IDEA 2019

FESTIVAL OF IDEAS

February 28 – March 01, 2019

Abstracts of Ideas

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Festival of Ideas, Held on February 28-March 01, 2019, IGNOU, Maidan Garhi, New Delhi-110068

Under the aegis of the Institution's Innovation Council (IIC), National Centre for Innovation in Distance Education (NCIDE), IGNOU.

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About the Festival of Ideas

The Festival of Ideas is being organized by the National Centre for Innovation in Distance Education (NCIDE) under the aegis of the Institution's Innovation Council (IIC) on February 28 and March 01, 2019 at IGNOU, Maidan Garhi, New Delhi. The objectives are to recognize, share, nurture and promote the ideas of the students of IGNOU. For this Festival, ideas of the IGNOU students were invited from all over India. The following were the themes in which ideas were invited :

- Food, Agriculture and Rural development

- Clean Energy and Alternate Fuel

- Clean Water and Water Management

- *Swacchata* Initiatives and Waste Management

- Health Care and Hygiene

- Education and Open University System

- Smart Transportation and Traffic Management

One hundred and twenty ideas were received from the students from across India. These ideas were evaluated by a panel of experts and the best twenty ideas were selected. These selected students have been invited to participate in the Festival.

The duration of the Festival will be of two days. It will have two parts. In the first part, an exhibition of ideas will be organized in which an idea competition will be held through posters and oral presentation. Three winners will be selected by a panel of judges and awarded. In the second part, a workshop on Business Plan Development will be held for all the selected students. The workshop is aimed to impart knowledge and skills related to Intellectual Property Rights, Design thinking, and Business Plan Development.

This Festival aims to facilitate the students to show their talent, test their ideas, connect with mentors, challenge themselves to think innovatively, and win exciting prizes. This would help the students to enhance their social and emotional learning, while boosting their competitive spirit. The training workshop on Business Plan Development will facilitate them to convert their ideas into innovative products and services. It is planned that the fully developed business plans created by these twenty students will be submitted to the MHRD Innovation Cell in October 2019.

FOOD, AGRICULTURE AND RURAL DEVELOPMENT

Kisan Progress Card (KPC)

Ashish Kumar Singh

Programme: PGDRD

It has been found that due to a sudden change or in era of transition, farmers seem very reluctant to share information to various stakeholders of government. This Kisan progress Card (KPC) collects information of farmer on holistic basis and serve reluctant information to all co-related department annually/semi-annually. It facilitates the Government to record the level of development, concurrent needs and convert sample of various strata. It helps the Panchyati Raj Department and Agriculture Department to work simultaneously for development framework. This KPC puts emphasis on both qualitative and quantitative methods of collection data. It is also helpful for feedback analysis. This card can be better utilized soon after the completion of *Rabi* or *Kharif* crops to plan better for better yield. For implementation, the following is required: (i) Change Agent: This might by a *Kisan Salahkar* at the Block level, under the supervision of BAO and coordinator, (ii) Consolidated information sharing between the Ministries of Agriculture, Panchayati Raj, Social Welfare and Revenue and Taxation, and (iii) Information about the adaption of permanent policies and norms. If this idea ids implemented by any State Government, that Government would easily do holistic planning about supply and demand, farmers' economic condition and development needs of farmers.

Production of Eco-friendly, Nutritive and Low cost Organic Selenium through *Azolla*

C. Sreenivasa Reddy

Programme: PhD in Biochemistry

We are all aware that, due to increasing global warming and environmental pollution the bioavailability of good quality or organic nutrition became a costly affair. Even after spending more money, it is tough to get healthy and un-adulterated food. Also, the poultry industry is facing many issues and challenges with regard to communicable diseases owing to the poor immune strength of animals. So many industries are using antibiotics to prevent diseases. If we are able to improve the bioavailability of some specific minerals which are having antioxidant activity, we would be able to reduce the dependency on antibiotics and in turn we can address the issue of antibiotic resistance. This idea addresses this burning issue in the field of animal husbandry or veterinary sciences. This idea will help to boost the immune system of the farm animals and allow the growth of animals without any external antibiotics, especially for poultry, cattle, and other domestic animals. This method caters to the needs of normal farmers, small scale industries and of any big agricultural farm. The beneficiaries will be the rural veterinary animal breeders, and medium and small scale poultry industry. Here an idea of natural process through which selenium, a trace element required for boosting immune system and antioxidant status of our body or any living cell (plant or animal), gets increased is proposed. To achieve this, cultivation of *Azolla* (aquatic fern) in solution (medium) containing organic selenium is proposed. *Azolla*, which has 25%-30% protein content, is being used as feed supplement in veterinary animals. *Azolla* is widely used to purify the ponds. This property of *Azolla* will be used for the production of organic selenium. Selenium gets incorporated in the proteins, and converted into organic form. Organic minerals have much more importance than inorganic minerals due to more bioavailability with organic minerals. The dry mass of *Azolla* cultivated in organic selenium can be used as an alternative source of mineral supplementation rather than giving external antibiotics or synthetic drugs/chemicals. For cultivation of *Azolla*, the following steps are proposed: (a) Preparation of pond artificially, (b) Add red soil, super phosphate and inorganic minerals which are essential to growth of *Azolla*, (c) add inorganic minerals which are needed to convert to chelated form (d) grow *Azolla*, (e) dry the *Azolla* and make fine powder, (f) estimate Amount of mineral present in one gram of powder, (f) supplement the feed of veterinary animals with *Azolla* powder according to the requirement.

