UNIVERSITY OF CALCUTTA

Notification No. CSR/ 12 /18

It is notified for information of all concerned that the Syndicate in its meeting held on 28.05.2018 (vide Item No.14) approved the Syllabi of different subjects in Undergraduate Honours / General / Major courses of studies (CBCS) under this University, as laid down in the accompanying pamphlet:

List of the subjects

Sl. No.	Subject	Sl. No.	Subject
1	Anthropology (Honours / General)	29	Mathematics (Honours / General)
2	Arabic (Honours / General)	30	Microbiology (Honours / General)
3	Persian (Honours / General)	31	Mol. Biology (General)
4	Bengali (Honours / General /LCC2 /AECC1)	32	Philosophy (Honours / General)
5	Bio-Chemistry (Honours / General)	33	Physical Education (General)
6	Botany (Honours / General)	34	Physics (Honours / General)
7	Chemistry (Honours / General)	35	Physiology (Honours / General)
8	Computer Science (Honours / General)	36	Political Science (Honours / General)
9	Defence Studies (General)	37	Psychology (Honours / General)
10	Economics (Honours / General)	38	Sanskrit (Honours / General)
11	Education (Honours / General)	39	Social Science (General)
12	Electronics (Honours / General)	40	Sociology (Honours / General)
13	English ((Honours / General/ LCC1/ LCC2/AECC1)	41	Statistics (Honours / General)
14	Environmental Science (Honours / General)	42	Urdu (Honours / General /LCC2 /AECC1)
15	Environmental Studies (AECC2)	43	Women Studies (General)
16	Film Studies (General)	44	Zoology (Honours / General)
17	Food Nutrition (Honours / General)	45	Industrial Fish and Fisheries – IFFV (Major)
18	French (General)	46	Sericulture – SRTV (Major)
19	Geography (Honours / General)	47	Computer Applications – CMAV (Major)
20	Geology (Honours / General)	48	Tourism and Travel Management – TTMV (Major)
21	Hindi (Honours / General /LCC2 /AECC1)	49	Advertising Sales Promotion and Sales Management –ASPV (Major)
22	History (Honours / General)	50	Communicative English –CMEV (Major)
23	Islamic History Culture (Honours / General)	51	Clinical Nutrition and Dietetics CNDV (Major)
24	Home Science Extension Education (General)	52	Bachelor of Business Administration (BBA) (Honours)
25	House Hold Art (General)	53	Bachelor of Fashion and Apparel Design – (B.F.A.D.) (Honours)
26	Human Development (Honours / General)	54	Bachelor of Fine Art (B.F.A.) (Honours)
27	Human Rights (General)	55	B. Music (Honours / General) and Music (General)
28	Journalism and Mass Communication (Honours / General)		

The above shall be effective from the academic session 2018-2019.

SENATE HOUSE
KOLKATA-700073
The 4th June, 2018

Paul 4/6/18
(Dr. Santanu Paul)
Deputy Registrar

University of Calcutta

Under Graduate Curriculum under Choice Based Credit System (CBCS)

Syllabus forAbility Enhancement Compulsory Course-2 (AECC-2) in
Environmental Studies

Semester-2

Total Marks-100*(Credit -2)*
(50 Theory-MCQ type + 30 Project + 10 Internal Assessment + 10 Attendance)

[Marks obtained in this course will be taken to calculate SGPA & CGPA]

Theory

Unit 1	**Introduction to environmental studies**	2 lectures
	•Multidisciplinary nature of environmental studies; •Scope and importance; Concept of sustainability and sustainable development.	
Unit 2	**Ecology and Ecosystems**	6 lectures
	•Concept of ecology and ecosystem, Structure and function of ecosystem; Energy flow in an ecosystem; food chains, food webs; Basic concept of population and community ecology; ecological succession. •Characteristic features of the following: a) Forest ecosystem b) Grassland ecosystem c) Desert ecosystem d) Aquatic ecosystems (ponds, streams, lakes, wetlands, rivers, oceans, estuaries)	
Unit 3	**Natural Resources**	8 lectures
	• Concept of Renewable and Non-renewable resources • Land resources and landuse change; Land degradation, soil erosion and desertification. •Deforestation: Causes, consequences and remedial measures •Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). •Energy resources: Environmental impacts of energy generation, use of alternative and nonconventional energy sources, growing energy needs.	
Unit 4	**Biodiversity and Conservation**	8 lectures
	•Levels of biological diversity: genetic, species and ecosystem diversity; • Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots •India as a mega-biodiversity nation; Endangered and endemic species of India •Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; •Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. •Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.	
Unit 5	**Environmental Pollution**	8 lectures
	• Environmental pollution: concepts and types, • Air, water, soil, noise and marine pollution- causes, effects and controls • Concept of hazards waste and human health risks • Solid waste management: Control measures of Municipal, biomedical and e-waste.	

Unit 6	**Environmental Policies and Practices**	7 lectures
	•Climate change, global warming, ozone layer depletion, acid rain and their impacts on human communities and agriculture •Environment Laws: Wildlife Protection Act; Forest Conservation Act. Water (Prevention and control of Pollution) Act; Air (Prevention & Control of Pollution) Act; Environment Protection Act; Biodiversity Act. •International agreements: Montreal Protocol, Kyoto protocol and climate negotiations; Convention on Biological Diversity (CBD). •Protected area network, tribal populations and rights, and human wildlife conflicts in Indian context.	
Unit 7	**Human Communities and the Environment**	6 lectures
	•Human population growth: Impacts on environment, human health and welfare. •Case studieson Resettlement and rehabilitation. • Environmental Disaster: Natural Disasters-floods, earthquake, cyclones, tsunami and landslides; Manmade Disaster- Bhopal and Chernobyl. •Environmental movements: Bishnois.Chipko, Silent valley,Big dam movements. •Environmental ethics: Role of gender and cultures in environmental conservation. •Environmental education and public awareness	
Project/ Field work		Equal to 5 lectures
	•Visit to an area to document environmental assets: Natural resources/flora/fauna, etc. •Visit to a local polluted site-Urban/Rural/Industrial/Agricultural. •Study of common plants, insects, fish, birds, mammals and basic principles of identification. •Study of ecosystems-pond, river,wetland, forest,estuary and agro ecosystem.	
	Total	50 Lectures

Suggested Reading:

Asthana, D. K. (2006).*Text Book of Environmental Studies*. S. Chand Publishing.

Basu, M., Xavier, S. (2016). Fundamentals of Environmental Studies, Cambridge University Press, India

Basu, R. N., (Ed.) (2000). *Environment*. University of Calcutta, Kolkata

Bharucha, E. (2013). *Textbook of Environmental Studies for Undergraduate Courses*. Universities Press.

De, A.K., (2006).*Environmental Chemistry*, 6th Edition, New Age International, New Delhi.

Mahapatra, R., Jeevan, S.S., Das, S. (Eds) (2017). *Environment Reader for Universities*, Centre for Science and Environment, New Delhi.

Masters, G. M., &Ela, W. P. (1991).*Introduction to environmental engineering and science*. Englewood Cliffs, NJ: Prentice Hall.

Odum, E. P., Odum, H. T., & Andrews, J. (1971).*Fundamentals of ecology*. Philadelphia: Saunders.

Sharma, P. D., & Sharma, P. D. (2005).*Ecology and environment*.Rastogi Publications.

Bay of Bengal

The hotbed of Tropical Cyclones

INTRODUCTION

The **Bay of Bengal** is the northeastern part of the Indian Ocean, bounded on the west and northwest by India, on the north by Bangladesh, and on the east by Myanmar and the Andaman and Nicobar Islands of India. Its southern limit is a line between Sangaman Kanda, Sri Lanka and the north westernmost point of Sumatra (Indonesia). It is the largest water region called a bay in the world.

Tropical cyclone, also called **typhoon** or **hurricane**, an intense circular storm that originates over warm tropical oceans and is characterized by low atmospheric pressure, high winds, and heavy rain. Drawing energy from the sea surface and maintaining its strength as long as it remains over warm water Accompanying these strong winds are torrential rains and a devastating phenomenon known as the storm surge, an elevation of the sea surface that can reach 6 metres (20 feet) above normal levels.

Year after year the eastern coastal belt of India has been ravaged by super cyclonic storms. After Amphan's destructive tryst on May 20 last year, cyclone. Yaas which made its landfall in Odisha this year. Nevertheless, the Bay of Bengal is a more active basin than the Arabian Sea for brewing cyclonic storms.

In the last four years 12 cyclones have formed in the Bay and ravaged the Eastern coastal states of India. Out of five cyclones that the Indian coastline witnessed in a year, four originated in the Bay of Bengal.

Why Bay of Bengal is the hot-bed for cyclonic storms

Cyclones in the Bay of Bengal can be attributed to the vast low pressure created by the warm water of the ocean. Meteorologists believe the bay that gives birth to severe cyclones is concave or shallow where when strong winds push water, it gets concentrated as a storm. The Bay of Bengal shaped like a trough that makes it more hospitable for storms to gain force. Moreover, the high sea surface temperature makes matters more worse in the Bay triggering the intensity of the storms. Additionally, the Bay of Bengal gets more rainfall with sluggish winds and warm air currents around it that keep temperatures relatively high all year. The constant inflow of fresh warm water from the perineal rivers like Bramhaputra, Ganga makes it further impossible to mix with the cooler water below. Lack of landmass between the Pacific Ocean and the Bay of Bengal tend cyclonic winds to move into the coastal areas causing heavy rainfall. The absence of air movements from north-western India towards the Bay in the post-monsoon phase is also another reason for the chances of cyclones in the Bay of Bengal.

CONCLUSION

Since sea surface temperatures and humidity both increase chances of cyclone formation, the Bay of Bengal is a more likely target because it gets higher rainfall with sluggish winds around it, keeping temperatures relatively high all year. Warm air currents enhance this surface temperature and aid the formation of cyclones. Bay of Bengal also welcomes cyclones formed far away in the Pacific Ocean. Cyclones usually weaken over a landmass. But due to lack of any such land between the Pacific Ocean and the Bay of Bengal, cyclonic winds easily move into the bay, the Bay of Bengal is never spared and hence is the hotbed for tropical cyclones.

NAME OF EXAMINATION:

BBA SEMESTER II EXAMINATION

SEMESTER:

SECOND

UNIVERSITY ROLL NUMBER:

223-BBAS-20-1-0012

UNIVERSITY REGISTRATION NUMBER:

223-1211-0556-20

SUBJECT:

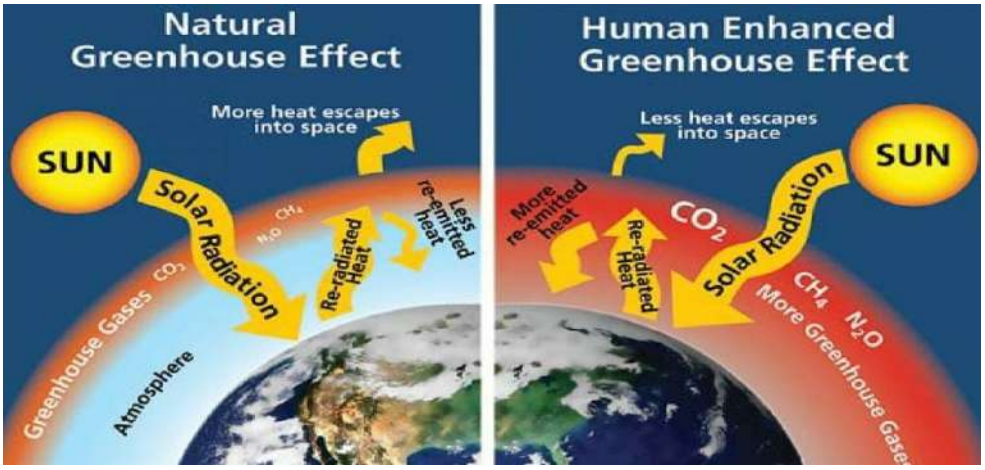
ENVIRONMENTAL STUDIES

CAN GLOBAL WARMING BE REVERSED ?

We, human beings face a lot of hardships in our daily life but at the same time have a lot of reasons to be grateful for. The most important one among them being mother earth. For innumerable years it has provided us with all the basic aspects of living. But it is sad to see human beings becoming selfish and only thinking about their own well- being. Since a couple of years it is only getting brighter in front of our eyes, what a serious threat our luxurious ways of living is causing to nature and it's resources. But we are so reluctant to it that we have simply decided to turn a blind eye to that fact. Global warming followed by climate change is one of the most serious threats that mankind is facing in today's day. If we don't get cautious soon, the end wouldn't be much far.

There is a popular saying, " Better late than never ". The damage which all these years of carelessness has done, is done but if we unitedly give a try to rectify the situation then if not over the night or to be very specific, in the next couple of decades, someday it would be partially recovered and in the process, it would be beneficial for the existing generations. Global warming as per definition means an increase in the earth's average temperature which disturbs the ecology of the planet. When the causes to a certain problem is known, it becomes easier to fix it. If we see from the scientific point of view, the main causes of global warming includes deforestation, burning fossil fuel, farming livestock etc. All of these lead to excessive addition of greenhouse gases to the atmosphere which subsequently results in greenhouse effect

and global warming. Humans are ruthlessly cutting down trees for billion dollar projects. Industrial and agricultural activities leads to emission of greenhouse gases which increases the natural concentration of those gases in the atmosphere. Gases like carbon-dioxide, nitrous-oxide and methane are the greatest contributors to global warming. Industrial activities produce excessive amount of e-waste and various other kind of harmful emissions which when added to the atmosphere blocks the radiations from the earth's surface to escape out thus leading to heating up of the earth's surface. The excessive release of CFC's, tropospheric ozone etc results in ozone layer depletion, melting of glaciers and ice caps. The after effect of all of this is pure horror. The damage is done, but we can at least try to protect our motherland from getting doomed like this day after day, by at least showing effort. Simple steps like afforestation, educating people regarding climate changes and global warming, reduction of food waste, solar farms, wind turbines, banning the use of non-biodegradable products, reduction in the use of refrigerators and other such machines releasing CFC's would go a long way in helping to reduce global warming.



The fact that human beings are casual about such an important issue is not only scary but also foolish. The earth is the only planet till date that offers life and hence it should be our prime responsibility to save our ultimate home from such destruction. Whatever good or bad we do, will indirectly affect us and our future generation in the coming days. All that we need is a bit change in our mindset and an urge that will come from within. If one person plants a tree today, it will inspire at least one other. Baby steps with dedication never fail. We on a daily basis engage ourselves with so many fights. This is a fight too, not with our enemy but with our own moral and

conscience. If we can overcome this reluctance that we have been continuing for a long time now, we can definitely do something to reverse the conditions. Even though nothing in the world can beat nature's attacks, there's not much that human beings cannot give a tough fight to.

Organic Farming In India

INTRODUCTION

India is an Agrarian country with around 60%. of its people directly or indirectly depend upon agriculture. In ancient time the practice of agriculture was considered to be a greatest service to the society and this practice was inter-twined in their tradition and culture too.

Since organic farming techniques have the potential to improve soil fertility, soil structure and soil moisture retention capacity. Organic management provides solutions to the problems associated with degradation of drylands and desertification.

The progress in organic agriculture development and the need for further promoting it has been summed up very well by the 42nd Report of the Standing Committee on Agriculture of 14th Lok Sabha. In its recommendation (No. 12), the committee report states, "The Committee feels that R&D in Organic farming is an option that will make agriculture in India more profitable as organic farming is more environmentally sustainable.
Hence, it has to be included as a priority area in agriculture. Implications of organic farming on national food security may also be analysed".

Role Of Organic Farming In Indian Culture

Agriculture is the most important livelihood strategy in India, with two thirds of the country's workforce depending on farming. Organic farming system in India is not new and is being followed from ancient time. The term organic farming was coined by Lord Northbourne in his book Look to the Land (written in 1939, published 1940). From his conception of "The farm as organism," he described a holistic, ecologically balanced approach to farming. Organic agriculture should be managed in a precautionary and responsible manner to protect the health and well-being of current and future generations and the environment. Practitioners of organic agriculture can enhance efficiency and increase productivity, but this should not be at the cost/risk of jeopardizing health and well-being.

Advantages of Organic Farming in Indian Rural Economy

- Organic fertilizers are completely safe and do not produce harmful chemical compounds
- The consumption of chemical fertilizers in comparison to organic fertilizers is always more, especially in unused cultivable lands.
- Moreover, chemical fertilizer needs huge quantities of water to activate its molecules whereas, organic fertilizers do not need such conditions.
- Further, chemical fertilizers almost always have some harmful effects either on the farm produce or on the environment.
- Furthermore, it can also produce harmful chemical compound in combination with chemical pesticides, used to ward-off harmful pests.

Socio-economic opportunity in organic farming

- Contributes to preservation of biodiversity.
- Produces healthy food.
- Ensures jobs in agriculture, food processing and marketing.
- Improves health of soil
- Low water consumption
- Low input cost
- High produce cost (Improve economic status)

Benefits of Organic Farming

- Organic farming proves to be more profitable than the age-old traditional farming methods.
- This type of farming leads to a less toxic environment as far as the air, water and soil are concerned.
- Organic farming eliminates the chances that are there of the fast production of food through artificial means.
- Organic products moreover are tastier than the products yielded from traditional farming.

Demerits of Organic Farming

- The first and foremost demerit is that organic products are expensive. Common people cannot afford organic food and clothes made from organic wool and cotton.
- It is labor intensive, compared to mechanical agriculture. An organic farmer has to observe his crops regularly for timely pest and weed control.
- To become an organic farmer, it requires immense patience and considerable skills.
- Organic farmers do not use chemical pesticides to get rid of pests. Instead they have to be always on a lookout for weeds, insects and parasites on the farm.

CONCLUSION

To conclude, the paper focused on the legal aspects of organic agriculture that will capture and summaries the practical lessons agriculture legislation. It is not an easy task to draft national legislation to govern and maintain minimum standard in organic agriculture. From the view point of India, encourage for organic agriculture by means of subsidies, etc by the government is much needed. Besides that, knowledge of the adverse effect of chemical based agriculture and awareness as to the socio-economic benefits of organic agriculture is the need of the day in India.

Although, organic farming is picking up pace in India but the sector has been jostling with lack of awareness, knowledge and confidence about Organic farming, food products among both farmers and consumers. Organic agriculture should be recognized and integrated in main policies of the central government like those on agriculture, food, oorganic farming, food products among both farmers and consumers. Organic agriculture should be recognized and integrated in main policies of the central government like those on agriculture, food, health and environment. This will ensure that all needs of organic sector are properly addressed and considered in government programmes and budgetary allocations.

WATER CONSERVATION - NEED OF THE HOUR

"We shall not defeat any of the infectious diseases that plague the developing world until we have also won the battle for safe drinking water, sanitation and safe drinking water" – Kofi Annan

About three-fourth of the earth's surface is water amongst which 97% of total water is salted which is unsuitable for drinking. Only 3% is fresh water and only 0.5% is available for drinking. The 2.5% of remaining fresh water is locked in ice caps, glaciers, atmosphere, soil and under the surface of the earth or is polluted and cannot be used for consumption. Water is life. Human beings need drinking water to survive. Not only for drinking, water is also essential for daily uses such as bathing, cleaning, washing, etc. But water cannot be used recklessly as continuous usage of water may lead to scarcity in the near future. This is why conservation of water is absolutely essential in today's scenario.

