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A STUDY ON GREEN TAX AS SUSTAINABLE DEVELOPMENT GOAL AS A WAY TO SMART CITIES AND SMART VILLAGES

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Abstract
Poverty, a lack of technology, scarce resources, and a low standard of living are some of the problems experienced by every developing country. Therefore, the government is trying to implement the concept of smart villages, which can be a new beginning for the country. People can improve the quality of their lives by adopting sustainable solutions through smart villages. India's Green Tax replaces the existing fuel tax with a green tax to promote sustainable transportation and reduce vehicular pollution in alignment with global sustainable development goals (SDGs) such as good health (SDG 3), sustainable cities (SDG 11), and climate action (SDG 13). It encourages cities and villages to develop smarter communities by taxing older, more polluting vehicles. Public transportation systems and electric vehicle charging stations can be enhanced with funds from the Green Tax in urban areas. Access to clean transportation options is facilitated in rural areas by promoting alternative fuels and improving road connectivity. Reduced air pollution enhances public health as well as environmental quality by implementing the Green Tax. Challenges, however, include balancing vehicle owners' financial burden, particularly in economically disadvantaged rural areas, with public acceptance through awareness campaigns. With the Green Tax, urban and rural communities can be transformed into fully sustainable and smart communities, leading to a sustainable future. India's smart cities have become the most talked about and heated concept due to their aim to create a sustainable environment with more innovative solutions. It is challenging to citizens and has a lot of consequences, but the Indian government is doing everything in its power to make people aware and accept the process. In this study, we aim to determine whether green tax policies can create smarter cities and smarter villages to achieve sustainable development goals.

Keywords:
green tax, smart city, smart village and sustainable development goals.

Introduction
By encouraging sustainable transportation and reducing vehicular pollution, India's Green Tax contributes to a cleaner environment.
As In addition to promoting health and well-being (SDG 3), this policy will emphasize the construction of sustainable cities and communities (SDG 11), and it will take urgent action against climate change (SDG 13). By encouraging sustainable development both in urban and rural areas, this tax seeks to improve the quality of life while improving environmental quality[1]. In addition to contributing to the Sustainable Development Goals, the Green Tax encourages cleaner and more efficient transportation systems. For instance, fewer respiratory and cardiovascular diseases can be treated through the reduction of air pollution from older vehicles. A smart city or village's infrastructure cannot function efficiently without cleaner, more efficient transportation systems. In addition to reducing greenhouse gas emissions, the Green Tax facilitates the use of greener vehicles to mitigate climate change. By increasing public transportation efficiency and reducing emissions, the Green Tax will generate

[1] Portney, K. E. (2013). *Taking sustainable cities seriously: Economic development, the environment, and quality of life in American cities*. MIT Press.

revenue that can be allocated to enhance these systems[2]. By providing funds, the use of clean energy can be promoted by developing charging stations for electric vehicles (EVs) and other green infrastructure. Biofuels and other sustainable energy sources are promoted by the tax, so that fossil fuel dependence is reduced. Road infrastructure improvements funded by the tax can improve rural mobility and economic opportunities by improving connections and access to clean transportation options.

Green Tax

Carbon dioxide emissions, for instance, are taxed as part of a green tax. All greenhouse gasses that harm the environment are also subject to this tax. By controlling pollution, this tax aims to reduce emissions of harmful gases. Industry that emits harmful gases, petrol, and other fuels that contain CO2 can be taxed, as well as older vehicles. This topic is dealt with by the Organization for Economic Cooperation and Development (OECD). In addition to having 67 member countries, India is a key OECD partner. The countries in this group are mandated by this organization to tax poisonous gasses in order to minimize pollution. There have been environmental/green taxes introduced in nearly all countries in order to make polluters pay for their environmental damage. Purchasing and using motor vehicles and consuming fuel make up the total amount of revenue collected from green taxes. Green taxes are shown to be beneficial and positive by the majority of countries in the OECD, according to a study[3]. By implementing green taxes, precious energy consumption can be reduced, thus contributing to the environment to improve. Thus, the implementation of green taxes should avoid burdening taxpayers in a new way.