Developing a Unique Community Owned Supply Chain Model

Om Prakash

Programme: PGDUPDL

There is a need to enhance the farm and non-farm income, which would lead to food and nutrition security as well as economic and social security to rural and urban poor. The proposed model on organized retail vending options can be one of the best options to fulfill this need that would enable social and economic inclusion of rural as well as urban poor. The idea proposes the following: (a) converging and strengthening community based institutions (CBOs/CSOs) for establishing organized market for agricultural as well non-agricultural products for ensuring sustainable livelihoods of rural and urban poor and access to rural produce to urban populace, (b) establishing a mechanism for continuous, reliable, economical and sustainable model for bridging the supply demand gap in market for fresh and perishable vegetables, farm produce as well as non-agricultural produce from rural to urban areas in an organized manner, (c) developing a pilot model supply and marketing plan by direct access to the markets to farmers and fair, just and equitable distribution of the earned profits to the associated farmers, artisans, inclusion of urban vendors, market space availability and (d) ensuring social security, skilling, support for sustainable means of livelihood to the rural poor (farmer) as well as urban poor (vendors/hawkers). The implementation would require the (a) convergence of the Ministry of Housing and Urban Poverty Alleviation and Ministry of Rural Development, (b) involvement of Urban Mission, (c) operationalization of vendor committees in urban areas and development of organic clusters under farming and other clusters based on local livelihoods activities (d) price discovery in rural areas (collection centre) based on the local APMC wholesale prices/mandi rates of individual products, and the subsequent determination of distribution prices at APMC prices of the commodities/retail price as per vending location, among others. The beneficiaries include the rural poor, farmers, artisans, urban poor, vendors, urban populace and rural and urban CBOs/local bodies. This model aims to establish community based organizations' ownership of livelihood activities and thus, ensuring engagement of its members in income generation activities.

Agro Era Vedic Tec

Shashank Singh Bisht

Programme: BCA

The current agriculture system faces the problems of expensive fertilizer and pesticides, lack of proper irrigation facilities and high quality seeds, small holding of land, inadequate storage facilities and transportation, bad shape of agricultural marketing, scarcity of capital, and lack of mechanization. Chemical fertilizer is bad for the health of farmers. These fertilizers are distributed by companies and farmers have less knowledge about them. This idea is proposed to usher in a new agricultural era with the use of Vedic technique and new web technologies. The aim is to re-frame Vedic agriculture richness in India with new web technologies. This idea is to educate the farmers to practice ancient Vedic farming techniques to increase the fertility of the soil and increase crop output. The idea is to promote Vedic farming, improve the conditions of farmers in India, and increase employment in the agriculture sector. It is proposed to create an online platform for farmers, vendors and landless farmers, where they can register themselves and create an account and can see their monthly salary according to their crops and products. If any farmer produces crops independently even then they can log in and buy products and set deals of their crops. The beneficiaries will be the farmers, vendors, and landless farmers, the environment and the society.

Split Inverted Pyramid Transplanting Tool (SIPTT)

