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IIC

Sustainability and Ancient Wisdom

by

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Sustainability and Ancient Wisdom*

The existence of life is closely intertwined with nature. Nature provides the support system for the survival of different species of life that exist on planet earth. As evident from historical records, for thousands of years, humanity lived in a harmonious relationship with nature. The Industrial Revolution marked a major turning point in the earth's ecology and humans' relationship with their environment. Particularly, since the 1950s, with the combination of capitalism, consumerism and contamination, a serious conflict has arisen between man and nature. Extraction of minerals at an unprecedented rate, degradation of soil, manifold increase in water usage, massive contamination of water bodies, increasing air pollution and non-biodegradable waste, deforestation and loss of biodiversity are posing new threats to the very existence of humanity. In this context, the article examines the wisdom of our ancestors for restoration of harmony between man and nature so that the survival of our progeny is not endangered.

Introduction

‘Only when the last tree has died, the last river been poisoned, and the last fish been caught will we realise we cannot eat money?’—*Cree Proverb*

‘When a man does a piece of work which is admired by all we say that it is wonderful; but when we see the changes of day and night, the sun, the moon, and the stars in the sky, and the changing seasons upon the earth, with their ripening fruits, anyone must realise that it is the work of someone more powerful than man.’—*Chief Standing Bear*

*Lecture delivered by Gauri Shankar Gupta at the IIC on 5 December 2018

‘The Lord pervades the entire universe—animate and inanimate.
Take only as much as needed in the spirit of detachment.
Covet nothing. All belongs to the Lord.’— *Isha Upanishad*

Although the word sustainable development is of recent origin, the concept is as old as human existence, as is apparent from the above quotes. Sustainability has been practised over thousands of years by different civilisations in all parts of the world. Such practices were first introduced in pastoralism, farming and aquaculture. Traditional practices in India, China, Egypt and Greece include: irrigation systems, organic farming, legume crops for nitrogen fixation, crop rotations and intercropping, terracing and the use of diverse crop varieties. Human, animal and crop wastes were systematically recycled to maintain soil fertility with no waste, and no use of external inputs. The purpose of this article is to highlight the relevance of ancient wisdom in the wake of environmental degradation, and the looming threat of climate change and its unpredictable consequences/challenges.

Describing the wisdom of our ancestors in the context of sustainable development, UNESCO states,

The industrial world is facing an ecological crisis. Yet few industrial economists would admit they could learn from indigenous people. Their economies are often called ‘primitive’, their technology dismissed as ‘Stone Age’, and most governments assume they can benefit only from salaried employment. Yet these traditional ways of life have proved highly durable. Hunting and fishing have allowed the Inuit to survive in the Arctic; nomadic pastoralism provides a livelihood for people in the arid Sahelian region of Africa; shifting cultivation has sustained hundreds of distinct cultures in the fragile ecosystem in the Amazon and

the forests of South-East Asia. Non-indigenous people have not been able to survive in these extreme conditions without destroying the balance of the ecosystem. The key to this success is sustainability. Indigenous people today use the resources available without depleting them. They use their intimate knowledge of plants, soils, animals, climate, and seasons, not to exploit nature but to co-exist alongside it. This involves careful management, control of population, the use of small quantities but a wide diversity of plants and animals, small surpluses, and minimum wastage. Plants provide food, medicines, pesticides, firewood, building materials; animals provide meat, clothes, string, implements, oil¹.

Similar views were expressed by many scholars who participated in an international conference on ‘Sustainable Development and Sustainable Life Styles’ held in New Delhi, India in April 2001².

As wisely defined by the World Commission on Environment and Development, a sustainable society is one that ‘meets the needs of the present without compromising

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the ability of future generations to meet their own needs'³. According to Herman Daly, a Nobel Laureate, in any sustainable society, these three conditions must be met.

- a. The rate of use of renewable resources should not exceed their rate of regeneration.
- b. The rate of use of non-renewable resources should not exceed the rate at which sustainable renewable substitutes are developed.
- c. The rate of pollution emission should not exceed the assimilative capacity of the environment⁴.

Stress between environment and development is growing every passing day, as we are not able to meet any of the conditions given above. Large-scale industrialisation since the Industrial Revolution, intensive commercial agriculture, massive deforestation and loss of bio-diversity, increasing use of chemicals, changing food habits, new culture based on increasing and ostentatious consumption, and unprecedented quantity of solid and liquid municipal and industrial waste; are all contributing to the deteriorating health of our planet through degradation of soil, increasing water consumption, massive contamination of water bodies including oceans, growing air pollution and declining air quality. According to the United Nations Convention to Combat Desertification (UNCCD), approximately 52 percent of all fertile food-producing soils are now classified as degraded, many of them severely degraded⁵. Intensive agriculture, excessive use of fertilisers, deforestation, discharge of increasing amount of liquid and solid waste, and poor management of land are the principal causes of land degradation. Due to growing consumption of water, availability of fresh water is fast declining. Per capita availability of fresh water on a global basis fell from 17,000 cubic metres in 1950 to 7,300 cubic metres in 1995⁶. Since 1995, it has further reduced, and is

presently estimated round 5000 cubic metres. Contamination of water bodies has become a regular occurrence in all parts of the world. Oceans are also receiving considerable waste and plastics. There are at least 13,000 pieces of plastic every sq.km of ocean surface. Marine life and coral reefs are under serious threat. Air pollution has already emerged as the biggest threat to human health, killing over seven million people every year ⁷. Today more than 50 per cent of the population in cities are exposed to air quality that is at least 2.5 times worse than the WHO prescribed norms.

Thus, the carrying capacity of Mother Earth has come under pressure never seen before in the history of mankind, as we continue to denude the earth, layer after layer. Global GDP has gone up from \$5.31 trillion in 1950 to \$127 trillion in 2017. This is 24 times in a short span of 68 years. More than 62 billion tonnes of minerals are extracted every year. Even the ocean bed, North Pole and Antarctica have not been left untouched. The human race is trying to achieve the impossible—to fulfil infinite desires with finite resources. As a result, over the past 100 years, humans have changed the ecosystem faster and more extensively than any period in human history ^{8&9}. The new equipment and technology of the modern era have wounded each and every part of the body of Mother Earth, leaving deep scars all over. Moreover, this very equipment and technology is leading to widespread degeneration of humanity in the name of development.

On the positive side, the idea of sustainable development has become a substantial and dynamic force, particularly since the 1980s. Global awareness of environmental degradation is on the rise. Civil society and non-governmental organisations (NGOs) have become active. New global institutions have emerged. The United Nations has taken several initiatives. International dialogue is underway. Therefore, the growing environmental consciousness, new global institutions, ongoing international

dialogue, scientific knowhow, technological advances, global connectedness and abundant wealth provide a unique opportunity for a determined march towards sustainability. There has been appreciable progress in containing extreme poverty, illiteracy, infant mortality and killer diseases under the Millennium Development Goals, 2015. The findings of the Millennium Development Goals Report 2015 show that the MGDs produced the most powerful anti-poverty movement, lifting a billion people out of extreme poverty with considerable improvement in health, education and gender equality. The number of people living in extreme poverty declined from 1.9 billion in 1990 to 836 million in 2015. Primary school enrolment increased from 60 to 80 per cent. Considerable success was achieved against malaria, tuberculosis, HIV/AIDS. Child mortality rate registered a decline. However, environmental degradation worsened with 50 per cent increase in emission of greenhouse gases, growing desertification, contamination of oceans and deforestation ¹⁰.

