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RESOURCE EFFICIENCY AND JOBS: OPPORTUNITIES FOR BUSINESS AND POLICY

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BACKGROUND PAPER

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India is today among the world's most rapidly growing economies. It is also home to a population of working-age youth that constitutes one of the largest potential labor forces anywhere. This combination of factors has led many to believe that the "demographic dividend" it produces will automatically drive our nation to the top of the global economic ladder within a few decades.

For this dividend not to become a "demographic disadvantage", let alone a "demographic disaster", however, several of our economic, sectoral and social policies will need radical change. Some of these changes are self-evident and generally recognized by government and business leaders, many of them introduced and evolving steadily since the grand liberalization of 1991. Others are emerging, subsumed under the more recent concerns with raising the "ease of doing business". While many of these are important and necessary, however, it is less well-understood that they are *not at all* sufficient.

The national economy unquestionably needs to grow, and to grow rapidly. But its benefits have also to spread to all our citizens and be sustained for our children and future generations. The basic purpose of national development is, after all, achieving universal human wellbeing and social justice, now and in the future – which are the Constitutionally-defined goals of our society: GDP growth is simply one of the means to that end, no more important than equity and social fairness, education and participation, opportunity for fulfilment and a healthy environment.

Measures to facilitate business activity must therefore be complemented by measures that unequivocally raise the quality of life of the poorest half of the economic pyramid *and* improve the long-term productivity of our natural resource base. This in turn means that economic policies must also be put in place to accelerate job-creation and facilitate the ability of communities and businesses at all levels – local, regional and national – to speed up regeneration of the environment, while producing the goods and services needed in the marketplace.

To ensure widespread sharing of the benefits of economic growth and maintaining the health of our resource base, without which the demographic disadvantage could become a heavy, long-term "demographic debt" burden on future generations, *the equity and environment underpinnings of sustainable development must receive equal support to that received by the economy*. Otherwise, many in the present

generation and most in future ones will pay a debilitating cost in declining human wellbeing and mounting resource scarcity.

With less than 30% of India living in urban areas, we also have the largest agrarian population, a majority of which will probably want to move to the cities in the coming decades. Our job markets are experiencing deep macro-structural changes from farming to other occupations. At the more micro-structural level, the drive for global competitiveness and higher productivity is revolutionizing activity in all economic sectors such as manufacturing, construction, trade and transport. The pursuit of "economic efficiency" is now forcing all sectors of the economy to adopt technologies – mechanization, chemicalization, genetic manipulation, robotics, data analytics, artificial intelligence -- that raise productivity. But, these can also have a huge potential impact – often negative -- on both social goals, such as loss of jobs, identity and lifestyles, and environmental objectives such as the health and productivity of land, water and air.

If not proactively and systemically dealt with, these factors will create a complex set of pressures on the types and quality of jobs and simultaneously a very large impact on the health and productivity of our human and natural resources. The overall consequences could in turn harm many and will certainly show up in slowing down the nation's economic progress into the future.

Following the previous four Annual Conferences of the Club of Rome-India, which were devoted to Resource Security Issues (covering Food in 2014, Water in 2015, Land, Soils and Forests in 2016,and Materials in 2017), the 2018 Annual Conference will reflect upon various relationships and trade-offs among consumption patterns, and production systems, with particular focus on technology choices, policy alternatives, and economic instruments that can achieve a desirable balance between material wellbeing, jobs and livelihoods, and the management of our natural resources to attain a sustainable, healthy future for all. Its deliberations will be structured under five themes:

1. **Enhancing Future livelihoods in Rural India**
2. **Balancing Environmental Concerns and Employment opportunities in Infrastructure development**
3. **Harmonizing employment and quality of life in urban India**

4. **Harnessing India's youth dividend in Emerging Service Sectors -Finance, Service industry, Renewable, IT and Telecom**
5. **Nurturing MSMEs for job creation: Facilitating India's aspiration to be a manufacturing pivot**

ENHANCING FUTURE LIVELIHOODS IN RURAL INDIA

Agriculture and allied activities employ almost 52 % of the labor force and account for about 15.7 % of the nation's GDP. Although the share of employment and output produced by this sector has been declining since independence, the on-going shift in the composition of food is raising the value of its output – and the impact on the resource base. This shift, generally towards higher protein and nutritional foods, such as from basic cereals to dairy products, fruits and vegetables, meat and meat products, many of them processed, results from many factors, including rising incomes, urbanization, trade liberalization and communication. As the consumption of high-value agricultural products rises, the output of agriculture-food industry, which includes processing, wholesale, and retail, also expands. The rapid growth of this sector, the rising use of machines, energy and chemicals and the increasingly wasteful practices are causes for considerable concern in terms of their impacts on jobs, the environment and the resource base.