Vinod Kumar K

Programme: PGDESD

Transplanting a seeding to the field is a key agricultural operation. When the plant is transplanted carelessly, the roots can be bundled together, in wrong direction, and unable to supply nutrients to the plant. The seedling experiences transplant shock. Transplant Shock is significantly reduced with Split Inverted Pyramid Transplanting Tool (SIPTT). The SIPTT is shaped as a four sided inverted rectangular pyramid container. The sequence of operating SIPTT is: (i) Slide in the split sides of the pyramid sequentially into the source ground around the seedling. An inverted rectangular pyramid contains the seedling, its roots and soil, (ii) Pull out the SIPTT containing the seedling, (iii) Insert the SIPTT, with the seedling in it, in the target field, and (iv) Slide out the split sides of SIPTT sequentially from the field. The SIPTT container, with the seedling, is pulled out from the source field. The seedling with its root soil structure intact is safely inside the pyramid container during transfer to the target field. The pyramid with seedling is then planted in the target field. The sliding in and sliding out causes very little stress on the soil root structure of the seedling. The beneficiaries of this idea are the farmers who transplant seedlings from a source field or nursery to the target farm field. Initially the SIPTT will be used for only the planting operation in the farm field. SIPTT will be made using plastic angle sections instead of steel cut into V shape. Secondly, the process of extracting a seedling using SIPTT from the source field will be added as a new feature. The pyramid sections will be made with steel instead of plastic. Thirdly, the two above mentioned plastic and steel pyramid sections will be handled by pneumatic actuators mounted on a tractor. One pyramid V shape will pneumatically be inserted into the soil by the SIPTT operator on the tractor. The second pyramid V shape will be operated independently by pneumatic controls sensing the position of the inserted first V and then positioning and inserting the second V such that the pyramid is formed.

HEALTH CARE AND HYGIENE

Depression : A Digital Approach

Argha Basu

Programme: BDP

Student depression is growing to be a serious problem across the world, especially in India. The ever increasing levels of stress, competition and workload are likely contributing factors. The problem encompasses a wide range of student behavior: from the lack of motivation to continue and succeed at one's present course of study to the extreme step of a student committing suicide. Depression is a challenging problem best dealt with by professionals; this idea is an aid to conventional treatment by psychologists and psychiatrists which the ideator has developed through personal experience. This idea is based on correcting one core assumption a student suffering from depression has: that they cannot get out of their current situation and that just because they have failed in the present, they cannot ever be successful in the future. Aside from conventional therapy, it is the ideator's strong belief that what will help a student are stories. Stories of the past, of people who have suffered the same affliction, the same failure yet have gone on to achieve success. However, depression is something that isolates an individual from the society at large and even from one's own family. A student in a situation like this has no exposure to such stories. Since these stories are real and autobiographical – having been written by individuals once in the same situations as these students – they could potentially have an authentic and positive impact. It is very difficult to find such stories, even in the age of the internet. The idea is to create a free website where students suffering from depression can anonymously interact with each other about their situations and lives, as well as find a collection of such stories of success from seemingly doomed situations that are written by their very own peers and seniors. The website will help them to get in touch with a network of people who have suffered depression and come out of it. Till date no website exists where students in India, be it preparing for their engineering or medical entrances, or PhD researchers tackling an insurmountable long-term problem, can get exposure to stories of individuals who walked the same path as them and suffered the same insecurities, the same frustrations, afflictions and loss of hope. Reading about such individuals and being able to contact them will provide a new dimension of experience for students that they will otherwise not get from sources that mean well but have not personally gone through the experience themselves. The core emphasis on stories, empathy and interaction are based on my original understanding and experience. Depression in students affects not only themselves but also their parents, grandparents and so on. Many families are thus affected and this harms society at large. It is in the best interest of both the individual and society to have safe places of learning, interaction and conversation about issues of mental health and this idea aims to cater to that interest. The initial plan of action will be to create a website with the collected stories, publicise it, cultivate a strong base of users to share their stories, monitor abusive content and acquire additional help to manage the website.

Ambulance Management Solutions

Bharath Varma Sai Patcham

Programme: MPA

This idea is proposed for decreasing the response and transit time of the ambulances and bringing behavioural change in general public to give way to ambulance. For this purpose an application (app) was developed, which can be used in the mobile phones to be installed in ambulances. The objectives of the app are to minimize the transit and response time of the ambulances. The app can be installed in minimum 10 ambulances and to test the effectiveness of its functionalities. Using the app, the driver and paramedic in the ambulance updates and status of the patient, the status is alerted to hospital staff by way of a phone call and a message based on which the operation theater, stretcher and other arrangements are made by the hospital staff considering the patient conditions updated. The routes taken, average response time (to reach patient) and average transit time (to reach hospital) are recorded for every journey to optimize the travel. The ambulances can be better positioned considering the geography and hot zones of accidents. The app records the number plate (takes picture) of vehicles obstructing the movement of the ambulance. The app can be linked to the traffic control room. The pictures captured based on certain criteria are manually or by machine learning (ML will be implemented based on the dialogue) scrutinized by traffic control room to see whether the vehicle causing obstruction to ambulance was intentional or because of traffic congestion. The penalty (of Rs. 1/-) notice may be issued based on this scrutiny in relevant cases. The app can help to position the ambulances based on the hot zones of accidents and reporting. The driver can select the nearest hospitals for patient transit. Paramedical staff selects the status of patient so the real time status is shared with the selected hospital staff for necessary arrangements. 'Give way to ambulance' is promoted through app.

