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Vision of Science and Environmental and Energy Sustainability in Asia-A Far-Reaching Review

Sukanchan Palit

Department of Chemical Engineering, University of Petroleum and Energy Studies, Energy Acres, Post Office- Bidholi via Premnagar, Dehradun-248007, Uttarakhand, India

Corresponding author: Sukanchan Palit

sukanchan68@gmail.com

Assistant Professor(Senior Scale), Department of Chemical Engineering, University of Petroleum and Energy Studies, Energy Acres, Post Office – Bisholi via Premnagar, Dehradun-248007, Uttarakhand, India

Tel: 91-3324026947

Abstract

Environmental science is moving through a dreaded and drastic crisis. Environmental catastrophes, industrial pollution and industrial disasters have urged the scientific domain to propel towards newer dimensions of sustainability and successful sustainable development. Immense caution, grave concern and the need for ecological balance have ushered in a new era of environmental and energy sustainability. In this short review, the author delves deep into the domain of environmental and energy sustainability in India and its impact of the progress of the nation. The author with deep comprehension and cogent insight delineates the future of sustainability and development with respect to developmental parameters such as provision of drinking water and arsenic groundwater remediation in South Asia. Environmental and energy sustainability are the coinwords of present day and future vision. The author with deep skill wishes to bring to the forefront the future vision of science and its application of energy and environmental sustainability of a nation. Successful sustainable development will never be a mirage when concerted governmental effort is taken with respect to ecology, sustainability and growth of a nation. The author delineates the success of sustainable development in India and China with respect to ecology and environment. Environmental protection is of utmost importance in the path towards a nation's progress. Vision of scientific endeavour has an umbilical cord with sustainable development of a nation. The author deals with cogent insight the present and future directions of application of sustainability of a nation whether it is Asia or any developed nation.

Introduction

The world of engineering science is moving fast by leaps and bounds. Energy and environmental sustainability is surpassing visionary frontiers. Advancement of science and technology, intricate scientific vision and the grave environmental concerns has urged human mankind to surpass visionary as well as inimitable barriers. In such a challenging situation, sustainability of human civilization is of utmost importance and relevance. The world is moving through drastic challenges and hideous barriers. The world of science and technology is surpassing visionary frontiers. History of human civilization, vision for the future and holistic progress of Indian nation needs to be restructured and reshaped. Man's vision, mankind's prowess and future of science and technology is ushering in a new age of holistic development with respect of progress of Indian nation. Sustainability is the coinword of India's development of tomorrow. Environmental and energy sustainability are the primordial issues facing human mankind. Environmental catastrophes are devastating the human planet. Sustainability is at a grave stake and a disastrous situation. In such a critical juxtaposition, sustainable development needs to be addressed vehemently and intensely. Human civilization, history of science and technology and the world of sustainability will go a long way in evolving new technologies addressing sustainable development. India is moving steadfastly to a new scientific generation of new scientific vision and newer scientific

vision. Sustainable development is the bedrock of Indian's development. India needs to gear up for the visionary challenges forward as decades pass by. The main target should be to develop a sustainability model as a developing country. The vision should be wide, awakening and intensely inspiring as the world plunges into higher reaches of scientific development.

Vision and Aim of the Treatise

The vision and aim of the treatise is to delineate in details the world of sustainable development whether it is environmental sustainability or energy sustainability. Mankind's scientific prowess is at deep disaster [1]. Environmental catastrophes is in the verge of devastation of human society. Ecological balance, history of science and technology and the mankind's urge to excel will go a long way in evolving new dimensions of future sustainable development. Human society is in the verge of immense and indomitable disaster. Sustainability issues needs to be readdressed and re-envisioned at this critical juncture of history and time. Scientific integrity, scientific vision and scientific fortitude will evolve into new dimensions of human development in India if planning is targeted towards a definitive vision of environmental and energy sustainability [1]. Scientific prowess in today's world stands between deep sea and deep disaster. Sustainable development, grave concern and the future dimensions of research are all the pallbearers of a new visionary era. Human civilisation's advancements, the primordial issue of water pollution control and progress in industry will all go a long way in greater emancipation of science and engineering. In this world of inimitable and vicious challenges, the author delineates with deep insight the future of energy and environmental sustainability in India. As a developing nation, an India stand today in the midst of utter devastation as regards the fate of environment is concerned. Vision and clear goals are the torchbearers of tomorrow.

