Sub-theme-III

Social Innovation for Sustainable Living

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"***The betterment of society is not a job to be left to a few. It's a responsibility to be shared by all.***" **– David Packard**

It is about 'new idea that works'

Introduction

A social entrepreneur from Tamil Nadu Mr. Arunachalam Muruganantham invented a low-cost sanitary pad making machine, and developed grass-roots mechanisms for generating awareness about traditional unhygienic practices followed during menstruation, particularly in urban slums and rural India. In fact, the film,' *Pad Man* ' released in 2018 popularised sanitary pad among the women for their safe reproductive health and hygiene, also depicted about the prevailing taboos and stigmas on such natural phenomenon of womenfolk.

Perhaps, *Pad Man* is one of the finest success stories of our times that show how a minor innovation can bring about major change in the life of women. When a small innovative step leads to a great impact on the society at large, such an innovation is known as social innovation. It means- '***It is about new idea that works'.***Thus, social innovations are new idea(s) viz. products, process, services and models that simultaneously meet social needs and create new social relationships or collaborations. In other words, these are the innovations which are both good for society and enhance society's capacity to act (Murray, *et al.*, *2010).*

Some social innovations have found way in mainstream due to their immense utility for one and all. For example, some of these have successfully managed to integrate *Divyangjan* (Specially able) into the society by helping them overcome their challenges. The smart white cane specially designed for the visually challenged, detects obstacles to help them to navigate easily.

Similarly the Swachhta Abhiyan has led to a significant behavioural change which has been witnessed by everyone. These are the indicators of the society's capacity to act. It is noteworthy that catering to the need of the multi-linguistic requirements of our country is one of major factor behind success of Swachhta Abhiyan. So involving community through proper socio-cultural interlinks where one can accept the programme as their own is an another important dimension of such social action related drive.

Ecology, economy and society being three pillars of sustainable development, act as a support system not only in the life of an individual but society at large. In context of the proposed focal theme society is interlinked with science and sustainability. In the process of this linking, society plays a dual role, that of a benefactor as well as of a beneficiary. When society, through the usage of science or innovation impacts the sustainability, it is acting as a benefactor, whereas when sustainable living influences the social network, it becomes a beneficiary. Such innovations when fulfil societal needs, are termed as social innovations.

There is a growing consensus among practitioners, policy makers and the research community that technological innovations alone are not capable of overcoming the social and economic challenges modern societies are facing. Social innovations appear in a variety of forms and influence our lives. They change the way we live together, travel, work, or handle crises, and they are driven by different societal sectors and cross-sectoral networks (Howaldt *et al*, 2017). Environmental damage, resource scarcity, and persistent poverty for a significant section of the population have clouded the country's focus on economic growth over the past few decades and social innovation can address deep-rooted economic, environmental, and social challenges via innovative processes and community engagement (Prasad and Manimala, 2018).

Social innovation is used globally to describe and identify quite different activities that are focused on compelling social problems and equally compelling social values. The urgency of addressing these compelling social problems calls for new and decisive solutions (innovations) that have both the intent and effect of equality, justice and empowerment. These innovations are found to be a novel solution to a social problem, that is more effective, efficient, sustainable, or just than existing solutions and for which the value created across primarily to society as a whole rather than any particular individual.

More recently, there is an emerging literature that focuses on learning from frugal or '*jugaad*' approaches to innovation, which is about improvising solutions to problems using scarce resources, based on a rich understanding of local needs. These frugal approaches to innovation are now impacting on societal ideation processes, where frugal approach is an approach of innovation or engineering process to reduce the complexity and cost of goods and its production.

Another way to understand social innovation is to peep through the lens of needs. The Social Innovation Exchange, for example, emphasises on finding new ways to 'meet pressing unmet needs.' Thus, the social in social innovation can refer at a minimum, to values, needs, well-being, and social impact that demonstrate its complexity and multi-faceted nature. In fact, an understanding of social innovation needs to have a historical perspective as well as all successful traditional knowledge evolved as innovative attempts to solve problems that

existed at those points of times. Thus, Traditional knowledge (TK) is a source of innovation both within the local context of TK communities and outside.

Since there is no single, commonly agreed definition of social innovation, it reflects the fact that social innovation is predominantly a practice-led field in which definitions and meanings have emerged through people doing things in new ways rather than reflecting on them in an academic way. Social innovation encompasses a very broad range of activity, which includes the development of new products, services and programmes; social entrepreneurship and the activity of social enterprises; the reconfiguration of social relations and power structures; workplace innovation; new models of local economic development; societal transformation and system change; non-profit management; and enterprise-led sustainable development (Pue, Vandergeest and Breznitz, 2015).

As an agent of social change, social innovation contributes to: (i) satisfy human needs that would otherwise be ignored; (ii) empower individuals and groups and (iii) change social relations. In order to witness these changes, science and technology is playing a significant role.

In present age of digitalisation, technology is not only being used for its application to improve the quality of life but also to empower the end users, wherein service providers of the technology act as catalyst to the changes taking place. Social entrepreneurs, or those who use innovative approaches to social problems such as poverty, lack of access to healthcare in rural areas, difficulties in bridging the gap between employability and unemployed youth, and problems such as lack of access to credit for women. In these and other cases, technology plays a

prominent role. Not only is technology inherently innovative but also it has become increasingly cost effective to deploy technology to solve social problems.