HUNGER AND OBESITY FREE INDIA

Biplob Ozah

Programme: MADE

Hunger and obesity are the complications that are being addressed by this idea. As per the Global Hunger Index, India was ranked 103rd out of 119 qualifying countries. The key indicators of this index are- undernourishment, child wasting, stunting and mortality. On the other hand obesity is another problem, which seems to be a very small thing but it gives rise to the numbers of chronic disease like diabetes, hypertension and many cardiovascular diseases. This idea attempts to solve both the problem of hunger and obesity together. This idea proposes a coordinated effort using education, modified food culture, public awareness and implementation of food policy to solve the problem. The education system can add 'Nutrition Science' in the curriculum along with 'Environmental Science'. The basic knowledge in the areas like consumption of cooking oil; reduction in the use of salt and limitation in the use of sugar, lowering the consumption of deeply fried and baked foods etc., can be easily acquired with the help of 'Nutrition Science'. For this, establishment of the Department of Dietetics/Nutrition in the college and university is must. Various short term summer and winter internship/awareness programme on nutrition should be offered to the Masters students might be helpful. There is an urgent need to establish a commission at the medical college level to check the progress of health status at regular intervals. Deployment of dieticians/nutritionists from the sub-centre up to the medical college is also a must to combat the problem. If programmes are conducted where the nutrition professional/dieticians are engaged in a five working day schedule and one-day awareness campaigns at schools and colleges, they would be able to convey the correct information about nutrition to every child along with his or her family. Thus the problems of obesity, risk of cardiovascular diseases, diabetes as well as hunger will be lowered slowly day by day. Further, we should try to prepare optimum amount of food to prevent from wasting. A strict food policy regarding check and awareness of food selection, preparation, consumption and wasting might contribute a lot towards the solution for the said problem. When people will be educated and start buying, cooking and consuming optimum amount of food, then wastage will also be lowered. Simultaneously, due to strengthening and applying food wastage policy, the amount of wasting of food items will be lowered.

Tuberculosis (TB) Free Box

Faiz Anwar

Programme: Master of Social Work

With 18 lakh registered patients of tuberculosis (TB) across the country we can well imagine the large extent of unknown patients. There is a fear that one TB patient can infect more than 10 TB patients, if they are unaware about the precautions. As we know TB brings with itself the knowledge gap of misconception and social exclusion. This idea is to bridge the knowledge gap through the TB free box. The idea of TB box is that it is a completely a zero budget, school project kind of large scale awareness. The TB free box will be implemented from villages to towns and then connect cities. It can educate more than 1 crore people in 50 days. The students, as part of crafting and drawing curriculum, can make TB free Boxes. The TB free BOX will have the following things written on its sides: (a) Symptoms of TB, (b) Precautions that should be taken, (c) The contact number of respective DTO and address, (d) Government security schemes for TB patients, and (e) Side effects of leaving the medication halfway through the treatment. The TB box will go one house to another and small chits having any remarks and the signature of the people will be put in the box. Micro level health workers will be utilized for this purpose like Sahiyas, Ashas, and Anganwadi, and school students, with very minimum use of technology. This original idea proposes a method of awareness on TB, enhancing community feeling and reaching the unreached that is free of cost of utilizing the already existing modes in the society.

Corporate Nutrition and Fitness Boot Camp

Subham Seal

Programme: DNHE

With the increase in globalization and increase of global hiring and startups, workplace is been one of the most important place to incorporate a holistic approach towards a fitter India. However, there is a lack of proper education and knowledge on healthy eating in the corporate sector. An increase of demanding and rigorous work schedule is adding to the already hectic lifestyles, and stress levels are on the rise. Further, the rise of mental agony results in bad posture and muscular imbalances causing pain in neck/back, leg or knee. A lack of active lifestyle reduces the work efficiencies and leads to fatigue and increase of stress. Also, there is an increase in dependence on fast food and binge eating. It has been observed that there is an increase of chronic diseases, such as diabetes, obesity, anxiety. The statistics of the American Health Association show that 89 5 of the employees use some kind of health programmes, which has a strong impact on job satisfaction. However, in India, there is a non availability of a sustainable corporate fitness educational program. This idea is to develop corporate health programme and make the workplace a better place to be fit. The programme will have the elements of community based workshops, boot camps and imparting proper knowledge on diet and training regime. The programme will be of short duration and high intensity designed to give the participant the maximum returns for his/her invested time. An app will also be developed based on planning of diet and exercise routine, so that same can be tracked. All programs will be equipment free, thus eliminating two of the biggest hurdles-location and equipment-towards sustenance of a fitness programme. This programme will encourage a "Fit India" Movement. (Anywhere, Anytime, Everyone).