Subsidies, exemptions, etc., can be used to accomplish this. By making them pay taxes for using every type of natural resource, green tax aims to discourage and prevent people from damaging the environment and polluting it. Implementing green taxes has this as its primary goal. Green taxes are classified into several types. These are taxes applied to indirect emissions of CO2[4]. In general, this category includes industries. The polluter can minimize these costs and pay less tax if he wants to do so. Taxes imposed on vehicles are indirect taxes. New economic instruments were developed in OECD countries to control pollution from the beginning of the 1990s. In most cases, these instruments were introduced under the title 'Green Tax', with increased taxes being imposed on energy consumption. Economic changes were expected to come as a result of these policies, and pollution was also expected to be controlled as a result. Due to problems with industrial lobbies and political issues in the country, this plan was not implemented in the early 1990s in the European Union. Green taxes (carbon taxes) were implemented in Finland in 1990 as a result of converting the negative aspects of this failure into positive aspects[5]. Following Finland, the Netherlands and Norway implemented the law first.

Figure 1. Green taxes

[2] Shah, K. J., Pan, S. Y., Lee, I., Kim, H., You, Z., Zheng, J. M., & Chiang, P. C. (2021). Green transportation for sustainability: Review of current barriers, strategies, and innovative technologies. *Journal of Cleaner Production*, *326*, 129392.

[3]Ciocirlan, C. E., & Yandle, B. (2003). The political economy of green taxation in OECD countries. *European Journal of Law and Economics*, *15*, 203-218.

[4] Hayashi, Y., Kato, H., & Teodoro, R. V. R. (2001). A model system for the assessment of the effects of car and fuel green taxes on CO2 emission. *Transportation Research Part D: Transport and Environment*, *6*(2), 123-139.

[5] He, P., Chen, L., Zou, X., Li, S., Shen, H., & Jian, J. (2019). Energy taxes, carbon dioxide emissions, energy consumption and economic consequences: a comparative study of nordic and G7 countries. *Sustainability*, *11*(21), 6100..

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Vehicle	Green Tax
Transport	@10-25% Of Road Tax After 8 Yrs
Passenger	@10-25% Of Road Tax After 15 Yrs
EV, Hybrid	Exempted
Farming	Exempted

Source: Rush Lane

Government Vehicle Scrapping Policy

De-registration and scrapping of old vehicles owned by government departments and public sector undertakings over 15 years has also been approved by the Union Minister for Road Transport and Highways[6]. From 1st April 2022, this proposal will be notified and implemented. Approximately 65-70 percent of total vehicular pollution is attributed to commercial vehicles, which make up 5 percent of all vehicles. More than 15 percent of pollution is generated by older vehicles, historically less than one percent of total fleet but still contributing less than 1 percent of total emissions. There is a significant difference between the contribution made by older vehicles and the contribution made by newer ones. The need for environmental cleanup cannot be overstated. It is aiming to reduce particulate matter (PM10 and PM2.5) concentrations in the air by at least 20% by 2024 as part of the National Clean Air Program, or NCAP. According to the NCPA, pollution levels in 122 cities have exceeded national standards; meanwhile, no air monitoring stations have been established[7].

Green tax as a Sustainable Development Goal

Economic projects are implemented through taxation. Among the most important forms of taxation for protecting the environment are eco-taxes. A global source of interest in the environment was first sparked by the United Nations Conference on Environment and Development in 1992, and it has continued until the United Nations Conference on Environment and Development in 2008. UN Framework Convention on Climate Change was signed in Rio de Janeiro in 1992, and the UN Conference on Environment and Development was held in 2008. .[8]. To address its environmental issues, Morocco established a sustainable development model.

As a result, it works to improve citizen well-being and conserve natural resources for future generations by balancing economic, environmental, and social dimensions. A national sustainable development strategy must be developed in accordance with framework law 99.12, known as the national framework law for sustainable development and the environment [9]. Legislation and controls are required for sustainable development in Morocco, including eco-taxes, which act as deterrents and incentives. ECOTAXES are seen as a way to protect the environment, which is why they are important. The

[6]Jamaluddin, F., Saibani, N., Mohd Pisal, S. M., Wahab, D. A., Hishamuddin, H., Sajuri, Z., & Khalid, R. M. (2022). End-of-life vehicle management systems in major automotive production bases in Southeast Asia: a review. *Sustainability*, *14*(21), 14317.