Scope of the study

The world of environmental engineering science is moving briskly and steadily from one visionary phase towards another. Vision of science and engineering is interlinked with the veritable cause of sustainable development. Challenges, difficulties and barriers are the utmost pillars to the future vision of India's sustainable development. The scope of the study is wide, varied and versatile. Human progress and human scientific endeavour are in the verge of a devastating situation with the cause of India's sustainable development. At such a critical juncture of history and time, man's visions as well as a scientist's prowess are emboldened with every step of human science and human research pursuit. Human research pursuit and scientific endeavour in today's environmental engineering science are in a state of deep distress. Environmental regulations, stringent restrictions and the futuristic vision are gearing towards a visionary challenge. The scope of this treatise delineates the future vision of sustainability and groundwater remediation. The success, the concern and the visionary challenges will go a long way in the realization of true vision of environmental engineering science. The author also delineates with immense and innovative scientific vision the causes, effects and the plausible solutions of arsenic and heavy metal groundwater remediation. Arsenic groundwater contamination is causing having to teeming millions in South Asia and other developed countries. Mankind's prowess needs to be readdressed and re-envisioned at every step of human life. Scope of the study involves the basic human needs such as provision of clean drinking water, the complete irradication of illiteracy and poverty and the vision of successful sustainable development. The world of decisive barriers is root causes of human disharmony. The author deeply focuses on the future scope and future dimension of sustainability linked with poverty and illiteracy. History of mankind will move towards a newer chapter in history as dedication in sustainable development is completely realized.

Concept of Sustainability and its Relevance to India

The world of challenges, ecological imbalance and the immense urge to excel will redefine and reshape the concept of sustainability in Indian context. An extreme climate change phenomenon has urged the new scientific generation to delve deep into the reforms of sustainable development. Sustainability has tremendous relevance to India's development. Economic reform, urge to excel in science and technology and economic progress are the parameters of the path of India's development [1-4].

Sustainability moves steadily along with basic parameters of economic progress. Provision of clean drinking water is one major primordial issue. Ecological imbalance, environmental catastrophes and the state of climate change are other major focal points of holistic sustainable development. Environmental sustainability and environmental pollution control in today's world have an unsevered umbilical cord. Vision of science is ever-growing and the barriers and difficulties are unimaginable. India needs to target the issue of sustainability vehemently and intensely. The country is moving through drastic changes and immense challenges. The progress of the nation is at a difficult stake. Environmental and energy scenario in India is passing through devastating situation. The parameters of progress are stunted. Vision and urge to excel can only embolden the primordial issue of successful sustainable development.

Sustainable development is the need of the hour for a developing country like India. Vision of science, technological advancements and holistic human development is the utmost need of the hour. India is slowly gearing up towards a robust and evergrowing economy. Space science and nuclear technology are ushering in a new dawn of emboldened world economy. The success story for India is ever-increasing with each step of human scientific pursuit. Environmental concerns, history of human progress and holistic sustainable development will go a long way in the country's emancipation for the future. Man's vision, the vision of green science and technology and the sustainable development of a developing country are the pillars of a new futuristic vision for India.

China, India and other Developing Economies-the Future Vision of Sustainability

The challenges to sustainability in China are immense, wide and visionary. Social sustainability and technological sustainability is at its helm in China. Economic progress is bolstering. In recent years, China has experienced rapid economic growth and equally rapid increase in energy use. As a result, energy induced environmental degradation has also increased in China, especially in its urban areas. Balancing China's energy, economic and environmental goals is the primordial issue. The country is faced with great challenges in balancing its economic growth with environmental sustainability. The world needs to learn how China balanced its economic growth with sustainable development [1-3]. China and India are in the midst of immense reform. The vision of tomorrow is the vision of wide future of sustainable development and alleviation of human crisis. Crisis, barriers and catastrophes are the pallbearers of tomorrow. Vision of energy and environmental sustainable development are the framework of tomorrow's sustainable human progress.