EDUCATION AND OPEN UNIVERSITY SYSTEM

Any Time Print Machine (ATP) 24 × 7

Parthiv Rameshchandra Bhatt

Programme: ACPDM

In rural areas many students face the problem of taking printouts of documents. Also, they cannot afford a personal computer/laptop/smart phone or printer at home. Most of them neither have the facility of cyber cafes nor have enough money to spend. Without the use of internet or the availability of online study/documents they lose the opportunity of being competitive. To solve the problem this idea of Any Time Print Machine for students has been conceptualized. The Any Time Print Machine requires the following installations in a room: one tablet with limited features and pen drive access, one CCTV camera, one printer, paper for print, Internet facility (only broadband not wireless), microcontroller-based identification system that employs a coin of Rs. 1/-. The machine provides the student with two options. The first option is to use the Internet only for searching material or to fill forms. For this Aadhaar card is compulsorily required for log in. After verification internet connectivity will be provided for 30 minutes free of cost and after 30 minutes the computer/tablet will automatically log off. For 30 minutes a student can access the Internet and can take a printout of an important document. A student with his/her authentic Aadhaar card id can avail of this service once in a day. After one login session expired, he can use this service after 24 hrs. The second option is to take a printout using the microcontroller technology. In this option a coin of Rs. 1/- can be used to take one printout from the computer/tablet at a time. The coin of Rs. l/- has to be inserted into the slot, where it will be identified. One blank page will come out from the box of the machine and the printer will start. A paper has to be inserted in the printer for print. The printer will print only one page and for the second print one has to reinsert a one rupee coin. This Any Time Print Machine will be beneficial to the students and people of rural and remote areas. It will also be helpful for the people of the cities in any emergency situation.

Course Project Management System for IGNOU

Shaistha Fathima

Programme: BCA

The existing system does not provide proper notification services, formats for project synopsis or report and related information to the students. There is no faculty to solve students query well enough. The process of postal submission of the synopsis or report makes it nearly impossible for the students to act if by chance, the delivery was misplaced or delivered after the due date. Most importantly, students are not well informed of the necessary dates for the synopsis submission such as; the synopsis of the final project must be submitted in the 5th semester itself, before the submission of the project report in the 6th or the final semester. Also most of the work is done manually, which takes up too much of time and resources. Course Project Management System for IGNOU is proposed to automate the existing manual system with the assistance of the computerized equipments and full-fledged computer software. The beneficiaries of this idea will be the Students of IGNOU, and the faculty involved. Both the student and the faculty will be provided by the facilities of notification updates, query support, forum and technical support, all of which will be monitored by project admin, who in turn will report to or ask assistance from the central admin. Similarly, faculty members can turn towards the head of faculty for additional support. Likewise, the technical support team will be under the Head of Technical Support. All of whom, will in-turn be under College Head of Departments, thus, providing complete transparency and preventing authority abuse. Course Project Management System for IGNOU can lead to error free, secure, reliable and fast management system. It can assist the user to accomplish their respective tasks easily without making it too cumbersome. The User can also provide their feedback to make the system better! HTML (5), CSS and its libraries, JavaScript, J2EE, MySQL, Java Programming language are the technologies that will be used to implement this idea.

College Assignment Management System for IGNOU

Tahseen Fathima

Programme: BCA

College Assignment Management System for IGNOU, is proposed to automate the existing manual system with the assistance of the computerized equipments and full-fledged computer software. College Assignment Management System will lead to error free, secure, reliable and fast information system. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information that is relevant much more quickly. The main objective of the Project on College Assignment Management System is to manage the details of College, Student, Staff, Assignments, Viva and the Marks obtained over all in assignment. It manages all the information about College, Student, Assignment, Viva, and Marks. The project is totally built at administrative end and thus only those with proper authorities are guaranteed the access. The main objectives behind the development of this project are as follows: (i)To provide information related to assignment, (ii) To manage records of students, (iii) To let the students know about the due date of assignment submission, (iv) To let the students access assignment question paper online and download it, (v) To help the students with guide lines how to finish the assignment, (vi) To create a forum for the students, (vii) To create a query for the students, (viii) To manage assignment submission, (x) To make the system automated for assignment submission, (xi) To generate an automated assignment submission notification, (xii) To schedule viva exam, (xiii)To upload marks obtained in the assignment, (xiv) To provide details of assignment marks obtained, (xv) To store the data for longer period of time and to access it easily in the future when needed, and (xvi) To reduce redundancy. HTML (5), CSS and its libraries, JavaScript, J2EE, MySQL, Java Programming language are the technologies that will be used to implement this idea.