If we take a realistic view, the achievements of the plethora of international negotiation, declarations and treaties (starting from the Stockholm Conference on Human Environment in 1972 until the Paris Agreement of 2015) have been very insignificant so far. Transition towards sustainability still remains a distant dream as the situation on the ground continues to deteriorate every passing day. Therefore, the journey towards sustainability must commence immediately, if the life support system of the planet needs to be preserved against continuing degradation. Unfortunately, there is no clear blueprint or road map as of now. Nations need to chart this out without further loss of time. If we look at the history of environmental negotiations, it is apparent that during the last three decades, the governments, the NGOs and the so called environmental experts, have successfully converted a simple subject into a most complex matrix with hundreds of variables presented in thousands of tables and graphs running into millions of

pages, making it impossible for an ordinary folk to make anything out of it. Intense debates have been going-on, on the balance between environment and development, particularly the rights of the developing nations to improve the quality of life of their citizens, the nature and number of environmental indicators, environmental sustainability index, carbon emissions, technology transfer, financing of new technologies and fixation of voluntary or legally binding targets on carbon emissions. Implementation of the Paris Agreement will make it further complicated with new jargon and complexities ¹¹.

While for intellectuals and experts, such a debate is fascinating and intellectually satisfying (since these conferences are held in exotic locations with seven-star comforts), millions of poor people across the globe are suffering due to the ravages of nature which are becoming more and more extreme every passing day. According to the World Meteorological Organisation (WMO), extreme weather and climate conditions, including Arctic ‘heatwaves’, are continuing in 2017, after 2016 topped the global temperature charts and saw shrinking ice sheets and surging

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sea levels. El Nino—a phenomenon that brings generally warmer temperatures every four to five years was seeing other remarkable changes across the planet that are challenging our understanding of the climate system. ‘We are now in truly uncharted territory,’ said David Carlson, head of the World Climate Research Programme, in a press release from the WMO on March 21st, 2017 ¹². The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) confirms that warming of the climate system is unequivocal as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global mean sea level. The Report in its ‘Foreword’ itself states that human influence on the climate system is clear and growing, with impacts observed across all continents and oceans. Many of the observed changes since the 1950s are unprecedented over decades to millennia. The IPCC is now 95 percent certain that human induced activities are the main cause of current global warming. In addition, the Report finds that the more the human activities disrupt the climate, the greater the risks of severe, pervasive and irreversible impacts for people and ecosystems, and long-lasting changes in all components of the climate system ¹³.

Moreover, the economic path we are following today has imposed many lifestyle and societal changes which are highly detrimental to human well-being and are totally unsustainable. Economic inequality is increasing every passing day. Altogether, 95 percent of people who live in developing countries survive on the equivalent of less than \$10 a day (comparable to what \$10 would buy in the United States) or \$300 a month—an almost impossible task for someone living in a high-income country ¹⁴. The Oxfam Report ‘Even it up’ published in 2014 states that unless we close the gap between the haves and the have-nots, we will not win the battle against extreme poverty, and the injustice to millions of families living in extreme poverty alongside great wealth and prosperity will continue. Today,

the rich can buy longer, safer lives and better education, and can secure jobs for their children, while those without money and influence are much more likely to be denied even their basic rights. When disasters strike or food prices spike, those who lack wealth and power suffer the most, and find it most difficult to recover ¹⁵. With gradual destruction of rural and small industries and mechanisation of agriculture, massive migration to cities has become a new phenomenon during the last few decades. Urban slums have resulted in sub-human living conditions for almost a billion people across the globe. According to UN-Habitat, around 33 per cent of the urban population in the developing world in 2012, or about 863 million people, lived in slums. The proportion of urban population living in slums was highest in Sub-Saharan Africa (61.7 per cent), followed by South Asia (35 per cent), Southeast Asia (31 per cent), East Asia (28.2 per cent), West Asia (24.6 per cent), Oceania (24.1 per cent), Latin America and the Caribbean (23.5 per cent), and North Africa (13.3 per cent). Over 40 per cent of Asia's urban dwellers live in sub-standard housing and overcrowded spaces. Lack of adequate shelter and education, over-crowding, absence of sanitation and clean drinking water, vulnerability to health problems and violence characterise these mega-slums ¹⁶.

The super-rich who constitute less than one per cent of global population are leading in 'exploitation' of nature, as if nature is our enemy. According to Oxfam, eight men own the same wealth as the 3.6 billion people who make up the poorest half of humanity ¹⁷. The following chart based on Forbes data shows the growth of billionaires since 2012. During this period alone, their number has gone up by 50 percent, and their assets by 52 percent.

Growth of Global Billionaires

Year	Total number of billionaires	Combined wealth of known billionaires
2015	1,826	\$7.05 trillion
2014	1,645	\$6.4 trillion
2013	1,426	\$5.4 trillion
2012	1,226	\$4.6 trillion

Source: Forbes, 2017

According to the latest data by Forbes, there are 2043 billionaires in 2017 with a net worth of 7.67 trillion US dollars ¹⁸.

Today human society is characterised by four Cs—capitalism, consumerism, contamination and conflict. Obviously, this situation is unsustainable since we are fighting against our own existence. In my opinion, the durable solution to this problem is simple and straightforward. We have to nourish the roots of the tree rather than trying to heal leaves, branches and fruits. Human consciousness is the root which has been hijacked by consumerism and greed. This needs transformation. I believe that ancient wisdom can provide a compass for navigating in this direction. This is a time-tested method, successfully practised for generations by our wise ancestors. This can be successfully integrated with modern technological advances to commence a new journey towards safeguarding the future of our children and grandchildren. Let us have a look at some of these ideas, although they may sound somewhat outlandish.

Scientific and Technological Prowess of Man?

Since the inception of the industrial revolution in the 18th century, scientific and technological developments have had a profound impact on humanity as a whole. Developments in transport, communication and production systems; medicine, biological and genetic sciences; new materials; nuclear technology; space research and digital technology have transformed human life beyond recognition. Modes of transport have catapulted human life from simple horse drawn carriages to spacecraft cruising at unprecedented speeds into outer space. Simple wooden boats have been transformed into large luxurious sea cruisers, which are no less than floating cities on the ocean surface. Simple two-way oral communication has travelled a long way to high speed wireless internet, and cellular and satellite phones with instant connectivity all around the globe and beyond. Traditional small and cottage industries have been transformed into large scale production units with unprecedented automation, churning out billions of products every day to satisfy ever growing human desires. Genetic and medical sciences have precisely mapped the human genome and body organs; and have invented highly complex systems of diagnosis, medication and surgical intervention. From simple bows and arrows, the weapons industry has evolved to creating long distance to inter-continental ballistic missiles (ICBMs) and nuclear sub-marines bringing the entire globe within their range. Sophisticated nuclear, biological and chemical weapons, and highly advanced systems of their delivery have replaced sword-wielding foot soldiers. New means of production and transmission of energy have intruded into every sphere of our life from cooking to washing to shopping to entertainment to production to transportation and communication. Similar transformations could be seen in many other fields of human life. Internet, cellular and digital connectivity have reduced the world to a global village.