The Information and Communication Technology (ICT)-enabled social innovations have been assisting farmers, who need real-time updates on weather patterns as well as sowing schedules so that they can plan harvest accordingly. Further, fishermen in coastal areas need to be intimated of approaching storms and hence mobile-based apps that can do this job are preferred. Some other applications of these innovations include IT-based kiosks in rural areas wherein people, teenagers and the youth in particular can pick up IT skills, which would enhance their employability in future. Moreover, through mobile apps, micro-credit institutions and the people they finance can keep in touch with each other leading to better credit utilisation as well as repayment.

People make use of science and technology in everyday for household purposes. The emergence of electricity brought people to an entirely new world. The domestic appliances help people economize time, money, and effort. The integrated communication system also created a way to end the gap of no communication or miscommunication. The internet provides people the entertainment as well as the information they need on a daily basis. It is interesting to note that how existing technologies are put to innovative use by fishermen in trading of their catch while still being at sea and directly unload the catch to those markets which offer better returns compared to others.

The advancement of technology brings unprecedented improvement in the field of medicine too. A lot of diseases considered incurable before are now treatable, and medical procedures have become more reliable and safer. Remote medicine or Tele-medicine is an

innovative way for the poor to access expert medical help and screening followed by customised and precise referrals to speciality hospitals. Most of the times, it is these innovations which make technology accessible to the poor rather than the technology itself which qualify for social innovation and we need to understand the difference between high-tech S&T and innovative delivery mechanisms.

However, every coin has two sides. Though there are increasing problems from the rapid advancement of technology and its misuse, disregarding its means is not justifiable. Thus social innovations make the advancement of science and technology more accessible, creating better opportunities for people who need help leading to better quality of life.

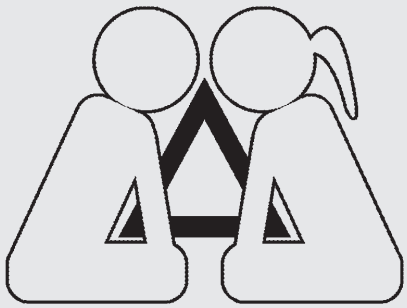
Taking a cue from the examples mentioned hereinabove, teacher guides and child scientists may look around for what social innovation strategies, approaches, or techniques have been impacting the lives in the society and how? Identifying a research problem and working on it would be quite simple, once the context of the problem converted into an opportunity leading to practical solutions is analysed and understood.

Indicators of the activity of innovation are not as well developed as those for research and development in science and technology, or technological innovation, in short. Development of social innovation has greater potential for social impact because this innovation is not confined to the laboratory; it is a market place phenomenon and has more immediate impact than research and development that can take years to effect change through technological innovation.

Box- 3.1

Brief History of Social Innovation

Social innovations are new social practices that aim to meet social needs in a better way than the existing solutions, resulting from working conditions, education, community development or health. These ideas are created with the goal of extending and strengthening civil society. Social innovation includes the social *processes* of innovation, such as open source methods and techniques and also the innovations which have a social purpose—like activism, online volunteering, microcredit, or distance learning. The innovation should be at least "new" to the beneficiaries it targets, but it *does not* have to be new to the world. It focuses on the process of innovation; more precisely in relation to how innovation and subsequent influenced new work and new forms of cooperation especially on those who work towards the attainment of a sustainable society.



In 1060s social innovation was discussed in the writings of Peter Drucker and Michael Young, founder of the Open University. It also appeared in the work of French writers in the 1970s. However, the themes and concepts in social innovation existed even long before. Benjamin Franklin talked about small modifications within the social organisation of communities that could help to solve everyday problems. In recent years, social scientists rediscovered the work of Gabriel Tarde on the concept of imitation in order to understand better the social innovation and its relation to social change. Othertheories of innovation have become prominent in the 20th century, and many of which had social implications, without putting social progress at the centre of the theory. Beginning in the 1980s, writers on technological change increasingly addressed how social factors affect technology diffusion and how social innovations are dependent on history and the change in institutions like-*Charter Schools, Community-Cantered Planning, Emissions Trading, Fair Trade, Habitat Conservation Plans, Individual Development Accounts, International Labour Standards, Microfinance, Socially Responsible Investing, and Supported Employment*

Focus

Social innovations move through ‘4i’ process

The social challenges that we are facing range from climate change to ageing societies, poverty, social exclusion, migration and social conflicts. The main focus of social innovation is on the fundamental transformation of the social system and the structures that support it. In other words, transformation of the order as well as institutional structure of society.

The strength of such a concept of social innovation grounded in social theory is that it enables us to discover how social phenomena, conditions and constructs come into being and transform. The countless and nameless inventions and discoveries change society and its practices through equally countless acts of imitation and only as a result do they become a true social phenomenon.

Social innovations open up opportunities for the development of new social practices.