Know Your Path (KYP)

Vaibhav Singh Rathore

Programme: BTS

Confusion and misguidance are two one- word answers to all problem faced by a student once in their life. For example, many students are not doing what they love to do, or many do not have any idea of the available colleges for admission or career options. Therefore there is a need of a torchbearer that could help them know themselves better. This idea is about developing an artificial intelligence powered mobile application that will remove all the problems faced by students. This app is envisioned to help the students in many areas, such as suggestions for the best college for admission, competitive examination related information, online courses related to one's passion or area of interest, information about their personality, hobbies, etc. The app will thus allow students to find a career path related directly to their passion or interest. The app has five pillars to engage and empower students. (i) Collegeopedia: A student can provide input regarding their hobbies, passion, area of interest and course. The colleges that have courses related to the input value will appear on the screen with the help of artificial intelligence, (ii) Counselling : There will be chat bots that will be scheduling interview of students with counsellor according to their availability. There will be a life journey of a person who decided to take an offbeat career options just to give the student an idea about the pros and cons, (iii) Courses and Certification: Courses and certifications on the hobbies of the student that will allow them to do what they love, (iv) Competition: Many students never get chance to flaunt their talent and loads of fellowship idea exchange forums go unnoticed so to spread awareness this part is added where notify the opportunities available in India will be notified. Artificial Intelligence will automatically fill the form and a payment needs to be done so that one does not miss any form, and (v) DWUL Section: A psychological test option will be where a student can acquire knowledge about their strengths and parts of personality they need to improve. The beneficiaries will not only be the students but also parents, teachers and colleges.

SWACCHATHA INITIATIVES AND WASTE MANAGEMENT

Arising Village

Getti Narsing

Programme: MARD

If we observe the articles of use in our homes, such as soap boxes, brushes, wash scrubbers, etc., everything is made of plastic. Our day starts with tooth brush which is plastic. This is not only a phenomenon in the urban areas, but also in rural areas as well. In old days people used clay pots and articles made of wood. There was no plastic contamination in the earth and water. The use of bamboo trees was extensive. In this idea, it is proposed that the farming of bamboo trees and other wood producing trees are vital to abolish plastic from the world. The Government should encourage the coir industries also. Farmers should be motivated to farm the useful plants, which could help replace the plastic articles with wood. The Government and non-profit organizations should train the people in producing the home needs in every village. This should also bring the employment in the villages and the beneficiaries will be the unemployed youth mostly. The government should establish village industries, such as coir industries and wood article industries, which should be operated with manpower only. The Government should also take the marketing responsibilities in implementing of the wood products and must conduct awareness programs on uses of the natural and harmless wood articles. The Government should provide the required machinery to the industries who are manufacturing plastic products either to allow them to start industries that produce wood based products or to send the processed wood material to the villages. In the villages the trained people would make that material into useful articles for daily home needs. "The plastic less world" revolution may start with home needs. If it could be implemented, then in between ten to fifteen years we could see a plastic less world

Garbage Costing

Kunal Singh Sisodiya

Programme: BA

The problem which is being addressed by this idea is of sanitation and waste management. For the solution of poor sanitation and unorganized waste management in our country, the method of "Garbage Costing" is proposed. This method involves attaching element of price with the waste products, i.e., garbage. The idea of 'Garbage Costing' involves the formation of two units at the district level: (i) Management wing, which would deal with management and financial processes, and (ii) Executive wing, which would deal with garbage collection. The executive wing will be divided into several wards depending upon the population. Each ward would consist of garbage collector office, which would be supervised by a garbage collector. The garbage collector office would collect garbage provided to them by ragpickers as well as households. For the garbage collection activity, the collected garbage would be sent to 'Garbage Treatment House' where garbage could be reused to prepare pesticides, fertilizers, poisons, bio-energies, etc. In return of the waste products, the money paid by these garbage houses would be sent to the management wing so that the cycle could continue. One thing to note here is that the government should initially provide subsidies and low cost land to as to attract people to invest in these types of industrial sectors. Households, ragpickers, government and the society will be the beneficiaries from this idea. With this idea, households and ragpickers will be benefited as they will be paid for the garbage they collect; the Government will be benefitted as it would not spend a lot of treasury on inefficient municipal machineries. And if seen on a broader level, clean and healthy surroundings will benefit the society as a whole. A simple management of garbage collection by attaching a price value to it, and garbage treatment technology can be used to implement my idea.