China as a developed nation is moving fast surpassing visionary frontiers. Environmental and energy sustainability is at its zenith in the holistic economic progress of the nation. Energy intensive economic foray in developing countries has been often accompanied by a second, related pattern of mounting air quality problems. The negative effect has been especially significant in large cities where large amounts of fossil fuels are consumed. This is particularly true in China because most energy facilities are located in or near large cities. As a result, China's urban population is exposed to a multitude of air pollutants, often at levels higher than World Health Organization guidelines. Most of these pollutants are by-products of coal combustion , as coal provides 75% of the country's commercial energy use and 70% of the coal used in China is bituminous with a sulphur content ranging as high as 7%. When this fact is coupled with China's requirement for further economic expansion to meet the growing needs of its population, it is clear that China faces great challenges in balancing its economic growth with purposeful vision of environmental and energy sustainability [1].

The vision of energy and environmental sustainability is inherent in the economic planning of China [2]. Global reforms and competitiveness has urged the nation to move forward. Indian reforms as regards economic, environmental and energy sustainability is latent and immature. Severe groundwork, improved vision and economic hindsight will only move the nation forward [3]. China and its national endeavor is different. Clearly, China will enhance its energy consumption in order to sustain its immense economic growth. In this respect, the key question facing China and other Asian developing countries is not whether increased energy consumption is necessary [4]. China need to develop an energy efficient and sustainable environmental development system for the future of the economy of the country. History will surely repeat itself in a vehement and intense way. Amongst the Asian countries, Chinese economy is bolstering at a marvelous pace. Today sustainable development is at a difficult crisis. A holistic view of development involves health issues, educational issues, sustainable infrastructural development and the deep human food crisis.

Mankind's history is reframed and re-envisioned with the example of China's evergrowing economic progress. Man's vision, civilisation's prowess and economic overhauling are the visionary parameters of China's economic progress. In comparison, India is also moving steadily towards a new scientific generation and a newer vision of holistic scientific endeavor. The author with deep scientific endeavour rallies the issue of energy and environmental sustainability in Asian nation mainly China and India with the main cause of successful infrastructural development. Barriers and difficulties are a part of the development of a nation [5-7]. The author makes it clear in a lucid manner the worldwide challenge to energy and environmental self-sufficiency.

Energy, Environment and Development Connections

Rapid economic and energy growth in Asia has brought significant growth in the quality of life in the region. However, Asia has simultaneously become one of the extensively manufacturing regions of the world. China is one of the most intensive among Asian countries [1]. Although , intensities of energy use vary in China by sector, the country on average requires three or four times as much energy input per unit output as the developed countries. An example of industrial development in human civilization throughout the world enhances scientific understanding in the relation of energy, environment and development connections [1]. Historically, early stages of industrial development have brought rapid escalation in commercial energy use. The first country to industrialize in the modern era-Great Britain- saw its energy intensity of production grow by several orders of magnitude before falling even more than it had risen [1]. This pattern of development was repeated in the case of Germany, France, the USA and Japan. It is likely that Asia generally, and China specifically, will follow this trend [1].

The relevance of energy, environment and development connections is at its zenith in India. China and other developed countries' growth have paved the way for a greater Indian vision and a greater Indian scientific and technological regeneration [3]. Environmental and energy sustainability in India will surely surpass visionary frontiers [2]. The vision of effective ecological balance, sustainable development with respect to energy and environment will go a long and effective way in evolving a new scientific and engineering paradigm [8-10].

China's advancement needs to be emulated to its zenith by all developed and developing nations. Environmental and energy sustainability realization is at its helm in all planning avenues in China [4]. Developmental parameters, economic growth and the urge to prosper all will go a long way in India's transformation from developing to a developed economy. India needs to emulate from Far Eastern economies like China, Taiwan and South Korea. Economic struggle is re-envisioned towards a new economic prosperity in Far-Eastern economies. The world of challenges is befitting to the economic, scientific and technological scenario in the Far-eastern economies. The crux of development in India's

path towards progress should be towards economic, social, environmental and energy sustainability [11].

Sustainable development in India today stands in the midst of immense scientific vision and unimaginable scientific justification [2,12]. Vision of science, technological advancements and the immense and inimitable challenges are the veritable torchbearers of tomorrow. Future vision of science and engineering in India are in the definitive path of progress [3]. Relevance of sustainability to the success of science is one of the primordial issues of tomorrow. Along with energy and environmental sustainability, industrial pollution control and drinking water treatment is of utmost importance. Provision of clean drinking water and drinking water treatment scenario in today's human civilization is scaling new heights [4].