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[8] De Santis, G., & Bortone, C. (2018). International conferences on sustainable development and climate from Rio de Janeiro to Paris. *Climate Change and Air Pollution: The Impact on Human Health in Developed and Developing Countries*, 25-39.

[9] Ettahiri, L., & Benazzou, L. (2024). The eco taxes for environmental protection in the light of sustainable development goals: Evidence from Morocco. In *E3S Web of Conferences* (Vol. 477, p. 00071). EDP Sciences.

development of effective environmental policies has made it an effective tool for correcting economic agents' behavior. This suggests the primary question to be asked is: “In what ways can eco-taxes be used to protect the environment? ”

Through eco-taxes, environmental protection policies are financed by generating more tax revenues for the purpose of covering environmental expenditures[10]. In most countries, environmental taxes are introduced for this purpose. Consequently, certain polluting materials become more expensive, and consumers stop buying them. This results in companies switching to environmentally friendly products; disseminating information regarding polluting products, and forcing consumers to make environmental choices. Provide incentives to consumers and producers to refrain from environmentally destructive behaviors by designing more efficient production methods and rationalizing energy consumption [11].

Sustainable development has evolved over the years into a concept that covers many topics and attracts international attention. According to the World Bank, sustainable development is a continuous process. The Millennium Development Goals have also been replaced by this framework. Our goal is to achieve a more sustainable, better future for all by following the guidance set forth by the United Nations in 2015. In addition to poverty and inequality, climate disruptions, environmental degradation, prosperity, and peace, the 17 Sustainable Development Goals address the challenges we all face today[12]. Additionally, imposing a double dividend from eco-taxes can help reduce pollution damage by reducing the burden of polluters. As a result of the incentive effect of the price signal on behavior, the collective gain is derived directly from the budget revenues generated by the tax[13]. In order to conserve the environment, the government levies a green tax. The idea behind charging a tax on pollutants was to encourage behavioral changes in households and firms that need to reduce their pollution in a cost-effective way. Using the revenue collected through such taxes, green energy infrastructure can be created, pollution can be combated, afforestation can take place, and other environmentally friendly activities can be done. There is a green tax or cess in many Indian states, including Goa and Gujarat. Green Tax / Eco Tax had been imposed on older vehicles by the Ministry of Road Transport and Highways (MoRTH)[14].

The amount of pollution emitted by individual business activities is calculated differently and taxed differently. Manufacturing, construction, services, transportation, chemicals, fertilizers, and other industries that consume fossil fuels are among the most polluting. It is the buildings and cooling emissions of modern commercial complexes that contribute to ecological atrophy of services without factories. All industries can be independently evaluated by the Centre, and standards can be set for them. These industries can be taxed based on the pollution they cause once these standards have been implemented. As a general rule, based on industry average emissions: A company's production or sales classification can initially be used to place it into an industry group. When deciding whether to classify a product, the cut-off level should be 50% of sales or production. Industry assignment is determined by a company's largest product or sales.

It may be necessary to revisit the assessment of pollutant emissions periodically, given that firms will endeavour to induct new technology and reduce their emissions over time. Businesses would be held accountable for environmental damage if this were implemented. As part of the Green Tax, companies are taxed according to their status and the industry to which they belong.

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[10]Mpofu, F. Y. (2022). Green Taxes in Africa: opportunities and challenges for environmental protection, sustainability, and the attainment of sustainable development goals. *Sustainability*, *14*(16), 10239.

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Sustainable Development of Smart cities and Smart villages

Yigitcanlar describes smart cities as the successor to information cities, digital cities and sustainable cities[15]. Although it is frequently used, it is not as frequent as other terms such as sustainable city that are cited. There has been a common usage of it, especially after 2013 when it overtook other terms in terms of citations. Smart cities are still a concept that remains unclear, despite recent discussions about them. There are a number of authors who have difficulty conceptualizing, but there is no contradiction in their definitions, but partial overlap between them. ICT plays a significant role in smart cities' ability to achieve competitive advantages, which is a conceptual model that combines human, collective, and technological resources to achieve urban development[16]. Smart cities encompass multiple subthemes, such as smart urbanism, smart economy, sustainability, smart technology, smart energy, smart mobility, and smart health. Based on their literature review, Caragliu et al. (2011) identify the following main characteristics of smart cities[17]:

(a) Utilizing networked infrastructure, smart cities enable culture and society to develop more efficiently and effectively;

(b) Urban development that emphasizes business;

(c) Focusing on ensuring equal access to public services for all types of urban residents;

(d) Stressing the importance of high-tech and creative industries;

(e) Integrating social and environmental sustainability into smart cities development;

(f) The importance of social capital in smart cities. According to some authors, a smart city has to have the following ingredients:

a Economies, mobility systems, environments, and people - all smart. Furthermore, smart cities go beyond information cities, digital cities, or intelligent cities in that they contextualize technology for the purpose of providing systems and services to residents [18].

An evaluation of a smart city should consider environmental sustainability, quality of life, and technology composition[19]. It should be a technologically advanced community with several advantages, such as sustainability, comfort, attractiveness, and security. How smart cities operate is through optimizing traffic management, energy consumption statistics, security, and municipal services using city data. Smart cities are utilizing technology to manage municipal services in response to this new reality. A smart city is necessary:

(a) Support digital applications with broadband networks;

(b) Using participatory innovation processes, develop large-scale applications.

In order to meet the needs of cities, smart cities have taken advantage of the benefits of their concept. In order for a smart city to succeed, people, information, and city elements have to be connected with new technologies. These devices enable sustainable greener cities, competitive and innovative commerce, and better living standards for residents. Amsterdam considers energy-related behavior an innovative technology that can be used to address climate challenges by changing people's behavior. Brisbane integrates smart technologies into good urban and space design practices unlike Doha, where

[15]Pitot, M., Yigitcanlar, T., Sipe, N., & Evans, R. (2006). Land Use and Public Transport Accessibility Index (LUPTAI) tool: the development and pilot application of LUPTAI for the Gold Coast. In *Proceedings of the 29th Australian Transport Research Forum* (pp. 1-18). Planning and Transport Research Centre (PATREC).

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[17] Caragliu, A., & Del Bo, C. F. (2019). Smart innovative cities: The impact of Smart City policies on urban innovation. *Technological Forecasting and Social Change*, *142*, 373-383.

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[19]Marsal-Llacuna, M. L., Colomer-Llinàs, J., & Meléndez-Frigola, J. (2015). Lessons in urban monitoring taken from sustainable and livable cities to better address the Smart Cities initiative. *Technological Forecasting and Social Change*, *90*, 611-622.

smart city practices primarily revolve around urban technologies and knowledge economy activities. Smart cities can be divided into three dimensions by Nam and Pardo (2011)[20]:

(a) Infrastructure (hardware and software);

(b) A changing demographic (diversity, creativity, education) and a changing institutional framework (governance and policy). Smart cities are therefore designed to promote sustainable de-development, provide better services for citizens, promote responsible use of natural resources, and strengthen political participation and debate by investing in technology, population, and institutions. Sustainable urban development must also be considered when studying cities. The development of technology, investment direction, and institutional change are therefore consistent with current and future needs (WCED 1987)[21].

According to Ahvenniemi et al. (2017), the term sustainable city refers to a combination of indicators of economic, social, and environmental sustainability[22]. The three issues discussed above must be addressed to talk about sustainable cities today, but some authors only address one of them. As a result, sustainable urban development is defined as assuring equitable access to income, employment, shelter, basic services, social infrastructure, and transportation while balancing urban development and environmental protection [23]. There are many reasons why people are becoming interested in smart cities. Climate change, natural resource scarcity, globalization, and increased competition are just some of the reasons. Consequently, cities must offer better and more customized services to their residents. The goals of a smart and sustainable city include adaptability, reliability, scalability, accessibility, and resilience, in order to achieve the following:

- Permit its citizens to live a better life;
- Improve employment opportunities to ensure economic growth;
- Ensuring community and social services are accessible to its citizens;
- Develop a sustainable approach to development that is responsible to the environment;
- Transportation, water, telecommunications, and sewerage infrastructure and services should be delivered with efficiency;
- Solutions to environmental issues and climate change;
- Establish mechanisms to ensure equitable policy implementation through effective regulation and local governance.