Cooperative Lavatories

Vipul Bhatt

Programme: MCOM

The grotesque yet familiar site of people openly relieving themselves in common places is not an uncommon site. According to WHO in India 626 million people practice open defecation. Despite several rules and regulation public still have a negligent and ignorant attitude towards public hygiene. A general notion is formed that kissing in public is illegal but pissing in public is justified. Some of these laws are as follows: (a) Police Act of 1861, Section 34- it enlists the offenses that can be committed on roads etc. The clause in which enumerates that mentions that any act which may bring inconvenience, annoyance, risk, danger or damage to the residents or passengers shall be liable to fine or imprisonment or both, (b) Provision under The Indian Penal Code in which Section 290 enumerates the Punishment for public nuisance. India has a huge deficit of toilets. Only 32 per cent of rural households have their own toilets, according to a survey conducted by National Sample Survey Office (NSSO) in 2012. An additional nine per cent may have access to toilets outside their homes. Even Prime Minister Modi announced that over 100 million new toilets will be built in the country, but the real challenge is maintaining them – especially the ones that already exist. The problem of open defecation and public urination can be solved by increasing the number of toilets in the area. Two ideas are proposed: (i) To create financially viable model through which a tie up with local establishments like cafes, petrol pumps, large restaurant chains like KFC and McDonalds etc having toilets and washrooms, could be established so that common people (other than the staff, customers, clients, etc) could use their facilities. Such shared facilities can be called <u>Cooperative Washrooms</u>. (ii) To create a mobile application which will shows the user the nearest public, private and cooperative washrooms and toilets where they can go to relieve themselves. The application will be designed to entail additional features such as P-credits, Women safe Tags, ratings meter, recommendation column and comment box to review the facility. At a nominal fee the public will have a large number of well maintained toilets to choose from. They don't have to go to unhygienic and stinky toilets anymore. Washrooms enlisted under the proposed application will be well maintained, clean and safe to use. They will have complete freedom to rate, review and recommend the enlisted washrooms. Toilets deemed safe, secure and hygienic will be readily available and accessible to all women and children Users can be made aware of nearest possible washroom and toilet available through the application. The local establishments will be able to earn extra income by opening up their lavatories for the common public. It will serve as free advertisement and may also help boost their sales as influx of people to their establishments will increase. Establishments with Lavatories that have good Ratings and Reviews and more P-credits, Women Safe Tags and recommendations will be ranked higher in the list and will attract more attention from the public. They will be able to develop good relationship with the local authorities as they are providing a public service for the Government of India. The network of toilets will significantly increase without incurring any significant additional expenditure Successful implementation of the model will eliminate the need to create additional public lavatories. It will reduce the public menace of open defecation and public urination.

SMART TRANSPORTATION AND TRAFFIC MANAGEMENT

D-Vector : A Saucer Craft

Deepak

Programme: BSC (Physics Hons.)

D-Vector is a kind of saucer craft. It is a machine which has an ability of Vertical Take Off and Landing (VTOL) and Horizontal Take Off and Landing (HTOL) in emergency, hover and to fly in the air or through the air due to its shape and its working principles. It is a hybrid aircraft which works on aerofoil technology (has an ability to produce direct more lift), aircraft technology (has an ability to HTOL, rolling, yawing and pitching), drone technology (has an ability to forward, backward and side wards, in case of jet engine failure or any other condition) and rocket technology (has an ability to yawing like rocket). The whole body of saucer craft is in symmetric aerodynamic surface. It has a disc as the saucer craft's main body that holds crew and passengers (cockpit). It also provides the space for the mount of jet engine and ducted fans for stability. It has a flap area type of high-lift device used to increase its lift at a given airspeed. It also has a propelling nozzle that it converts a gas turbine or gas generator into a jet engine. It has many abilities, which are useful for the society. It has the ability of gliding and can hover in air at any altitude. It requires a very small area for take-off and landing, and can hide in the clouds. It can be used in places of public convenience, such as air taxi, air ambulance, for surveillance or performing rescue operations in place of fire fighter, in defence sector as fighter craft, transporter carrier, and in space research organization as space ships.