Environmental Sustainability and its Relevance to Ecological Balance

Ecological imbalance and faulty sustainable development are bane to human progress and disaster to today's human civilization. Environmental sustainability and ecological balance are connected by an unsevered umbilical cord. Challenges and barriers are surmounting day by day. History of human civilization is at a great distress. At this critical juncture, environmental sustainability and ecological balance is of utmost importance. The world of drastic changes and indomitable challenges will effectively lead to a newer vision and newer realm of immense scientific understanding [1]. Ecological balance, scientific vision and deep scientific understanding are the pallbearers of future.

Ecological balance, environmental sustainability and the parameters of human progress are the ultimate coinwords of tomorrow. Scientific perspectives are emboldened with the evolution of innovative technologies in environmental engineering [2,13]. In today's march of civilization, environmental sustainability and ecological imbalance have an unsevered umbilical cord. Scientific vision, scientific truth and the road towards progress are imperative to the growth of economy of a nation. China has shown the path towards a newer civilized world. Human process is on the verge of an unmitigated crisis of provision of drinking water and ecological imbalance. The truth and vision of heavy metal groundwater contamination has pushed the human civilization to an inevitable disaster. Arsenic groundwater remediation is a landmark crisis in South Asia and some developed countries.

Provision of Clean Drinking Water, Environmental Sustainability and Future of Human Mankind

Provision of clean drinking water is the visionary urge to excel towards realization of environmental sustainability. History of mankind in today's world is at a deep disaster. Sustainability issue vexes the progress of human paradigm. Challenges are immense yet vision is inspiring. Future of human mankind is in deep distress. Industrial pollution, drinking water crisis and the immense vision of tomorrow needs to be reshaped with every step of human progress [14].

Ecological imbalance is the crisis of every nation today in our human planet. The human vision, scientific understanding and the future path of progress will surely usher in a new future dimension of effective scientific endeavour. Provision of clean drinking water stands as a major parameter towards the growth of human civilization and a nation. Future of mankind, the path of civilization and evergrowing grave concern of environmental and ecological balance has urged scientific vision to scale new heights [14]. Clean drinking water and its provision are the hallmarks of a new vision of successful environmental sustainability. The challenge of groundwater heavy metal decontamination is the future successful vision. The author trudges a weary path in the immense deliberation and immense vision of the future of clean drinking water and environmental sustainability with lucid details.

Arsenic groundwater contamination and subsequent remediation and bioremediation in south asia as well as developed world

Global water shortage in today's world is a bane to human civilization. Arsenic and heavy metal groundwater contamination is ushering in new innovations and new challenges for the future. Teeming millions in eastern India, Bangladesh and South Asia are in a grip of civilisation's greatest disaster. Immediate concerns, grave future and the ultimate challenges will go a long way in the imminent emancipation of human scientific research pursuit. History of mankind needs to be re-envisioned at every step of human life and every avenue of human scientific endeavour. Science, technology and engineering are in a state of deep crisis and unmitigated introspection. Bioremediation is another successful venture of arsenic remediation. In such a crucial juncture, provision of clean drinking water and successful environmental sustainability are the fore-runners to a new vision and scientific truth [14]. In the state of West Bengal in India and Bangladesh, the global water shortage crisis is at its disastrous state. Arsenic and heavy metal groundwater contamination is a marauder to the future of science and technology in South Asia in particular. Bioremediation is the only plausible solution. The answers to scientific innovation are surpassed. The progress of human mankind, the vision for the future and the wide roads of progress will all lead a long way in the decisive realization of environmental and energy sustainability in Asia in particular.

Health concerns, rise in cancer cases in China, India and South Asia

Smoking concern is of utmost concern to the rage of cancer related ailment in South Asia. Smoking is a leading cause of cancer and death from cancer. It causes cancers of the lungs, esophagus, larynx, mouth, throat, kidney, bladder, liver, pancreas, stomach, cervix, colon, and rectum. Smoking causes heart disease, stroke, aortic aneurysm (a balloon like bulge in an artery in the chest), chronic obstructive pulmonary disease, diabetes, osteoporosis, rheumatoid arthritis, and cataracts. The grave concern, plausible solutions and the progress of health concerns in developing countries like India needs to be readdressed and re-envisioned. Lung cancer accounts for 1.2 million deaths yearly worldwide, exceeding mortality from any other cancer in the developed

countries. China, India and South Asia are in the midst of immense danger. The challenge needs to be rebuilt from the roots of the cause and the early stages of grave concern. Social sustainability needs to garner huge visionary resources in mitigating this immense crisis. Health concerns are of major threat to the holistic development of a nation. The author in this treatise boldly and lucidly delineates the future of health concerns in Asia or other developed countries in the successful realization of sustainable development.