Smart villages

The global world is dominated by smart people. Honourable Narendra Modi is leading the government of India in its effort to grow all around. There are several schemes such as Make in India, Skill India, Start up India, Smart Cities, Smart Villages, etc. However, 70% of our population lives in villages. In order to implement all other schemes effectively, we must make our villages smart. A digital water supply system, PH level monitoring system, intensity-based street light monitoring, and digital display of government subsidies are some of the ways these projects aim to bring smartness to villages. A Smart Village is an area and community that builds upon its strengths and assets and creates new opportunities based on existing strengths[24]. Digital, telecommunications, and innovation technologies are used in Smart Villages to enhance traditional and new networks and services, in order to benefit

[20] Nam, T., & Pardo, T. A. (2011, June). Conceptualizing smart city with dimensions of technology, people, and institutions. In *Proceedings of the 12th annual international digital government research conference: digital government innovation in challenging times* (pp. 282-291).

[21] The development of technology, investment direction, and institutional change are therefore consistent with current and future needs (WCED 1987)

[22] Sharifi, A., Kawakubo, S., & Milovidova, A. (2020). Urban sustainability assessment tools: Toward integrating smart city indicators. In *Urban systems design* (pp. 345-372). Elsevier.

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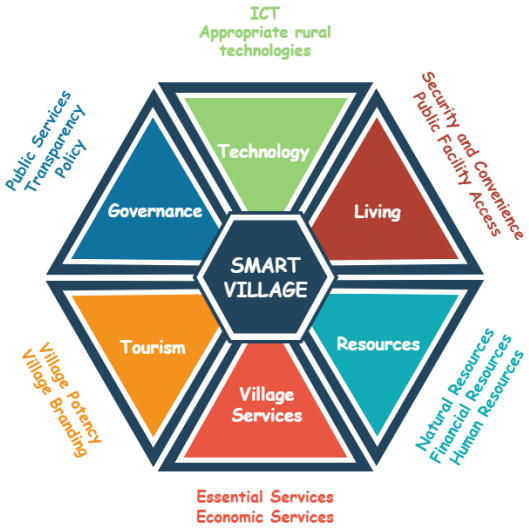
residents and businesses. In terms of products and process innovation, digital technologies may enhance quality of life, raise standards of living, improve public services, be more resource efficient, and reduce environmental impact. No one-size-fits-all solution is proposed by the Smart Village concept.

In Smart Cities are becoming increasingly popular in recent years. Villages are, however, perceived to be the heart of the nation in the Indian context.[25] It is therefore imperative that village locational and competitive advantages be developed so that development can permeate to the grass roots. Providing physical infrastructure, economic opportunities, and social infrastructure is the goal of Rurban. The following image illustrates this:

Figure 2. Smart village model



Source: The Smart Village Model for Rural Area (Case Study: Banyuwangi Regency) - Scientific Figure on ResearchGate[26].

NEED FOR SMART VILLAGE

There is a reputation among countries as leaders in upgrading their cities into smart cities. Roads, drinking water and power are essential for rural areas.[27] There is a big focus on connecting metropolises in the future, but nobody has paid attention to where the majority of the population lives in the world. Smart villages are more important for the development and improvement of the country than smart cities[28]. In order to discourage youth migration to cities, opportunities must be created for youths in villages. For rural development in the future, farming is rewarded in terms of remuneration and guidance for farmers on maximizing yield and selling at remunerative prices. Crop insurance, soil health cards, and pesticides are just a few of the resources that can reach grassroots populations with proper implementation. Ecosystem development in villages should be based on economic viability and cultural sensitivity. There have been substantial challenges with accessing the global market, largely because of the presence of multiple intermediaries and the lack of qualified workers. Since village dwellers make up a large part of the population, creating smart villages would improve economic potential and basic services. Many villages lack essential infrastructure such as electricity, water, and irrigation systems. Three strategies can be used to overcome this challenge:

[25] Hollands, R. G. (2020). Will the real smart city please stand up?: Intelligent, progressive or entrepreneurial?. In *The Routledge companion to smart cities* (pp. 179-199). Routledge.