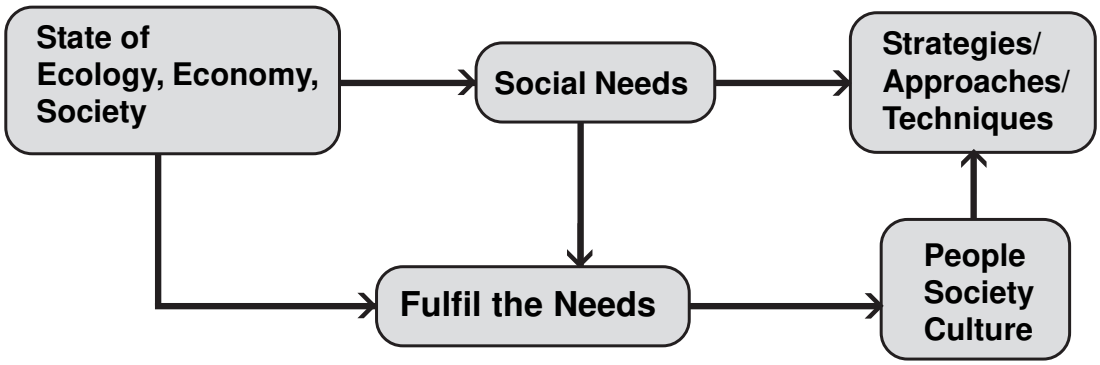
An innovation is therefore social to the extent that it varies social action and is socially accepted and diffused in society (be it throughout society, larger parts, or only in certain societal sub-areas affected). Like any innovation, social innovations too, regardless of the intentions, are in principle ambivalent in their effects and new social practices are not the “right” response to the major social challenges and the normative points of reference and goals associated with social transformation processes. With their orientation to the solution of social and ecological problems that cannot be sufficiently dealt with via traditional forms of economic and government activity, many social innovations to a certain extent carry out repair. Social innovations open up opportunities for the development of new social practices.

All social innovations move through a “4i” process: an idea, intervention, implementation, and finally impact (Hochgerner, 2012). A social innovation cannot be considered as such until it has reaches the final stage – impact. Until a social

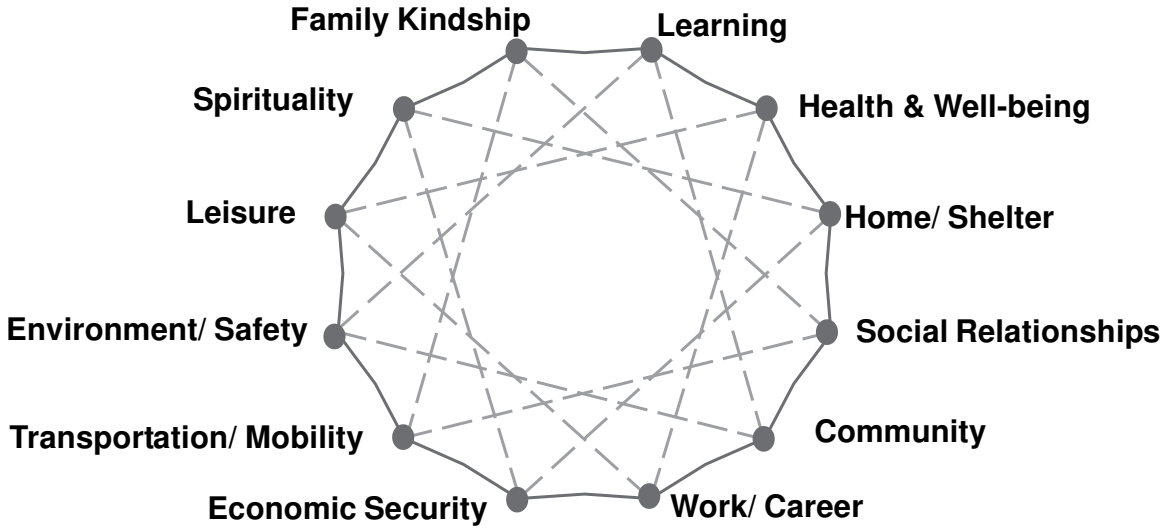
innovation has some form of effect, it is merely an ananidea. For Social Innovation to be effective in creating an impact, it must follow the following criteria:

1. It must be new or fresh or novel
2. It must address a social challenge
3. The intent must be to create equality, justice and empowerment
4. The effect or end result must be equality, justice and empowerment.

Framework



The focus of the present context would therefore be on the basic needs of any individual, who is the unit of a society. Thus, the scope of this sub-theme would basically be to satisfy one or many of these needs through social innovation approach.



(A)

Basic social needs
where innovation could be thought of

- Food
- Clothing
- Shelter
- Livelihood
- Healthcare
- Education
- Communication
- Transportation

(B)

