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SUSTAINABLE PROJECTS & INITIATIVES IN INDIA: A REVIEW

The trend of taking up environmental responsibility is fast catching on around the world, in all fields like in homes, educational institutes, corporate houses, and government offices etc. While it can be overwhelming to switch to green products that can help reduce waste, conserve energy and improve air and water quality. Whenever one talks about environment-friendly alternatives, the general perception is that it is an expensive. But with few small tips we can go green and be cost-efficient about it. Sustainable life is increasingly becoming the everyday norm and there are so many sustainability initiatives around the world to help us live that sustainable life. In this paper an attempt has been made to discuss & Present few Green Initiatives & Projects in India which have been implemented for sustainable development.

Key words: *Sustainable development, eco friendly, environment friendly, sustainable initiatives, indian scenario*

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УСТОЙЧИВЫЕ ПРОЕКТЫ И ИНИЦИАТИВЫ В ИНДИИ: ОБЗОР

Тенденция взять на себя ответственность за окружающую среду быстро набирает обороты во всем мире во всех областях, таких как дома, образовательные учреждения, корпоративные дома, государственные учреждения и т. д. В то время как переход на экологически чистые продукты, которые могут помочь сократить количество отходов, сберечь энергию и улучшить качество воздуха и воды, может быть ошеломляющим. Всякий раз, когда кто-то говорит об экологически чистых альтернативах, общее мнение состоит в том, что это дорого. Но с помощью нескольких небольших советов мы можем стать более экологичными и экономичными. Устойчивая жизнь все больше становится повседневной нормой, и во всем мире существует так много экологических инициатив, которые помогают нам жить этой устойчивой жизнью. В этой статье была предпринята попытка обсудить и представить несколько экологических инициатив и проектов в Индии, которые были реализованы для устойчивого развития.

Ключевые слова: *устойчивое развитие, экологичность, устойчивые инициативы, индийский сценарий.*

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ИНДИЯДАГЫ ТУРУКТУУ ДОЛБООРЛОР ЖАНА ДЕМИЛГЕЛЕР: СЕРЕП

Экологиялык жоопкерчиликти өз мойнуна алуу тенденциясы бүткүл дүйнө жүзү боюнча, бардык тармактарда күч алып жаткан убагы, мисалы, үйлөрдө, окуу институттарында, корпоративдик үйлөрдө жана мамлекеттик кеңселерде ж. б. Таитандыларды азайтууга, энергияны үнөмдөөгө жана аба менен суунун сапатын жакшыртууга жардам бере турган

жашыл продуктыларга өтүү кыйынга турушу мүмкүн. Айлана-чөйрөгө таза альтернативалар жөнүндө сөз болгондо, бул кымбат деген жалты түшүнүк бар. Бирок бир нече кеңештердин жардамы менен экологиялуу жана үнөмдүү боло алабыз. Туруктуу жашоо барган сайын күнүмдүк нормага айланып баратат жана дүйнө жүзү боюнча туруктуу жашоого жардам берген көптөгөн туруктуулук демилгелери бар. Бул макалада Индияда туруктуу өнүгүү үчүн ишке ашырылган бир нече экологиялык демилгелерди жана Долбоорлорду талкуулоо жана көрсөтүү аракети жасалды.

Өзөктүү сөздөр: туруктуу өнүгүү, экологиялуулук, туруктуу демилгелер, индиялык сценарий.

Introduction:

Indian entrepreneurs are looking to disrupt everything right from the way we shop, to how we order food, to how we get a leaking tap fixed. However, along with excessive consumption, come problems of waste, pollution and environmental damage. But fortunately, there are startups that are looking to mitigate these environmental hazards. Combined with a love for social good and a technology-led product, they are helping the country become greener. Private players are coming out and focussing on this sector. Here we will discuss few such ventures towards sustainable development focussing on waste management, alternative sources of energy and awareness platforms.

Sustainable Development in India:

Sustainable development in this environment calls for cooperation of all countries both industrialized and developing. That cooperation must be based on the foundation of the right to development and the need for an equitable distribution of burden. The need for equity is starkly reflected in the fact that the emissions per capita in industrialized countries are ten to twelve times those of developing countries. The total emissions in the world must decline. We must find a way of solving this problem in a way that does not deprive developing countries of their right to develop. Economic growth, social development and environment protection are the three pillars of Sustainable development. Sustainability has different meanings for different contexts. For example, while developed countries are grappling with lifestyle sustainability, the developing countries are tackling issues of livelihood sustainability. As a developing country in the frontlines of climate vulnerability, India has a vital stake in the evolution of a successful, rule-based, equitable and multilateral response to issues relating to climate change.