Human health, sustainability issues and the human progress ahead

In today's world, sustainability issues and human health have an unsevered umbilical cord. Human progress is in a great disaster. History of mankind needs to be rebuilt and reshaped at every step of history and time. In today's human civilization, energy and environmental sustainability needs to be restructured. Human scientific progress is at a deep and greatest human disaster with the evergrowing heavy metal groundwater contamination. China and India are today at the same datum level. Sustainability needs to be reshaped at every step of mankind's progress [9].

Cancer ailment is devastating the global health scenario. Health issues, human health concerns and the progress of science of oncology will all lead a long way in the true realization of human progress. The challenge lies in the hands of China, Russia and India. Developed nations are also in the true entanglement of this monstrous health issue. Sustainable development has an umbilical cord with improving global health issues. The future of successful sustainability today is in the midst of deep division and a unmitigated crisis. Human progress and human health today stands in the midst of definite crisis. The progress of nation needs to be re-envisioned with every step of history and time [9].

Health issues in South Asia and china and the future of sustainable development

Health issues in South Asia, India and China are in a grave situation. Heath infrastructure will be the order of the day. Sustainable development today stands in the midst of immense crisis and unmitigated disaster [9]. Energy and environmental sustainability is at its crossroads at today's development in South Asia. Basic infrastructure is the need of the hour. China's development has risen above its ever-growing population. India at such a crucial juncture of burgeoning population needs to follow China's example. Energy options needs to be restructured for the rise of Asia's economy. Non-conventional energy options should be the pillars of South Asia's economy. In such a crucial juxtaposition, health issues and environmental pollution control will lead a long way in the critical realization of dangerous diseases and grave heath concerns [9].

Nuclear Disaster, Grave Concerns and Future of South Asia

South Asia and other developing and developed countries in Asia are in the midst of tremendous and awful disaster. Nuclear power industry and nuclear engineering is at its disastrous state. The question of energy and environmental sustainability remains unanswered. Three Mile Island, Chernobyl and Fukushima nuclear disasters are in the midst of immense comprehension. Sustainability in today's world is linked to environmental concerns and immense nuclear engineering faults. In such a situation the world of challenges should be focused towards green and sustainable engineering [14]. Nuclear engineering is in the path of immense and unmitigated catastrophe. Environment of human mankind and mankind's ecology is in the path of immense distress. Nuclear non-proliferation is the utmost answer to the progress of science and technology. The past disasters are of immense and grave concern to the future. The crux of the science and technology of nuclear engineering lies in successful sustainable development. The author with deep insight delves into the challenges facing nuclear engineering and the face of successful sustainability [9]. Nuclear non-proliferation is the answer to security in South Asia. Advancement of science and technology will never be a deterrent to successful sustainability. The author reviews with deep technological comprehension certain vital issues of successful sustainability in Asia. Man's challenges, a scientist's thoughts and the utmost importance of global order of peace are the landmarks of a new visionary era.

Industrial wastewater treatment, river pollution control and the road ahead

Industrial wastewater treatment and river pollution control are the disasters to human civilization. The progress ahead needs to be re-envisioned at every step of history and science. Non-conventional environmental degradation processes and novel separation processes are ushering in a new progress and newer innovation. The Clean Ganges River campaign in India is a forerunner to human mankind's progress. At every step of scientific endeavour, Chinese example is a torchbearer to India's foray into research pursuit. The road ahead is difficult yet attainable. Mankind's prowess, civilisation's march and vision of technology will go a long way in perfect realization of green chemistry [14,9].