Water conservation basically means saving water at present for the future generation to use. Water conservation can be done in various simple ways like –keeping water stored in buckets and tubs in the washroom for use, attend to repairs in the bathroom as and when required, do all the laundry at one go and by avoiding frequent washes, going for short showers during summer instead of long hours, closing all taps and valves before stepping out of the house. These above basic knowledge about water conservation must be made aware to majority of the population and must be practiced regularly to avoid wastage of water in every possible way. Reducing wastage of water is not the only objective, water pollution is also increasing at a very high rate due to dumping wastes in the water bodies and by draining of chemicals by the laboratories and factories. Reduction of pollution is also a key to water conservation.

Continuous use of water along with wastage of water without conserving it for future may result in a treacherous situation where water won't be available when needed and survival of mankind might be difficult. This has become one of the major issues with the never-ending increase in population. Thus, water conservation is of utmost importance as it keeps the environment healthy and suitable for living; it also ensures stability of life for all living beings. Scarcity of water even today has led to extinction of various animals and disturbance in the habitat in several places. Greenery is also decreasing rapidly due to scarcity of water, causing draughts.

Thus, measures must be instantly taken to stop these factors and to bring back life. Areas with high rainfall need to practice rainwater harvesting to

reduce usage of ground water. Conservation of water will not only help plants and animals but also the aquatic creatures to prosper. Ground water level which has been declining can also be maintained properly by keeping reserves for the future.

To conclude, we should take care of environment by following certain protective measures to conserve water. It can be done by increasing awareness among people about what is right and what is wrong to resolve issues regarding water and to reduce problems of scarcity and contamination for the future as well as present. Without water there would not be a living ecosystem where humans, plants, animals exist together in harmony.

Scottish Church College

Environmental Studies Project

C.U. Roll No: **223-BBAS-20-2-0013**

C.U. Registration No: **223-1111-0581-21**

Topic Name: **Organic Farming in India**

Introduction: Agriculture is one of the primary necessities of any nation, India is also no exception. It is the source of livelihoods for almost 58% of India's population, contributing more or less 20% of the total GDP of this country. Post-Independence 'Green Revolution' gave a massive hit in terms of providing huge amount of productions, financial stability of farmers, and fields related to firming. But after several decades, it turns out to be plateful of paradoxes. Modern farmers of India tend to show interest towards organic farming and future market of organically cultivated goods are growing rapidly.

What is 'Organic Farming'? : ***The United States Department of Agriculture (USDA)*** defined that "organic farming is a system which avoids or largely excludes the use of synthetic inputs (such as fertilizers, pesticides, hormones, feed additives etc.) and to the maximum extent feasible rely upon crop rotations, crop residues, animal manures, off-farm organic waste, mineral grade rock additives and biological system of nutrient mobilization and plant protection."

History of Organic Farming in India: In India organic farming was practiced since thousands of years. ***The Vedic civilization*** was dependent upon organic farming. Ancient literatures of India like ***Vedas, Puranas and epics like Ramayana, Mahabharata*** mention that the entire agriculture had been done using organic techniques. The fertilizers, pesticides, etc. were collected from plants and animals only.

Why today's India is switching towards Organic Farming: In the past few years, the terms natural and organic have been popularised a lot and are now able to grab the attention of new generation of Indians as well. Here is why India should need a switch in organic farming

- *Problems with Chemical Farming:* It needs high inputs of irrigation and chemicals products. Besides, repeated cultivation of similar type of crops resulted in deterioration of soil fertility and soil productivity. The chemical properties of *soil as soil structure, soil aeration, infiltration and soil reaction* started degrading gradually.
- *Benefits of Organic Products*: Modern individuals are making themselves aware of healthy ways of living. Smarter consumers prefer to eat healthy and spend on healthy organic food than to depend on medicines.
- *Future Market Demand:* In future no doubt organic products will be in high demand among Indians. Besides, India will start to export organic products worldwide in the countries like United States, European Union, Canada, Switzerland, Australia, Israel and Japan.

- *Indian Government promoting Organic Farming:* India has introduced ***the organic farming policy*** in **2005**. The Government of India has launched different schemes to promote organic farming like,
  Paramparagat Krishi Vikas Yojana (PKVY), 2015
  Mission Organic Value Chain Development for North Eastern Region (MOVCDNER), 2015
  NABARD Capital Investment Subsidy Scheme of Soil Health Management Scheme (CISS), etc.
  These provides land, financial cum market support to the agricultural entrepreneurs.

India's Achievement in Organic Farming:

- According to the report of World of Organic Agriculture 2018, ***world's 30% of the total organic producers are Indians***.
- India ranked ***9th*** in the world's organic agricultural land and ***1st*** in total number of producers according to 2018 data. In India the total area under the organic certification process ***is 3.56 million hector***.
- **Sikkim of India** became the first state in the **world** to become **fully organic in 2016.**
- According to the ***Agricultural and Processed Food Products Export Development Authority***, the demand for Indian organic food products is constantly rising worldwide at more than **40%**.

Conclusion: Although several burning obstacles are there for organic farming in India like farmers' financial insecurity, low market demand, lack of transparency in Government policies, dirty politics and corruptions that affect it badly. Yet it is high time when India should revert back to its culture. The organic market of India has a huge potential and has been showing very promising results for optimistic investors in future. No doubt returning back to 'Organic Farming' is challenging for both of the farmers and the consumers, but it will prove healthy for future India.[i]

Plagiarism checker is used thoroughly.
Only 3% Plagiarism is found due to use of direct quotation.

Organic Farming in India

India introduced the organic farming policy in2005. The **2.78 million was** covered under organic farming in India is about two per cent of the 140.1 million ha net sown area in the country. ... PKVY and MOVCDNER schemes started in 2015-16 and cover 21.5 per cent and 2.6 per cent of the total organic area in the country.

9

What is Organic farming ?

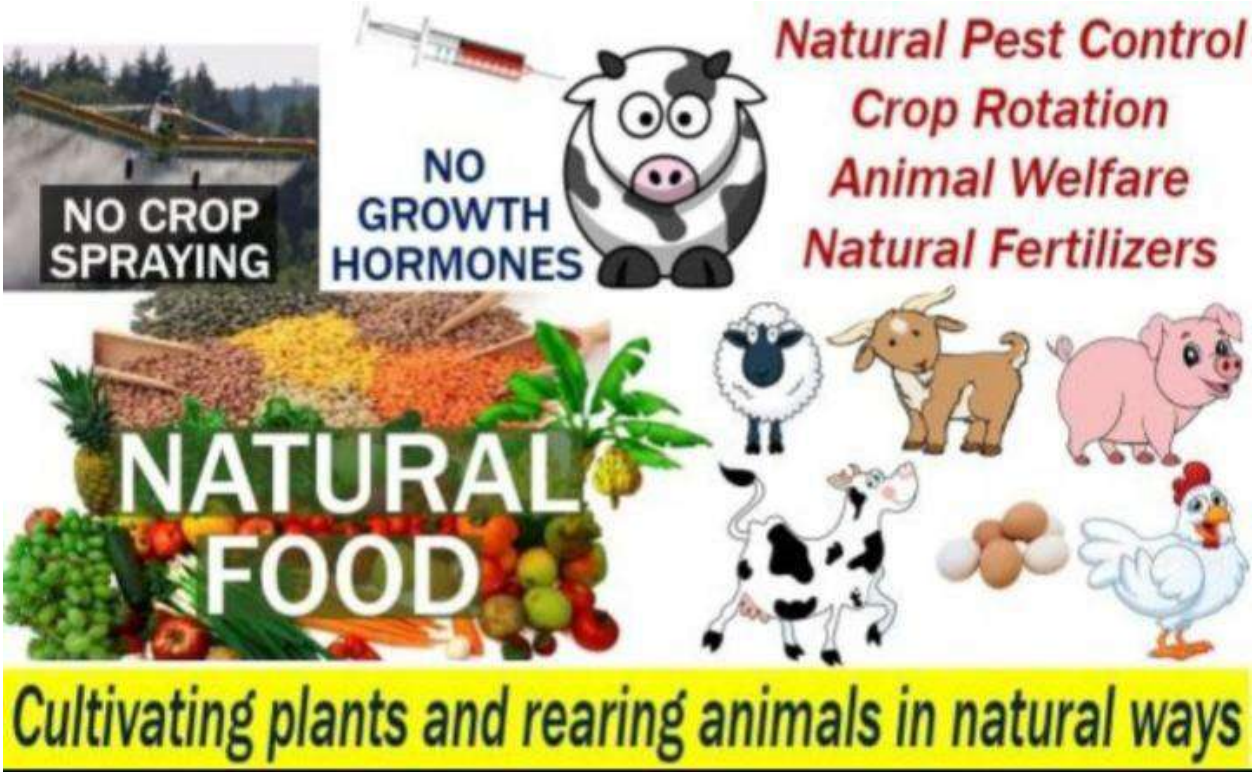
Organic farming is an agricultural system that uses fertilizers of

organic origin such as compost manure, green manure, and bone meal and places emphasis onm techniques such as crop rotation

and companion planting. It originated early in the 20th century in reaction to rapidly changing farming practices

[Benefits of Organic Farming]

Compared with conventional agriculture, organic farming uses fewer pesticides, **reduces soil erosion**, decreases nitrate leaching into groundwater and surface water, and recycles animal wastes back into the farm. These benefits are counterbalanced by higher food costs for consumers and



generally lower yields

. Organic farming **yields more nutritious and safe food**. The popularity of organic food is growing dramatically as consumer seeks the organic foods that are thought to be healthier and safer. Thus, organic food perhaps ensures food safety from farm to plate.

SCOTTISH CHURCH COLLEGE, KOLKATA, WEST BENGAL

NAME - PRAKRITI

COURSE - BBA(HONS)

SEMESTER - 2

CU. ROLL - 223-BBAS-20-1-0009

CU. REG. NO- 223-1211-0575-20

SUB- ENVIRONMENTAL STUDIES

- **TOPIC - 'BAY OF BENGAL' THE HOTBED OF TROPICAL CYCLONES**

BAY OF BENGAL-THE HOTBED OF TROPICAL CYCLONES

Bay of Bengal is the hotbed of tropical cyclones. Bay of Bengal is situated in north-eastern segment of the Indian ocean. It is the world's largest water region with the surface area of 8,39,000 square miles. Rivers include The Ganges, The Jamuna, The Padma, The Irrawaddy, The Mahanadi, The Kaveri, The Krishna, The Godavari and many more glide into Bay of Bengal. The Bay of Bengal is surrounded by India,

Bangladesh, Myanmar, The Andaman and Nicobar Island, Indonesia and Sri Lanka. The Bay of Bengal is known for the famed Bengal region which involves West Bengal and Bangladesh.

Many cyclones have developed in the Bay of Bengal from many years. In the last 4 years, 12 cyclones have formed in Bay of Bengal which ruined the eastern offshore states of India like Amphan that came in May 20, last year harmed the most areas in West Bengal and Odisha. Cyclone Yaas made landfall in Odisha and ruined Odisha and West Bengal.

As Bay of Bengal is located in tropical region, so some of the deadliest tropical cyclone in the world formed in Bay of Bengal. WHY?

Bay of Bengal is the hotbed of worst tropical cyclones because of water temperature in Bay of Bengal which is more suitable for commencing cyclonic activity such as volcanic activities that happens under water and maintains a constant water temperature of about 24-27 degree Celsius.

Inflow of freshwater is also a reason for the cyclones. The Bay of Bengal gets high rainfall with inactive wind and warm air currents around it that keep temperature high all year. The constant inflow of fresh warm water from rivers like Ganga, Brahmaputra

makes it unfeasible to mix with the cooler water below and depressions keep forming.

The other reason for cyclones is the geographical features. The Bay of Bengal is shaped like a manger that is suitable for creating a desired effect of low pressure and high temperature. The water region is surrounded by land in most of the directions ensuring that heat from the land is transferred to the water. The cyclones which are formed in the Pacific Ocean because of lack of land between the Pacific Ocean and Bay of Bengal, cyclonic winds easily come into the bay.

58% of cyclones are formed in the Bay of Bengal due to these reasons. Thus, it is concluded that Bay of Bengal is the hotbed of tropical cyclones in India.

Water Conservation – need of the hour

Water is one of the most important resources for us. It supports life on the earth. There would be no life on earth if there was no water. It is an invaluable resource for us. About 71 per cent of the earth's surface is covered with oceanic water but fresh water constitutes only 3 per cent of the total water. Demand for water is increasing rapidly with the increase of population. As against this, the supply of usable water is limited. Even this limited supply can be depleted by pollution or excessive utilization. Hence, there is an urgent and immediate need for the conservation of water, in order to secure our survival in the near future.

There are some very crucial reasons why water conservation is necessary. For instance a) the over exploitation of underground water has led to the lowering of the water table, b) irrigation utilizes more than 90 per cent of the total freshwater, c) the increase in population results in water scarcity.

Large scale depletion of groundwater is a very serious problem which must be tackled urgently. One of the methods of solving the problem is **rainwater harvesting.** Rain is the main source of water. Rivers, lakes and groundwater are all secondary sources of water. We depend entirely on these sources of water and forget the value of rainwater. Rainwater harvesting means understanding the value of rain and making optimum use of rainwater at the place where it falls. It is the technique of increasing the recharge of groundwater by capturing and storing rainwater locally in sub-surface water reservoirs. Its objectives are to a) meet the ever increasing demand for water, b) avoid the flooding of roads, c) reduce groundwater pollution, d) reduce the soil erosion.

Another effective way of conserving water is by utilizing **watershed management**. The central and state governments as well as some non-government organizations are working on watershed development programmes. One such

programme is *Haryali* which is sponsored by the central government. Its primary aim is to help the rural people in conserving water for drinking, irrigation, fisheries and afforestation.

In conclusion, the need for water conservation is now more urgent than ever. The main problems of water resources are its availability, use, quality and management. We have been dumping all sorts of waste matter into our rivers – industrial waste, municipal sewage, residues of chemical fertilizers and what not? Cities and towns are responsible for generating a lot of sewage. Most of this sewage is dumped into water courses without any treatment. Large scale pollution of rivers is turning them into septic drains posing serious threat to the health of millions of people. Industries have a role in this too. They are also responsible for water pollution. Considering all these factors, it's evident that we are in a sorry state indeed. We abuse this god given resource called water for our own selfish purposes carelessly. Instead, we must all take a collective stand against this and engage in water conservation, to ensure the health and safety of us and the future generations.

ORGANIC FARMING IN INDIA

Introduction **:**

Food quality and safety are two vital factors that have attained constant examinationn in common people. Growing environmental acknowledgement and several food hazards (e.g. dioxins, bovine spongiform encephalopathy, and bacterial contamination) have significantly decreased the consumer's trust towards food quality in the last decades. Intensive typical farming can add harm to the food chain. For these reasons, consumers are quested for safer and better foods that are assemble through more ecologically and authentically by local systems. Organically grown food and food products are believed to meet these exhausting(Rembialkowska, 2007).

In recent years, organic farming as a cultivation process is gaining multiply popularity (Dangour et al., 2010). Organically grown foods have become one of the best choices for both Purchaser and farmers. Organically grown foods are part of go healthy & green lifestyle. But the question is that what is meant by organic farming? (Chopra et al., 2013).

The term 'organic' was first coined by Northbound, in 1940, in his book give permission 'Look to the Land'.

They mentioned that organic produce is not grown with synthetic pesticides, growth hormones, application of genetic moderation techniques (such as genetically modified crops), sewage sludge, or chemical messacre.

Where, standard farming is the cultivation process where synthetic pesticide and chemical messacre are applied to acquire higher crop yield and profit. In standard farming, synthetic pesticides and chemicals are able to eliminate insects, weeds, and pests and growth factors such as synthetic hormones and messacre increase growth rate (Worthington, 2001).

As synthetically produced pesticides and chemical messacre are utilized in standard farming, consumption of conventionally grown foods is dispirit and for these reasons, the popularity of organic farming is increase gradually.

Body of essay **:**

Organic farming is the modern method of domestic farming where farming is done keeping nature and circumstance balanced. In this method, chemical fertilizers and pesticides are not spread or sprinkled in the field. Nutrients are given to the plants by cow dung manure, compost, bacterial manure, crop residue, and minerals available in nature like rock phosphate, gypsum etc. The crop is protected from harmful pests and diseases by friendly pests, bacteria and organic pesticides available in nature.

At the time of independence, grains were bring in from abroad to meet out the need of the people, very little was produced through farming. There was an unparalleled increase in population and the requirement of more food grains is needed. With the introduction of Green Revolution, during this period in between 1966 to 1991 there was an unparalleled increase in food production in India.

Indiscriminate fertilizers, pesticides and chemicals were used to achieve the goal of higher grain production, due to which the toxicity of the land also increased. Many useful bacteria were destroyed from the soil and fertility also decreased.

Due to the lack of balanced fertilizers, production has become immobile, now the proponents of Green Revolution have also started to accept that due to immoderate use of chemicals, many types of environmental problems and human and animal health problems are starting to arise and the fertility of soil is declining, due to which there is an imbalance of nutrients in the soil. Due to decreasing soil fertility, it has become necessary to use more and more organic fertilizers to maintain the level of fruitfulness.

Human use of chemical foods has led to severe diseases like physical disability and cancer. To solve this problem, the modern organic farming opinion has been emerged as a suitable alternative. Since the use of any kind of chemical inputs is prohibited in organic agriculture. Therefore, it is very important to train the farmers about the production of resources, their proper use and organic farming management techniques.

Conclusions **:**

Today ‘s society the word organic have stretched. Organic farms used to simply mean farmers selling their food to the local. The farms were small and private, there was interaction between the consumers and the farmer. The consumers were able to know more about the farmer and how they grew their food. Since the term organic was what grow more sales in the food industry, they started focusing more on the organic label to increase money in the industry. Industrial organic is large farms or corporations that rely on monoculture to focus on growing organic food. Since they are corporations and the food is given out to supermarkets to sell there is no communication between consumers and farmers, consumers do not know where their food is To consumers, it ‘s scary how industrial farming can use methods such as growth hormones to get a cow to grow quick and big because a cow cannot grow at a fast pace without drugs. In order for the meat to be organic the consumers want the cow to be raised naturally as possible meaning growth hormones are definitely not natural and not acceptable. If farmers want to sell organic meat, cows should be fed regular food without any growth hormones to get them to grow. Never will a cow in nature be given growth hormones, only a human would be able to give cows growth hormones. Using drugs to grow cows to the desired size in a matter of time cost farmers less time and money, they make quicker money off of selling fast and cheaper meat. When consumers look for organic meat they are showing that they don’t support growth hormones they are into meat that was raised naturally, growth hormones are a selfish. Consumers buy organic meat because they do not support industrial agriculture. In industrial farms, farmers care more about quantity than quality because having more livestock is more money to them. If it was about quality then livestock should be living in a free range environment but instead, it’s about quantity so livestock animals are packed and they are forced to live in small confined areas or even caged. Consumers look for the organic label because that means they support animals that were raised free range and cage free. They want the food they are going to eat coming from an animal that had access to outdoors to walk around or see sunlight. By buying organic, consumers show the food industry that they are against the act of having animals raised under stressful and inhumane conditions to become meat. It’s cruel and bad to keep animals in small confined spaces or trapped in cages because they can get ill.