Some interesting Inventions & Initiative in India:

In a noticeably frantic scramble for alternate sources of energy, here's a look at some interesting ones in India'. India has initiated various national missions, few of them are discussed here.

National Solar Mission:

The program seeks to deploy 20,000 MW of solar electricity capacity in the country by 2020. The first phase is completed during which 1,000 MW was planned to be installed

National Mission for Enhanced Energy Efficiency:

This mission aims to create new institutional mechanisms to enable the development and Energy Efficiency strengthening of energy efficiency markets. Various programmes initiated under it include the PAT mechanism to promote efficiency in large industries, and the Super-Efficient Equipment Programme (SEEP) to accelerate the introduction of deployment of super-efficient appliances.

National Mission on Sustainable Habitat:

It has been envisioned to promote the introduction of sustainable transport, energy-efficient buildings, sustainable Habitat and sustainable waste management in cities.

National Water Mission:

This mission is to promote the integrated management of water resources and increase water use efficiency by 20 per cent.

National Mission for Sustaining the Himalayan Eco-system:

The Himalayas, as grand they are, are also a relatively new ecosystem and too fragile at that. This program, therefore, establishes an observational and monitoring network for Himalayan glaciers, and looks forward to promote community-based management of ecosystems. This program would result in afforestation of an additional 10 million hectare of forest lands, wastelands and community lands, over the next 10 years

National Mission for Sustainable Agriculture:

The focus of this mission is on enhancing productivity and resilience of agriculture, in order to reduce vulnerability to extremes of weather, long dry spells, flooding, and variable moisture availability.

National Mission on Strategic Knowledge for Climate Change: This program would aim to identify challenges arising from climate change. It will also look into the possibility of diffusion of knowledge in the areas of health, demography, migration and livelihood of coastal communities.

The Walkie Mobi Charger

Anand Gangadharan and Mohak Bhalla, both students, invented a compact device that automatically acts as a portable mobile charger when attached to the heel of a shoe, when the person is running. The mould, wiring and shaping the metal sheets were all done from scratch by the two school boys. This gadget, that took over three months to materialise, generates electricity up to six volts, as opposed to five volts released through a plug point, and the phone battery is thus charged at a faster pace. They plan to make this an in built feature inside the sole of the shoe.”

GRIHA

Human habitats, & man-made constructions, develop their own equation with the immediate surroundings over the years. From construction to operation and then eventual demolition, they consume resources and emit wastes either directly or indirectly. Griha, a system-rating tool, helps builders evaluate their building’s eco-friendliness against nationally-acceptable benchmarks. Over the course of the building’s lifecycle, it assesses the ‘environmental performance’ of a building and, going by the adage of ‘what gets measured, gets managed,’ it seeks to find mid-ground between prevalent practices and emerging national and international concepts. GRIHA’s aim is to moderate a building’s resource consumption, control and reduce waste generation and assess overall ecological impact. With the unrelenting increase in Indian population and rapid urbanization, this is definitely the need of the hour.

India Chiller Energy Efficiency Project (IFCC) by IDBI

Banking’s going green. Funded by Global Environment Facility (GEF), the ICEEP has been being implemented from August 2009 by World Bank in association with Ministry of Environment and Forest (MoEF), GoI and IDBI Bank Ltd (Project Implementing Entity). The idea is to phase out the use of CFCs (chlorofluorocarbons) – an ozone depleting substance – by replacing old CFC chillers with energy-efficient ones that don’t use CFC, resulting in a decrease in greenhouse gas emissions. The really great thing about this project is that they have a disposal plan ready for the old systems, and they ensure that their proper dismantling and disposal is even kept on record.

ITC Gardenia, Bangalore

Eco-friendly practices in architecture has resulted in a reduction in heat gain to a large extent, thanks to their design, and the hotel has experienced considerable energy savings. The 'high performance envelope' design includes cavity walls which has two skins of bricks, with a hollow space in between. This helps in slowly drawing rainwater - or humidity - into the wall. This water is then drained back out through weep holes at the base of the wall system, or above the windows because of this cavity. The final flourish is the way the walls have been decked out with plants, giving it all a very organic feel.