Fig. 3.1. *Twelve Basic Needs (A) and Basic Social needs (B)*

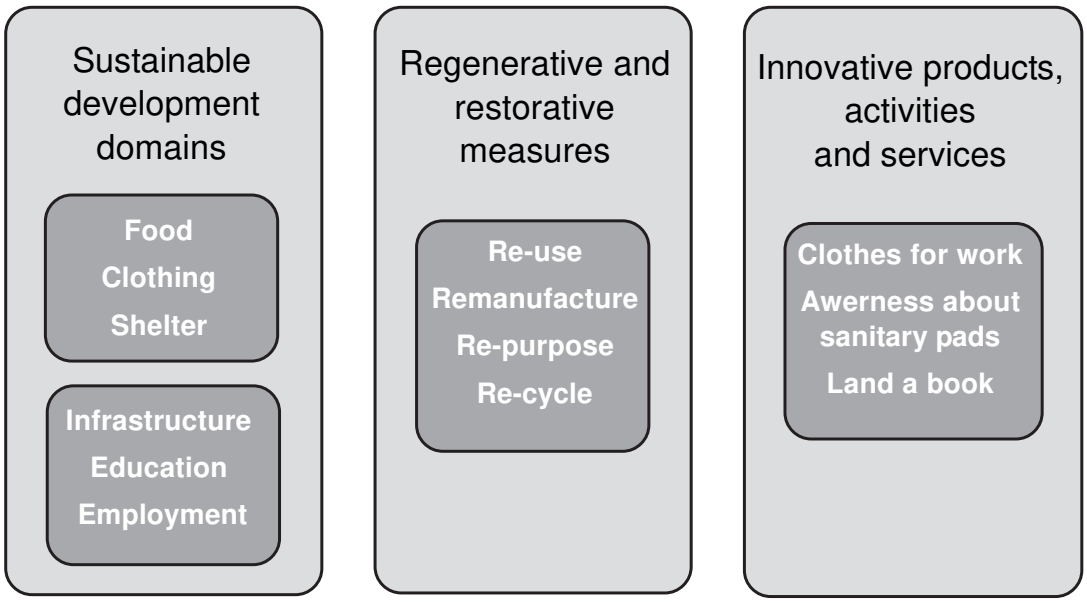


Fig. 3.2.*Schematic diagram showing relationships among 4Rs and innovative products towards sustainable development*

Model Projects

Project – 1: Observe Earth Hour Every day for Illuminated Future

Background

Earth Hour is a worldwide movement organized by the World Wide Fund for Nature (WWF). The event is held annually encouraging individuals, communities, and businesses to turn off non-essential electric lights, for one hour, from 8.30 to 9.30 pm on a specific day towards the end of March, as a symbol of commitment to the planet. Since 2007, when it was started, it has grown to engage more

than 7000 cities and towns across 187 countries and territories to raise awareness on energy consumption and effects on the environment.

Objectives

- Sensitize and create awareness among the society at large
- Realize optimal use of limited resources
- Save energy, environment and economy

Methodology

- Collect information (e.g. from 20 households) on energy consumption, to form a baseline or primary data
- Keeping 10 households as control, do not change their pattern of energy consumption
- In remaining 10 households, observe Earth Hour on daily basis, by switching off the lights for one hour, between 8.30 and 9.30 pm, for a period of minimum one month
- After one or two months of observance, compare the energy consumption patterns in both the groups