[26] The Smart Village Model for Rural Area (Case Study: Banyuwangi Regency) - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/Proposed-Smart-Village-Model-The-model-proposed-on-Figure-2-was-analyzed-based-on-six_fig1_338718393 [accessed 19 May, 2024]

[27] Estevez, E., Lopes, N., & Janowski, T. (2016). Smart sustainable cities: Reconnaissance study.

[28] Zhang, X., & Zhang, Z. (2020). How do smart villages become a way to achieve sustainable development in rural areas? Smart village planning and practices in China. *Sustainability*, *12*(24), 10510.

1. Develop indigenous skills by providing technology education,
2. Develop an awareness of digital and IT issues
3. Realize the market potential of skill-oriented programs

Government Program for the Villages

The following are some of the major programs[29]:

- Development Program for Agriculture
- Benefits of Accelerated Irrigation
- Subsidy for fertilizer
- Free electricity, bank loans
- Employment Improvement Programs
- Distribution system for the public
- Scheme for ensuring rural employment under Mahatma Gandhi
- Bill for National Food Security
- Partnerships & Programs to Improve Nutrition Security
- A mid-day meal program
- ICDS (Integrated Child Development Scheme)
- Senior citizens are eligible to apply for the Annapurna Scheme (Ministry of Rural Development)
- An Adolescent Nutrition Program
- A feeding program for emergencies
- Development of Rural Areas Policy

Various Schemes undertaken by Government

Bachat Lamp Yojana(2009) sector –

Compact fluorescent lamps can be reduced in cost through electrification[30]

Deen Dayal Upadhya Gram Jyoti Yojana (2015) sector-[31]

This program is designed to ensure all homes in rural India have access to uninterrupted power 24x7.

Digital India programme (2015) sector[32]-

Citizens will be able to access government services electronically, and the latest information and communication technologies will be available for their use.

Gramin Bhandaran Yojna(2007) sector[33]-

A scientific storage facility in rural areas for storing farm produce and agricultural inputs as well as processing farm produce. Grading agriculture products, standardizing them, and controlling them quickly will enhance their marketability.

Indira Awas Yojna (1985) sector[34] –

Supports rural poor people in building their own houses with financial assistance.

Indira Gandhi Matritav Sahyog Yojana (2010) sector[35] –

For the first two live births, women over 19 can receive a cash incentive of Rs.4000

[29] Karki, T. (2020). Government Versus Private Sector-Led Smart Village Development Policies and Programs in India. *Smart Village Technology: Concepts and Developments*, 117-134.

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[34] Vimala, V., & Sarala, K. S. (2012). Indira Awaas Yojana (IAY): Performance and Evaluation in Coimbatore District. *Creativity, Innovation and Entrepreneurship*, *1*, 173-185.

[35] Sinha, D., Nehra, S., Matharu, S., Khanuja, J., & Falcao, V. L. (2016). Realising universal maternity entitlements: Lessons from Indira Gandhi Matritva Sahyog Yojana. *Economic and Political Weekly*, 49-55.

Integrated Child Development (1975) sector[36] –
Developing children and their mothers by addressing malnutrition and health issues

Janani Suraksha Yojna (2005) sector [37]**-**
An investment in mother care that provides skilled assistance to pregnant women at home or in institutions

Kasturba Gandhi Balika Vidyalaya (2004) sector[38] –
In Educational Backward Blocks, a new educational facility (residential schools) is provided for girls from minority groups, SC, ST, OBC and minority communities, living below poverty lines.

Livestock Insurance scheme sector[39] –
Assuring the health of cattle and improving their quality.

Midday Meal Scheme (1995) sector[40] **-**
On all working days, school children will receive a free educational and health lunch.

National Literacy Mission Programme (1988) sector [41]–
Increase adult literacy by 80 million among the 15-35 age group through education

Pradhan Mantri Gram Sadak Yojana (2000) sector[42] –
Access to unconnected villages by all-weather roads

Rashtriya Krishi Vikas Yojana (2007) sector[43] – Agriculture During the XI Plan, develop agriculture and its allied sectors to achieve 4% annual growth.

Sampooran Grameen Rozgar Yojana (2001) sector – by creating sustainable community assets and providing additional wage employment[44].

Swarnajayanti Gram Swarozgar Yojana (1999) sector-
The program's goal is to increase the incomes of poor rural families through the organization of self-help groups, training and capacity building of these groups, and providing income-generating assets[45].