Social Sustainability and the Road to a Nation's Progress

Social sustainability in today's world is linked to energy and environmental sustainability. Successful sustainable development is a pillar to a nation's progress. Provision of basic needs is of utmost importance. At the same juncture, a scientific achievement such as Mangalyaan Expedition to Mars in India is of significant vision. The nation's progress is at a crucial stage. Sustainable development in Asia is in the midst of immense comprehension and valued future. Social sustainability will surely usher in a new generation of scientific hope and immense scientific optimism. Social sustainability, the wide and visionary road to progress and the strategy to excel will one day relieve common sustainability issues and imminent disasters. Asia today is a world power. The progress of science and technology is at its helm in the scientific horizon of Asia. India, China, Japan and Taiwan are in the midst of immense development and successful energy and environmental sustainability. The deep question of social sustainability lies in the hands of scientists and engineers. The world of challenges, the barriers and difficulties of society's

development and the road ahead are the landmarks of social sustainability. Development of health issues, irradication of poverty and sustainable development are the landmark issues of an Asian as well as a South Asian nation. Global water shortage, lack of pure drinking water and the absolute targets of education and literacy are the torchbearers of a new Asian social order. The author with deep conscience brings to the forefront these issues of social sustainability in order to not only create a global awareness but to address the vision of sustainability in South Asian country.

Advancement of Science and Technology, Vision of the Future and Visionary Scientific Endeavour

The vision for the future of mankind is immense and wide. Advancement of engineering, industrial pollution control and drinking water treatment all will go a long way in the wider emancipation of science. Human scientific endeavour today is in absolute distress. The grave concerns of environmental catastrophes and the aftermath of the disasters has urged the civil society to draw new measures. The vision of sustainability needs to be realized at the utmost intensely and vehemently. History of human scientific endeavour is veritably taking a new path of progress [9].

Our planet and human civilization is ushering in a new era of scientific vision and a newer scientific understanding. The vision of tomorrow in the domain of sustainable development needs to be realized at the utmost. At such a critical juncture of human history and time, advancement of science and technology and the immense barriers of ecological imbalance are the focal points of decisive scientific endeavour. Advancement of science and technology is moving through a difficult state of affairs. Science is a colossal without a will of its own. Nuclear proliferation, environmental catastrophes and the urge of science will usher in a drastic change in the future of scientific research pursuit [9].

Scientific Imagination, Scientific Doctrine and the Ultimate Vision of Tomorrow

Scientific doctrine and strong scientific imagination are the order of today's world of successful sustainable development. History of human civilization is at a disastrous state. Future of mankind, the barriers of science and the world of immense challenges needs to be re-envisioned with every step of scientific progress. History of science and technology needs to be envisioned at every step of human life. Scientific doctrine and the world of challenges are the torchbearers of tomorrow. Scientific imagination and scientific vision in the domain of environmental sustainability and environmental engineering science has no bounds. The ultimate vision of science and engineering needs to be realized with respect to environmental sustainability. India stands in the midst of giant strides and unimaginable vision. History of Indian civilization is revisiting itself at every step of human progress [9].

Arsenic Groundwater Remediation and the Visionary Path of Tomorrow

Arsenic groundwater contamination is playing havoc to the environmental engineering scenario. The visionary path towards scientific progress needs to be re-addressed and re-envisioned at every step of life. The present environmental crisis has taken monstrous proportions. Grave concerns, scientific vision and scientific justification all will lead a long way in greater emancipation of the world of science and technology. Scientific research pursuit in today's world needs to be targeted towards effective validation and deep understanding. Heavy metals groundwater contamination is a curse and bane to human progress and scientific endeavour. Challenges, scientific validation and the path towards progress will all lead a long way towards greater emancipation of science in arsenic groundwater remediation. The feasible solution in arsenic groundwater remediation is feeble yet the vision is immense [9].

The contamination of groundwater by heavy metal, originating from natural soil sources or from anthropogenic sources is a matter of immense and grave concern to the public health. Remediation of contaminated water is of highest priority since billions of people around the world use it for drinking purpose. Vision, science and scientific research pursuit are in the visionary path of progress towards a newer scientific barrier [9].

Water Technology, Scientific Progress and the Path towards a New Scientific Vision

Water technology is in the path of glory and vision. Progress in science is surpassing visionary frontiers. The immense challenges, scientific validation and the vast gamut of knowledge will all usher in a new era of scientific vision in years to come. Water engineering and water technology are in a visionary path towards progress. The main target of our present day civilization should be towards environmental sustainability and overcoming the challenges and barriers of sustainable development. Water science and engineering are in the path of immense progress. The difficulties and barriers needs to be redrawn and rebuilt with the passage of history and time. Civilization is in the path of glory in this twenty first century. Man's vision, a scientist's prowess and the wide and visionary avenue of progress will lead India towards a newer scientific generation and a newer scientific understanding. Water science, industrial water pollution control and drinking water treatment are the yardsticks to a new scientific vision. Today's scientific progress veritably depends on vision. In such a vexing and crucial situation, enigma of environmental science and engineering are ushering in a new era [9].