Low awareness, poor connectivity and policy neglect have had a catastrophic impact on the lives and livelihoods of farmers. The current agricultural practices are extremely inefficient, in terms of all factors – labor, land, materials and energy – becoming the prime reason for the poverty trap (and the occasional suicidal hole) in which farmers find themselves. To maintain food and nutrition security in rural communities, to earn a decent income and invest in improved productivity of land and water resources should be the highest priorities for farming families, and given their numbers and national contribution, the very highest priority for policy makers and development practitioners.

Recognizing the importance of food for the entire nation, and the threats to its production from existing handicaps, greatly enhanced by changing economic structures, vulnerability to weather, climate change and macro-economic shocks, this conference will review the means to create a better balance between land, labor, technology and material resources, and identify possible synergies among these so that future livelihoods of rural India would be more logical.

BALANCING ENVIRONMENTAL CONCERNS AND EMPLOYMENT OPPORTUNITIES IN INFRASTRUCTURE DEVELOPMENT

Rapid urbanization and infrastructure deployment means a massive growth in the construction sector. After agriculture, construction is among the top users of labor, materials and energy and contributes 10% of GDP. With extensive use of natural resources – topsoil for bricks, iron for steel, limestone for cement, stone, timber, water and other non-renewables – and 23% of the country's GHG emissions, the environmental and resource footprint of the construction sector is very high. India is poised to become the third largest global construction market, making its global impact on resources and climate a cause for alarm.

With the ambitious and much needed schemes such as **Housing for All** and **Make in India** the resource scarcity implications will only worsen in the future if business as usual for resource consumption by the sector continues. Some of the resources such as sand, topsoil, and water have already become critical in the industry. The Conference will address availability of these materials in future in a 'business as usual' and 'alternative coupled scenarios' with implications of each scenario on environment, society, economy and jobs prospects:

A Business as Usual Scenario

The BAU scenario will look at the growth of the construction sector and resource consumption pattern in absence of any major changes in current practice. It will explore future availability of natural resources to meet the demands of the sector. The scenario will also assess the replenishment to extraction ratio of natural resources and the opportunities for recycling.

B Alternative Hybrid Scenario

The Alternatives scenario, based on Circular Economy principles, will look at natural resource consumption by the sector coupled with alternative materials (such as fly ash, construction and demolition (C&D) waste, etc.). This scenario will aim to utilize the potential of unconventional resources to avoid the use of natural resources for construction and yet meeting the demand requirements. It will basically show the effect of supplementing natural resources with viable alternatives and decoupling the growth of this sector from environmental degradation.

HARMONIZING EMPLOYMENT AND QUALITY OF LIFE IN URBAN INDIA

Indian policies are quite strengthened, which is why, India is a fast-growing economy in the world. However, it remains one of the few countries that have been able to overcome the challenges posed by the sluggish global economy. Sustaining such growth is a necessary, if not sufficient, condition to ensure that the living standards of hundreds of millions of people living in absolute poverty are improved. Today's economic systems are complex, rapidly changing and vulnerable to external perturbations of many kinds, ranging from natural disasters to hostile trade-related actions to changing fashions.

Many businesses that were iconic five decades ago no longer exist. Many businesses that did not exist five decades ago are among the largest corporations today. Every decade, a completely new business model becomes the dominant paradigm, only to be replaced by another, often after an unexpected and sometimes catastrophic collapse of the market.

Appropriate skills, knowledge and attitudes are essential for conducting a successful business in the modern economy. And because of the fluidity of business requirements, the ability to let go of old skills and quickly learn new ones becomes more important for retaining jobs than ever before.Moreover, single-minded focus on the bottom line (or even top line) is no longer acceptable, given the broader landscape of stakeholders that today's businesses have to operate in. Sustainability issues dictate that the least number of bottom lines a business must pay attention to now is three – financial, social and environmental.Fifty years ago, a professional with a freshly minted degree in a specific subject could spend an entire working life without any further need for study. Today, technology and markets are changing so rapidly that a professional may well change specialisations three or four times within his or her working life. In many cases, because of changing demand patterns, obsolescence, mechanisation or other reasons, jobs simply disappear and no new ones with similar skill requirements take their place.