National Rural livelihood mission (2011) sector –
The aim of this scheme is to organize the rural poor into self-help groups so that they can be self-employed. It is intended to provide poor people with better livelihood options[46].

BSNL:
There is a central government scheme in place to provide broadband internet access to every village in rural areas, so that every village in the area has access to the Internet. At least one Mobile Tower was provided at every BSNL Exchange, so that BSNL communication has a wider area of service[47].

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The project provides 90-100 jobs per person, especially in backward districts. In particular, poverty-stricken people were targeted[48].

Women & Children development in Rural Areas (DWCRA)

In addition to providing self-employment opportunities, DWCRA aims to improve the living conditions of women and their children.[49] Subsidiary to IRDP was DWCRA. Group members' children received nonformal education, health protection, and nutrition as part of the scheme.

Million Well Scheme (MWS)[50]

In the backward areas of the country, basic irrigation facilities were provided to the needy rural poor through the programme. As a result, farmers and rural laborers would both benefit from increased productivity of the land.

Accelerated Rural Water Supply Programme (ARWSP)

[51]Hand pumps and piped water supplies are provided to all rural areas, households, and individuals.

Central Rural Sanitation Programme (CRSP)

As part of the total sanitation campaign, open defections were to be eradicated by 2017. As part of community-led total sanitation, cultural norms were changed to prevent open defecation, rather than infrastructure being built.

Mahatma Gandhi National Rural Employment Guarantee Scheme 2015-16[52]

It By providing wage employment to at least 100 families whose members do unskilled manual labor, it enhances livelihood security in rural areas.

Integrated Wasteland Development Project (IWDP)[53]

As a result of the IWMP, soil, vegetation cover, and water will be harnessed, conserved, and developed to restore ecological balance. A result of this project is the prevention of soil runoff, regrowth of natural vegetation, harvesting of rainwater, and replenishment of the groundwater table.

Employment Assurance Scheme (EAS)[54]

Adults who are able-bodied, needing work, and want to work, but cannot find work, are provided with gainful employment during the lean agricultural season. Such a period may include both planned and unplanned work on a farm or other allied operations. Creating community, economic, and social assets is a secondary goal.

Advancement of Rural Technology Scheme (ARTS)[55]

Through this program, disadvantaged members of society are provided with innovative rural technology. ARTS is a scheme that promotes and funds innovative rural technologies that can benefit disadvantaged communities, but that are not being promoted or funded by other agencies.

Watershed Development

To Ensure that the land of watersheds is protected, conserved, and improved to ensure more efficient and sustainable production. In the watershed, water resources must be protected and enhanced. Watershed protection and reducing sediment yield by checking soil erosion. Developing a rehabilitation plan for deteriorating lands. Rainwater will be absorbed more effectively if it is

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infiltrated. Floods in downstream areas will be moderated. In order to increase ground water recharge, where possible. Adopting flood management strategies to reduce flood occurrences and damage. Encourage the growth of vegetation and the disposal of waste to maintain a standard quality of water.

Prime Minister Krishi Sinchan Yojana [56]

Through PMKSY, investments are attracted in irrigation systems on the ground, cultivable lands are developed and expanded, water waste is minimized in ranches, and improving crop yields through irrigation and water efficiency technologies. To alleviate poverty, unemployment, illiteracy, malnutrition in kids, and health problems, villagers developed activities and plans for development. The lack of implementation of these programs and policies has, however, left many villages without access to electricity, road infrastructure, public transportation, banks, and communication services. There has been limited success with these programs and policies. These challenges could be addressed comprehensively by the "Smart Village" concept. Smart solutions can be added to each of these programmes and policies to create smart villages.

Smart village catalyst for smart cities

Developing smart villages will catalyze both rural and urban development, enabling smart cities to be achieved[57]. At present, the government has separate flagship schemes in place, but these schemes must be consolidated into a Smart Village Development Vision that is holistic in nature. Moreover, smart villages will assist in reversing the flow of urban to rural population.

There are several key guidelines associated with smart villages:

1. Education:

With internet access in schools, students will have access to a vast amount of knowledge, while teachers will be encouraged to attend school and maintain their positions. A vocational education will prepare students to become more productive in the workplace. As an additional benefit, students will not have to migrate to urban areas for higher education because of distance learning and adaptive learning opportunities.