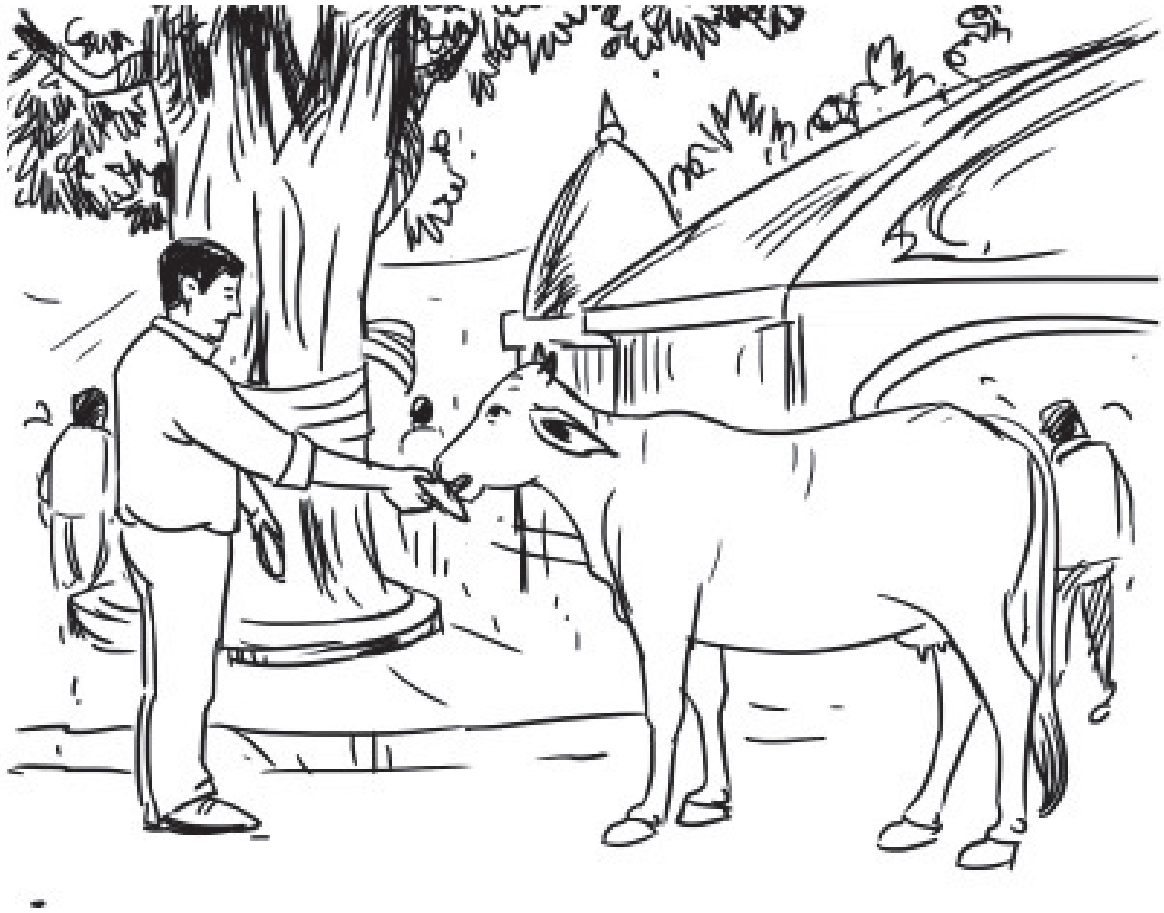
Expected outcome

- A small change could lead to big savings of energy and economy, thereby saving environment
- With such sensitisation, an initiative of creating awareness among other households would take the message far and wide

Project – 2: Our Local Eco-cultural Tradition and Sustainable living

Background

Every place has its own unique eco-cultural practices / traditions. With the passage of time, many of these are getting lost. For example, every town has religious places and outside those, one can witness presence of bovines standing and feeding on green grass being offered by the visitors. The owner of the bovine provides grass, grown on his/her own fields, to you for a price; thereby making it a sustainable process. Can there be anything more innovative as an extension to this practice?



Objectives

1.Come up with an innovative idea for making existing tradition / practice sustainable
2.Work out strategy for the benefactors and beneficiaries
3.Must reinforce three arms of sustainability: environment, economy, and society

Methodology

Followings are the steps to conduct the study-

1. Identify and understand the eco-cultural tradition prevalent in your locality
2. These could be related to biodiversity / sacred groves, natural resources, water bodies, animal husbandry and the likes
3. Collect detailed information on any one aspect (e.g. feeding grass to bovines outside temples)
4. Assess pros and cons in today's context
5. Normally animals fed outside temples are indigenous breeds producing very less amount of milk
6. Though they yield less mild, these animals are hardy, disease resistant and have different composition of milk
7. Collectively, such animal owners form an unorganized sector
8. This sector can possibly be organized through innovative approach such that each member of the group is economically benefitted (pooling of milk from all the members and supplying locally)
9. Compare the milk composition of these indigenous animals with that of hybrid animals, economics of health-related expenses incurred, and so on.

Expected outcome

1. In the present example, organising (bringing together) the unorganised sector would make the venture sustainable for every one
2. Quantity vs. quality and cost benefit analysis of the model developed would be a great learning

Project – 3: Rainwater Harvesting in our School

Background

Rain is an important and the only source of water which plays an active role in hydrological cycle. It is also the medium with which water gets recharged in the ground. In urban communities and towns, water keeps running off from rooftops but does not percolate into the ground. Instead, it reaches the ocean through runoff. Rain water harvesting is a method of collecting and storing the water in natural reservoirs or tanks and recharging the aquifers. Because of underground water getting depleted, there is a continuous scarcity experienced in a region which makes us think on how to collect the water which is otherwise getting wasted as surface run-off. Rainwater harvesting from the rooftops is an excellent method which helps in accumulation and storage of rainwater for reuse.