With these unprecedented technological advances during the last two centuries, there is a growing tendency to discard our ancestors, and their lifestyle as primitive and unscientific. Quite often their lifestyle is talked about in derogatory terms. Moreover, these advances or 'miracles' as they are called by some, have created a distorted image of human power that 'we are beings who possess nature and that our ability to transform and model it, using the power of our omnipotent brain, will help us to deal successfully with the ecological crisis'. Human belief that we are superior to nature and are able to control and transform it according to our desires is a fundamental error. Such an attitude is totally misplaced and is against perennial wisdom because it considers human beings at a particular position outside nature, imposing their decisions and actions upon it.¹⁹

and whatever else we consume comes directly from Mother Nature. The day this stops, human existence will come to an end. This is ancient wisdom, and a plain and simple truth. No complex statistics, graphs or tables are needed to understand

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The ground reality is that our survival is completely at the mercy of nature. Nature nurtures each one of us every single day. The air we breathe, the water we drink, the food we eat, the habitation we live in, the clothes we wear

this simple fact. Under these circumstances, how can we treat nature as an object of exploitation and a dumping ground for human induced waste? If we do so, we are doing this at our own peril.

Not only are we at the mercy of nature for our very survival, the scientific and technological prowess of man has also been highly over evaluated. Human thoughts and technological innovations are based on partial truths and lack holistic vision. The human mind is unable to transcend the limitations of time and space to understand and grasp the impact of innovations on the millions of variables that constitute the balance of nature. Therefore, overtime their negative impact becomes more pronounced than their positivity. For example, the Green Revolution in India was hailed as a huge success of science and technology. Through promotion of better seeds and use of chemical fertilisers and pesticides, the Green Revolution did contribute to considerable increase in food production. Fifty or so years on, we're finding that the soil has been degraded, water supply has run out and food has chemicals in it. To overcome these problems, we are now returning back to ancient practices under a newly coined name 'organic'. It was the technological prowess of man promoting use of hybrid seeds, chemical fertilisers and pesticides that destroyed the inherent organic character of agricultural practices, and gave birth to the problems mentioned above.

Similarly take the case of antibiotics. When they were introduced in 1940s onwards, they were considered a great leap forward in the area of medicine. Developed originally to treat human infectious diseases, they have become instrumental in the development of resistant bacteria. Clearly the scientists were unaware of the implications associated with the use of these therapeutic entities and underestimated the genetic flexibility of the micro-organisms that were targeted. As a result, presently, we face a global public health crisis, as infectious diseases top the

list for causes of death worldwide ²⁰. Look at the Industrial Revolution itself which was hailed as a spectacular achievement of the human mind. Human labour was replaced by machines. The scale of production went up in leaps and bounds, while costs came down considerably. The output we used to achieve in months can now be achieved in hours with much less manpower. However, today we are at a cross-road with massive degradation of soil, unprecedented contamination of water bodies and the air we breathe, accumulation of mountains of non-biodegradable waste and rising temperatures with whimsical weather conditions striking at the very root of human existence. Thus, the technological prowess of man is lop-sided, giving rise to many new problems over time.

Moreover, systems developed by man are miniscule, and are based on disproportionately high use of resources with large-scale contamination. These systems have no comparison to the vast, self-sustaining and cyclical systems of nature taking care of the entire planet and beyond and all species of life. For example, if we need to pump a few thousand litres of water to a township, it requires massive effort in terms of laying down of pipelines and machinery and use of energy and other systems. On the other hand, look at nature's hydrological cycle. A vast amount of water is lifted up every second with the sun's heat from the oceans, seas and lakes forming clouds. These clouds are then moved by the winds in different directions, and then the purified water returns back to the earth in the form of snow and rain as a result of the condensation process. The whole earth is provided with fresh and clean water supply, without any mechanical infrastructure. Thus, the glaciers, rivers, lakes and ground water table are recharged continuously sustaining life on a continuous basis. This cycle works day in and day out without any outside help or interference. Everything moves in an automated, natural and cyclical manner, based on zero-waste principle.

Look at the oxygen cycle. Humans and animals breathe in oxygen, and breathe out carbon dioxide. Plants use carbon dioxide for photosynthesis, and breathe out oxygen, sustaining life in all its forms and manifestation. Waste discarded by one species of life becomes food or fertiliser for another in this natural cycle, eliminating all waste based on natural inter-dependence of species. Similarly, the carbon and nitrogen cycles operate in a completely natural and self-sustaining manner without any outside interference. The nitrogen cycle is the biogeochemical cycle by which nitrogen is converted into various chemical forms as it circulates among the atmosphere, terrestrial, and marine ecosystems. For example, plants take nitrogen from the soil by absorption through their roots as amino acids. Most nitrogen obtained by terrestrial animals can be traced back to the plants at some stage of the food chain. Crop rotation also helps in maintaining the fertility of soil through fixation of nitrogen.

As such, each and every system in nature is cyclical, where waste from one life form becomes food for another. Therefore, in essence, there is no waste so far as the natural systems are concerned. Moreover, think of other systems of nature such as the formation of galaxies with billions of stars, rotation of the sun, radiation of sunlight, rotation and revolution of the earth, phases of the moon, occurrence of day and night, change of seasons, regeneration of life in spring, gravitational force and so on. There are billions of such systems which are all self-sustaining without any outside interference. The human mind cannot even fathom the size of the universe, leave aside the infinite number of systems regulating this gigantic body with perfect mathematical precision. Thus, the scientific and technological prowess of man is indeed miniscule in terms of scale, and lop-sided in terms of its sustainability, leading to dysfunctions in the form of environmental degradation and other negative consequences. Hence the human efforts to acquire superiority over nature are not only futile, but are immensely harmful for the very sustenance

of life on the earth. The desire to acquire superiority over nature is propelled merely by ego and greed. Wisdom dictates that we learn to live in harmony with nature.

Man and Nature: Deep Connectivity

Of course, all of us can see the visible dependence of the human race on nature for air, water, food, clothing, habitation and so on. The Vedic writings of ancient India go a step further, and explain the integral unity between man and nature in a deeply scientific manner. According to these writings, the physical nature or the universe surrounding us in its entirety is constituted of five great elements. They are ether and space (*Akash*), air (*Vayu*), fire or light (*Agni*), water (*Jal*) and earth (*Prithvi*)²¹. These are called five great elements (*PanchMahabhut* in Sanskrit). Given their role in regulating the physical universe, they are also revered as deities (*devatas*). Earth is also called *Vasudha*, meaning depository of all wealth. In the Vedic writings, there are detailed descriptions of each of these great elements, and their role and functions in the natural order.

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Nature maintains a delicate balance amongst these great elements, and these elements and the living beings. For example, the sun is

drawing water from the ocean through rays forming clouds, wind moves these clouds far and away in different directions and earth gets rain from the clouds in the sky, recharging rivers and lakes ground aquifers. This process maintains the fertility of the soil, and allows growth of plants and vegetation. The plants through the photo-synthesis process, consume carbon dioxide and produce food and oxygen for living beings. This inter-relationship and the natural sustaining order is called *ritam* in Vedic terminology. Any disturbance in this order or imbalance, results in disruption of nature's smooth functioning, causing problems for the living entities (estimated at 8.4 million different species) which have been classified in three categories—those moving in space, those moving on earth and those moving in water. Moreover, the bodies of all living beings are made of these five great elements, and on death dissolve back to these five elements. In other words, all the species of life including humans rise from nature and dissolve back to nature.