ORGANIC FARMING IN INDIA

INTRODUCTION

Organic farming is a type of production system which avoids use of synthetically compounded fertilizers, pesticides, growth regulators, and livestock food additives. To the maximum extent possible organic farming system rely upon crop rotations, use of crop residues, animal manures, , green manures, off farm organic wastes, bio fertilizers, mechanical cultivation, mineral bearing rocks and aspects of biological control to maintain soil productivity to supply plant nutrients and to control insect, weeds and other pests.

Organic methods can increase farm productivity and knit small farm families into more sustainable distribution networks leading to improved food security ,if they organise themselves into marketing and production.. Organic Farming is the best way of promoting food security.

Thus, the main objective of organic farming is to ensure good health of the soil through the use of organic waste and bio fertilizers.

ORGANIC FARMING METHODS

In order to certify organic farming, there are certain requirements

Such methods are:

CONVERSION PERIOD

Sometimes when the farmers are practicing conventional farming and the field is not fully organic then the farmer should always have a conversion plan. On an average the conversion period for perennials is three years and for annuals is two years.

MIXED FARMING

This is a type of agricultural farming where there is not cultivation of crops but also animal husbandry, fish farming, poultry management. Thus in other word mixed farming is the integration of animals into the farming system into ensure soil fertility and crop yield.

CROPPING PATTERN

Since soil is a very important part of organic farming thus it is very important to maintain the health of the soil by effective crop rotations. Vegetables like Cabbage and cucumber are intercropped with Maize Thus these types of methods ensure that the nutrient value of the soil is not lost.

PLANTING IN ORGANIC FARMING

Sometimes Farmers forget that they must plant what the weather allows. Otherwise the species chosen for cultivation must be adapted to the soil. Pollen culture seeds and transgenic plants are not allowed.

MANUAL REQUIREMENTS

The fertility of the soil must be done through the use of green manure crops. These must be of animal origin. The crop residues must be recycled back to the soil directly. Manures like vermin-compost, sheep penning, compost etc are not allowed. The products used for manure organic fields are:

1 .Sodium Chloride

2. Wood shavings and sawdust from untreated wood.

PEST AND DISEASE MANAGEMENT

“Being Organic” as the term suggests the uses of pesticides is prohibited.

Plant based repellents, soft soap are permitted for use in farms. If necessary the agency must be consulted and the following products must be used:

1. Mineral Oils

2. Plant and animal preparations

CONCLUSION

Organic Farming produces more safe and nutritious food. The popularity of organic food is growing rapidly. The organic farming process is an eco-friendly process. It keeps the soil healthy and also promotes the heath of the consumers. Presently, Organic Products are the fastest growing market all around the world including India. Organic Farming promotes the health of citizens of the country and economic growth of the nation by income generation holistically.

At present, India is the largest organic producer. With this type of vision we can say that Organic Farming will build nutritionally, economically healthy nation in future.

WATER CONSERVATION - NEED OF THE HOUR

Water is life. Water is a natural resource. Earth's natural resources are depleting at an alarming rate due to various reasons like increase in human population ,rapid industrialization and urbanization. About 70% of total geographical area of the earth consists of water, there is plenty of water available but human have access to small portion. There are different reasons why water scarcity is occurring and also different ways to conserve water we will discuss them below.

Water scarcity means inefficient fresh water resources to meet the human and environmental demand. Access to safe drinking water, is a priority for global development. There are basically two kinds of water scarcity:-physical and economic. There are plenty of reasons why water scarcity is occurring some of them are given below:-

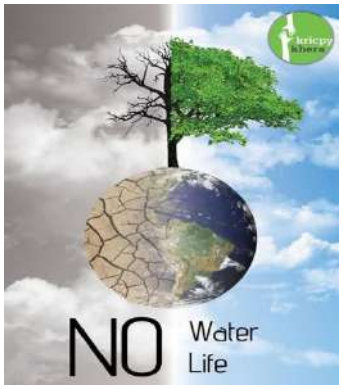
1) **Climate Change**:- Human are changing the climate making dry areas drier and precipitation more variable and extreme. Temperature of earth is increasing gradually because of climate change.

2) **Increase In Population**:- It is a simple equation that as population is increases the demand of water is also increases. The world's population is now 7.5 billion and still increasing at a greater pace, how can planet satisfy their thirst?

3) **Depletion Of Groundwater**:- It is found that about 54% of ground water wells are decreasing. Groundwater is extracted daily for farming, drinking, industrial process etc-often at dangerously unsustainable rates.

4) **Poor Water Infrastructure:-** In many places of the world, water infrastructure-pipes, treatment plants and sewer system is in a state of disrepair. In United States it is found that around 6 billion gallons of treated water are lost per day from leaky pipes alone.

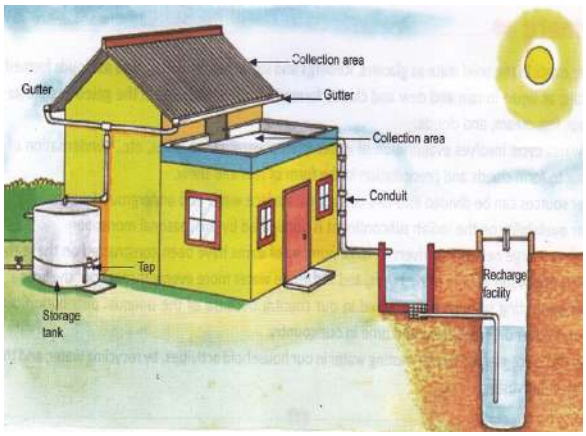
5) **Ignorance Of Natural Infrastructure**:- Plant and trees plays a important role in replenishing groundwater, without them rainfall will slide across dry land, instead of seeping in to the soil.



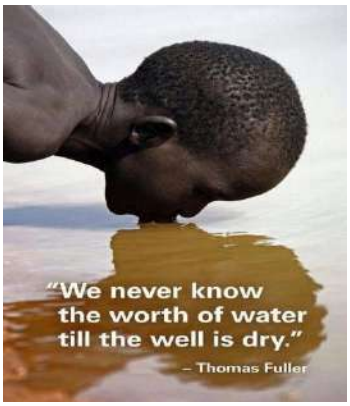
6) **<u>Wastage Of Water</u>**:- Polluting of fresh water is at alarming rate, moreover 80% of worlds waste water is discharged back without further treatment or reuse.

7) **<u>Wrong Price Of Water</u>**:- In the whole world water is undervalued. Water value does not reflect the true ,cost of service, transportation, infrastructure to its treatment and disposal. This lead to misallocation of water.

After air, water is most important element for preservation of life. Water is a finite commodity which if not managed properly will result to shortage in future. There are lot of ways to conserve water, some of them are given below:-



- Use Ferro-cement tanks.
- Install water saving shower heads.
- Turn off tap, while brushing or shaving.
- Check faucets and pipes for leaks.
- Use all kind of automatic machines only in full load.
- Plant drought resistant plant and trees.
- Make fixed time of gardening.
- Collect and store rainwater.
- Practice rooftop rain water harvesting.
- Practice smart lawn watering system.

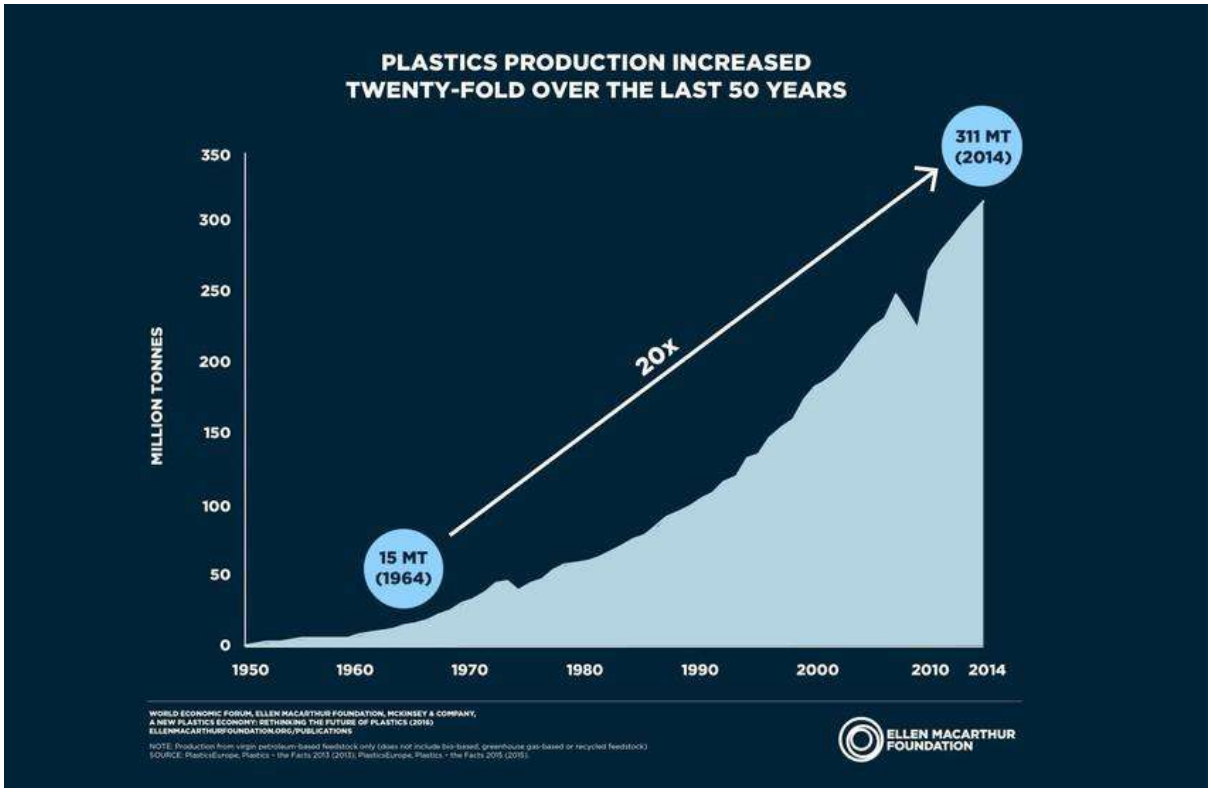


Without substance like water we cannot imagine our life, but still it is being ruined at a rapid pace. Conserve water every drop counts. Don't flush most valuable resource of our planets, it takes a lot of blue to stay green. If we don't learn to conserve water, we will all be fish out of water. Thousands have lived without of love, but not one without water, so save water save life.

BAN ON PLASTIC: ENVIRONMENTVS ECONOMY

223-BBAS-20-2-0019

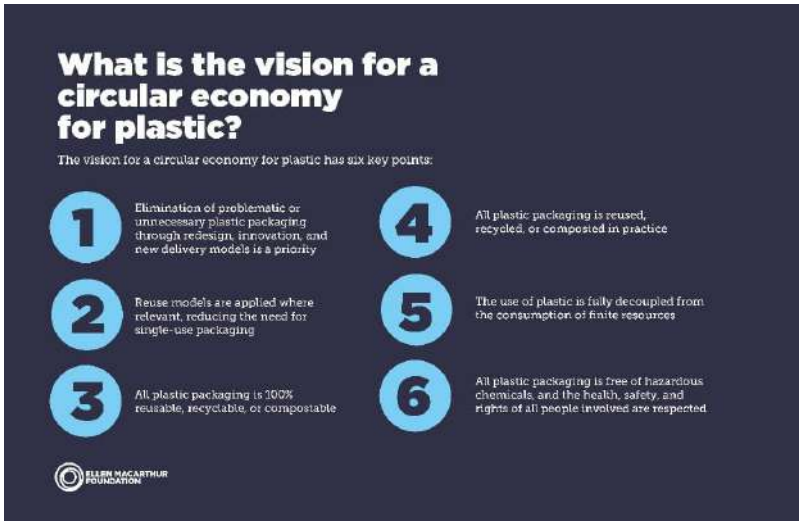
It is one of the most controversial yet necessary topic of decision. the results are totally based on hypothesis and one can simply overlook the huge impact on human kind being reluctant to see the other way. then on plastic is total digit in support to the save the environment yet Without Plastic there is a good chance the world economy will shatter or somewhat deplete. Plastic is one of the most vastly used material in our day to day life. Banning plastic is boon for environment but bane for economy.



As we clearly know, it takes 500 to 1000 years to decompose hence making it a permanent pollutant. Plastic can only be decomposed while living it in open sunlight. Its disposal is always tricky, it prevents seepage of water when left in the ground providing breeding grounds for all kinds of disease causing more than 1 million Marine animals and birds are killed annually, directly or indirectly. Global plastic demand stands in excess of 300 million tons each year. Plastic is no doubt a harmful what pollutant, as its seen land water ground water and

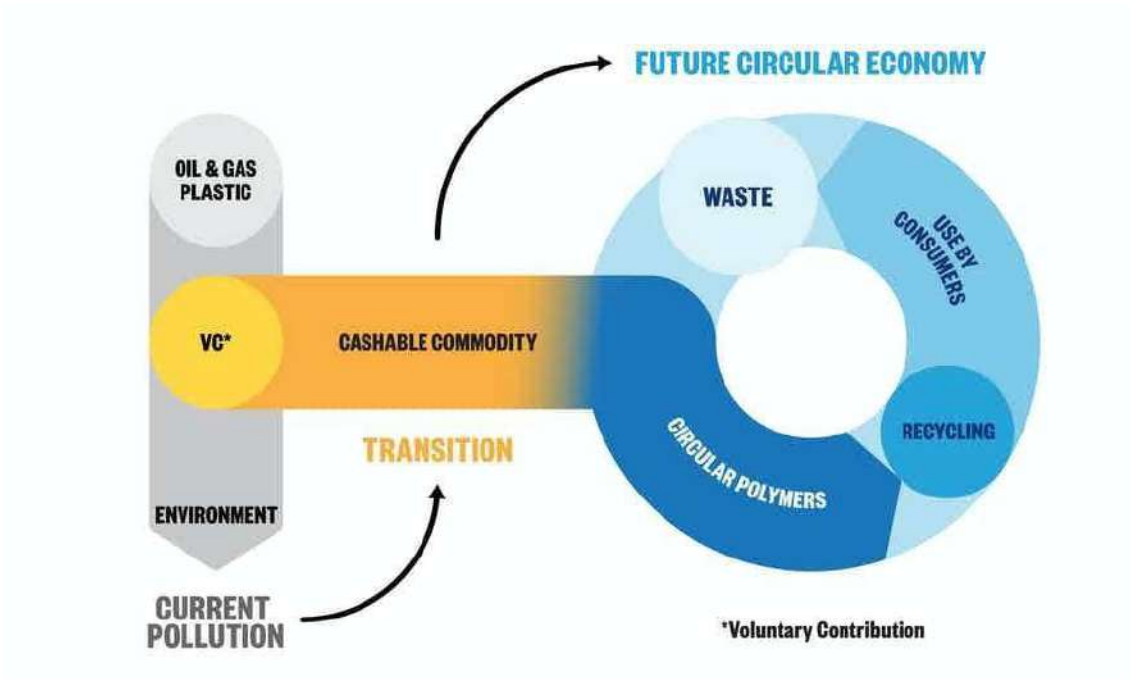
air polluting single-handedly. Its variants such as PVC, phthalates, ethylene dichloride, lead & cadmium are extremely toxic or poisonous substances.

But banning is not kids play, plastic offers cheap, hassle-free lightweight, long duration and air tight packaging. Refusing to use it will make packaging bulky and expensive. Pre-branded poly bags with logos are used in every businesses other way the cost of this simple thing will be way more, affecting other industries to. The pricing of product will highly differ than their previous state due to this. Global market of plastic is increasing each year by 3%. It has a global market of 1.2 trillion dollar approx.



Yet, possible solutions are handful at the moment simple to understand but very difficult to

withhold. We need to move to greener alternatives, slowly but steadily instead of implementing its ban globally we should begin in personal level, gradually decrease using it. We need to take global initiative on government and un levels. Recycling is what sounds like the most Sane way out. There is no way to deny plastic is a necessary evil but only together we can prevail.



THE END

Water Conservation _ Need of the hour

Introduction

Water is one of the precious natural resources; each and every living thing needs water to survive. Even though 97 per cent of the earth is surrounded by water, only 3 per cent is fresh and two thirds of this is frozen, the remaining unfrozen was found mainly as ground water ,and a small fraction present above the ground or in the air. The usage of water across various sectors in India is on the rise. Therefore rit's suitable management is essential to protect the water environment and to meet the increasing water demand in the future. Irrigation perhaps the most important input in the agriculture production compared to all other key inputs namely, seed and fertilizer. Intact this inputs cease to realize their full benefit unless covered with irrigation. However, the past few

decades has seen an increase in demand amongst various water using sectors putting enormous stress on the natural resource.

Body of the essay

- The conservation of water resources is a need of hour because: We know **that the total composition of water is around 70% but the availability of freshwater resources is only 2% .** So water is one the main valuable resources and must be used judiciously.

Goals of Water Conservation

1) **Sustainability:** To ensure availability for future generations, the withdrawal of freshwater from an ecosystem should not exceed its natural replacement rate.
2) **Energy conservation:** Water pumping delivery and wastewater treatment facilities consume a significant amount of energy. In some regions of the world over 15% of total electricity consumption is devoted to water management.
3) **Habitat conservation:** Minimizing human water use helps to preserve fresh water habitats for local wildlife and migrating water flow, as well as reducing the need to build new dams and other water diversion infrastructure

Methods of Water Conservation

- Protection of water from pollution
- Redistribution of water
- Rational use of groundwater
- Renovation of traditional water sources
- Use of modern irrigation methods
- Increasing forest cover

Conclusion

In many cases groundwater or surface water may be unavailable for drinking water. The groundwater level may be too deep, groundwater may be contaminated with minerals and chemicals such as, arsenic or salt, surface water may be contaminated with faces or chemicals. In these cases, rainwater harvesting can be an effective and low cost solution

NAME OF EXAMINATION:

BBA SEMESTER II EXAMINATION

SEMESTER:

SECOND

UNIVERSITY ROLL NUMBER:

223-BBAS-20-2-0020

UNIVERSITY REGISTRATION NUMBER:

223-1111-0569-20

SUBJECT:

ENVIRONMENTAL STUDIES

BAN ON PLASTICS:

ENVIRONMENT VS ECONOMY

Use of plastic over the last three decades has become an essential part of life and no doubt is contributing to the growth of the economy at the cost of the environment . Nowadays we can see that plastic is seen in all the domains of our life be it storage, packing , electronic items , furniture . Assuming our lives without plastic is next to impossible . Plastics are one among the simplest substitutes for wood , as it helps in reduction in deforestation and thus plays a vital role in the rise in afforestation which leads a helping hand towards our environment .

But it's not it as every conflict has got a diverse side and effects , example : when it comes to disposal . Debate often arises whether plastic should be banned or not. Ideally yes, it should be outlawed but practically, it is beyond the bounds of possibility as it would take more than a decade to get rid of plastics or to recycle it .