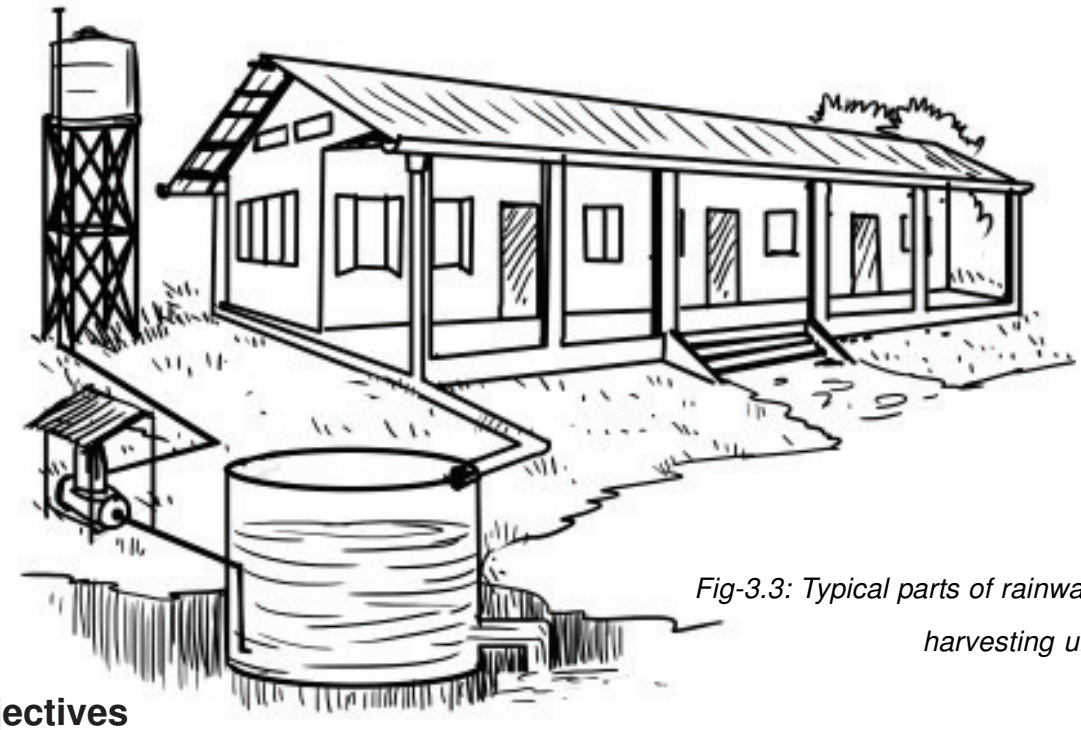


Fig-3.3: Typical parts of rainwater harvesting unit.

Objectives

To practise rainwater harvesting:

1. by understanding the concept and importance of water conservation through collection of rainwater.
2. by understanding the concept of recharging of water
3. developing an approach and methodology to practice it as per the building type.

Methodology

1. Decide the building or area where rainwater harvesting is to be introduced. The orientation of each building should be such that it maximizes the chances of collection of water. Identify the area where the rainwater can be collected and stored through wells and storage recharge bore-wells.
2. Scientifically water is collected through funnels using infiltration techniques.
   a. Identify the catchment area
   b. Identify where water is going to drains and becoming waste water.
   c. Water from the rainwater pipe from the roof can be collected and passed through the filtration system so that it retains its quality and could be used.
   d. Water from sloping roof is collected through pipe and then it can be passed through different filtration beds and can be collected in tanks/ recharge well for reuse.
   Infiltration Channels: The channel is utilized to expel suspended particles from water gathered from housetop water. The various sorts of channels for the most part utilized for business design are Charcoal water channel, sand channels, horizontal roughing channel and moderate sand channel. Digging the pit in the form of well and filling it up with rocks, stones, and pebbles from bottom to top for water to percolate down and under
3. Calculation of areas where water gets collected in terms of terrace, backyard.
4. Collect data of regional rainfall.
5. Calculate the water getting collected from these catchments, developing equations.
6. Cleaning of old wells.

Benefits:

Available water for future.

Outcome

1.Water does not get wasted and gets collected within the campus. Use of natural resources responsibly.

2.Ultimately, the idea could be replicated for the buildings in the same lane, then to the adjoining areas and in the city to recharge and increase the groundwater table of the area.

Project – 4: Formation of a Book-Bank in my Village

Background

When we talk of literacy mission and education for all, we also need to understand how and where the resource material, particularly textbooks are coming from. Our society has children of varied socio-economic backgrounds and hence there are a number of children who cannot afford buying text books at a cost. So, can recycling of used text books be introduced which will not only help in solving the above issue but also sensitize others, who can afford buying new text books, by way of developing an attitude of sharing? In the process, children become conscious about preservation and maintenance of text books.

Objectives

1. Reuse and Recycle of text books by sharing/forming a Book Bank.
2. Learn to preserve and maintain the books in a scientific manner.

Methodology

1. Carry out need assessment - who are in need and which books are needed
2. Collect used text books from different sources
3. Self-exchange by the students from your school
4. Ensure that after use is over, books are passed on to the next user
5. Assess the quality of the books
6. Wherever required, maintain books as per the need: Putting a cover, labelling, pasting, treatment of the books received for preservation and indexing for record maintenance and other aspects of library science.
7. Eventually form a Book Bank / run a mini-library in the village or locality.

Expected Outcome

1. Children would learn different methods of preservation of books (including the traditional ones) to make those last long
2. Maintenance of books to last long
3. Learn how to share and to make optimal use of the limited resources
4. Managing and handling of books, indexing, numbering and nomenclature, lending or circulating. Following library science procedure, they will learn to value and respect the books
5. The practice may act as a boon in terms of source of knowledge for the underprivileged,
6. It may contribute towards reduction in the rate of deforestation which would ultimately lead to preserving nature
7. The practice may be scaled up to the formation of Village Library

Project – 5: Healthy Food Initiative in My School

Background

Food comes to us in different forms; choice lies with us whether to pick up healthy or unhealthy one. School canteens or food stalls at different places often attract the consumers with attractive packaging, ‘added’ taste / flavour, and ultimately take a toll on their health, leading to more cases of obesity. On

the other hand, every home has its own varied combinations of food stuffs for different meals of the day. If the same are introduced in such a manner that can attract the younger generation, it could bring in a revolution.