Scientifically, the food we eat becomes our body including blood, flesh, bones, and neurons and so on. All food ultimately comes from plant and herbs. Every plant needs space to grow. The photosynthesis process that produces our food is based on the combination of air, sunlight, water and soil. Thus, the five great elements form part of our body through the food we eat. Moreover, each of the five senses of perception is directly linked to one of the five great elements constituting the universe. The sense of hearing is linked to ether and space (*Akash*), the sense of touch to air, the sense of sight to fire or light, the sense of taste to water and the sense of smell to earth. Thus, our senses keep us constantly connected to these five basic elements constituting nature. This relationship becomes apparent when we dig slightly deeper into it in a scientific way. Space or ether is the medium for transmission of all sounds, when the wind blows we feel the sense of touch, when the light is not enough, our eyes are unable to see properly, water constitutes the base of all tastes and the origin of all smells lies in the earth. The senses are

connected to the nervous system. The nervous system and the brain provide a physical medium for our senses. Hence, the body and the senses along with the nervous system constitute the visible and tangible parts of a human being, which are intimately connected to Mother Nature ²². This scientific analysis tells us a profound yet simple truth, that it is nature which possesses us, we do not possess nature. We need nature for our existence and survival; while nature can survive with or without us. Therefore, respect for nature is a survival need and not an act of philanthropy or charity.

Development or Dehumanisation

While we are talking of sustainable development, it would be worthwhile to have a brief look at the impact of modern systems of production on human life itself. Since the inception of the industrial revolution, production technologies have undergone a radical change. The rapidity of change is taking place at an amazing speed every passing day. In the pursuit of higher production at lower costs, the assembly line techniques of mass production have replaced human ingenuity. In fact, in the name of development, we are gradually trapping humanity in a cobweb of stress and misery. These new methods of production have reduced factory workers to mere machines. Billions of workers engaged in industrial production all over the world are nothing but a computerised version of flesh and bones, or robots in human form. I have seen the plight of thousands of such workers during my several visits to large industrial units. They repeat the same movement or action like a robot eight hours a day over a period of several years; sometimes for their whole life. As a result of these repetitive actions for years, their creativity is destroyed, reducing them to a machine. Millions of jobs generated by these industrial units are therefore leading to large-scale degeneration of humanity ²².

The entire process of education and training for millions is guided and designed by employment opportunities in such industrial units, thereby killing their ingenuity and creativity forever. Moreover, the rapidly changing technologies are making their training obsolete at a very young age, further complicating their livelihood and dampening their human spirit. Therefore how can we call higher GDP as a symbol of development when millions of workers are being reduced to a robotic life? These poor workers can no longer think like normal human beings after having worked for years in these modern industrial units. With mass production, globalised marketing and large retail chains, mechanical operations are fast replacing individual ingenuity in all spheres of economic activities, destroying the creative skills of millions of artisans all over the world, considerably limiting individual choices. These new systems of mass production and marketing have also contributed considerably to the widening disparity of income and wealth as stated earlier. Despite massive poverty and hunger, the number of billionaires is going up every passing day, leading to more and more concentration of means of production, wealth and income.

Large-scale unemployment and considerable loss of human freedom are yet other direct consequences of excessive automation and mechanisation of production systems. Human beings are being replaced by machines at a rapidly increasing pace. Today, thousands of hectares of land provide employment only to a few individuals. A large parking lot for over a thousand cars provides no employment at all. A large factory churning out billions of pieces of shoes provides employment only for a very few individuals. Despite growing unemployment, industrialists are busy inventing new machinery and systems whereby human deployment could be minimised. Because of these new systems of production driven by technology, capital has become a direct substitute for human-beings. Big capitalists are able to acquire large tracts of land, massive production units and huge shopping and

office complexes providing very few jobs. Small and cottage units have no place as they cannot survive in this era of technology and scale driven competition. Hence today's technology-driven world has transformed human-intensive units into capital intensive systems. This fact has been proven beyond doubt by a large number of scholarly studies done over the years.

Naturally, capital has acquired more important space than human beings. Every passing day, more and more capital is needed for every new employment we create. It is an irony that on the one hand, all nations are striving to acquire advanced capital intensive technologies and on the other hand, these very nations are complaining about large-scale unemployment. Job creation has become completely dependent on the success of these large enterprises which are solely driven by the profit motive. Profitability of these organisations depends on the growth of demand. Therefore, in order to sustain these small numbers of jobs, the demand must grow and grow constantly. Higher consumption is therefore a natural requirement for sustaining these jobs. We are therefore either willingly or unconsciously contributing to a cycle of ever-increasing consumption. Given the finite natural resources, can we sustain the need for ever-increasing consumption? And if so, how long and at what cost? Moreover, as far as employment is concerned, poorer sections of the society who constitute the majority of the work-force have become slaves of the success of these large-scale production units. Closure of a single factory or an office could ruin thousands of families overnight, rendering young and innocent children homeless without any access to food, medicines and education. Under these circumstances, we need to think aloud whether the GDP growth, increasing scales of production and excessive automation are leading to development or degradation of the human race. Human spirit and dignity are perhaps the worst victims of these new methods of economic growth! The human being has lost his freedom of work and choice to these units. We need to think louder whether this could be called development?

Urbanisation and large-scale migration from rural areas to urban centers is yet another significant development of recent times. This is a direct consequence of mass production and marketing by large-scale enterprises. Family enterprises, micro and small production units are shutting down rapidly as they are unable to compete with large enterprises with vast resources, deep pockets and extensive reach. Similarly, land holdings are gradually becoming more and more concentrated as small and fragmented land holdings are no longer viable. Rural folks are therefore forced to migrate to cities in search of livelihood. Loss of livelihood in rural areas is naturally increasing the number of slum dwellers around megacities of the world. In 1800, only 3 per cent of the world population lived in cities with inhabitants of one million and above. Presently, it is estimated to be 55 per cent of the total world population or 3.2 billion people ²³. In 1990, there were 10 cities with more than 10 million inhabitants, and these so-called ‘megacities’ were home to 153 million people, representing less than 7 per cent of the global urban population. Today, the number of megacities has nearly tripled to 28, the population they contain has grown to 453 million, and these agglomerations now account for 12 per cent of the world’s urban dwellers ^{23 & 24}.

Moreover, approximately one billion city dwellers are estimated to be living in slums with conditions unsuitable for human beings. This number is estimated to double by 2030 ^{23 & 24}. A large majority of these slum dwellers have no housing and sanitation, and have no access to drinking water, schooling and health services. Naturally their sub-human existence results in widespread illnesses, poor health, low level of mental development and large-scale criminality. Their children are born in sub-human conditions, live in sub-human conditions and die in sub-human conditions. In addition, death of small and rural industries and mechanisation of agriculture has also taken the human race away from nature, to the vast concrete jungles of high-rise buildings leading to disproportionate use of resources,

unprecedented levels of pollution, mountains of waste and a complete disconnect between man and nature. This societal and life-style change has also given birth to a large number of non-biodegradable materials. This is the contribution of the modern economic concept of GDP. We need to ask ourselves: is this development?

In recent years, we have also witnessed many economic crises. These include the Mexican economic crisis of 1996, the Asian economic crisis of 1998, the global economic meltdown of 2008 and the current debt crises in some European countries. The current world economic order based on the mad race for GDP growth will continue to give rise to such crises year after year. No country can continue to achieve GDP growth forever. Sooner or later, the country must reach the peak, and then face a climb down. As soon as the climb down starts, such crises will happen. During such economic problems, the poorest section of the population suffers the most. They are the ones who lose their employment and livelihood and face sub-human existence. The existing economic order based on large-scale production and excessive consumption will continue to cause such national crises. In fact, they will multiply in the years to follow, as more and more nations will not be able to sustain their present growth rates and the increasing levels of consumption. These crises could also lead to social unrest, break-down of families, and increasing criminality due to vast disparity in income and wealth. In some societies, it could even result in armed insurgencies.