Often a country's development is correlated with rapid urbanization. Besides changes in core economic life urban livelihood is closely linked to modernity that implies cultural civic values vastly different from rural interpretations.

HARNESSING INDIA'S YOUTH DIVIDEND IN EMERGING SERVICE SECTORS - FINANCE, SERVICE INDUSTRY, RENEWABLE, IT AND TELECOM

As elsewhere, the Service sector in India is growing rapidly. It now contributes more than fifty percent of GDP and employs around 28% of total population. Government incentives in health care, tourism, education, engineering, communications, transportation, information technology, banking, finance, management, etc. are significant, but studies, including from ILO, indicate a declining future for good quality of jobs in this sector.

Digitization in service and knowledge enterprises to support mechanization in agriculture, industry, and services and new businesses to build skills, create, manage, interpret big data analytics, cloud and cybersecurity services, service delivery automation, robotics, artificial intelligence, machine learning, and natural language processing, among many others -- are replacing current jobs at an accelerating pace. While they are also creating new job opportunities to replace the ones that are lost due to these very technologies, the skills and numbers required mean that other employment opportunities will also be needed. To reduce unemployment, much more effective systems will need to be set in place to improve the process of matching skills to opportunities, for which digital employment exchanges run by businesses are an excellent initiative.

Services that promote and deliver resource efficiency as a business objective are among the most needed: waste management, energy efficiency, renewable energy, water management, appliance maintenance and repair and other circular economy enterprises. and pursuing green public procurement. Others are India must accept a national program to adapt its labor market to a green economy: however- it should be promoted by business sector rather than a thrust from government.

NURTURING MSMES FOR JOB CREATION: FACILITATING INDIA'S ASPIRATION TO BE A MANUFACTURING PIVOT

With 110 million workers, MSMEs are major employers in India. They contribute almost 17% of the nation's GDP and produce more than 8,000 different products. As shown by the experience of USA, Germany and Japan - and more recently Korea and China - MSMEs will always be the backbone of industry, exports and even innovation. However, the majority of MSMEs operate in only 6 states in India. And only 7% of MSMEs are managed by women. This is a sector which could help in decreasing income, gender and regional disparities, but it

faces many challenges such as lack of access to efficient technologies, poor infrastructure, deficient institutional credit and inadequate market linkages. While large industries can afford the costs of designing and installing resource-efficient technologies, MSMEs are often handicapped in this area for lack of capital and technical support.

A beginning has been made by Government, which has significantly raised public investment in roads, railways, rural facilities, power, telecom, housing, and the "soft" areas of health care and education, creating work opportunities for thousands of workers, at wages which are higher than for farm workers. Initiatives like ***Make in India, Startup India, Digital India*** have been planned to upscaling the sector. In the past few years, more than 100,000 projects have been approved. However, demand for jobs in India is outstripping their supply and if MSMEs are to take up the slack, plans will need to be implemented on the ground with greater speed and a better understanding of the natural resource constraints.

Initiatives like 'Zero Defect and Zero Effect' are critical for promoting resource efficiency in industry, but much more support capacity and effort is needed to promote and spread them and other ideas such as the circular economy, secondary resource use, and the 3 R's among entrepreneurs.

Given the importance of MSMEs to the national economy, much more needs to be done to formalize the labor laws, environmental performance, resource efficiency expected of them and to set up the support mechanisms - knowhow, technology access, financial support and skill development - that they require to enable them to play a truly constructive role in the economy.

Expected Outcomes of the Conference

Outcome 1:	**A roadmap for resource efficient jobs in India**
Outcome 2:	**Sector-wise policy recommendations on enhancing resource efficiency**
Outcome 3:	**Case studies on successful initiatives towards resource efficiency- up cycling and recycling**
Outcome 4:	**Research-based report on resource efficiency in the construction sector**

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INDIAN NATIONAL ASSOCIATION

Dr. Vishal Massey, COO
Indian National Association for the Club of Rome
B-32, TARA Crescent, Qutab Institutional Area, New Delhi-110016, India
Tel: 011-2654-4200, 011-2654-4100 | Mobile: +91 9910296783
Email: vmassey@clubofrome.in; info@clubofrome.in