Objectives

1. To understand difference between healthy and unhealthy food
2. To identify type of food provided in school canteen
3. To replace unhealthy food stuff with healthy alternatives
4. To assess the impact of introducing a change

Methodology

1. Gather information about components that make food 'healthy'
2. Evaluate and compare BMI or BMR in children from a school
3. Group them according to their consumption pattern (unhealthy Vs healthy)
4. Create awareness about healthy nutrients in the food
5. Depending on the local varieties or cuisine, try replacing the unhealthy items
6. Record your observation on acceptance of the particular food item

Expected Outcome

1. Role of fast food / unhealthy food items on BMI or BMR could be understood
2. Healthy ingredients in local cuisine could be appreciated
3. New taste and variety of food items provided in attractive manner could change the consumption pattern among children

List of project ideas:

S No	Project titles	Doable features
1.	Development of eco-tourism for better understanding and conservation of local ecosystem	• Identify eco-tourism sites around you e.g. river valley, coastal area, hills • Understand and study the ecology of those spots • Promote activities like nature walk, picnics, talks, guided tours
2.	Creation of 'Wall of Charity / Goodwill' for the needy (clothes / shoes) in our town / society	• Identify a suitable place for it in your locality • Initiate the process by placing unused wearable clothes / shoes • Observe the movement (both inward and outward) of these items • Study patterns and human behaviour
3.	Promotion of local art and craft for the empowerment of artisans	• Identify local arts and crafts • Understand what resource materials are being utilized; natural or man-made •Analyse their contribution in preservation / conservation of local ecosystem
4.	Underutilise iron-rich food / feed stuff to produce folic acid supplement for anaemia	• Identify iron-rich food / feed stuff not being used • Biochemical analysis in the laboratory, • Preparation of supplements out of these materials with appropriate procedure
5.	Revival of traditional water harvesting systems in our locality / village / town (abandoned wells / jhalra / baori)	• Identify traditional water harvesting systems locally • Analyse the present status • Understand and apply how those can be revived using technology, engineering
6.	Society-managed emergency healthcare services (human / animal) using mobile apps	• Analyse the status of emergency healthcare services in your locality, •Form an inter-connected group through mobile apps
7.	Reuse / recycle of discarded material e.g. Mobile phones	• Collect information about purchase pattern of new mobiles, • Analyse scientifically the fate of unused ones
8.	Bringing nature to school / Creation of Green Wall in our school	• Locate a suitable place in the school / society / locality, • Initiate steps for creating vertical garden or green wall for a cause (outgoing students' memory / new comers in the society / special occasion) • Understand, learn and promote nurturing of plantations

9.	Utilisation of open terrace of our school / home for growing vegetables	• Identify location and vegetables based on available natural resources, • Initiate planting, nurturing and observing the changes on daily basis, • Analyse the economics of the produce
10.	Minor road repairs to major fuel efficiency, a case study in our locality	• Identify a small stretch of road with potholes, • Analyse the impact on fuel consumption, vehicle maintenance, and on the local residents due to air and sound pollution, • Prove how minor change can bring about major effects.
11.	Developing products for children / people with disability (physical, vision)	• Identify the beneficiaries, • Understand their simple needs, • Be empathetic and create, design, and develop something useful for them. • Could lead to social entrepreneurship/ vocational skill development
12.	Promotion of animal products (yak / camel milk and bye products)	• Identify the animals needing attention,• Study and understand their products and bye products, • Analyse their promotional strategies locally, and explore possibilities at national and global levels
13.	Impact of 'neighbourhood school policy' on our local (urban / rural) environment	• Understand and analyse the distance between school and residence, • Assess impact of modes of conveyance, • What will happen if school comes to your neighbourhood? Will that bring in positive change?
14.	Developing a mobile app-based alert system to safeguard against natural disaster	• Identify which natural disaster has been striking around your locality. • Understand what type of precautions is being taken. • Can mobile app-based alert system be developed to alert in advance? •Demonstrate to the society
15.	Innovative designs for value addition/improving efficiency	• List out the applications of devices/items • Identify the issues related to it that need attention, •improvement or changes in the design

Required principle for pursuing sustainable living		
Targeted principle need to adopt	**Focuses**	**Projects**
Respect and care for all	There is need to understand how our daily activities are linked to ecosystem where we live in. Accordingly, it is required to design our activities so that every living being in our environment gets what they need for survival and growth. Therefore, there is a need to inculcate a practice to respect all living being.	• Preservation and conservation of sacred groves in our locality, • Solid waste management – an initiative in our school, • Development of eco-tourism for better understanding and conservation of local ecosystem, • Promotion of local art and craft for the empowerment of artisans, • Developing products for children / people with disability (physical, vision)
Leading a community life	There is need to shed individualism and adopt collectivism and it should be kept in mind as a member of society. It is required to establish collective initiatives to fulfil our needs and aspiration as well as facilitate our growth; remove the disparity between haves and have nots.	• Assessment of *Swachhta Abhiyan* and its Impact • Creation of 'Wall of Charity / Goodwill' for the needy (clothes / shoes) in our town / society • Underutilized iron rich food / feed stuff to produce folic acid supplement for anaemia • Revival of traditional water harvesting systems in our locality / village / town (abandoned wells / jhalra / baori), • Bringing nature to school / Creation of Green Wall in our school, • Utilisation of open terrace of our school / home for growing vegetables • Promotion of animal products (yak / camel milk and by-products), • Developing a mobile app-based alert system to safeguard against natural disaster
Inculcate the habit of saving	Need to inculcate the habit of judicious use by removing the practice of misuse, wastage, exploitation; practice to save Earth's resources, materials, energy; means of welfare and recreation	• Water Audit and assessment of its use, misuse and abuse at school/home/society level. • Minor road repairs to major fuel efficiency - a case study in our locality. • Impact of 'neighbourhood school policy' on our local (urban / rural) environment.
Adopt minimalism	Inculcate the approach of minimum input to get maximum output through increasing the efficiency of process involved in production, distribution and consumption.	• Innovative designs for value addition/improving efficiency.
Responsible decision-making	Need to remember that everyone is responsible for their own decision. In case, any negative impact arises to environment, life forms, fellow human being they have to rectify their decision and take action to reduce and stop negative impact.	• Events based (birth, birthday, marriage) tree plantation campaign in our locality. • Greening of festivals/ celebrations in our locality. • Craft creation from waste (rubber/plastic) collected from beaches / hill stations. • Society-managed emergency health care services (human / animal) using mobile apps. • Reuse / recycle of discarded materials e.g. mobile phones.