Diversity is central to human life and conditions. With mass production and global marketing, the world is gradually turning homogenous, while local cultural attributes are being subsumed by the forces of globalisation and assimilation. Cultural diversity characterised by different languages, local handicrafts, clothing, gastronomy and festivities is fast disappearing. Today when we go to any shopping place anywhere in the world today, we find similar shopping malls with almost

identical brands and products from Coca Cola to Nestle to Gucci to Pierre Cardin and so on. Uniformity of the world is becoming a reality. This fact was recognised at the Intergovernmental Conference on Cultural Policies for Development, Stockholm, 1997 which I happened to attend²⁵. As the diversity of human talent makes the world rich and multi-faceted, cultural diversity is indeed the spice of life, making it rich and more lively. Increasing uniformity is gradually draining away the life from our lives. This has been recognised by the UNESCO's Universal Declaration on Cultural Diversity²⁶. We need to ponder whether it will be desirable to destroy whatever cultural diversity remains in the world, with gradually declining human ingenuity and creativity, due to fast-growing, large mechanised production systems?

Small is Beautiful

We must therefore undertake a critical examination of gigantic production systems being installed all over the world since the Industrial Revolution. Turning the clock back to revert to micro and small production units, although not easy, will restore human

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ingenuity, creativity and dignity. This will halt the massive migration to cities which are becoming concrete jungles, and are crumbling under the pressure of growing contamination of air and water. This will also help in the judicious distribution of wealth and income, reducing the glaring inequalities characterising economies all over the world. The problem of unemployment is the direct consequence of large-scale production and distribution systems, and the concentration of means of production in a few hands. The governments therefore should consider imposing prohibitive environmental tax on large production units to revive the micro and small industrial sector. The Gandhian Model of economics based on self-sufficiency and ‘small is beautiful’ could help immensely in this direction. In addition, the Bhutanese concept of Gross Human Happiness replacing Gross Domestic Production is also worth looking at ²⁷. A system built around human beings will restore human dignity, and will help in eradication of extreme poverty and hunger through the redistribution of wealth and income and more egalitarian control over means of production. Predominance of rural agro-based small industries is best suited for conservation of environment and the harmonious existence with nature ²².

We can therefore surmise that the modern production systems apart from massive contamination has also been responsible for growing unemployment; vast disparity in income and wealth; dehumanisation of the work-force; considerable decline in human ingenuity, creativity and self-sufficiency; rapid disappearance of cultural diversity; massive migration to cities; growth of urban slums and periodic economic crises. Can we sustain all this? And if so, then for how long? Wisdom lies that we gradually return back to small scale industries based on local resources. Sustainability lies in a judicious mix of the global and the local. Governments should consider a comprehensive policy to encourage small and micro industries and to discourage further expansion of large industries to reverse the process. Similarly

the race for higher and higher GDP is futile and destructive. It's a mirage and a curse which is simultaneously poisoning nature and human minds both. Leaders need to think about moderation and contentment. World Economic Forum, G-20 Summit and other economic gatherings of world leaders should consider these measures in order to restore respect to the environment and creativity and dignity of human beings. Schumacher's *Small is Beautiful* is indeed very relevant in this era of loss of independence, anonymity and dehumanisation.

Wisdom demands a new orientation of science and technology toward the organic, the gentle, the elegant and beautiful. An attitude to life which seeks fulfilment in the single-minded pursuit of wealth—in short, materialism—does not fit into this world, because it contains within itself no limiting principle, while the environment in which it is placed is strictly limited' ²⁸.

Increasing Sicknesses

The state of human health is yet another vital ingredient for sustainable development. A life-style based on hostility to nature is taking its severe toll on human health in the form of new, more aggressive diseases. Sleep and work practices against the sun-cycle, food habits disregarding seasonal fruits and vegetables, excessive use of meat and meat products, and intake of chemicals are some such practices. Apart from the growing contamination of air, water and soil; increasing economic inequality, massive poverty and deprivation are also major causes for stress, sicknesses and deaths. Urban slums have added a new dimension to this matrix of growing sicknesses. In recent years, increasing levels of consumption, massive urbanisation and new comforts are also playing havoc with human health. These are popularly known as life-style diseases. Increasing stress levels due to rising greed and job uncertainties; fast and unhealthy food; comfortable life-style with

no or very little physical activities; addiction to smoking, alcohol and drugs; and excessive chemical intake in the form of pesticides, food preservatives and medicines are leading to increasing health problems across the globe. Although life expectancy has risen, general health of people is much poorer than ever before. Precisely for this reason, the health industry has grown very fast during the last five decades. Pills have become the norm. Diagnostic techniques have become highly invasive. Moreover, despite the increasing number of medical facilities, patients have to wait for weeks just to get an appointment.

According to the World Health Organization, ²⁹ the global public expenditure on health in 2010 was estimated to be US\$ 6.5 trillion, the US spending being the highest at US\$ 8364 per person/year. According to the World Bank Indicators, ³⁰total expenditure on health care during 2013 was estimated at 9.9 per cent of global GDP with 6.4 per cent for low income countries and 11.9 per cent for high income countries. In the US, the expenditure on health care went up from US\$ 356 in 1970 to US\$ 8364 in 2010 ³¹. Cardiovascular diseases are rapidly increasing. Today, 30 per cent of total deaths are caused due to cardiovascular diseases, and one in every 10 adults is suffering from diabetes ³². New diseases like AIDs, heart ailments, Alzheimers, depression, obesity, chronic organ failure, and a variety of cancers, are becoming common, affecting millions across the globe. Autism is becoming a serious problem. Studies have shown that sperm count is decreasing in many parts of the world, adversely affecting the reproductive capacity and resulting in more and more birth defects ³³. These new and incurable diseases are posing a threat to human health and well-being, never seen before. All this is happening due to the developmental process we have embarked on since the Industrial Revolution.

Ancient Cultural Practices

According to Berkes, precisely for these reasons, many ancient societies and indigenous people have relied for millennia on their direct environment for subsistence and autonomy. Over time, they have developed a way in which to manage and use their resources that ensures their conservation into the future. Such traditional societies are interested more in preserving their own social, cultural and environmental stability and integrity than in maximising production. Consequently, there is no ‘exploitation’ of nature—which they do not consider as a collection of commodities—in the interaction between humans and natural milieu. On the contrary, their way of life is based on a strong sense of interconnection and interdependence. Relationships are based on reciprocity and obligations. Natural resource management is based on shared meanings and knowledge. Activities in traditional societies often include a strong symbolic dimension in which every action is highly ritualised, and allow humans to participate in the preservation of the natural order. Of course, these rituals differ between cultures, as each society has its own belief

For example, food habits are an integral part of cultural practices. Choice of food—not only what is consumed every day by the household, but also what is cultivated—has a direct impact on the health of our local ecosystem, and on the planet. The UN Food and Agriculture Organization website states that the livestock industry accounts for 7.1 gigatons of carbon di-oxide equivalent emissions per year, representing 14.5 percent of all anthropogenic greenhouse gas emissions worldwide; almost as much as the transport industry with 1.3 billion vehicles³⁵. According to the same source, cattle are the animal species responsible for the most emissions, representing about 65 per cent of the livestock sector’s emissions. Thus, the global meat industry is a disproportionate user of water, energy and one of the largest emitter of greenhouse gases. In this context, the tradition of vegetarian diet in India proves to be most ecologically sound and the least violent against other species of life. Obviously, the concept of vegetarianism and non-violence in Indian traditions is based on the sound ecological wisdom of harmonious living with nature.

systems, which determine its cultural identity and type of technology ³⁴. Modern science and ancient knowledge constitute different paths to knowledge, but they are rooted in the same reality.