Advancements in Visionary Scientific Endeavour in Engineering Science and the Scientific Vision

Science, vision and validation are the coinwords of future. The temple of modern India's achievements today veritably depends

on validation and advancement of technology. Sustainable development is ushering in a resurgent era. The domain of engineering science is at a deep crisis in view of the catastrophes and disasters in our environment. In such a crucial juncture of history and civilization, the fruit of science and engineering needs to be readdressed intensely and vehemently. The world of challenges will veritably crumble with the immense progress of science.

Energy Sustainability and the Path towards a Nation's Progress

Energy sustainability today stands in the midst of immense uncertainities and indomitable pessimism. History of challenges, the path towards a nation's progress and the urge to excel are the visionary domain which needs to be addressed with vehement effect. Depletion of fossil fuel resources and lack of purposeful vision are stunting the nation's economy. India is moving towards a newer scientific vision and newer scientific generation. The transition from developing nation status to developed nation status is inevitable and imminent. Energy self-sufficiency is the coinword of today and tomorrow. Fossil fuel resources are plunging to a disastrous low. In this crucial juxtaposition, renewable energy solutions is the torchbearer of tomorrow [1,9].

Scientific and Technological Development and the Vision of Future India

Science and technology is moving at a rapid pace in India. The successful Mangalyaan expedition of Indian Space Research Organization is an immense boon to the science and technological fraternity of India. The mode of growth is visionary and economic development is re-envisioned. Intuition, intense innovation and vehement vision will surely go a long way in evolving new paths of progress. India today is in the verge of a new era. Illusion has given place to intense vision. Mankind's as well as a scientist's vision is emboldened. Space science and nuclear technology is ushering in a new era in the future scientific generations of India. Along with scientific endeavor, sustainable development is the vision for the future [1,9].

Future Challenges, Future Dimensions and Futuristic Vision of India's Progress

Future dimensions of the nation's growth and future challenges are surpassing visionary frontiers. Mankind's vision and man's challenges are gearing towards a new scientific era. An arduous difficulty reigns supreme in the path of progress. Yet economic progress will move along with successful sustainable development. In such a critical juncture of economic growth paradigm, energy and environmental sustainability will evolve viciously towards a new dimension of nation's progress. History of Indian nation is surging towards a new era and a new visionary scientific domain. Science and technology is moving towards a definitive vision [1,6-8]

Future Vision and Future Perspectives of Sustainability

Future vision of India's progress lies in the hands of civil society and the greatness of its citizens. Challenges, drastic vision and definitive targets are the order of the day. A scientist's vision is steadily moving towards a new generation of scientific fortitude and scientific cognizance. Science and engineering is moving towards a new generation immense scientific vision. India's progress should go along with the vision of successful sustainable development. An Indian scientist's vision and the Indian nation's urge to excel is emboldened [10-12,9].

A future perspective in the advancement of sustainability lies in the hands of civil society and planning visionaries. The structure of development should inherently and instinctively depend on success of energy and environmental initiatives of our planet. Progress of science, immense introspection and successful sustainable development are the effective and plausible parameters of mankind's growth. History of science and technology will surely move towards a newer scientific generation of immense grit and determination [13,14,9].

Conclusion

The Indian nation's planning for successful sustainable development is the ultimate and inevitable concern for the future. A foray into science and engineering is inevitably linked to the world of challenge of successful environmental and energy sustainability. The challenge and vision is at the hands of Indian civil society. The question of sustainability is of primordial concern to Indian society. Population explosion, ecological imbalance and stunted economic growth are bane towards the nation's progress. Challenge and vision needs to be reshaped. Economic sustainability, technological sustainability and the vision towards progress are the ultimate aims of this century. Mankind's challenges needs to be redirected and re-envisioned. India's visionary figures teachings needs to be readdressed. It is then that the vision of tomorrow in the field of environmental and energy sustainability will be realized. The vision for the tomorrow in the field of energy and environmental sustainability will surely surpass challenging frontiers with the economic progress of the nation. Vision of the nation, its economic planning and the socio-economic urge to excel are the parameters of tomorrow's scientific development. Scientific and technological advancements will be geared towards a new vision of sustainability. At today's critical juncture, India will again shine in every spheres of excellence and scientific cognizance will reign supreme.

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