Improper disposal of plastics poses a number of problems to our environment. One of the biggest threats about plastic bags is that they threaten the environment , plastic bags pollute the land and water and since they are lightweight

,plastic materials can travel long distances by wind and water. Besides these material bags are made from non-renewable resources . The majority of plastic bags are made of polypropylene, a material derived from petroleum and natural gas. Both of them are non-renewable fossil fuel-based resources which contribute to global climate change . The waste from the plastic industry is thrown directly into the water bodies, hence affecting the chemical properties of water, causing hazards on a vast scale .

Whereas plastic ban can also hurt the economy is various ways : Firstly , it would have a large impact on trade as the plastic industry in the country employs about 40 lakh people which include more than 30,000 processing units. Around 85-90 percent of which are small and medium - sized enterprises. A ban on plastics could easily affect the industry, posing questions on trade and employment.

Secondly , Plastic Ban might harm our economy because plastic offers inexpensive, hassle free and air tight packaging. Paper bags and cloth bags cost quite a lot and they are not durable also. Most of the companies divulge custom made plastic bags that act as brand features with company logos, contact information etc . Printing on pre-made plastic bags costs less compared to cloth bags. Thus, the ban on plastics won't only affect the plastic industry but other industries also.

To conclude this , we have to ensure minimal use of plastics on a private level and at an equivalent time moving towards greener alternatives on an industrial and global level. The primary step being enforcing stricter recycling is the best option for plastic, methodology and systemization for recycling is slow. While the production model of plastic is very huge and uncontrollable, the numbers of recycling plants are very less.This vast gap must be closed .

Next, we will consider greener methods which can substitute plastic which will not cause the consumers much discomfort. Because without providing a suitable alternative for plastics, if plastic is banned, it's more likely to end in illegal marketing and disposal of plastics which can only harm the environment further.

Lastly , we should consider that plastic has evolved into a kind of necessary evil in our lives , continuing the earth's system of natural resources is no longer an option . Government should educate the public and trade bodies to achieve the benefits of the ban as it is time that we shift to alternatives of plastics. While India has pledged to ban soleuse plastic by 2022, other countries, companies are also taking proactive steps to curb plastic contamination and its effect. During this century we cannot possibly allow a financial gain over an environmentally unsustainable.

NAME OF EXAMINATION:

BBA SEMESTER II EXAMINATION

SEMESTER:

SECOND

UNIVERSITY ROLL NUMBER:

223-BBAS-20-2-0025

UNIVERSITY REGISTRATION NUMBER:

223-1111-0616-20

SUBJECT:

ENVIRONMENTAL STUDIES

BAN ON PLASTICS

ENVIRONMRNT VS ECONOMY

The Use of **plastic** over the last two decades has become an essential part of life and no doubt is contributing to the growth of the economy at the cost of the environment.

Plastic is seen in all domain of our life be it edible material packets, storage packing, furniture, electronic items, plastics are so widely used that assuming our lives without it is next to impossible It is one among the simplest substitutes for wood, thus reducing the cutting of trees and helping the environment On the other hand, every now and then it poses problems too, example: when it comes to disposal. Debate often arises whether plastic should be banned or not. Ideally yes, it should be outlawed but practically, it is beyond the bounds of possibility.Improper disposal of plastics poses a number of problems to our environment. Littering plastics in open spaces creates an unhygienic environment, it acts as a breeding ground for bugs and mosquitoes that cause ailment like malaria, dengue. Plastics don't undergo degradation, hence it stays within the soil for several years, which affects the quality of soil. When plastic artifacts enter the drainage and sewerage system, they block the pipelines and thus cause waterlogging. The improperly thrown away food bags, when eaten by animals, cause stomach and bodily organ related ailments which even lead to suffocation and end of life.

Plastic Ban might harm our economy because plastic offers inexpensive, hassle free and air tight packaging. Paper bags and cloth bags cost quite a lot and they are not durable also. Most of the companies divulge custom made plastic bags that act as brand features with company logos, contact information etc. Printing on pre-made plastic bags costs less compared to cloth bags. Thus, the ban on plastics won't only affect the plastic industry but other industries also. Global marketplace for plastic products is growing at around 3% per annum reported by, The Business Research Company Plastics Product Manufacturing Global Market 2017. Banning plastics will bring down multi billion -dollar manufacturing companies and thus affect the economy and subsequently the share market.

What we will ensure nonetheless is minimal use of plastics on a private level and at an equivalent time moving towards greener alternatives on an industrial and global level. The primary step being enforcing stricter recycling laws and banning inferiority plastics. Next, we will consider greener methods which can substitute plastic which will not cause the consumers much discomfort. Because without providing a suitable alternative for plastics, if plastic is banned, it's more likely to end in illegal marketing and disposal of plastics which can only harm the environment further.

To **conclude** this, it is safe to say that like any global problems affecting the environment and the people all over it is not easy to find a particular solution so we can only trust time to see what works and what doesn't and in the meantime find alternatives which are biodegradable and instead of dumping reuse and recycle and spread awareness about its importance, in this way you can contribute to maintaining nature's sanctity. It's time that we shift to alternatives of plastics. While India has pledged to ban sole-use plastic by 2022, other countries, companies, are also taking proactive steps to curb plastic contamination and its effect. During this century we cannot afford any financial gain which isn't environmentally sustainable.

Introduction

Water conservation is the way of using water efficiently to reduce useless water usage.
Water conservation decreases energy use and can save household money. Reducing use overused water appliances and also, cutting down on time showering and turning off ythe faucet while not engaged with is also a good practise of efficient conservation of water.

Although 71% of the Earth is Covered up with water, only 3.5% is portable water which means living beings can intake it while the other 96.5% is compiled with Ocean Water. As Ocean Water is way too salty to be drinkable there are methods to extract the fresh water from it but practises are slow and time consuming .
Therefore, the peak source of portable water is Glacier , Ice Caps and GroundWater.

Reasons to Conserve Water

- **It minimizes the effects of drought and water shortages** :-

Even though the necessity for water is normally boom to population and industry boom, the supply we've remains same. while water finally returns to Earth via the water cycle, it isn't always back to the identical spot, or inside the equal quantity and pleasant. through reducing the amount of water we use, we are able to better guard towards future drought years.

- **Guarding against rising costs and political conflict :-**

Failing to conserve water can eventually cause an absence of an adequate installation, which may have drastic consequences. These include greater costs to overall lifestyles.

- **Helping preserve the environment** :-

Reducing the water usages reduces the energy required to process and deliver it to places , which, in turn, helps to cut back pollution and conserve fuel restheces.

- **Making water available for recreational purposes** :-

it isn't just swimming pools, spas, and golf ctheses that we've were given to present a few idea to. tons of the freshwater restheces also are used for beautifying the surroundings—watering lawns, timber, flowers, and vegetable gardens, likewise as washing automobiles and filling public fountains at parks. Failing to preserve water now can imply dropping out on such uses quickly.

- **Bulding of a safe and clean community :-**

Firetrucks, hospitals, petrol pumps, cleaning services, health clubs, gyms, and restaurants all require large amounts of water to help in continuation of these services to the people. Reducing the usage of water now means these services can still be provided.

Few Ways to Save Water at Home

There are a few simple things you can do at home to ease the burden on your local water supply and save money in the process :-

There are some simple stuff you can do reception to ease the burden on your local installation and save cash within the process :-

1. close up the tap-water while brushing your teeth.

2. Only run the washer and dishwasher when having a full load.

3. Use an occasional flow shower head and tap taps.

4. Fixing leaks and drip pipes.

5. Rainwater Harvesting could be a good way to avoid wasting rain water..

6. Monitor your water usage on your water bill and ask your regime a couple of home water audit.

Conclusion

These water saving measures can have an enourmous amount of effect in our neighborhood people, defensive the water in our local water machine. it is imenormous effect on water call for global. while saving cash, we even have the danger to set off concerned portant that effective provisions for saving water are created immediatly.

Can Global Warming be reversed?

Global warming is the most talked about topic in today's contemporary world. It effects human and both plants and animals in a huge way that lead to the endangered species of many plants and animals. Reversing or even slowing down global warming is a huge step for mankind by looking at our present environment. But it doesn't mean that it is impossible due to the advancement in technology and adapting new ways of conserving ecosystem. There are many possible ways that global warming could be slowed oreven reversed, but it could be long process because global warming cannot be stop overnight and might take a few decades too. We will be taking about various ways in which global warming can be slowed or reversed. When we look back at the earlier stage of the earth evenbefore humanity exists and compare to today's world, the condition of the earth has changed drastically. This change is caused naturally but the most of it is due to the sudden rise in human emissions of heat (carbon). There are lot of ways that cause global warming, humans are the most responsible for this cause.

The earth's temperature rises considerably high due to the burning of fossils fuels, cutting down forests and farming livestock. This results in the enormous rise in the amount of greenhouse gas. The ozone depletion is one of the main reasons of global warming, the main cause of ozone depletion and the ozone hole is the manufactured halocarbon refrigerant, solvent, propellent and foam blowing agents like chlorofluorocarbon (CFC), HCFCs, halons. Variation of the sun's intensity, industrial activities, agriculture activity, deforestation are also the cause of global warming. So far, we have done a good amount of process in conserving ecosystem, but that is not enough. Elon musk have developed a great venture that is electric car which run nothing else but electric with a solar charge. Inventions like this greatly help in conserving the environment. Without action taken it is true that in the next couple of decades, earth would be scorching hot that it would be inhabitable for humans and other living organism to survive. To stop this from happening we could conserve a lot of energy coming from the solar by introducing solar panels, we could conserve burning of fossil fuel by using electrical energy, construction of dams and wind mills also helps a lot in the conservation of global warming. Industrial waste and smoke they produce can be reduced by developing new ways of technology. Planting more trees can also greatly reduce the temperature of the earth. Organizations should also introduce new ways and practice of recycling waste materials.

However, we can reverse global warming if we work together, we cannot bring back what was lost but we can always change the future. Many organisations have started different programs and steps to reverse global warming, it might not be a quick process but it is possible. There is a time lag between what we do and when we feel it, but that lag is less than a decade. So far, we have done a good amount of process in conserving ecosystem, but that is not enough.

“Bay of Bengal” the hotbed of Tropical Cyclones

Introduction

Bay of Bengal is well known for its violent nature among the sailors. Unlike the Pacific, the Bay of Bengal (also known as “bangal ka khari”) is one of the most violent and strong seas of the globe. From geographical point of view it is located on the eastern side of the Indian subcontinent. From Bay of Bengal the Indian subcontinent receives the bulk of of its monsoon. The Bay of Bengal branch of the south west monsoon provides rain to the Indo Gangetic plain which forms the backbone of the Indian Agriculture. However in the recent times the Bay of Bengal is also becoming the hotbed of another thing – tropical cyclones.

Body of the essay

Tropical cyclones were a common thing in the eastern cost of the Indian sub-continent. However their increase in frequency has made them a thing of concern. In the recent times there are nearly 4 to 5 cyclones which are hitting the eastern cost every year. The cyclones are so strong that they are categorized as “super cyclones”, the one which hit the Odisha coast in 1999 and caused devastation to life and property. However in the recent times there are more and more of such things i.e. cyclones. These things i.e. tempests are originating from the Bay of Bengal and bringing widespread loss and miseries to the Indian sub-continent. Eastern states i.e. states located on the eastern coast like Tamil Nadu, Andhra Pradesh, West Bengal are the worst affected from the cyclones. These cyclones are causing floods, landslides, excessive water pressure on the dams leading to more floods and soil damage. Besides, the above mentioned states the country Bangladesh is also very much affected, moreover it is not financially developed to provide relief measures to the victim of such catastrophes. However the causes for such catastrophes are not immediate and instant rather they are are happening because of some long drawn processes. The most obvious reason which is global warming which is causing the sea i.e. the Bay of Bengal surface to heat up and form more clouds and bring rain to the adjoining lands. It is due to the high pressure and low pressure prevailing in the area. Another reason is the heating up of the land surrounding the Bay of Bengal. This is mostly due to the decrease in the tree cover and rise in concrete surfaces due to rapid urbanization is causing huge areas of the land to heat up which is attracting low pressures which is becoming stronger to form cyclones and super cyclones. The consequences are very grave for such incidents. A considerable amount of the GDP of the state and central government is lost every year for relief measures and for

rehabilitation measures. This is the economic perspective. From the environmental perspective we can see trees are uprooted by storms. Moreover there is degradation of Sunderbans which is a habitat hotspot and famous for its Royal Bengal tiger habitat is also degraded. So this needs to be conserved.

Conclusion

The only way to cope up with this problem is – afforestation, we need plant more and more trees which will withheld the soil particles and prevent it from degradation. The tree cover will also aid in reducing the excess heating of the land surfaces thus in turn reducing the chances of forming a low pressure and subsequently into a cyclone or super-cyclone. The mangrove forest, the one in the Sunderbans is also need to be conserved. Promoting concepts like green architecture, rain water harvesting, recycling of all kinds of water, making absorption of water in the soil surface including grass and fields to protect and conserve the ground water table are the need of the hour to protect the ecosystem and to provide a better life for the generations to come.

Name of the Examination:

Business Administration Honours II semester

Semester: Second Semester

University Roll Number:

223-BBAS-20-1-0005

University Registration Number:

223-1211-0559-20

Name of the Subject:

Environmental Studies

WATER Conservation – need of the hour

Water is one of the nature's priceless gift to mankind. It covers over 70% of the Earth's surface , makes up probably 60% of the human body and we have to conserve water because despite the fact there is so much of it around but only a tiny fraction of the water is safe for human consumption.

Why water conservation is so important?

Water is the most important life source to us on Earth. We need water to fulfill all the actives of our life like drinking, eating , bathing etc.

The Water Crisis in India

1. Now days India has a major water problem. Water Resources Group estimate that if we continue to consume water as per the current rate then in the year of 2030 India will have only half the water it needs.

2. Closely India's 80% of freshwater is used in agriculture.

3. World's probably 25% of ground water India draws.

4. India's 60% districts announced that they have crisis of ground water.

5. India's huge depletion of ground water keeps also impact our drinking water.

6.India's water Crisis has a notable economic price.

7. This country is ranked 120 out of 122 countries, in the World's global water quantity index.

“Say a big no to waste of water”

How we conserve water?

1. We have to use bucket instead of, using bath tub and shower during bathing.

2. Dishwashers , washing machine should be filled fully earlier using them.

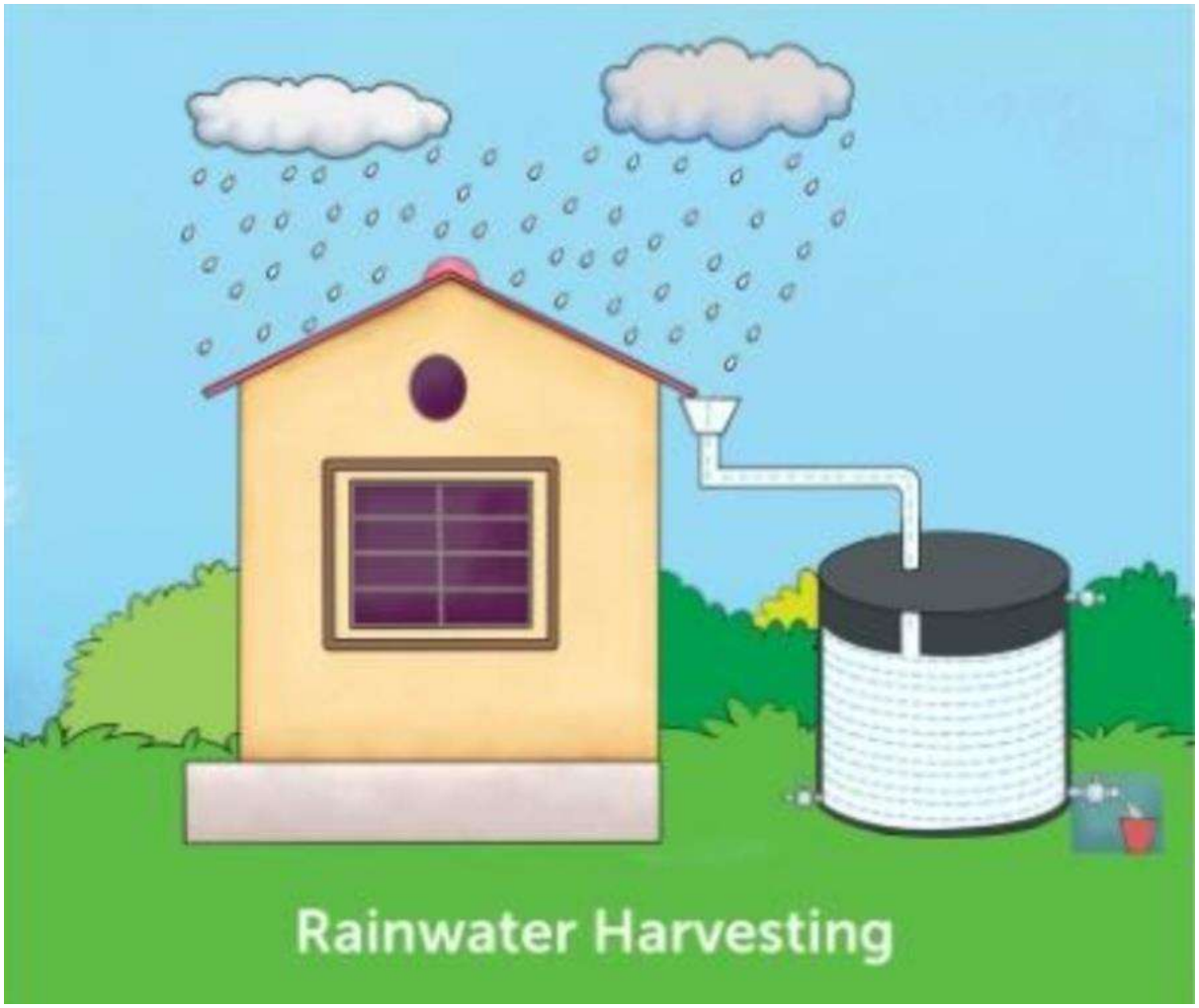
3. We should reduce the use of electricity as much as we can as the power plants swallow tons of water.

4. We should plant more tress. Our gardens need also huge trees excepting the flowering and ornamental plants.

5.We should water plants soon in the morning and evening because in these timing fewer water is gone due to evaporation.

6.Water that is used for washing vegetables , we can water the plants with them.

7. Rainwater harvesting has to be come mandatory to water conservation.



8. We need not use pipes for cleaning purpose , first we can clear the dust and then wipe with cloth or mop.

9. We should turn off the tap during brushing , washing face and utensils.

10. Our farmers need invention to advanced methods of irrigation , so that they can use less water for farming purpose.

11. The imposition of powerful penalties for industries let go untreated effluents , in the fresh water sources is the need of the hour.

To conclude, We can say that everyone has to be aware to water conservation , so that we can get sufficient water even in the next coming years. Also all the living creatures and the vegetation on Earth can live healthy and happily.