2. Health:

Potable water and nutritious diets will be available in smart villages. By replacing traditional biomass stoves with modern technologies and cleaner fuels, harmful indoor pollution will be reduced. A mobile health diagnostic solution powered by ICT will provide access to specialist healthcare in urban areas requiring minimal local medical skill. Furthermore, epidemiological data collection will provide early warnings of disease outbreaks and allow effective interventions to be made.

3. Food Security:

By improving irrigation systems, weather forecasts, cold storage, and market information, energy and ICT will enhance food security. By reducing waste and capturing more of the agricultural value chain, farmers will be better positioned to take advantage of agricultural modernization.

4. Participatory Democracy:

The use of ICT in smart villages will improve rural communities' awareness of their rights, their participation in governance processes, and their ability to influence policymakers.

5. Quality of Life:

Through modern energy provision, repetitive tasks will be alleviated, transforming the lives of villagers. Social interaction at night will be safer with public lighting, especially for women.

6. Productive Enterprise:

Access to energy will facilitate the growth of rural enterprises, including agro-processing and textile businesses. Rural enterprises will be able to establish themselves on international markets with the help of ICT services for mobile financial services, market information and integration into complex

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value chains. A modern energy and infrastructure infrastructure will facilitate economies of scale among rural enterprises.
7. Environment:
With smart villages, forests will be monitored, water quality will be improved, and soil quality will be monitored. Deforestation will be reduced with efficient cook stoves, and wastewater, organic waste, and e-waste will be managed by local recycling facilities. In addition to serving as ecotourism hubs in rural and urban areas, some villages will also enhance connectivity and welfare based on their geographic features.
In order to develop growth strategies for these areas, further research is required to tailor Smart Village concept to local conditions, infrastructure, and resources.

Challenges faced in implementation of green tax

A number of challenges surround the implementation of the Green Tax. Awareness campaigns that highlight the tax's environmental and health benefits are one way to address the public acceptance issue. Especially in rural areas, where economic constraints are more intense, balancing the financial burden on vehicle owners is another challenge. Low-income populations must not be disproportionately affected by the tax, and the tax must be accompanied by support mechanisms to mitigate harm to the economy.

- In the present day, there is no robust technology available for assessing individual firms' emissions accurately and proportionally.
- Such steps are not desirable for vulnerable sections of society, since they may lead to inflation and price increases. Companies may pass on tax costs to customers, resulting in inflation and higher prices for them.
- Such initiatives may become just another tax if they are not enforced at the grassroots, which is plagued by corruption.
- Small, local industries and MSMEs may lose competitiveness as their costs increase.
- As well, some companies may have found loopholes for the Green taxing as well, such as 'greenwashing' to meet CSR obligations.

Conclusion

In order to support innovation and creation, there have been greater developments in smart devices. There has been a lot of attention paid to the concept of being smart, and this is likely to continue in the future. In order to provide the best services to the residents and visitors, villages and cities need to be designed and developed to be SMART and interconnected internally and externally. Creating a village with all amenities for a better future is the idea.

We are aware citizens committed to seeing our country achieve great heights in all sectors, whether it is infrastructure or technology development. In addition to investment, these smart cities and villages appear to attract tourism and have a good reputation outside of the country. There are a lot of obstacles to making the mission a success, not only due to technology but due to a large number of stakeholders as well. According to the demography and geographical structure of each city, we would need a unique solution. Studying per square kilometer is more analytical and problem-solving than one-size-fits-all theory. Sustainable development can be promoted through the Green Tax. Smart cities and villages that are environmentally sustainable and economically viable can be created by encouraging the transition to greener transportation options. In order to implement the tax successfully, it is crucial to address challenges associated with public acceptance and economic impact. As long as the Green Tax is properly implemented, it can contribute to a healthier, more sustainable future for everyone, eventually contributing to achieving global sustainability goals. There are a few challenges associated with a Green Tax, such as passing on costs to customers, but it is likely to not be of great significance and can be absorbed by the industry in the long run. It would also be necessary to hold consumers of

environmental unfriendly products and services accountable. The government is sure to benefit in the end, as the cost has to be borne by somebody.

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