Box – 3.2

School in Assam Charges Plastic Waste as School Fees

As the sun rises, scores of children with bags full of books and smiles on their faces walk through the lanes of Pamohi to reach a school situated in the pristine woods in the vicinity of the capital city of Assam. The children, however, do not come to this school only with bags full of books. They bring with them polythene bags full of plastic waste as the only form of fee which this school accepts. The Akshar School in Guwahati has the kind of fee structure where children deposit at least 10 to 20 plastic items per week, with a pledge not to burn plastic.

Parmita Sarma and Mazin Mukhtar founded The Akshar School in June 2016. They wanted to start a free school for children, but were stumbled upon the idea after realizing a larger social and ecological problem brewing in this area. They still remember how their classrooms were filled with toxic fumes every time somebody in the nearby areas burnt plastics. Here it was a norm to burn waste plastic to keep warm. They wanted to change that and thus started encouraging their students to bring their plastic waste as school fees. The school has been giving formal education to more than 100 children belonging to an economically backward category. According to **The North East Now,** the school has designed the curriculum fundamentally for poverty-stricken children. Not only do they teach children lessons on Science, Geography and Mathematics, but also provide vocational skill training so that they can become skilled professionals by the end of the course.

When the establishment of the school Akshar (meaning 'letter' in Hindi) happened in 2016, the foremost challenge which they faced while starting the school was to convince the villagers to send their kids to school as most of them worked in the stone quarries as labourers to earn for their families. So they designed the curriculum in such a way that would fit the child's needs and build a creative

pipeline of employment, post-education. The students earned Rs 150 – Rs 200 per day at the stone quarries. Thus, they could never match that monetarily, so instead they proposed a mentorship peer-to-peer learning model, where the older students teach the younger ones and in return get paid in toy currency with which they can buy snacks, clothes, toys, shoes from the nearby shop. The older students teach younger children every day at Akshar, which serves two purposes – one, it makes them feel valued and important; second, they can have less number of teachers. Unlike other schools, Akshar does not have an age-specific admission system. Rather, students attend the same classes together at Akshar while sitting in open spaces. The levels are decided on the basis of knowledge of the students, tested at the time of admission—the school has tests every Friday. The students will then have to perform well to climb up the levels. This is to ensure that the quality of education is continuously improving.

The Akshar School, which started with just 20 kids in 2016, now has more than 100 children studying in the school. It now has eight bamboo huts to run their classes and two digital classrooms donated by some people. The school curriculum has various vocational courses, including cosmetology, embroidery, singing, dancing, organic farming, gardening, solar panelling, recycling and electronics. Both Mazin and Parmita, the couple now aspires to build 100 such schools across the country in the next five years.

Educating the community

With the help of the students, the school also educates the community about the harmful effects of burning plastic. They teach the villagers to recycle the waste and become agents of change. As a result of the school's initiative, more and more families in the village have started participating in the recycling drive and spreading awareness.

With the help of teachers, the students make numerous construction materials with plastic waste. The students have already created some eco-bricks with the waste material and built some plant guards in the school premises. They also wish to build boundary walls, toilets and some pathways which will help the children go from one place to another when the school campus is waterlogged, with the help of eco-bricks.

Box – 3.3

A 9-Year-Old Girl Opened A Free Street Library In India For Illiterate Children

Muskaan Arihar, a 9-year-old living in Bhopal, recognised the issue of a large percentage of people being unable to read, and decided that she couldn't sit idly by while her peers suffered through school and life. She opened a library right outside her home that is open to all and called *BalPustakalaya*. The name is fitting because it is for children and run by children, including herself.

She opens her library after school every day and invites a few dozen children to listen to her read aloud. Her library collection has several hundred books from which she chooses to share with her fellow listeners. Muskaan also encourages her peers to check out books from her library so that they can learn from home.

She has many people that are in her corner and very supportive. One organisation called Room to Read has donated over 50 books to her library and are dedicated to partnering with local writers and publishers to translate books into an area's local language.

Her library has also inspired others to start their own libraries, especially because Muskaan is so young. Girls that are a few years older see that if Muskaan can do it by the age of 9, that they can get started on their journey in aiding their peers in furthering their education.

http://www.trueactivist.com/this-9-year-old-girl-opened-a-free-street-library-in-india-for-illiterate-children/