“Don't forget to save water,
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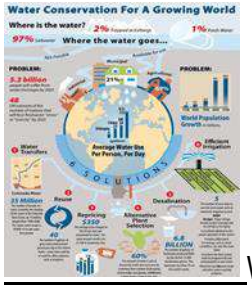
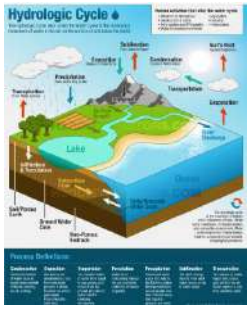
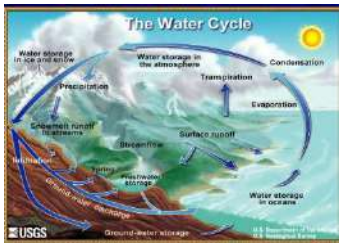
WATER CONSERVATION- NEED OF THE HOUR



Water conservation refers to the preservation, control and development of water resources, both surface and groundwater and prevention of pollution. Water conservation encompasses the policies, strategies and activities made to manage water as a sustainable resource, to protect the water environment, and to meet current and future human demand. Water is the foundation of our life and if we do not work together towards conservation of water, this planet will meet its ultimate demise soon. The industries consume a great deal of water on a large scale and water is a non-renewable natural resource. There are significant health issues for human beings because of the shortage of adequate water or intake of polluted water. Water conservation protects our ecosystem. Less water usage means more savings. Conserving water also saves energy

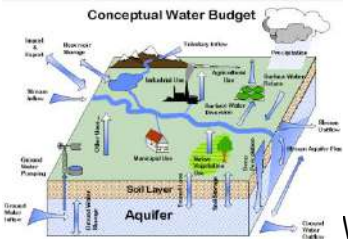


Water conservation includes the policies, strategies and activities to manage freshwater as a sustainable resource to protect the water environment and to meet current and future human demand. The water found underground in the cracks and spaces in soil, sand and rock is called groundwater. The underground layer of water bearing permeable rock is called Aquifer. It is used for domestic, household, industries and agricultural purposes. The water located on top of the earth's surface such as rivers, lakes, streams, wetlands and reservoirs is called surface water. It participates in the water cycle. It is used for the irrigation, wastewater treatment, industrial uses, hydropower and an important source of drinking water.



Water gets polluted due to Chemical fertilizers and pesticides used in agriculture to improve crop yields. Geogenic component (Arsenic) is a high profile problem and occurs naturally due to the use of deep tube wells for water supply. It mostly affects the drinking water. Groundwater can be polluted by untreated waste discharge from the industries or where there are systematic failures of the onsite sewage disposal system. So, the untreated sewage may seep into the groundwater system which leads to contamination of water. Groundwater pollution with pathogens and nitrate can also occur from the liquids infiltration into the ground from onsite sanitation systems such as septic tanks, depending on the population.

Social initiatives like Save Water helps to spread the awareness of saving water. Watering the plants and trees from the water left in our glass is the best utilization of wastewater. Washing vegetables and fruits in utensils instead of in a running water tap saves a good amount of water. Drip irrigation system saves a lot of water as compared to the traditional flood irrigation system. Rainwater harvesting is an effective way to replenish the groundwater level. If one finds any water leakage in their locality, they should report it immediately to the concerned authority. Redistribution of water, rational use of groundwater and renovation of traditional water sources, increasing forest cover, change in crop pattern and proper flood management needs to be implemented immediately. Reducing water loss through drainage, contour farming and control ploughing and some effective use of soil water reserves.



Wasting water has become a significant environmental problem, both at consumer and industrial levels. It has become important for humans to follow certain methods to reduce the wastage of water and conserve it. Instead of waiting for somebody else to start conserving, we as individuals should take the first step towards conserving water.

Name of the Examination:

Business Administration Honours II Semester

Semester: Second Semester

University Roll Number:

223-BBAS-20-2-0006

University Registration Number:

223-1111-0572-20

Subject: Environmental Studies

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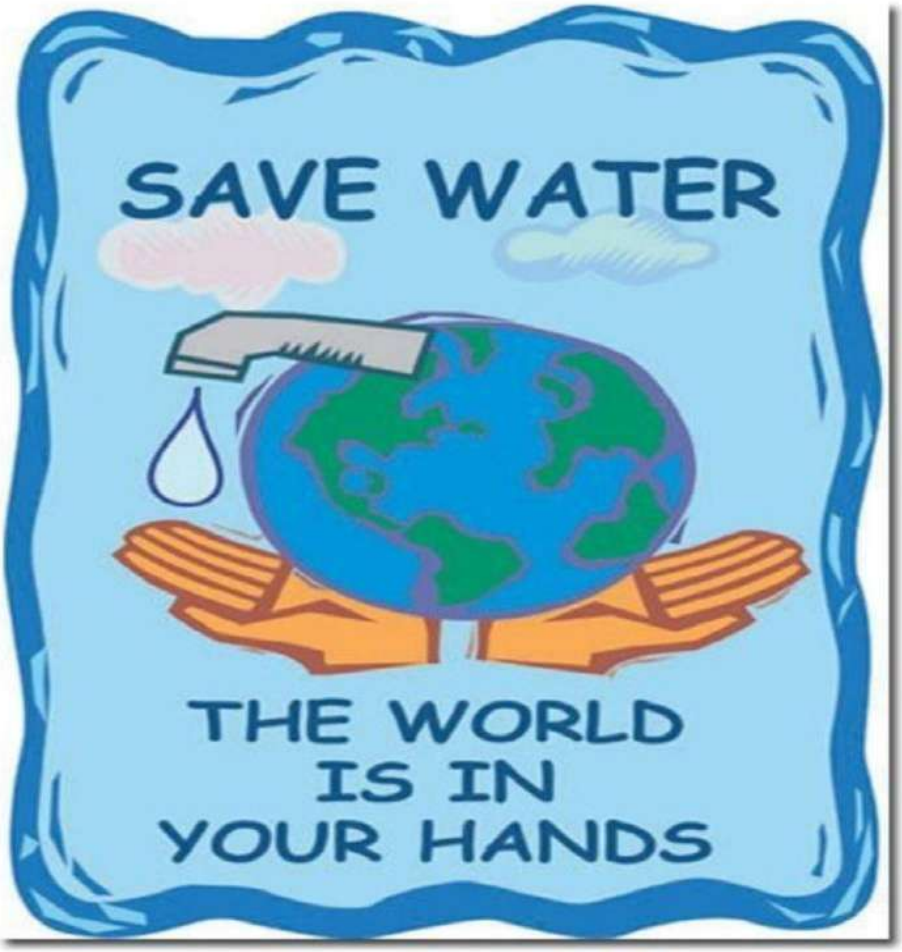

“Don't forget to save water,
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WATER CONSERVATION

The next morning you wake up and find that there is no running water in the shower. So, you go to the kitchen and find that there is no water in the kitchen tap again. This lasts for a few hours and you realize that the water from the earth has disappeared in a mysterious way. What was to happen? And no one is to blame but us. It's hard to imagine, isn't it? So let's not waste time and start saving water at this very moment. Let's learn about water conservation.

Water, Water, Everywhere

Nature has provided us with valuable and valuable resources and water is one of them and it is our basic need. All living things need water in order to survive and to survive and carry out their vital life-sustaining processes. Our planet, Earth, has three numbers - four of its water-covered surface and only one-fourth have a large population. Life comes from water. Even today, millions of years later, water continues to be an essential requirement for life.

Water Sources

Among the many waters, 97% are found in the sea and the ocean. The rest, about 3% is found in rivers, lakes, ponds, streams, etc. Air also contains water.

The Importance of Water

All plants, animals and humans need water to stay alive. But humans are more dependent on water than on plants and animals. We need water for many other purposes such as:

We need water for daily activities such as bathing, cleaning, drinking, washing, etc.
Water helps to spread seeds and fruits.
It helps what is needed for irrigation.
All industries use a large amount of water for cleaning, heating, cooling, power generation, such as raw materials, etc.
Water used for transportation and recreation also.

Water has the characteristics of humidity and humidity. These structures make it useful for digestive processes, blood circulation and digestion. Water also helps regulate our body temperature through the process of sweating.

Water Scarcity

The world is now facing a water crisis because of overuse and overspending. People waste tons of water while brushing their teeth, bathing, washing clothes, cars and dishes etc. Overuse of water has led to a decline in the supply of available water for human consumption.

Polluted water, deforestation and overcrowding have also disrupted the water cycle, which, in turn, varies from year to year in various parts of our country. If efforts are not made to manage and conserve water, we will have a major water crisis.

Water Conservation

Water conservation means careful and economical use of water. We must save water as it is a precious natural resource. Water conservation is possible in the following ways:

Forests can help water get into the ground and fill the water table

The use of efficient irrigation systems such as drip irrigation and sprays to reduce plant water use and help save water.
Construction of dams and hydropower projects that help monitor floods and control agricultural water supply.

Irrigation hours and frequency can be reduced.
Treatment of industrial and domestic wastewater in wild plants before its disposal into water bodies helps to conserve water. It reduces water pollution.
Rainwater harvesting: In this system, rainwater is collected by allowing it to flow through the roof of the house through pipes in the storage tank. This water can contain certain particles of soil on the roof. It should therefore be filtered before use.

It is allowed to flow into a hole in the ground to re-insert or replenish groundwater. Apart from this, we must take the following steps to prevent water wastage in the home:

While we take drinking water, we should take only enough to quench our thirst.
We should use water sparingly when we wash or wash clothes.
The tap should be turned off immediately after water use.
Notify community officials of any water leaks in the public area.

Can Global warming be reserved?

The average temperature of Earth is constantly rising. And although some have written climate change off as “natural", according to NASA reports 97% of working scientists agree that the driving force for the global warming is human activities. If it’s left unchecked, we could be facing Global catastrophe.
So, is there a way not only stop what’s happening but reverse it completely?
Global warming is a major aspect of climate change, causing the steady rise in the average temperature on earth. Figures from NASA show how we’ve seen a planet-wide increase of 0.8 degree Celsius since 1880, but also that the majority of that rise has occurred only in years since 1975. While 1 degree difference in average temperature might seem small, but it actually takes massive amount of heat to warm the entire planet by even that margin. And such a temperature change may have major consequences after all, it can take just one and two degrees of cooling to trigger an Ice Age.
Global warming occurs because of Greenhouse gas getting trapped in the atmosphere. The heat from the sun then can’t escape back into space, and our world get hotter and hotter. The most prominent of these gases are Carbon dioxide, Methane, Nitrous oxide. The main causes of them include the burning of fossil fuels mass deforestation and the keeping of domestic livestock all of which can be traced back to human hands
But have we already done too much damage?

It’s almost always one of the key questions asks as climatologists try to assess the state of our planet. So, in as much as we’re now paying for our actions in the past, if we magically stopped adding Greenhouse gases to the atmosphere and all become carbon neutral body today Global warming wouldn’t halt immediately, but could continue to happen over the coming decades.

The likes of Carbon Dioxide stay in the atmosphere for hundred of years, so everything that’s been added since even the Industrial Revolution will continue wield damage. There’s no quick fix here if we fail or(flat-out refuse)to try for carbon neutrality, however NASA also predicts that the Global average temperature will increase by as much as 6° Celsius in the next century- a potentially devastating shift for life on Earth! So much that perhaps being carbon neutral isn’t even what we should be aiming for anymore; we should instead turn our minds to becoming carbon negative. But the latter can’t happen without the former so the first step is for the human society to severely limit (or even stop completely)the Greenhouse gases. A car has to hit the brakes before it can start reversing, and it’s the same principle here. It hinges on a change in momentum and there have been some positive starts made in recent years. The burning of fossil fuels remains one of the first concerns and Environmental Protection Agency points the finger at transportation as the biggest culprit, accounting for nearly 29% of total Greenhouse gas emission.

We’ve seen electric car starts to appear more or more on our loads but there’s still a distance to go until our car uses

anywhere near green. Public transport as a concept is better for the environment, ensuring that more people use less vehicles. The use of things like solar panel wind turbines, or even nuclear power are still in the minority.

The simplest and arguably most effective way of accomplishing this is to planet more trees. Or, to at least stop cutting them down! Trees are carbon drains-they pull it from the atmosphere and store it, with a single tree capable of absorbing 13-48 pounds of carbon every year. Trees can also help to generally lower surface temperature, reforestation should be task number one if we ever hope to turn this situation around.

Elsewhere scientists are looking into the sources of carbon absorption, including artificial carbon sponges to soak up harmful gases. E.coli bacteria to convert the CO2 into bicarbonate. But perhaps the natural world already provides the best answer with algae ponds, which capture carbon and get rid of it via Photosynthesis. Create more ponds and spaces like these, then and we could be onto winner!

And as a response to how rapidly the world's ice is melting, there're even proposals from a non-profit called Ice911 to scatter tiny, glass beads like sand across the Arctic, to make up for the lost Ice by reflecting light away from Earth as the depleted glacier still do.

Depending upon which group or government is speaking, there're reported deadlines in place for various countries to achieve carbon neutrality in 2019. The British Government

committed to “NET ZERO BY 2050”. Whenever it happens, only then we can truly look toward becoming carbon negative. The plans to tip the scale the other way can seem extraordinary and feel quite unlikely, but we’ve now at least got a grasp of what we need to do. It’s possible, but there’s a lot of work to be done between now and then.

Organic Farming in India

Ever since industrialization and urbanization, the population growth has been one of the causes of concern for the environmentalist and the government. To fulfill the hunger of this growing population harmful agricultural practices have been done to increase crop production, decrease the time of production etc. Some of these ways include using of harmful pesticides, fungicides etc. Though these techniques may help the farmers to some extent but these are short term techniques and can cause food poisoning. Hence Organic Farming is the only way to prevent such things upon humans. The food produced by organic farming is of high nutritional value in comparison to conventional food

Organic Farming is a method in which the cultivation of land takes place through the use of natural resources like air, water and soil but it doesn't necessarily mean that man made chemicals are not used. In many organic farming methods man made chemicals are used to improve the fertility of the soil. This means that the chemicals are going to the soil and not the food that we consume. The difference between organic and inorganic farming is that in organic farming the chemicals improve the soil fertility and are not put into the crops, on the other hand in inorganic farming the chemicals degrade the soil fertility which makes the soil barren, the chemicals also get into the food and ultimately in our food chains. Harmful chemicals like zinc, lead and manganese are present in fertilizers. If consumed by humans it can be dangerous to their health. The advantages of organic farming are that the production of healthy and quality agriculture is more as compared to inorganic farming. Also, organic farming is environment friendly as it helps to improve the soil fertility and therefore a particular patch of land and can be used relatedly for agricultural purposes, this also helps to reduce deforestation caused due to agricultural practices. Another advantage of organic farming is

that the price of organic output is high in the market which means that the farmer has an opportunity to earn a high profit. This method of agriculture helps farmers in maintaining a judicious balance of crop yield this also helps to save our environment. Organic farming also helps to reduce soil pollution. Traditional agricultural practices like burning of crop residue, using of harmful chemicals, contamination of soil are not practiced in organic farming. Complete prohibition of chemical fertilizers will help the soil to improve its humus content and also the nitrogen content

I would conclude this by saying organic farming is a good alternative for harmful agricultural practices that include deforestation, soil pollution, water pollution etc. Governments and other international communities must help farmers financially to take up organic farming that will help save our environment and bio diversity. Organic Farming can be considered a way in which we reduce pollution of air, conserve water, reduce soil erosion to improve the quality of soil and reduce the usage of harmful chemicals and artificial ingredients in our food.

The End.

UNIVERSITY ROLL NO.: 223-BBAS-20-2-0024

UNIVERSITY REGISTRATION NO.: 223-1111-0583-20

SEMESTER/YEAR: 2nd SEMESTER/ 1st YEAR

SUBJECT NAME: ENVIRONMENTAL STUDIES

PROJECT TOPIC: BAN ON PLASTICS: Environment vs Economy

What has happened over the last two decades with regards to plastic use is an undeniable part of our modern way of life, as well as helping drive economic growth at the expense of the environment. Plastic has undoubtedly had a huge impact on our environment, flora, and fauna, and it is a hard thing to imagine a world without it.

Used In all Spheres of Life:

Plastic is widely available in a wide range of varieties, making it difficult to associate any particular plastic to another. Low density polyethene bags, and high quality plastic used in children's toys, storage boxes, containers, water bottles, and more are both visible in the same picture.

How Plastic Harms the Environment:

1. **<u>Difficult to decompose</u>:** Plastic does harm to the environment and is difficult to break down into smaller parts. Plastic can take anywhere from 500 to 1,000 years to decompose, and as a result, it is a long-term pollutant. Plastics are mainly derived from petrochemicals and contain a variety of carbon polymer chains of varying lengths.

2. **<u>Forced Disposal is Harmful</u>:** Harmful waste that was force-disposed when thrown in the trash, plastic refuse cannot decompose, which means it takes up space in landfills where it could otherwise be used. If it is left on the soil, it prevents the water from seeping into the ground, allowing harmful disease-causing germs to proliferate.

3. **<u>Damage to wildlife is irreversible</u>:** About 1 million marine animals and birds are killed each year due to the waste products that we discharge into the oceans. The release of toxic chemicals such as bisphenol A (BPA) and polystyrene sulphonate (PS

oligomer) from polymers that are washed away into oceans and seas occurs during their decomposition.

A plastic ban might impact the economy:

1. **Expensive and Bulky Packaging:**

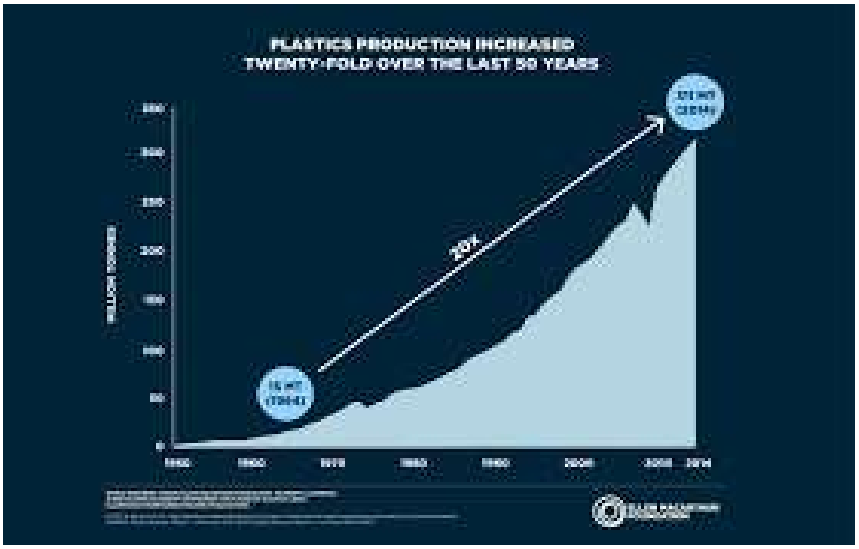
Cheap, fast, and lightweight, this long-term and airtight packaging is available in plastic. Paper bags and cloth bags are more expensive and less durable than plastic bags. Not only are they bulky, but they're often unreliable as well. When paper bags and paper packaging are damaged, goods are more likely to be damaged, which compromises their safety.

2. **Difficulty in Branding:**

Custom plastic bags, which the company designs and includes branding, contact information, and other information, are typically given away to customers. Cloth bags have to be custom-made, which costs more than printing on pre-made plastic bags. Because of this, the ban on plastics will impact other industries as well.