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Similarly, nature worshipping has been an ancient practice in India. The oldest visual image of the human fascination, love, and reverence for nature in India can be found in the 10,000-year-old cave paintings at Bhimbetka in Central India depicting birds, animals, and human beings living in harmony ³⁶. The Indus Valley civilisation provides evidence of human interest in wildlife, as seen in seals depicting images of rhino, elephant, bull, etc. Historically, conservation of nature and natural resources was an innate aspect of the Indian psyche and faith, reflected in religious practices, folklore, art and culture permeating every aspect of the daily lives of people. As quoted by Indira Gandhi at the Stockholm Conference in 1972,

twenty-three centuries ago, Emperor Ashoka had decreed that it was a king's duty to protect wildlife and the trees of the forests ³⁷. He got edicts inscribed on rocks and iron pillars throughout his kingdom, prohibiting the destruction of forests and the killing of various species of animals. This historical evidence, surviving to this day, is the first recorded measure on conservation anywhere in the world. In Buddhist mythology, the *Jatakas* or the stories of the Buddha's previous life are replete with several incarnations of the Bodhisattvas as animals.

In ancient Indian writings, the whole physical universe has been described as the body of the Almighty. In Sanskrit, environment is called '*pariyavarana*', meaning which encircles us. Hence, the practice of worshipping mountains, rivers, lakes, trees and animals form an integral part of Indian cultural heritage. Look at the sacred botany of India, for such trees and plants are considered an integral part of Indian environmental heritage and cultural consciousness. Evidence of tree worship goes back to the Vedic times. *Peepal* (*Ficus religiosa*) *Neem* (*Azadirachta Indica*), *Tulsi* (*Ocimum tenuiflorum*), coconut tree (*Cocos nucifera*) and *Amla* (*Phyllanthus emblica*) are still worshipped in many parts of India (incidentally these plants and trees have also been found by modern science endowed with great medical properties). In the Vedas, trees are referred to as '*vansapati*' or lord of the forest and have been invoked as deities, just as rivers, lakes, birds and certain animals. As per Vedic traditions, planting of trees and living in forests are considered great virtues. The Vedas, the most ancient written scriptures in the world, pay tribute to nature and consider the earth as mother. Unfortunately, in the modern era, many of these traditions have been adversely affected, due to greed for wealth and growing appetite for consumerism.

To elucidate this point, let me quote Renugadevi who has included some references from the Yajurveda in her article. The Yajurveda (Y.V.) mentions the great virtues

of preserving plants and animals, the ill effects of cutting of trees and the poisoning of the atmosphere. It also discusses about energy relations of the global eco-system. 'No persons should kill animals helpful to all' (Y.V. 13.37). 'O King you should never kill animals like bullocks useful in agriculture or like cows which give us milk and all other helpful animals and must punish those who kill or do harm to such animals' (Y.V. 13.49). 'The oceans are treasure of wealth protect them' (Y.V. 38.22); 'Do not poison (pollute) water and do not harm or cut the trees' (Y.V. 6.33); 'Do not disturb the sky and do not poison the atmosphere' (Y.V. 5.43). About the flow of energy in the global ecosystem, the Yajurveda says 'the whole universe is full of energy in which the sun at its centre is the ultimate source of energy for all living organisms on earth'. 'The net energy flows from the point of production to the point of consumption through the plants, animals, human beings, the air, water and land, and is completely under the control of the Almighty'. While energy flow and balance are maintained in the universe, yet some imbalance in this flow causes several natural disturbances like untimely rain, heavy rain, drought and flood, warm winter and cool summer. 'The earth provides surface for vegetation which controls the heat build-up. The herbs and plants having union with the sun's rays provide congenial atmosphere for life to survive' (A.V. 5.28.5)³⁸.

The following excerpts from the *Bhumi Sukta* in Atharva Veda explain as to how the Earth was revered as deity (*devata*) by the Vedic seers³⁹. (Complete text of the 63 verses called *Bhumi Shukta* invoking the Mother Earth as a deity can be found in *Sacred Books of the East*, Volume 42, 1897).

'Earth, in which lie the sea, the river and other waters,
In which food and cornfields have come to be,
In which lives all that breathes and that moves,
May she confer on us the finest of her yield.

Earth, in which the waters, common to all,
Moving on all sides, flow unfailingly, day and night,
May she pour on us milk in many streams,
And endow us with lustre,
May those born of thee, O Earth,
Be of our welfare, free from sickness and waste,
Wakeful through a long life, we shall become bearers of tribute to thee.
Earth, my mother, set me securely with bliss in full accord with heaven,
O wise one, uphold me in grace and splendour.’

The Upanishads go a step further and describe the physical nature as body of the Almighty, elevating nature to an even higher status. For example, the Mundak Upanishad (2.1.4) describes the Almighty (Brahman) in the following words:

‘Fire is his head; his eyes are the moon and the sun;
The regions of space are his ears, his voice the revealed Veda,
The wind is his breadth, his heart is the entire universe,
The earth is his footstool,
Truly he is the inner soul of all’.

Similarly, the verse 2.17 in Svetasvatara Upanishad states that the Almighty (Brahman) pervades every part of physical nature:

‘The self-luminous Lord, who is in fire, who is in water,
Who has entered into the whole world,
Who is in plants, who is in trees
To that Lord let there be adoration!’

The ancient India Epic Mahabharata—the largest ever written text in human history— also has something to say about the interdependence of man and nature surrounding us. I am quoting the following verse out of many:

‘Human beings are born on the Earth and to the Earth they return.
All species of life are suffused with the attributes and energy of the Earth.
To the world the Earth is like mother and father.
There is no other material reality like the Earth.’

Mahabharata, Anushashan 62/49 & 50

It is smart to believe in science. But simultaneously, we also need a dose of ancient wisdom. Ancient traditions teach that a simple life is best. Ancient sages teach that happiness and virtue are found in restraint and self-control. Desire is a flame that easily burns out of control. Materialism distracts us from eternal happiness. Tranquillity and joy are found in peaceful harmony. The Buddhists and the Jains aimed to control desire. The Hindus believed in respect for nature, moderation in consumption, self-control and austerity. The Taoists sought harmony in simplicity. Jesus warned against greed and wealth. The Bible has many verses highlighting the importance of the environment. These include; Psalms 104: 25-30, Psalm 96:10-13 and Job 37:14-18. The ancient Greeks praised modesty, moderation and temperance. Similar traditions can be found in many ancient civilisations all across the world, including amongst the nomadic tribes of Mongolia, the Mayans of Mexico, the Indians of the United States and the aborigines of Australia. There was no electricity in ancient times. The sun regulated human life. The nights were darker then. The stars provided entertainment and inspiration. We rarely see those stars today. Boxed in urban apartment complexes, our distance with nature has increased manifold. Today many children believe that milk and bread are produced in factories without any relation to nature.