Mapping and Treating of Traffic Hazard Spots using GIS – A Smart step towards Traffic Safety Management in Uttarakhand

Hiramayananda Mohanta

Programme: PGDSS

In the recent times road safety has become a major concern in India. The road geometrics in the hilly terrain are identified to be more challenging compared to that in the level or rolling terrains due to presence of steep hill slopes over which the roads are aligned and constructed. The safety on hill roads could be improved by alerting travelling vehicles to negotiate the steep hill slopes, sharp curves and challenging geometry through installation of appropriate warning devices and protecting them from running off the narrow roads with the help of appropriate road side protections. Identifying and mapping of traffic hazard spots of a road is the first and foremost task in addressing the road safety issues, especially in hilly terrain. This idea is proposed on the mapping of traffic hazard spots, such as black spot, which known to everybody using Geographic Information System (GIS) and Differential Global Positioning System (DGPS). This idea proposes GIS mapping of guard rail, parapet wall, delineator, causeway, culvert etc., which will alert vehicles to negotiate the steep hill slopes, sharp curves and challenging geometry, such as a narrow road. The idea was developed during a case study in Uttarakhand within the chainage of 9+000 to 19+000 on the Rishikesh-Bhaniyawala Road of Dehradun District in Uttarakhand State. A base map of Rishikesh-Bhaniyawala Road at a scale of 1:5,000 was prepared with reference to high resolution satellite imagery available in Google Earth engine. Then a preliminary road safety audit was done. During the audit a hand held GPS (in this idea DGPS will be used) device of Garmin (eTrex 30x) was used to track the traffic hazard spots at various chainage level. An audit form had been designed and taken to the field to restore the hazard site information with reference to GPS point. After the complete survey, GPS data in the form of waypoint was converted into shape file format in ArcGIS software. Track of Rishikesh-Bhaniyawala road collected as secondary source of information and re-reference with Google imagery. Then overlay analysis of two GIS layer (waypoint and track) had been done to extract the traffic hazard site information on the basis of audit data. Linear referencing tool had been used to calculate the chainage. Black spot mapping was done as per black spot study report sourced from PWD. Finally a thematic map of Traffic Hazard Spot at chainage level had been prepared. In this idea GPS device will be replaced by DGPS (Differential Global Positioning System) for maintaining the traffic hazard location accuracy for effective traffic safety management.

CLEAN ENERGY AND ALTERNATE FUEL

My Energy, My Fuel and Pollution Free Earth

Rakshanda Jha

Programme: BDP

Every day, every minute while working we release a lot of energy. Due to lack of technology all this energy is wasted every day. So, the idea is to make an energy absorber which will absorb the released energy, an energy converter which will convert the energy to electricity and a battery to store the released energy. This setup may be costly initially but can be made cheaper and cheaper with innovation and upgradation with time. The setup will be fixed in bicycles, gym equipments, trampoline, children's bounce house, and playgrounds etc. where a lot of energy is released by humans. As a result, the energy released by the people in the activities like cycling, jumping, gymming, etc. will be absorbed, converted and stored into the battery in the form of electricity for use as fuel for cars, motorbikes, mobile charging, etc. By using this setup people can make themselves fit, the load of traffic on road will be minimized, there will be an alternative fuel for petrol, diesel, etc. which will be a sustainable and an eco-friendly, clean energy. The idea will be useful for the society as it will encourage people to use bicycles, got o gym etc. and make clean energy will be generated and an alternative of petrol, diesel, etc. which is released by the human itself for human use. Initially, the idea can be exhibited in energy parks, amusement parks, etc. Then slowly bicycles with the human energy setup can be launched and slowly and steadily the idea will be improvised regularly and can be expanded to more places and can be tried to make it more and more cheaper and available to each and every person personally. Also, like an energy plant (i.e. thermal power plant, etc.), a human energy plant (i.e. a park) where this setup will be placed on a large scale, in each and every town, city, village, etc. with no or minimum entry fees. This will let people to come here more and more and enjoy which will give then pleasure and generate electricity for the country.

About Institution's Innovation Council

The Indira Gandhi National Open University (IGNOU) has constituted the Institute's Innovation Council (IIC) following the establishment of the MHRD Innovation Cell (MIC), to systematically foster the culture of Innovation through multitudinous modes leading to an innovation promotion ecosystem at IGNOU. The IIC is housed at the National Centre for Innovation in Distance Education (NCIDE), IGNOU, New Delhi. The IIC carries out several activities to inculcate a culture of innovations among the students of IGNOU.

About NCIDE

The National Centre for Innovation in Distance Education (NCIDE) was established in December 2005. It is a facility for promoting, supporting, re-engineering and disseminating innovations in Open and Distance Learning (ODL) system. The NCIDE is a ground for nurturing bright and inquisitive minds whose ideas and explorations are expected to develop the ODL system to suit the needs of Gennext. The Centre's goal is to develop a culture of continued search for new and innovative solutions to offer seamless education for all, achieve cost efficiency in its operations and provide borderless access to quality education and training.

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