3. **Adverse impact on product pricing**:

When an expensive package is used, the price of the product goes up. The increased supply of products in the market will lead to an exponential increase in the price of these products, which will hurt both customers and businesses alike.



Different potential solutions:

1. A better, environmentally-friendly alternative

It is necessary to find a replacement for plastics because almost everyone uses them. Two kinds of bio-degradable plastics are currently available. Polylactic acid is a plant-based hydro-biodegradable plastic that degrades completely in 47 to 90 days. A distinct second category of biodegradable plastic is petroleum-based oxo-biodegradable plastic.

2. **Reducing Plastic Use at Personal Level:**

An extreme measure we cannot afford at the moment is the prohibition of plastics. It may produce illegal manufacturing, use, and disposal of plastic which may contribute to the problem by making the process less regulated, thereby allowing for more plastic to enter the environment.

While we can ensure little to no personal use of plastics, we are moving toward greener alternatives in all other areas, including industry and the global environment. Enforcing stricter recycling laws and prohibiting low-quality plastics are the first steps in getting things started. Finally, we can concentrate on greener techniques that cannot hurt the customers. Illegal marketing and disposal of plastics will only cause additional environmental harm because without providing an acceptable alternative for plastics, a ban on plastic will result in illegal marketing and disposal of plastics.

Water Conservation-Need of the Hour

Water is one amongst the most essential natural resources available to us. It is a significant component in our day to day life. We know that approximately two third of the Earth is covered with water but unfortunately less than three percent of the total water is fresh water, which we can use. Rest of ninety seven percent of remaining water is saline, i.e. salt water, which remains unusable. We have an awfully notable line for this, “Water, water, everywhere, nor any drop to drink.” by Samuel Taylor Coleridge in his literary work “The Rime of the Ancient Mariner”.

In the past few decades, water conservation has been a major concern. At first, we need to realize the need for conservation of water. There are multiple reasons for which we need to conserve water but one of the main reasons is that if we conserve water now, it will be available for future use. Besides this, conserving water

also helps in various other ways like it saves energy and resources, also water conservation helps in reducing water pollution. In a way, if we conserve water we also conserve our ecosystem and wildlife. Now that we know the need to conserve water, we must also know about the different strategies to conserve water. One of the best techniques for conserving water is rainwater harvesting, in this method the rainwater is collected and stored in a reservoir rather than letting it to flow off and the stored water is used later on accordingly. This technique is very effective, especially in areas where the supply of groundwater is not so good but the amount of rainfall is sufficient.

Seventy percent of the total freshwater available in the world is used for agriculture. Majority of this water used in agriculture is wasted due to inefficient farming or irrigation practices. In order to reduce this water wastage there are several methods. One of these methods is Drip irrigation. Drip irrigation is a modernized micro-irrigation technique, which helps in saving water up to eighty percent, when used instead of traditional spray method. Apart from this, other factors like quality of the soil, crop rotation, organic

farming, etc. may also be able to help in conservation of water. The quality of the soil is determined on its moisture holding capacity, soil is considered to be good if its moisture holding capacity is high. Different crops require different amount of water, therefore crop rotation helps in balancing the water usage and helps in conserving water. Also crop rotation results in higher crop yield. Organic farming helps in retention of soil moisture and also does not cause any water pollution, since there is no application of chemical pesticides.

In our day to day activities like brushing, shaving, bathing, washing hands, clothes, utensils, etc., we unknowingly waste a lot of water by letting the water flow even when we don't need it. In order to conserve water in such day to day activities, we should turn off the water while we don't need it and turn it on only when it's required rather than letting it flow off.

As we conclude, we can say that water conservation is not merely an option for us rather it is a necessity or duty of ours in order to survive in the future.

Organic Farming in India

India introduced the process of *organic farming policy* in *2005*. It is a type of farming in which farmers avoids the use of :–

- *Synthetically compounded fertilizers*
- *Pesticides,*etc.

Organic farming system rely :-

- *Crop rotation*
- *Use of crop residues*
- Legumes
- Organic wastes,etc

Organic farming helps in two ways; one it grows crops and keeps the soil alive.

- **History :-**

  Agriculture began around *9000 BCE* in the north western part of India. Agriculture was the most important livelihood of the people of India. After India got independence in the year 1947, agriculture grew at a rate of *2.6% per annum.* As the population rises, need for food also rises. Farmers started some methods of farming among those one is the ***Organic farming***.

- **Organic Farming :-**

  According to *Union Ministry of Agriculture and Farmer's Welfare* about *2.78 million ha* of land was

covered under organic farming. Three states **Madhya Pradesh**, **Rajasthan** and **Maharashtra** covers half of their agricultural land under organic farming. Table 1.1 shows the share of land under organic farming in Indian states:-

Sl. No.	State	Organic area (ha)
1.	Andaman and Nicobar Islands	321
2.	Andhra Pradesh	12,325
3.	Arunachal Pradesh	71
4.	Asom	2,828
5.	Bihar	181
6.	Chhattisgarh	4,113
7.	Goa	12,854
8.	Gujarat	46,864
9.	Haryana	3,836
10.	Himachal Pradesh	4,687
11.	Jammu and Kashmir	10,035
12.	Jharkhand	762
13.	Karnataka	30,716
14.	Kerala	15,020
15.	Lakshadweep	895
16.	Madhya Pradesh	232,887
17.	Maharashtra	85,536
18.	Meghalaya	373
19.	Nagaland	5,168
20.	Odisha	49,813
21.	Punjab	1,534
22.	Rajasthan	66,020
23.	Sikkim	60,843
24.	Tamil Nadu	3,640
25.	Tripura	204
26.	Uttar Pradesh	44,670
27.	Uttarakhand	24,739
28.	West Bengal	2,096
	Total	723,039

Source: APEDA (2013–14)

Table 1.1 : Land under organic farming.

- **Advantages :-**

1. It keeps the crops naturally disinfected from pests.
2. Keeps the environment clean and healthier for farmers.
3. Reduces soil pollution.
4. Reduces production costs of the farmers as they don’t have to buy high priced fertilizers, pesticides etc.
5. Reduces the rate of global warming .
6. Can be done in any geographic location and also at any season.
7. Eco friendly method of cultivation.
8. Healthier foods produced.

- **Methods :-**

There are some methods of organic farming which farmers use. Some are :-

1. ***Crop rotation*** **-**

   It is a type of farming where different crops are cultivated alternatively in the same soil. It helps in keeping the soil nourished and reduces soil erosion. (Fig 1.2)

2. ***Green manures*** **-**

   It is used in substitute of chemical fertilizers. It helps the soil to get nitrogen and moisturises the soil for crops to grow. (Fig 1.3)

3. ***Weed management -***

Weeds are unwanted plants grown. It is necessary to remove the weeds so that crops get the full nutrition. It is removed manually. (Fig 1.4)

Fig 1.2. Crop Rotation.

Fig 1.3. Green manure.

Fig 1.4. Removing weeds manually.

- **Sustainability :-**
  - Pollution is a most concerned matter nowadays. Earth is getting destroyed by humans beings in every minute. We should think about soil conservation.
  - *Organic Farming* is eco friendly.
  - It keeps the soil fresh and disinfected from chemicals.
  - As water percolates various chemical pollutants mixes and pollutes the ground water.
  - *Organic Farming* uses natural fertilizers, pesticides etc; which keeps the soil alive.

- It also saves energy and keeps the environment clean and fresh.
- It also provides with healthy foods which is healthier to eat.

• Foods and crops grown :-

- Foods :-
    i. Fruits.

ii. Vegetables.

- Crops:-
    a. Maize (Fig 1.5)
    b. Barley (Fig 1.6)
    c. Wheat (Fig 1.7)
    d. Sunflowers (Fig 1.8)

Fig 1.5. Maize.

Fig 1.6. Barley.

Fig 1.7. Wheat.

Fig 1.8. Sunflower.

- **Conclusion:-**

It is said to do *organic farming* as it helps to keep the environment clean,

controls pollution and destruction of the nature and natural resources. It is a type of reduce, reuse and recycle process. It also grows the agricultural productivity of the country and provides food security. It also produces food healthier.

---------- Thank you ----------

NAME: SNEHA MONDAL

COLLEDGE ROLL : BBA20F021

CU ROLL NO: 223-BBAS-20-1-0014

CU REGISTRATION NO: 223-1212-0571-20

SUBJECT: ENVIRONMENTAL STUDIES

TOPIC: WATER CONSERVATION – NEED OF THE HOUR

INTRODUCTION

Today we all know that earth is the only planet where water and life both exists in the entire universe, and water is very important to continue life on earth.

We are surrounded by 71% of water. But the clear water we get to drink is in much little amount. At present the world population is to 7 billion (approx.) and the amount of clear water we get is nothing to be compared to that. Though people in urban areas get to drink pure filtered water but rural people do not get these facilities and drink unhygienic water.

It is high time for humans to think about conservation of water as without water no living organism can survive on this planet.

In the following pages some of the measures to conserve water is described.

IMPORTANCE OF WATER CONSERVATION

Conservation of water is very important to have existence of life on earth. Water is the main content in human body and other living organisms. In the beginning humans used to drink river water as it used to be crystal clear but at present river water is very dirty so people use is after filtering it through different processes. If water is polluted like this by different chemicals it would be very impossible to filter and get clear water. Water has many economic related profits as well so water is very important to be conserved.

WAYS TO CONSERVE WATER RESOURCES

RIVER WATER CONSERVATION

River water is needed for various courses like in cropping in industries and in many other fields.

River water can be conserved by various ways. The industrial wastes are the main problem of water pollution so those wastes should not be dumped in water even if they are dumped in water they should be neutralized before its release. Through this we can preserve pure water and use it for various uses.

IMPACT OF DAM

A dam is a barrier that can help to store a huge amount of water in a place. Dam is used to provide good quality of freshwater. Dams can save lives from floods.

MODERN WAYS OF WATER CONSERVATION

At Home

- Take shorter shower
- Use washing machine for full loads only
- Using Toilet paper to avoid excess use of water

Farm The and Garden

- Avoid build own ponds and start use rainwater
- Make effective use of soil water reserves

Flood Management

Floods are natural disasters affecting the crops, livestock, infrastructure and human beings. So the Government has taken many initiatives to control floods. The Centre had set up the bodies like Central water commission, the Farakka Barrage

Project Authority ,the Ganga Flood Control Commission , the NDMA etc.

CONCLUSION

Section 8 under water Act 1974 is a comprehensive legislation that regulates agencies responsible for checking on water pollution and ambit of pollution control boards both at the central and states.

Water is important for survival. So this is the right time to deal with the problems that’s why Everyone have to come together and contribute to saving water. Because, without water entire living kingdom would die.

ORGANIC FARMING IN INDIA

INTRODUCTION

Agriculture is the backbone of the rural economy in India, and it is the primary source of income for farmers. Because of the growing population since the Green Revolution, it has become imperative to expand production from the standpoint of income, and in order to do so, more chemical fertilisers and pesticides are employed in farming, putting marginal and small farmers at a disadvantage. The increased use of inorganic chemicals such as pesticides and fertilisers has resulted in the deterioration of water, land, air, and the environment, as well as the poisoning of food items.

Organic farming is a modern form of indigenous farming that focuses on balancing nature and the environment. Chemical pesticides and fertilizers are not used in this method. Cow dung manure, compost, bacterial manure, crop residue, and minerals found in nature such as rock phosphate and gypsum provide nutrients to plants.

About 2.78 million hectares of farmland was under organic cultivation as of March 2020, according to the Union Ministry of Agriculture and Farmers' Welfare. This is two per cent of the 140.1 million ha net sown area in the country.

Need for encouraging organic farming in India

1.Unsustainable conventional agriculture: The ill effects of the conventional farming system are felt in India in terms of the unsustainability of agricultural production, environmental degradation, health and sanitation problems, etc.

2.Agricultural productivity: Despite the green revolution, the national productivity of numerous cereal crops, millets, oilseeds, pulses, and horticulture crops remains among the lowest in the world. Scientists have concluded that the 'Green Revolution,' which relied heavily on inputs, has reached its limit and is now yielding decreasing returns. As a result, a long-term organic solution is necessary.

3.Employment Opportunities: According to many studies, organic farming requires more labour input than the conventional farming system and is an emerging opportunity for the generation of employment and income at the village level.

4.Healthy food: Several indirect benefits from organic farming are available to both the farmers and consumers. While the consumers get healthy foods with better taste and nutritive values, the farmers are indirectly benefited from healthy soils and farm production environments.

Challenges to organic farming

1.Lack of Awareness: The foremost important constraint within the progress of organic farming is that the lack of awareness among farmers about organic farming and its potential benefits.
2.Marketing Problems: It is found that before the beginning of the cultivation of organic crops, their marketability and that too at a premium over the conventional produce has to be assured. Even if this problem is resolved, they're of the view that the available organic matter isn't enough to satisfy the market.
3.Inadequate Supporting Infrastructure: In spite of the adoption of the National Programme for Organic Production, the state governments are yet to formulate policies and a credible mechanism to implement them.
4.Financial support: Substantial financial support by governments is absolutely necessary to promote organic farming. In India, organic farmers don't receive the advantages of state subsidies as they're targeted at conventional cultivation. Given the low risk-bearing capacity, there's a requirement to form organic farming a beautiful proposition. Supplies don't match the demand for organic products within the country and absence of proper links between them has slowed the growth of organic farming in the country. An important role of our government towards this direction should be giving required support to the producer and consumer associations to promote the products.

CONCLUSION

Land, soil, and farmers have all suffered as a result of unsustainable farming methods. Switching to organic farming can help farmers increase their income and production while also achieving sustainable agricultural production. Keeping all this in mind, organic agriculture should be prioritised. Sikkim is such a state that it has recognised it early on and is on its way to becoming a 100 per cent organic state. The rest of the country should also strive towards it.

Can Global Warming be reversed?

By Disha Ghorai
Roll No- 223-BBAS-20-1-0006
Registration No- 223-1211-0579-20

What is Global Warming?

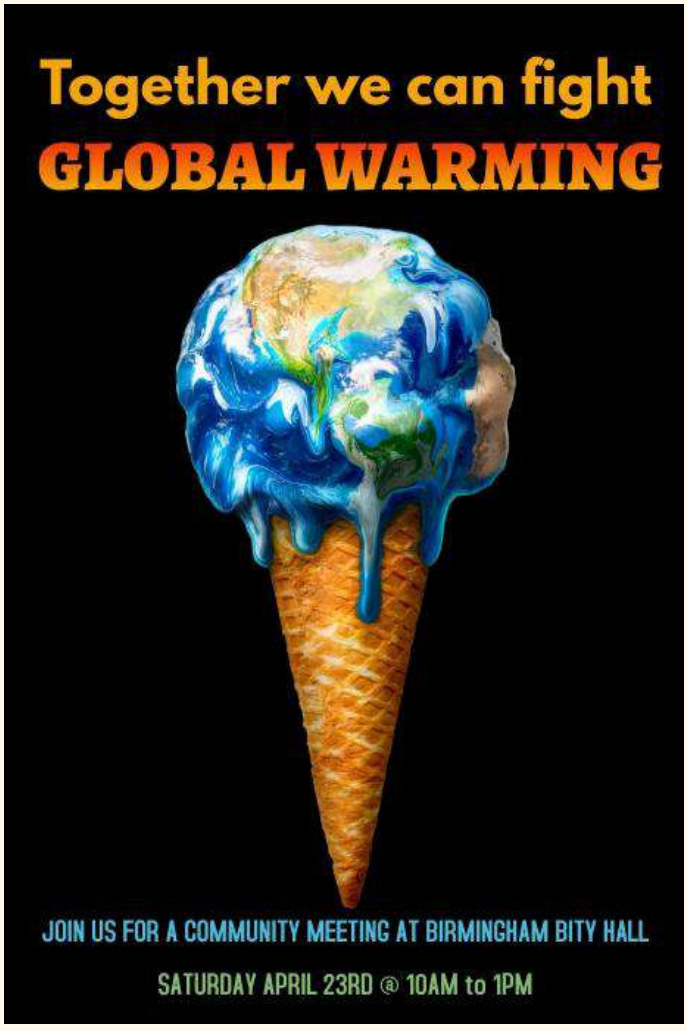
"I cant hear your voice for the wind's cries, whistling over the bare ground." – this line is taken from"October" by Louise Glück. As she describes mother nature and its changing nature of life, it is astonishing to watch the same world degrading as time passes on. Global warming, a term commonly used to define the changes in climate, wildlife populations and their habitats, sea level and other ranges. These are occurring as human beings continue to add heat trapping greenhouse gases which results in glaciers to melt, changes in precipitation patterns, increase in solar radiation and illness among human beings and animals. Great Barrier Reef, species of animals at a risk of extinction, droughts being a menace to produce food or simply live a life, increasing heat waves leading to illness or death especially among the elders are all caused by Global Warming,which was observed since the pre-industrial period. But how will we cope with these changes we have already set into motion? Can the trees, the innocent lives of animals, the mother earth itself be revived again?

Global Warming- Reversible or Irreversible

Global Warming being a serious topic of concern not only among scientists but local citizens has caused a life-threatening crisis to human existence. Analysing upon the situation, the United Nations formed a group of scientists called The Intergovernmental Panel on Climate Change(IPCC), who meets every few years and write a report summarising about the effects, and they concluded in a recent report that carbon emitting human activity has caused unprecedented climate changes, drought, increased heat wave whose effects will get worse and largely irreversible. As humans expand and conquer more land many animals are losing their habitats, migrating to new spaces is the only option left to thrive. Even migration is a hard choice since it has led and is leading to extinction of various kinds of wildlife such as reindeer, Arctic foxes, polar bears e.t.c. People have recognised this crisis and have taken various initiatives such as Kyoto Protocol, The United Nations Framework Convention on Climate Change, Rio Earth Summit e.t.c. Many well known people are also raising awareness by donating towards wild-land, ocean and climate conservation. There is always an end to everything, and it is our responsibility, our duty, our society who needs to rejuvenate the earth again. We need to come together so that we can rebuild the world again in a better way not only for us but for the future generations as well.

Conclusion

As we learn to take, we should also learn to give back equally. Earth has provided us with various privileges, similarly in return we should also take care of it rather than destroy it. Although we are a little late in slowing down the damage, it is crucial to find the right solution. We as individuals should start taking small steps toward preservation, for instance we can plant more trees, use public transportation, reduce waste by choosing reusable products for disposable, use fuel efficient vehicles e.t.c. The effect from global warming will take a steep rise in future which may bring the expansion of species to a halt, specifically humans may witness the end of the impact too. Nothing is impossible in the world ,if we believe and are determined to save the Earth from destruction ,eventually we will be able to reverse Global Warming as well.



NAME OF EXAMINATION:

BBA SEMESTER II EXAMINATION

SEMESTER:

SECOND

UNIVERSITY ROLL NUMBER:

223-BBAS-20-1-0013

UNIVERSITY REGISTRATION NUMBER:

223-1211-0566-20

SUBJECT:

ENVIRONMENTAL STUDIES

BAN ON PLASTICS: ENVIRONMRNT VS ECONOMY

Use of plastic over last two decades has become an essential part of life and no doubt is contributing to the growth of economy at the cost of environment.