One interesting suggestion comes from Arnold Schwarzenegger. Schwarzenegger has become a spokesman for meat-free meals as a cure for climate change ⁴⁰. Food crops farming emits less greenhouse gases and consumes much less water as compared to the meat industry. The global meat industry is a disproportionate user of water and land resources as it has been calculated that one kg of beef requires 15 times, and one kg of chicken requires 5 times more water as is required in producing one kg of wheat. Locally grown foods also produce fewer emissions. All of our consumption habits have environmental impacts. Coffee is shipped across the globe. Coffee culture creates vast piles of disposable cups. Beer and soda also have an adverse ecological impact. Energy is used to refrigerate and transport them. Modern packaging has become the greatest source of solid waste. Every day each one of us discards one to two kilograms of waste, only of the packing material which is poisoning our soil and water bodies. According to the World Bank, Municipal Solid Waste (MSW) generation levels in 2010 were approximately 1.3 billion tons per year, and are expected to increase to approximately 2.2 billion tons per year by 2025 ⁴¹. Even if part of this waste is

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recycled, there are heavy ecological costs in manufacturing and recycling cans, bottles, cartons, plastic and paper and so on. The focus of human life in the past has always been on sustainability, use and reuse, recycling, and conservation of energy and other natural resources. Our ancestors focused upon building designs suited to local geography and climate; we insist upon uniform building materials and designs across the regions, and lay out energy guzzling and mirrored buildings throughout the world. Our ancestors considered extending the height of buildings with more thickness of walls so that they are cool in the summer and warm in the winter; we focus upon use of concrete with reduced height of buildings, and use air conditioners instead. When I was a child, in my part of India, we used to preserve vegetables and fruits by drying them in the sun, and used to boil them before use. These are just a few examples. There are thousands of such ancient practices all over the world. Therefore, we can only gain from paying attention to our cultural history and richness which is based on sound wisdom observed over millennia.

Needs versus Desires

Consumption has become the symbol of development, and the primary purpose and the principal driver of life. Today every individual, every organisation and every nation is looking for more and more resources, and higher and higher gross domestic product. Following the Industrial Revolution, we have created a consumption driven society where everybody is perpetually hungry for more. The mad race by humanity for higher and higher Gross Domestic Product (GDP), and per capita income are the root causes of environmental degradation. Obviously in this race for more, more and yet more, we are digging deep into the earth's surface, the ocean beds and even the ice covered Arctic and Antarctic. Equipment and machinery invented since the industrial revolution has helped exploit nature far more than ever done in the past. As a result, nature has been exploited in an

unprecedented manner in the last 100 years. The amount of natural resources extracted for the production of goods and services have been steadily increasing and presently stand at around 60-65 billion tons each year. Humans extract and use about 50 per cent more than only 30 years ago. Moreover, if the present trend continues, natural resource extraction would increase to 100 billion tons by 2030⁴². Simultaneously, we are denuding our forests and poisoning the air, rivers, lakes, oceans and soil with unprecedented waste in a variety of forms.

Desires are ever elastic and keep growing in geometric progression. In Sanskrit, they are called *trishna* which can never be satisfied. The combination of senses and sense objects gives rise to desires. By their very nature, desires keep arising one after another like waves in the ocean. Each such desire hijacks our mind and keeps it engaged till the desire is fulfilled. Once satisfied, it provides pleasure for a while. Once this transient pleasure is over, pain follows with multiple new desires. This is an infinite process where each pleasure sows the seeds of pain and a new desire. Thus each successive pleasure diminishes in intensity, and ultimately it turns into distress and pain²². In practice, this process leads to more stress and restlessness which is visible all over, in modern society. Thus, the search for happiness through material possessions and sense-gratification gradually catapults itself into a self-propelling mirage. Since human desires are infinite and interminable, this process is interminable as well. Sometimes this motor is driven by the desire for change, and sometimes by greed for power and fame. Sometimes new and more advanced technologies and innovative marketing techniques by large corporations impose this cycle upon us. This process is driven both by the supply side as also by the demand side, but quite often by a combination of the two.

In the first case, the industry driven by the profit motive develops new varieties of products and creates new demand or temptations through marketing techniques.

Wonderful and seductive advertisements are a great source of such temptations. For example, a new mobile phone with many new features is developed, and then demand is created through marketing techniques. Similarly, a new state of the art airplane with better comforts for the passengers is developed, and then air companies are convinced to buy this new plane. The desire for change or for a new look often generates new demand for fashion garments, beauty products, the furnishing industry and so on. Similarly, when individuals look for a better variety of cars with more comfort, the car companies through innovations come out with better products to meet customer demands. This ceaseless desire for higher level of physical comforts naturally leads to more innovations. Thus, better technology and billions of new products keep us engaged in our pursuit for happiness.

Let me illustrate this with a real life story. An individual with modest means was living in a small apartment, and was quite content. One day, one of his friends ignited a fire in his mind to improve his life-style. Since then, he desired to have a bigger apartment and a small car. He worked diligently, and gradually acquired enough money to buy both of them. Then he wanted a big mansion and an expensive sports car. He worked hard, and once again he got what he wanted. However, his desires climbed up a few steps further. Now he wants to have houses in different parts of the world, a private jet and a yacht so that he can go on holidays and enjoy himself. His desires won't end there. They would stretch further, once these new one's are fulfilled. This point has been aptly covered in the Indian epic Mahabharata with great finesse. The following verses are worth quoting:

'On acquiring wealth, men want to acquire a kingdom;
having acquired a kingdom, they want to become gods;
and then among gods they want to become the king of the gods.'

(Shanti 180/24)

'By appeasing, the desires cannot be satisfied;
with appeasement they only grow, like fire when more fuel is added.'
(*Adi 75/50*)

'It is difficult to earn wealth.
Painful to part with it,
nor is there any pleasure in guarding it.
Of course, human beings are never satisfied with any amount of wealth,
wanting more and more.'
(*Shanti 330/18*)

In order to contain this ceaseless process of desires, understanding the role of the mind and intellect is very significant. In economics, productivity is defined as a ratio between the input and the output. The more output you are able to achieve with a given level of input, the more productive you are. Conversely, the less the input for a given level of output, the more productive you are. For example, enterprise A is able to produce X amount of output with Y input, while enterprise B is able to produce the same amount of output with Y-1 input. Thus, enterprise B will be considered more productive. The higher productivity of enterprise B also reflects a higher level of development of production and managerial techniques in this enterprise. Similarly, an individual who is able to achieve a higher level of happiness with a lower level of consumption should naturally be considered more productive, developed and enlightened. *Hence achieving a higher level of happiness with lower level of consumption and minimum use of natural resources should constitute the core of the human development index* ²².

“We don't live to eat but eat to live” is a dictum often quoted in the West. Unfortunately, we are doing exactly the opposite. We have grown up and are

constantly living with the cycle of excessive use of natural resources—higher level of wants—higher levels of production—higher levels of consumption—still higher level of wants—and still higher levels of production and consumption. This endless cycle of higher production and higher consumption is an elusive and destructive path. Following this path is indicative of a lower level of human development. Perpetual discontentment, frustration, stress, conflicts over resources and environmental disasters are inevitable occurrences on this path. The concept of higher and higher GDP and per capita income provides fuel to this fire of desires for higher consumption, and hence leads to a higher level of frustration and stress. Therefore, the greed for higher GDP and more and more consumption must come to a halt. The consumption driven approach to life is the single most important aggression against the Self and Mother Nature. This is also a sign of living in darkness. Moderation, austerity and contentment are an ancient dictum? Human needs can be fulfilled, but not greed, said Mahatma Gandhi. If we fail to address this simple truth, all international negotiations and agreements will lead us nowhere. They are doomed to fail. To conclude this section let me quote the following two verses:

‘A man of understanding acts with mind and intelligence;
gives up all sense of proprietorship over his possessions
and acts only for the bare necessities of life;
thus working he is not affected by painful reactions’

(Bhagvad Gita 4/21)

‘The Lord pervades the entire universe—animate and inanimate.
Take only as much as needed in the spirit of detachment.
Covet nothing. All belongs to the Lord.’

