taken care of, it can cause a meltdown or other issues where the energy is not properly distributed or used.

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- Construction of geothermal plant can affect the stability of land and may cause earthquake.
- Drilling and installing is quite a complex system which causes rising the price.
- Geothermal power plant is hard to implement in big cities.
- Large amount of chemicals released when geothermal fields are trapped for commercials production and can be hazardous to people living nearby.
- Geothermal power plant requires large amount of water for cooling purpose.

(e) Bio-Mass

The organic bio-degradable wastes from various sources such as cattle dung, animal waste, and food kitchen waste, poultry dropping waste, forestry residues, agro-industry, and more are the feed stock for biogas plant. Biomass is an integral part of earth carbon cycle. The carbon cycle is the process by which carbon is exchanged between all layers of earth.

Drawback of biomass energy is

- If biomass feed stocks are not replenished as quickly as they are used, they can become nonrenewable.
- Biomass requires are able land to develop.
- Biomass has lower energy density as scientists believe that it's not economically efficient.
- Burning biomass release carbon monoxide, carbon dioxide, nitrogen oxide and other pollutants.
- Biomass energy production can cause soil erosion problem and significant nutrition loss will be incurred by harvesting of crop residues.
- Alteration of forests and wetlands will reduce many habitats and mating areas of some mammals and birds.

(f) Ocean Energy

The ocean form of energy has the potential for providing a substantial amount of new renewable and reliable energy around

Assessment of Renewable Energy Sources on Environment

the world. Several technology employ different strategy for harvesting ocean energy. The main sources of ocean energy are: tidal streams; ocean currents; tidal range; waves; ocean thermal energy; salinity gradients. It does not produce any greenhouse gases or waste products.

Drawbacks of ocean energy

- It affects the ocean water quality as temperature changes, salinity, pressure of water changes etc.
- The pumping of large volumes of cold water from depths of ocean to surface will release dissolved gases such as carbon dioxide, oxygen, nitrogen.
- Machine and equipment used for installation purpose are very expensive.
- Large machines near the water to gather ocean energy disturb the seafloor, change the habitat, and create noise that disturbs the sea life.

CONCLUSION

Against this backdrop, this chapter seeks to deal the potential and trend of sustainable development with renewable energy source and environmental impact. Technology constraints, sociological and economical distribution, and energy policy play key roles in determining the most effective use of these endless resources. It is important to consider the potential for changing to more sustainable energy sources. If we want to develop energy independence and security, renewable energy sources have to be develop in much better way. Earth climate temperature has risen in the past few decades that may cause floods, heat waves, drought, rise in sea level, extreme weather condition. To protect earth and its nature we need to produce energy from renewable energy sources in a modified manner. Thus renewable energy resources have the potential to provide a significant amount of energy. To meet the energy target of nation we need to encourage renewable energy sources. As renewable energy sources have lower environmental impact as compare to conventional energy technologies. Renewable energy will not run out and it's necessary to produce energy from these sources in better way without harming the nature.

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