Plastic is seen in all domain of our life be it edible material packets, storage packing, furniture, electronic items, plastics are so widely used that assuming our lives without it is next to impossible It is one among the simplest substitutes for wood, thus reducing the cutting of trees and helping the environment On the other hand, every now and then it poses problems too, example: when it comes to disposal. Debate often arises either plastic should be banned or not. Ideally yes, it should be outlawed but practically, it is beyond the bounds of possibility.

Improper disposal of plastics poses a number of problem to our environment. Littering plastics in open spaces creates unhygienic environment, it acts as a breeding ground for bug and mosquitoes that cause ailment like malaria, dengue. Plastics don't undergo degradation, hence it stays within the soil for several years, that affects quality of soil. When plastic artifacts enter the drainage and sewerage system, they block the pipelines and thus cause waterlogging. The improperly throw away food bags, when eaten by animals, cause stomach and bodily organ related ailment which even lead to suffocation and end of life. The waste from the plastic industry is thrown directly into the water bodies, hence affecting the chemical property of water, causing hazards on a vast-scale .

Plastic Ban might harm our economy because plastic offers an inexpensive, hassle free and air tight packaging. Paper bags and cloth bags cost quite a lot and they are not durable also. Most of the companies divulge custom made plastic bags that act as brand features with company logos, contact information etc. Printing on pre made plastic bags costs less compared to cloth bags. Thus, the ban on plastics won't only affect the plastic industry but other industries also. Global marketplace for plastic products is growing at around 3% per annum reported by, The Business Research Company Plastics Product Manufacturing Global Market 2017. Banning plastics will bring down multibillion -dollar manufacturing companies and thus effect the economy and subsequently the share market.

What we will ensure nonetheless is minimal use of plastics on a private level and at an equivalent time moving towards greener alternatives on an industrial and global level. The primary step being enforcing stricter recycling laws and banning inferiority plastics. Next, we will consider greener methods which can substitute plastic which will not cause the consumers much discomfort. Because without providing a suitable alternative for plastics, if plastic is banned, it's more likely to end in illegal marketing and disposal of plastics which can only harm the environment further. Plastic has evolved into kind of a necessary evil in our lives but continuing to harm earth's system of natural resources is not any longer an option.

It's time that we shift to alternative of plastics. While India has pledged to ban sole-use plastic by 2022, other countries, companies, are also taking proactive steps to curb plastic contamination and its effect. during this century we cannot afford any financial gain which isn't environmentally sustainable.

WATER CONSERVATION: NEED OF THE HOUR

INTRODUCTION

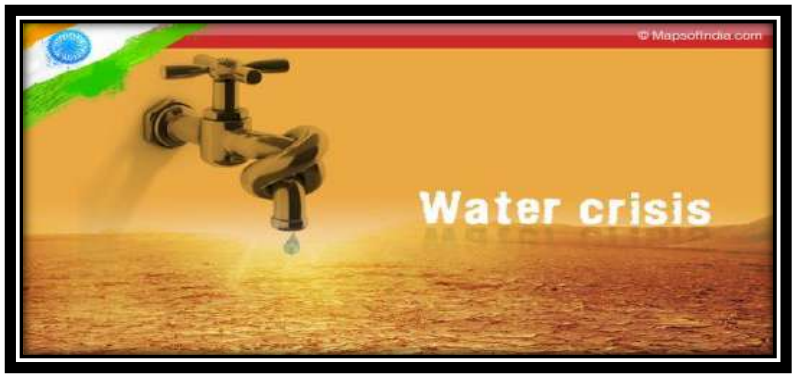
Man has been exploiting, grabbing and robbing the earth's resources altogether possible ways. Natural resources aren't unlimited if not replenished or conserved they'll extinct like many species of plants and animals. The requirement of the hour is to conserve the earth's resources altogether possible ways. Conservation and survival at the 2 sides of the identical coin.

Water could be a vital resource for human health, prosperity and security, with crucial importance for sustainable development. Water is a vital resource because all living organisms need water. Plants need water and that we receive oxygen from the plants. Thus water is connected to everything. That's why we should always save water resources and use them carefully. Conservation of water doesn't mean only to use water wisely but also responsibly.

With the current state of consumption and depletion of natural resources, striking a balance within the ecosystem is indisputably the necessity of the hour. The availability of water is under threat due to the following reasons:-

- **Increased population** – overpopulation has increased water consumption.

- **Increasing industries** - As the amount of human population increase, the quantity of industries is additionally increased and it requires water for it's functioning.
- **Lack of conservation techniques**- main source of water on earth and for the underground water is rain. If the rainwater is conserved the ground water level can increase but this can be unimaginable because of lack of water conservative techniques.
- **Agricultural activities**- India is a country which depends on agriculture show the consumption of water for agriculture has increased. Irregular rainfall has increased the consumption of groundwater and thus it's increased the depletion of groundwater.
- Ground water level is also lowered because of the excessive pumping as well as some other causes. In consequence we can see drying up of wells, detoriation of water quality, etc.
- Pollution could be a big menace. Pollution ruins the already scarce water worsening the issues all the waste water from houses and factories eventually finds its way into the rivers which is our major water source . It's time that we conserve our precious fresh sources of water.



World Water Day is well celebrated on March 22 to bring around people's notice the problems regarding availability of safe water, the necessity for conservation.

Conservation of water is that the need of the hour due to several reasons. They are –

• Water is required for nearly everything we do . The uses of water is uncountable from regular uses (Like drinking, bathing) to use of water in agricultural fields. Our life will stand still without water.

• Without water, the population will starve to death because Fruits and vegetables, likewise as other produce, require water to grow.

• the aquatic life will not be able to survive without water.

• By saving water, this enables us to avoid wasting more water, especially on our water bill.

Out of the 70% of the water that's available, only 0.03% is fresh and accessible water. Every day, the population is increasing, making the already limited amount of water much less. In order to save our future of water conservation, we must learn to conserve what limited resources we've got.

<u>Some of the methods to conserve water are</u> –

• We should teach children to show off the faucets tightly after use, adjust sprinklers to water our lawn.

• Waste water should be recycled for reuse to minimize its use.

• Drip system should be used for irrigation.

• Rain water harvesting should be wont to store water

• Water pollution should be prevented.

• Water should be used with appropriate planning.

• Water should be declared as National Valuable property.

• Exploitation of underground water should be prevented.

CONCLUSION

We should continuously work towards reducing our water consumption and returning it to the natural environment after suitable treatment. We seek to recycle the water we extract so it's reused in our manufacturing processes, thus reducing the load on the environment.

Each people must put effort in conserving water because even our future generations have equal rights to use this resource.

NAME OF EXAMINATION:

BBA SEMESTER II EXAMINATION

SEMESTER:

SECOND

UNIVERSITY ROLL NUMBER:

223-BBAS-20-2-0004

UNIVERSITY REGISTRATION NUMBER:

N/A

SUBJECT:

ENVIRONMENTAL STUDIES

WATER CONSERVATION- NEED OF THE HOUR

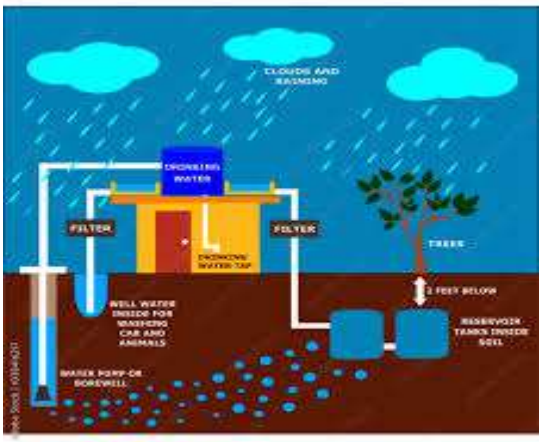
Water is the most essential element of life on earth. It's the first need and necessity of a living being. Air, water and food are necessary to take care of the whole life cycle earth, nobody can survive without it. Water is said to be an invaluable asset and every drop of it is very valuable.

Today water conservation is important for us because fresh clean water is limited as well as a valuable resource. Water is an essential asset for nurturing the life of all and is a fundamental demand for all activities ranging from local uses to agriculture and industry. Today, we are facing severe scarcity of water thanks to misuse of the river, pond, lake, reservoir and groundwater and maybe this crisis goes on to extend further in the coming years. We also need to accelerate efforts to save water and give serious consideration to water conservation.

Due to the expansion of population and industry, our need for freshwater sources is increasing. In such a situation, water conservation is the only solution that can save us and the future generation from the water crisis. Due to lack of water, the balance of the environment wil also deteriorate and there could also be a crisis within the forest, groves, wildlife etc . Water is vital for the entire life and its limited source on earth motivates us to concentrate to conserve water , otherwise our upcoming generation will need to struggle even for a drop of water.

There are some ways through which we can conserve water. If we make limited use of water and take appropriate steps, then the limited stock of water can remain for an extended time. We can collect rainwater, then every year the water crisis we've to ascertain are often relieved. We can preserve the underground water due to extraction of groundwater and its misuse, the

underground water level has also decreases. We should protect groundwater by creating ponds, reservoirs etc.



We abuse large amounts of water in our daily lives because we are unaware that this water out there in limited quantity in the world. If we understand our responsibilities and make good use of water then we can contribute towards water conservation to a large extent.We should close taps tightly in order to ensure not a single drop of water is wasted.When brushing, close up the water while brushing (This saves about 80% of the commonly used water), we should immidiately repair the leaks around nozzle . We can reduce water usage from 40% to 50% by installing a low-flush toilet. More number of sewage water recycle plants should be established. Many industries require large amounts of water government should encourage industries to work towards using water-less technologies. Soak pits should be made compulsory for all homes and other buildings. This will result in the abundant availability of ground water. In places where there is water shortage, government should encourage farmers to grow crops that require less water instead of water-intensive crops.

India has a good number of rivers, lakes and also gets sufficient rainfall. But the only problem is that there is no proper usage of the resources. When government and people together take serious action, we will not suffer from water scarcity in future.

Water Conservation:Need of the Hour

With the current condition of consumption and reduction of natural resources, flogging a balance in the ecosystem is undoubtedly the need of the hour. Safe drinking water which is a fundamental necessity for healthy living become a glamour in many Indian households, particularly in semi-urban and rustic areas. Conforming to the current prediction and projections by United Nations (UN),783 billion people round the world do not have access to safe and healthy drinking water and about 1.8 billion individuals drink contaminated water which push them at danger contacting water borne diseases as cholera, jaundice, typhoid etc.

In sequence to address this, the most broadly known commencement, World Water Day, is celebrated every year on march 22 to get to people's notice the issues regarding to availability of safe drinking water, the necessity for water conservation and the resolution that one can seem to fight the water crisis condition in the world. The use and demand for water has grown numerously around various parts due to rising disposable incomes and consuming power. Many cities and the towns in the world face the challenges of severe water scarcity.

Having said this, the main problem regarding the drinking water space is not only the acute water pollution threat and reduction of water reservoirs, but also the deficiency of awareness among public about availability of correct water purification technology. In summation, while the use of technology and progress of science can give ready solutions, sometimes customary time-tasted ways can help seethe the requirements of people in many efficient way.

Below are several easy and plain tips that one can pursue to conserve water, this world water day :

Choose the correct water purification technology: Few research and studies have shown that people has varying water state and neatly there is not one individual technology which can purify water in every part. Use of RO water purification in (low TDS) areas where it is not needed, conducts not only to 'de-mineralised water' but also sums up to water wastage. The resolution here lies in selecting the correct water purification technology to avoid water extravagance from the purifier.

Opt for effective home appliance: Spend in a tube aerator, select effective shower heads and opt for strong efficiency dishwashers and cleaning machines which use few water and can sum up to vast water saving.

Reuse and replenish: Don't catch a new glass or bottle each time you drink water. Replenish the one you already have, this will aid in reducing the number of glasses you wash each day, that saving more quantity of water.

Preserve ground water resources: Pollution of ground water reduces the refill of available fresh water. Almost, 70% of our country's watering and 80% of household water use occurs from ground water, which is speedily getting depleted.

Treat dissipation water: Technologies attached with extravagance water arrangement are continuously evolving and has become the chief focus of a vast number of scientists, technologists and water professionals round the earth.

There are many other ways too which are exercised in many different states. With a great of areas enduring water scarcity, this may be time to apply some methods to help innovate new methods resurrection.

Ban on Plastic

Economy vs. Environment

Semester : II

University Roll : 223-BBAS-20-2-0014

Registration : 223-1111-0578-20

Subject : Environmental Studies

Ban on Plastic : Economy vs. Environment

Plastics, nowadays have become a day-to-day necessity in our life. Even if we don't realize the fact but our daily life is somewhat dependent on things made up of plastics. From plastic bags, toys, bottles, wrappers, etc. to parts of television, cellphones and many more. Though we fail to realize this but most of the things around us contains plastic in it. For past 20 years, plastic helps in economical growth but at a cost. The cost is the environment.

We can hardly imagine our modern, fast-paced lives without plastics but if we look at the ugly side of it, it is harming our environment at an alarming level. And that's why despite many people agreeing to the idea of banning plastic, it's not carried out or publicly implemented, and as a result of this, debates often arise about which we will discuss in this project in detail.

Plastic Pollution at United Kingdom.

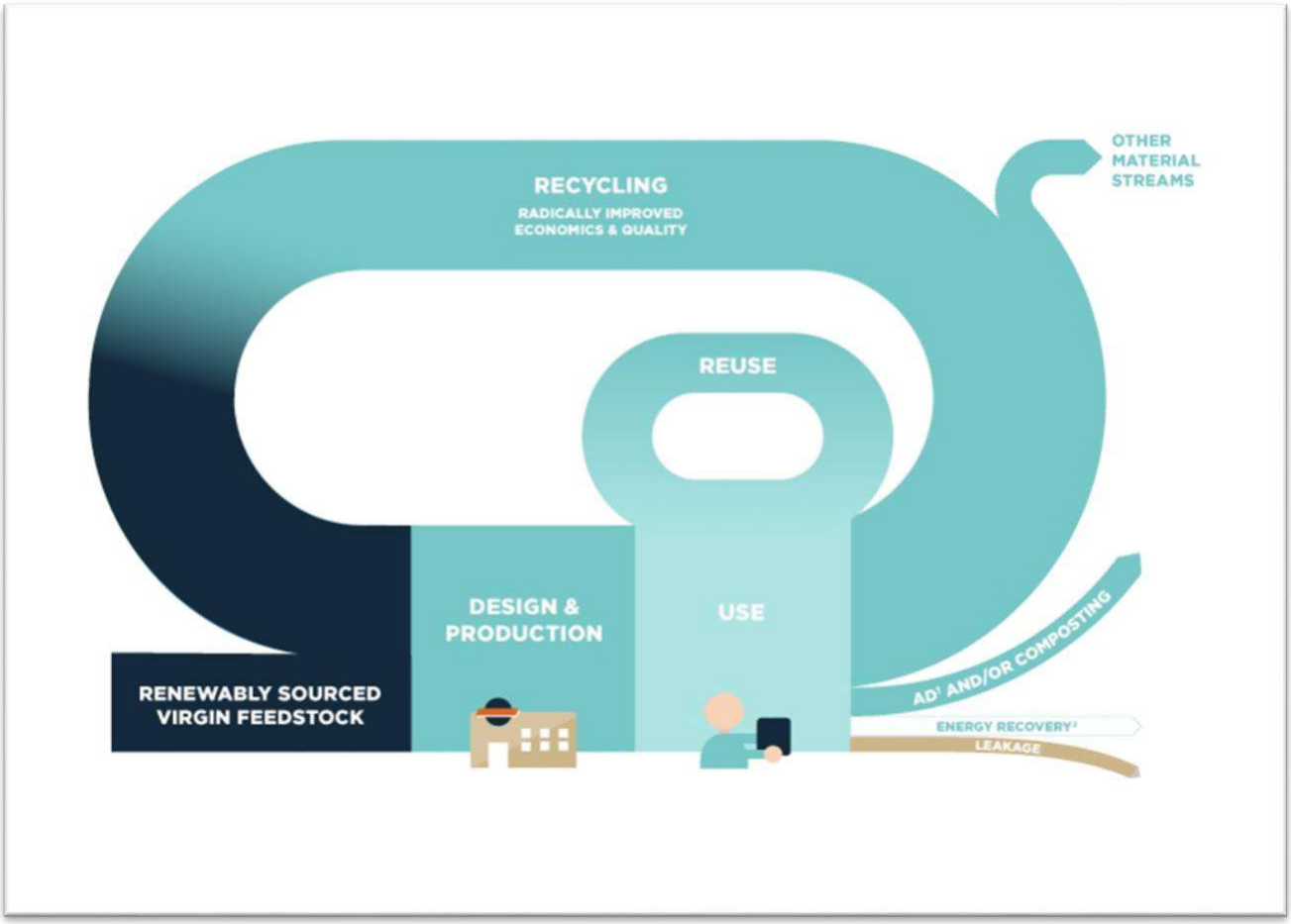
Source: Imogen Calderwood(Flickr)

Plastics : Environmental Hazard

Plastics are generally non-biodegradable and takes a very long time to degrade or disintegrate. Plastics do not age easily and therefore lingers on the surface as trash once used and thrown away and it gets added to the existing plastic debris which is non-biodegradable and when is burnt, produces off harmful fumes which in turn, harms the environment. Few of the harmful effects are listed below :

1. When discarded plastic wrappers and bags are thrown into water bodies, which further is consumed by fishes in small quantities and dies. Also it harms other aquatic life.
2. When plastic is burnt, produces toxic fumes such as dioxins, mercury, furans and polychlorinated biphenyls.
3. Plastic is widely used to make food containers and some kinds of plastic affects the food at a molecular level in such a way that when consumed, it may cause cancer and other harmful diseases.
4. Both creation and destruction of plastic produces toxic fumes.

5. Many animals accident consume plastic and dies. Thus it also poses a threat to animal life.



A New Plastic Economy

Source: https://newplasticseconomy.org/publications/report-2016

Plastics : Team Economy

Although, plastic has many disadvantages but we cannot ignore a fact that if plastic is banned, many sector of economy will be left unviable. For starters, we can look into Fast-Moving Consumer Goods (FMCG), these goods use plastic as their primary wrapping substance, and if plastics are banned, the substitution are in no way cheap and which will further increase the cost of production, the price of commodities and therefore will affect the whole market causing a havoc in FMCG market.

Although plastics are in no way a sustainable or eco-friendly solution but it does helps economy in the following ways :

1. Packaging is bulky and expensive, but with plastic it becomes cheap and less bulky.
2. Branding on paper bags which are pre-made are way more expensive in comparison of branding on plastic bags.

3. Products can be priced at a lower price because cheap packaging and the alternative can raise the price of the commodity which in turn might sabotage the business.

Preventing ocean Pollution

Source : Greenpeace USA

Conclusion

As it is often said, ‘When there is will, there is a Way’, and therefore we can always turn to greener alternative of plastics which causes less damage to environment.
Currently there are 2 types of biodegradable plastics available and in future there may be more variants of such biodegradable plastics available.
We can start reducing the usage of plastic at a personal level. Like we can bring our own bag rather than asking a bag from Shopkeeper, etc.
We can start recycling plastic bags and bottles and these small steps taken at a personal level gradually makes a huge difference.