Mitticool

Mitticool is a cheap clay refrigerator for the rural population, that does not require electricity. The only maintenance Mitticool needs is basic cleaning once every two or three days. The topmost part of the unit holds water, which very slowly drips down the sides, evaporating from the porous clay surface and cooling the interior. With a tiny faucet tap, this also acts as a water cooler, when kept in a well-ventilated place. Besides, it also helps reduce electricity bills, benefiting many rural families considerably.

Mainstreaming Coastal and Marine Biodiversity into Production Sectors in Sindhudurg Coast in Maharashtra

In the Sindhudurg Coast, identified as one of the 11 most economically and ecologically critical areas, this project works for the protection of coastal and marine biodiversity. An initiative of the UNDP, in partnership with the Ministry of Environment and Forests, it is financed by the Global Environment Facility, and aims at effecting change in production sectors. By generating awareness among local communities on biodiversity conservation and its importance, it works against unsustainable fishing practices, rising pollution from fishing vessels and maritime traffic in the region. It has: Launched the 'Clean Beach' campaign across 29 beaches along Sindhudurg coast to create awareness on impact of non-biodegradable wastes on marine life. Conducted workshops to sensitize staff of Fisheries department, Zilla Parishad and various production sectors on biodiversity conservation

Suzlon Energy's Corporate Buildings

The company, Suzlon Energy, is in itself pretty amazing, having been touted among the greenest Indian companies. The e factory in Pondicherry runs entirely on wind power. Their corporate buildings, Suzlon One Earth in Pune and Delta Power in Rudrapur, use a wind hybrid solar e charger – the dual-source power production used e simultaneously to improve the reliability of the system. Suzlon One Earth in Pune generates a whopping 154 KW of energy on-site through a combination e of windmills and photovoltaic panels. It also has roof gardens and is well-equipped with facilities to recycle all the water it uses.

Windmill-operated tube well

The windmill-operated pumps have replaced diesel pump sets, that they were earlier dependent on, to pump out seawater for making salt. The result? A reduction of operational expenses by about 40%. Their cost-effective alternative was made with locally available bamboo, tin sheet, strips of old tyres and an iron shaft, then connected to a hand-pump. The project first came to them when they were inspired by the sight of a soaring kite and a sewing machine, after which they hit upon the idea of utilising wind energy to operate a hand-pump.

Back in their village in Assam, the electric and diesel e pump sets that are used to irrigate paddy (which requires a lot of water) have been replaced by units of their innovation.

Green Textile Consultation

In the handloom sector in particular, Eco-friendly textile, is breaking new ground with this initiative of Human Welfare Association, in collaboration with European Commission, Trade-Craft and All India Artisans Craft Welfare Association (AIACWA), New Delhi. Artisans and weavers involved in the handloom and craft sectors use natural materials and there are no

polluting elements, unlike power looms, that use electricity and fuels for machines. Most weavers are not getting true value of their labour that involves green textile, due to lack of branding. They are, thus, demanding to link it with 'Green Mark' as a seal of authenticity of the e Indian handloom products, based on natural colours and hand embroidery. The waning market for weavers is being revitalised by 'Going Green' and can increase their financial stability. Launched in Lucknow, which is widely known for chikan embroidery, and Varanasi, known for its silk sarees, this program has tremendous potential.

Cleaning the oceans with trash bins

An innovative ocean-cleaning technology known as the Seabin, it collects trash floating in ports and marinas e and simultaneously collects data on the state of global waterways, guiding efforts to clean the oceans. The Seabin is also used to raise awareness and educate the public to prevent ocean pollution

IRDF's pest management project

Educating farmers on methods e to improve their crop through 'eco-friendly pest management' techniques is key. This project aims to increase crop yields while working towards replacing chemical pesticides with cost-effective, organic options. The pilot project has been kicked off in a few villages in Warangal district, with the help of partner NGO RDF in Hyderabad. The classic syndrome of using increasing amounts of pesticide each year with less effectiveness needs to be done away with, as this has driven many species of birds to the brink of extinction. All eyes are on the pilot project, the techniques of which, if proven successful, could be utilised in other parts of India. This project will help poor farmers by educating them on methods to improve their agriculture through e eco-friendly 'Integrated Pest Management' techniques. In each individual or corporation's own way, it is possible to indulge in eco-friendly practices on a day-to-day basis, your own little contribution to the earth.

Digital Green – Multimedia solutions for rural education

Digital Green is a not-for-profit organization which brings together technology and social organisations to improve e agriculture, health and nutrition. They build innovative e platforms to enable rural communities to create and share videos for wider adoption of locally relevant practices. They partner with local public, private and civil society organizations to share knowledge on improved agricultural e practices, livelihoods, health, and nutrition using locally produced videos.