(Isha Upanishad 1)

In this context, it's worthwhile to mention the ancient Indian concept of *aparigraha*, meaning non-possession and non-attachment. *Aparigraha* spells out how much should be possessed, limiting possessions by the criterion of essential human needs. Whatever is not needed must not become part of possession. Thus, *aparigraha* connotes the moral desirability of limiting possessions and consumption to the essentials and that too with a sense of detachment. This concept forms an integral part of all Indian philosophies and religious traditions, starting from the *Hindu Rishis*, *Jain Munis*, *Buddhist Bhikkus* to *Sikhism* and *Sufism*. Under all these traditions, excessive possession and attachment are considered as a hindrance to spiritual progress, inner peace and lasting happiness. Other world religious traditions and schools also uphold this principle, although the name, form and degree may differ. In today's era dominated by growing consumerism, this concept has acquired added significance if we need to halt the continuing degradation of the environment, and to preserve nature's capacity to sustain life on planet earth.

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Discussion

In view of the above, we need to ponder whether the current levels of production, consumption and contamination are sustainable. The problem of sustainable development cannot be tackled simply by controlling the greenhouse gases or carbon di-oxide emissions. This is merely the tip of the iceberg, or a symptom of a much deeper disease of desires overtaking humans. Global leaders will have to think in terms of reducing consumption levels so that the pressure on natural resources and consequent contamination of air, water bodies and soil is curtailed. Prudent are those who can manage with less. Excessive consumption is vulgarity. Austerity is wisdom. Excessive wealth is also the source and cause of a large number of criminal activities, financial frauds, drug addiction, alcoholism, domestic violence and life-style diseases. Similarly, large-scale production units must give way to small and rural production centres based on local raw materials to reduce glaring inequality of wealth and means of production, increasing unemployment, misuse of resources and massive contamination. This will also help in addressing the problems of unhealthy and artificial life-style, growing urbanisation, urban slums, drug trade and criminal gangs and in the restoration of the human face to economic activities. The growing disconnect between man and nature must be restored.

Our ancestors lived like that for thousands of years during the pre-industrial period, without playing havoc with nature and inviting nature's fury. They also gave birth to great civilisations in those times. A simple life connected with nature is a virtue, and the greatest source of happiness. Mahatma Gandhi was far ahead of his time. In the first half of the 20th century, he taught us the virtues of simple living, beauty of small and rural industries and the concept of trusteeship. The Middle Path of Gautam Buddha is far more relevant today than ever before. Auroville, an international township in south India based on the vision of Sri Aurobindo's

Integral Yoga and Krishna Valley in Hungary based on the Vedic life-style are the living examples of such simple living, in complete harmony with nature. Away from the madness and stress of consumerism, such simple and austere lifestyles are the source of enduring happiness and real contentment. This is also the ancient wisdom enshrined in the Vedas and many other scriptures around the world, including the Bible, which says that we do not live to eat but eat to live. Our ancestors were not unwise. It is time to heed them.

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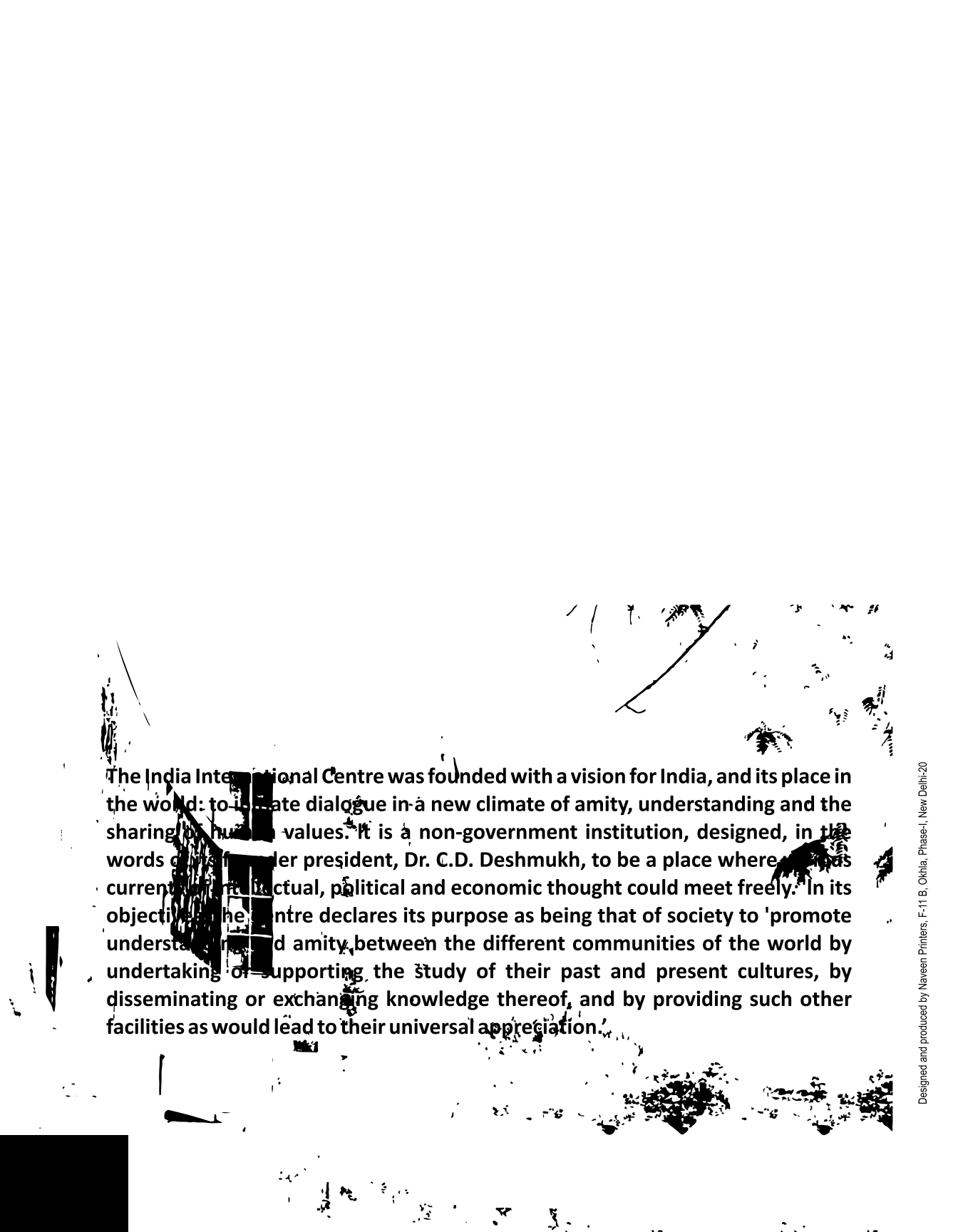
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