Water Conservation – need of the hour

Every soul on this planet is dependent on water for livelihood. It is one of our necessities for survival. We all are aware of the fact that 71% of the earth contains water but only 2.5% of it can be used for drinking purpose. Therefore, all over 1.1 billion people of the world lack water availability and around 2.7 billion people face water scarcity at least once every month. According to research, one-third of the entire world's population will face water scarcity in near future (By 2035). We are also aware of the fact that our earth is the only planet in the universe, where water and life are in existence and this is the reason why the world needs to pay more attention to conservation and management of water.

Water conservation simply means wise usage of water and no unnecessary wastage. As clean and fresh water is now considered as a limited resource, water conservation has gained much importance. There are many ways to conserve water some of this are listed below: -

: -Rainwater harvesting is one of the most essential ways of conserving water. It helps us to collect, store and convert rainwater for human use. This is a technique in which rainwater is collected from a roof like surface and are redirect into tank, deep pit (well or shaft) or a reservoir with percolation so that it gets restored there for future.

: -Water saving habits is also a way to save water for our own good. Fixing leaky taps, reducing water spoilage while washing clothes, closing the tap while brushing, etc. are some good practices that we must follow

: -Watering our garden or lawn early in the morning is one of the strategies to prevent the evaporation from high noon heat. If this takes place then less water will be used for watering the plants, and will help in water conservation.

: -frequent checking and upgradation of water appliance is one of the effective ways that help in prevention in wastage of water

The United Nations Organization policy for conservation of water includes the 17 Sustainable Development Goals (SDGs). The target is to focus on the 'universal and equitable' access to clean water and to improve the quality of water through reduction of pollution, restrictions on release of harmful substances into water bodies and promotion of reuse and recycle of water on Internation aspect. The UN also aims to strengthen community participation in improving all water and sanitation management issues. It is to promote more contributions from people all around the world. The UN declared 2018 to 2028 as the Water Action Decade to make more people aware of the need of ensuring water security.

Water is extremely important for the survival of humanity and need to realize the seriousness of water scarcity and its effects. We have to make positive changes and take all the necessary steps in order to avoid the water related problems that have been predicted else the consequence will be hard to accept

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Water Conservation – need of the hour

Every soul on this planet is dependent on water for livelihood. It is one of our necessities for survival. We all are aware of the fact that 71% of the earth contains water but only 2.5% of it can be used for drinking purpose. Therefore, all over 1.1 billion people of the world lack water availability and around 2.7 billion people face water scarcity at least once every month. According to research, one-third of the entire world's population will face water scarcity in near future (By 2035). We are also aware of the fact that our earth is the only planet in the universe, where water and life are in existence and this is the reason why the world needs to pay more attention to conservation and management of water.

Water conservation simply means wise usage of water and no unnecessary wastage. As clean and fresh water is now considered as a limited resource, water conservation has gained much importance. There are many ways to conserve water some of this are listed below: -

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Ban on plastics: Environment vs. Economy

In a little over a century, Plastic has managed to leave its imprint on the Environment and the Economy. Businesses of all scales and daily life depends heavily on plastic products. This easily available, cheap and durable material is a popular choice for a lot of products but when it comes to environment this choice is proving to be impacting negatively. This essay talks about the polarity of the impact of plastic ban on the environment and economy.

A hefty range of daily life products are plastic. Carry bags, Electronics, cosmetic packaging, water bottles and the list goes on. This is because plastic is a durable, water resistant and cheap material. Compared to metal, it is much lighter and readily available. These qualities had led to such popularity of plastic in the economy. Moreover, due to the rise in online shopping and the COVID-19 pandemic, the plastic use has spiked in the form of packaging and protective accessories. But when it comes to nature, the impact is grave. Plastic is a non-biodegradable material, which means that it cannot be converted into biotic component and returned to the soil. It stays in the soil for centuries, which is much slower than the rate at which we are filling the landfills. Contrary to popular belief, about 90% of the plastic isn't even recyclable. Poorly managed plastic waste makes its way to choke animals both on the land and sea, a lot of it in the form of microplastic. Moreover, the burning of plastic creates highly toxic fumes. So, the only effective way to reduce the negative impact that plastic creates is to stop using it.

While there are some occasional initiatives taken up by governments around the world to reduce plastic pollution, none of them prove to be very productive because the economy is now highly dependent on this material. Most of the products we use are either themselves plastic or come in plastic covering. The durability and the versatility of the material poses a great challenge to its ban. The alternatives to plastic would be paper, cloth, metal, glass etc but these products are usually not as cheap as plastic which makes it difficult for businesses to switch to the eco-friendly alternatives. This debate had been alive for decades now but so far, no conclusion could be reached. It's righteous that plastic be banned from use in any and all forms but it is always the

economy that poses such a challenge to that initiative. Over the years it has been seen that even taxation has not proven to be successful in curbing the use of plastic.

Concludingly, it can be said that, the need of the hour is more creative solutions. Plastic cannot be completely banned so it should be creatively integrated into out systems. With developing technology, we now have biodegradable plastic and durable plastic infrastructure such as plastic roads which are constructed from recycled plastic bottles and is much durable than the metalled roads. Moreover, taking more initiatives to responsibly dispose plastic can help reduce plastic waste and increase recycling. Nevertheless, we must reduce the use of plastic as much as we can and opt for eco-friendly options.

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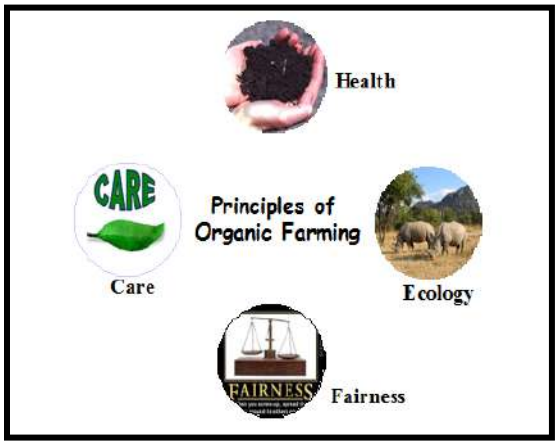
SEMESTER/YEAR:- **II SEMESTER/1st YEAR**

SUBJECT NAME:- **ENVIRONMENTAL STUDIES**

PROJECT TOPIC:- **ORGANIC FARMING IN INDIA**

ORGANIC FARMING IN INDIA

Organic farming , a system of farming during which agricultural production is completed with none use of chemical fertilizers, fungicides and insecticides. It is achieved by maintaining a natural balance and sustainable use of natural resources .It is based on the concept, 'Feed the soil not the plant' and stress is laid on increasing the soil fertility instead of supplying nutrition to the crops. Currently India is having 835000 organic farmers and 1.2 million hectares of land under organic production, producing around 1.24 million tons of organic produce. Madhya Pradesh has highest area under organic farming followed by Maharashtra then Orissa.



Green revolution no doubt increased the food grain production but also led to some agricultural problems. Excessive use of chemical fertilizers and pesticides

has led to deterioration of environment and soil condition. Excessive use of nitrogenous fertilizers led to contamination of ground waters due to leaching of nitrates with rains .Use of un-recommended and un-timely pesticides at higher than the recommended doses resulted in appearance of pesticide residues in l food products like wheat, rice, etc. Organic produce is in high demand because of the health-conscious consumers. Consumers are aware that toxic chemicals is used in growing crops which can have negative health effects on them. Increased demand for organic products also resulted in increase in area under organic farming in India. To promote organic farming, the Government of India has established a National Centre for Organic Farming at Ghaziabad which has several regional centers.

India formulated organic standards in the year 2004. These standards are not limited to production only but also processing, storage and transportation. The ultimate aim of all these standards is to maintain the integrity of organic products till they reach its consumer. Some of the major standards are:

- Burning of crop residues is prohibited.
- Seed should be from the organic crops but if it is not available then untreated conventional seed to be used.
- There must be a legume crop in the cropping system to maintain the soil health.
- Use of all agro-chemicals is strictly prohibited.
- Use of contaminated water e.g. sewage water is also prohibited.

Some advantages of organic farming are that the production of healthy and quality output. Organic farming is environment friendly since it helps improve soil fertility and thereby the repeated usage of that particular patch of land for agricultural purposes is possible. This helps in reducing deforestation. Another advantage of organic farming is that the pricing of organic output in the market is high which means that the profit margin for the farmer is also high. This sustained method of agriculture helps in maintaining a constant and judicious balance of crop yield and saving our environment. Though organic farming is emerging as a good alternative yet this is not a solution to all the problems related to agriculture. Lower crop yields under organic farming and lack of marketing mechanism are its major limitations. Increasing food grains demand for the growing population is a big challenge to organic farming as India needs about 276 million tones of food grains by 2020. Governments and international communities should help farmers financially to propagate organic farming that will help in saving our agro-ecosystem and biodiversity.

ORGANIC FARMING IN INDIA

Organic farming is an integrated system of farming, for cultivating the land and raising crops to keep the soil alive and in good health by use of organic wastes crop, animal and farm wastes, aquatic wastes and other biological materials along with beneficial microbes i.e. biofertilizers to release nutrients to crops for increased sustainable production in our environment.

It also excludes the use of synthetic inputs such as fertilizers, pesticides, hormones and feed additives and rely upon crop rotations, crop residues, animal manures, off-farm organic waste, and biological stem of nutrient mobilization and plant protection. It protects the long term fertility of soils by maintaining organic matter levels, and creating optimised conditions for biological activity within the soil.Organic farming is an essential part of today's world.This also implies the connection between the plant realm and the collective of animals; among agribusiness and ranger service; between soil, water and environment.Nature receives diverse techniques to gracefully supplement the dirt and keeps up the soil's fruitfulness.The plant leaves produce carbs and later change these carbohydrates into sugar, starch, cellulose, lignin, and so on.Organic compost includes mixing the carbon, nitrogen, phosphorus, and potash rich materials.The minor components are available in extent, and the pivotal carbon-nitrogen proportion is neither too high nor excessively low.This sort of arrangement is inside the capability of ranchers.There is no need to include some nitrogenous manure as a supplement.The nitrogenous substance compost agitates the supplement equalization of soil.Nitrogenous manure is known as an energizer of development, and there is furore for it among the ranchers.This method, when used, can improve the health of people and the richness of soil on which farming is done.The reliance on these methods is beneficial as they provide more nutritious crops and better nourishment.

Through organic farming, soil richness is kept up and improved by a framework that advances organic movement and the physical and mineral nature of the dirt as a way to give a decent supplement flexibly of plant and creature life just as to ration soil assets . Organic farming was done a lot in the country of India in ancient times.Organic farming is chemical free farming.In which chemical fertilizers are not used.Farming that is done through natural resources is called organic farming.Green manure, crop rotation, compost manure are used more to strengthen the fertilizer power of the land without pesticides.Organic farming is completely pollution free.Organic farming increases the fertility of the land.If we talk about before 1990, organic farming was not promoted in the world because everyone had taken steps towards producing agriculture by using chemical fertilizers.If we talk about the farming done in India, since ancient times in India, farmers of India used to do organic farming.After the civilization of chemical farming from abroad, the farmers of India also started doing chemical farming to increase production. Were.By doing organic farming, no pollution of any kind is generated nor does the fertilizer capacity of the land get destroyed.The grain produced through organic farming has a lot of energy.When we use grains obtained from organic farming, then we get a lot of post food for our body.By doing organic farming, there is a huge increase in the irrigation interval. Farmers

also benefit a lot due to the increase in the demand of grains obtained through organic farming in the market because the grains obtained from organic farming are disease free. Along with being disease free, the grains obtained from organic farming are tastier.

WATER CONSERVATION- A NEED OF HOUR

What we usually think when we hear the word water : Water is a transparent, odourless, colourless liquid which quenches our thirst . About 71 percent of Earth surface is covered with water where 3 percent is fresh water but only 0.5 percent is available fresh water for the people of the whole world . This might be shocking but true.

The average person waste up to 3 gallon of water everyday .we all know very well that water is useful in many ways. Fishing, household works, drinking purpose, in industries and factories, for aquatic plants and animals water is essential. Hence we can say that water plays a major role in our lives. Not only everyday but every hour we depend on water. It is really important to maintain the balance of the nature .we always want more and more in our life. Like wise we overused water and now we are facing problems.

There are some countries facings water scarcity such as Lebanon, Qatar, Israel. The main factor behind the water scarcity in those countries are due to climatic charges, excessive use of water, and increase in population. As the population increases demand for the water increases. Because of using excessive amount of water and frequent pumping form ground, the level of water is day by day decreasing. Scarcity of water can effect the future generations. As no water will be left for them. If it goes on like this a day will come when people will fight with each other for a single drop of water. We should think twice before using water. Though we fully cannot change the situation, but we can practice some good habits like closing the water tap while brushing , using required amount of water for bathing, planting more and more trees, by not polluting water bodies, directly watering the plants or trees on their roots rather than on entire trees, practicing rainwater harvesting and encouraging other's to conserve water.

We should always remember without water no life can exist. Water is one of the most precious gift by the mother nature we have so its ours duty to keep it safe and protect it. If its not now then we can never save our Earth. Let us join our hands and promise not to waste water anymore and to stop others from wasting.

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One Word	2 Words	3 Words
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scarcity 1.7%	water scarcity 1.14%	water tap brushing 0.57%
trees 1.7%	water increase 1.14%	excessive amount water 0.57%
increase 1.7%	water water 1.14%	frequent pumping form 0.57%
percent 1.7%	percent fresh 1.14%	ground level water 0.57%

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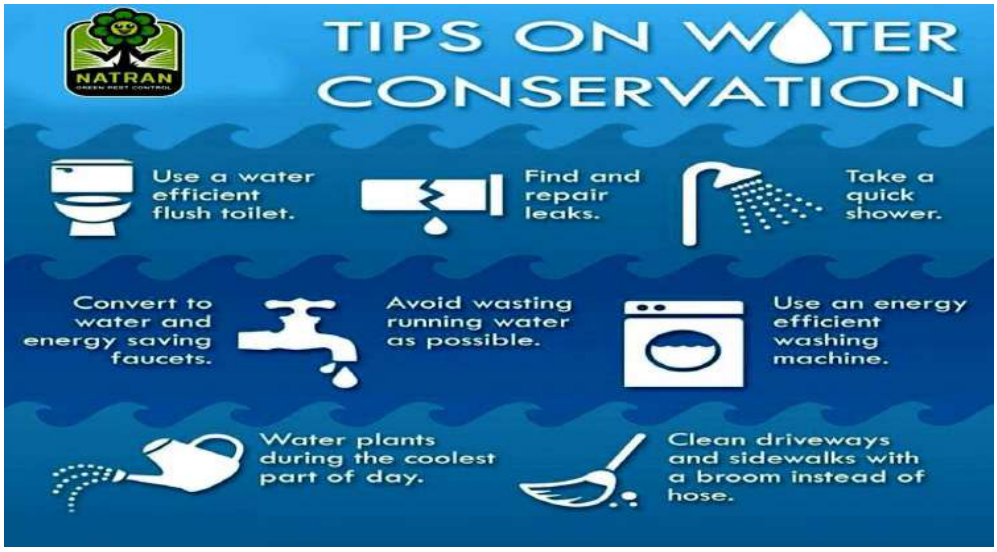
Water Conservation- need of the hour

Water Conservation means the efficient usage of water to reduce unnecessary water wastage. Water Conservation is important, the reason being limited availability of fresh clean water as well as the high cost of it. Conserving water is essential for ensuring that we have adequate water today and in the future. **Water is renewable but not an infinite resource.** The water supply on earth today is the same as what it was when this planet was formed. It is upto all the human beings to use water wisely.

70% of the earth as well as 70% of the human body is made of water. Today we have millions of marine species, many plants and animals evolved to survive in non-saline conditions. In the early times human beings settled down along the fertile river basins because it was easy for growing crops, and was convenient for transportation.

Presently, the agriculture sector demands for 70% of the freshwater and the rest thirty percent is shared by industries and domestic uses. But human beings have become the reason for the scarcity of this precious resource.



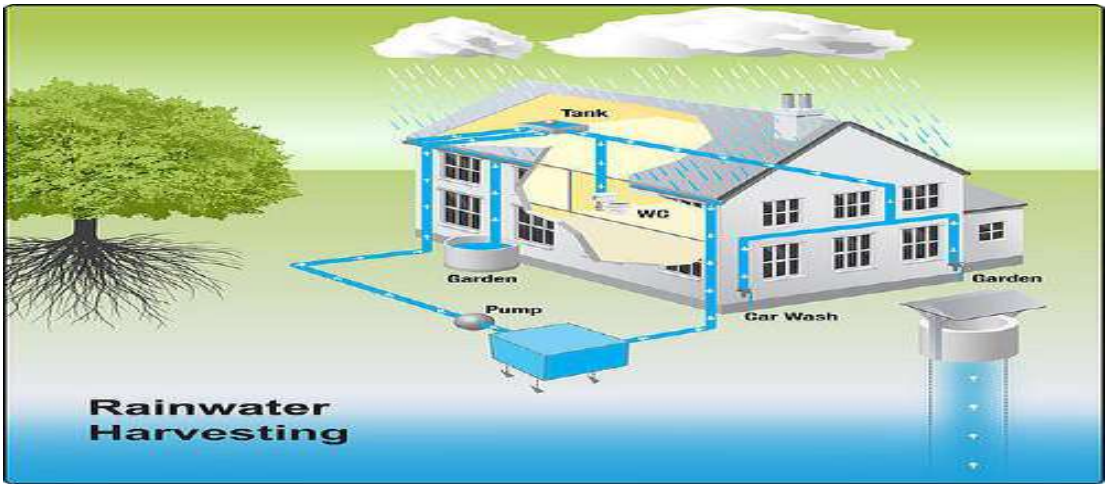
Water Conservation is the need of the hour because:

Water Conservation minimises the effects of drought and water shortage: We always need more fresh water because of population and industry growth, and we do get constant supply. Although water finally returns to the Earth because of water cycle, but water doesn't always return to the same place, or in the same quantity and quality. By reducing the amount of water we use, we can stay protected from future droughts.

Water Conservation is a guard against increasing cost and political issues: Water Conservation failure can eventually lead to the lack of an adequate water supply, which can have drastic consequences. These include increase in costs, reduction in food supply, health issues, and political conflict.

Here are a few methods of water conservation through which we can save water for the future:

Rainwater Harvesting: It is an effective and a simple method of collecting water for using in the future. Rainwater Harvesting is a process of collecting, filtering and storing rainwater for future usage. Rainwater is collected during rainfalls, and then filtered and stored for irrigation also drinking and other purposes.



Taking shorter showers: A normal shower takes about ten minutes, we can shorten our shower durations and it's better if we take bath using mug and bucket instead of a running shower.

Turning off the running tap while brushing our teeth, shaving, or cleaning dishes, vegetables etc. Or prevention of leaky taps.

These small steps and everyday habits can bring about a big change in the future and save an enormous amount of water. All living beings are dependent on water for living, growing and surviving. If the water gets over in this planet, there will be no future and survival for any living being. Scarcity of water is something which the world faces and if it continues one day there will be no life on earth. Water ensures food safety, industrial production and also conserves our biodiversity. Saving water helps in protecting our environment.
We should all save water and ensure a safe future for our next generation and ensure there's enough water left on the planet in future.