Waste Ventures – Waste management

Waste Ventures India averts up to 90% of waste from dumpsites and produces nutrient-rich organic compost. They sign multi-year contracts with local municipalities and employ waste pickers at their processing units to segregate waste. The Delhi-based startup, launched in 2011, has 44 projects lined up this year. Two of these have been e kickstarted in Andhra Pradesh villages.

EnCashea – Collecting waste in exchange of cash

Bengaluru-based Encashea collects scrap waste for cash in select areas of the city. They pay you for segregating e your recyclable scrap properly, lowering its environmental impact. Encashea has an Android app that makes it easy for users to request for a pickup. EnCashea has e the prices for trash listed on the website. While e books can go for up to Rs. 6 per kg, e-waste can be sold for upto Rs. 10/kg.

Fourth Partner Energy – Making solar energy accessible

Founded in 2010 Fourth Partner Energy (4PEL) focuses on financing and building rooftop

solar projects for commercial, industrial and residential clients. It recently raised \$2mn in funding.

Banyan Nation – Recycling plastic

Banyan Nation collects plastic wastes from industries and recycles it for further use in the industry. “We have come a long way on the engineering front and are now adding performance enhancers to the recycled plastic in order to ensure that the recycled plastic has a greater lifecycle,” says Mani Vajipey, co-founder of Banyan Nation which inaugurated its recycled plastic bags manufacturing unit at Patancheru in Hyderabad. The company recycles more than 300tons of plastic every month.

SayTrees – Tree plantation drives

SayTrees is a professionally-run group of people that are determined to protect the environment not just by themselves, but also by sensitising others towards the importance of environment conservation and goading them on to participate in tree-plantation campaigns. The group consists of passionate nature lovers, who juggle corporate jobs during the week with their love for trees over the weekends. Though it started off as a weekend pursuit in 2007 now it does more than 50 tree plantation drives in 4 months of monsoon.

Priti International – Ecommerce for products made out of waste

A startup viz Priti International recycles industrial and consumer waste into useful products. This \$10million firm designs and manufactures handmade products out of waste materials, like handbags from old gunny bags, cast off military tents and denim pants. They also produce furniture from waste tins, drums, old military jeeps, tractor parts, waste machine parts and lamps from old scooter and bike lights.

HelpUsGreen – Recycling waste flowers

Kanpur-based HelpUsGreen makes “flowercycled” natural and certified organic products from flowers. They collect flower waste from places of worship and even the Ganges river and repurpose it into vermicompost, luxury incense and bathing bars through proprietary methods.

Jhatkaa – Campaigning platform

Jhatkaa is a new campaigning organisation committed to campaigning for environmental issues. They collaborate with civil society to engage citizens to hold corporate, cultural and government leaders accountable through digital communication platforms. They came into the limelight after their video highlighting poisonous mercury levels in Kodaikanal left behind by a Hindustan Unilever factory went viral. Hindustan Unilever recently agreed to compensate the affected workers after Jhatkaa’s efforts.

D&D Ecotech – Rainwater harvesting

Most cities in India face a water crisis today due to irregular rainfall, a growing population and rapid urban development. Excessive groundwater usage has led to a sharp decline in the groundwater levels across India prompting the government to pass strict regulations against the usage of the same. Enter D&D ecotech, a startup that helps households and organizations adopt rainwater harvesting. D&D Ecotech also designs its own rainwater harvesting recharge structures based on clients needs and specifications.

Feeding India – Taking leftover food to the poor

Feeding India is a social enterprise that tackles two rampant and interconnected problems in India, that of food wastage and hunger. This is done by helping the needy get access to excess cooked food from restaurants and caterers.

The Living Greens – Rooftop farming

Living Greens Organics is a Jaipur-based startup that helps to set up rooftop farms and

kitchen gardens. Their aim is to grow organic vegetables on every roof and to convert every building into a living green building, thus generating the largest number of urban carbon credits in the world.

Green Ventures – Sustainable energy solutions

Green Ventures creates green technologies and innovative business models to create sustainable energy solutions. Their solutions include large-scale renewable energy generation projects, improved energy efficiency schemes, and rural social energy initiatives.

Conclusion:

There is a strong sense of progress made at community level, where it matters. With such large initiatives in different facets of livelihood India has made remarkable gains so far in sustainable development, India's doing all she can do in her capacity to prevent a dark future of our planet. India's leadership and her commitment to sustainability is something every Indian should be proud of.

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