



## Productivity: a continuously evolving concept

**P**roductivity has become a household word. Yet it means different things to different people. It ranges from efficiency to effectiveness, to rates of turnover and absenteeism, to output measures, consumer satisfaction, and to intangibles such as morale, loyalty, and job satisfaction. Productivity must not only be defined but also measured, which poses no fewer problems.

### Productivity as a technical concept

Conventionally, productivity has been defined as the ratio between output and input. Output represents the product of an operation, or result of special interest. Input refers to the resources consumed in the production or delivery of output. Traditionally, the inputs are people, capital, material, and energy. This definition is useful for measuring productivity since it measures one's ability to utilize available resources efficiently to produce desired output and thus reflects changes in productivity. Efforts to raise productivity may result in an increase in output with deteriorating quality. In some cases, it may even result in labor-management conflict due to a reduction in the labor force in an effort to increase labor productivity.

### Productivity as a social concept

Productivity is above all an attitude. It seeks continual improvement in what already exists based on the belief that one can do things better today than yesterday and better tomorrow than today. It aims to achieve a better quality of life for all.

### Productivity as an economic concept

Productivity is one's ability to create more value for customers. For many businesses, the economic goal of existence is value creation. It is measured in terms of value-added output. A productivity-driven growth model reflects resource efficiency and output superiority in the market.

### Productivity as a management concept

Productivity has been equated with efficiency and effectiveness. Efficiency and effectiveness are both management concerns to ensure that desired products and services are provided in the right manner, at the least cost, in the least possible time, with the highest quality to maximize customer and employee satisfaction at all times.

### Productivity as an integrated concept

As an integrated concept, productivity is viewed in two ways: as an objective and as a means. Productivity as an objective is explained by the social concept of productivity. As a means, productivity pertains to the technical, economic, and management concepts. Productivity can have different meanings, for example: for employees, increased compensation, development of skills, and job satisfaction; for employers, improved competitive position in the market; for customers, lower prices, higher quality, and timely delivery; for society, low inflation, higher living standards, and environmental protection; and for government, more revenues and more resources for social services.

### Multifactor productivity

Numerous inputs are associated with output, e.g., labor, capital, materials, energy, and water. Multifactor productivity measures are useful for analyzing changes in overall efficiency and total costs. However, factor productivity measures such as labor productivity are useful for analyzing unit labor costs.

### Green Productivity

Green Productivity (GP) is a concept originated by the APO for sustainable socioeconomic development. It applies appropriate productivity and environmental management tools, techniques, and technologies to reduce environmental impacts while enhancing profitability and quality of life. Apart from greater efficiency in utilizing resources, the elements of increased safety, reduced toxicity, and overall reduction of environmental burdens is integrated into the measurement of GP.

### The price of happiness

We live in an age of stark contradictions. The world enjoys technologies of unimaginable sophistication while at least one billion starve. The global economy reaches soaring new heights of productivity through ongoing technological and organizational advances, yet is relentlessly destroying the natural environment in the process. Countries achieve progress in economic development as conventionally measured, yet succumb to new crises of obesity, smoking, diabetes, depression, occupational health problems, and other ills of modern life. This means

that material gains alone cannot fulfill our deepest needs.

The USA, the world's economic superpower, has achieved striking economic and technological progress over the past half-century without gains in the self-reported happiness of the citizenry. Instead, uncertainties and anxieties run high, socioeconomic inequalities have widened, social trust is declining, and confidence in government is at an all-time low. Perhaps for these reasons, life satisfaction has remained nearly constant during decades of rising GNP per capita. Therefore, GNP may not be the only indicator of productivity levels.

"Gross national happiness (GNH)" was coined by His Majesty the Fourth King of Bhutan Jigme Singye Wangchuck in 1972. It refers to the concept of qualitative and quantitative measurement of well-being and happiness. GNH has four pillars: good governance; sustainable socioeconomic development; cultural preservation; and environmental conservation. As shown in the Figure, the four pillars are subdivided into nine domains to deepen understanding of GNH and reflect the holistic range of its values: psychological well-being; health; education; time use; cultural diversity and resilience; good governance; community vitality; ecological diversity and resilience; and living standards. A single number index called the GNH index was developed from 33 indicators in the nine domains, based upon a robust multidimensional methodology known as the Alkire Foster method. These indicators emphasize different aspects of well-being and different ways of meeting human needs.

A survey was carried out in Bhutan in 2010 to measure the GNH index with the above methodology, and 10.4%, 47.8%, 32.6%, and 8.3% of respondents were "unhappy," "narrowly happy," "extensively happy," and "deeply happy," respectively. These four groups correspond to people who felt fulfilled in less than 50%, 50–65%, 66–76%, and more than 77% of domains.

A second-generation GNH concept, treating happiness as a socioeconomic development metric, was proposed in 2006 by President Med Jones of the International Institute of Management. The metric

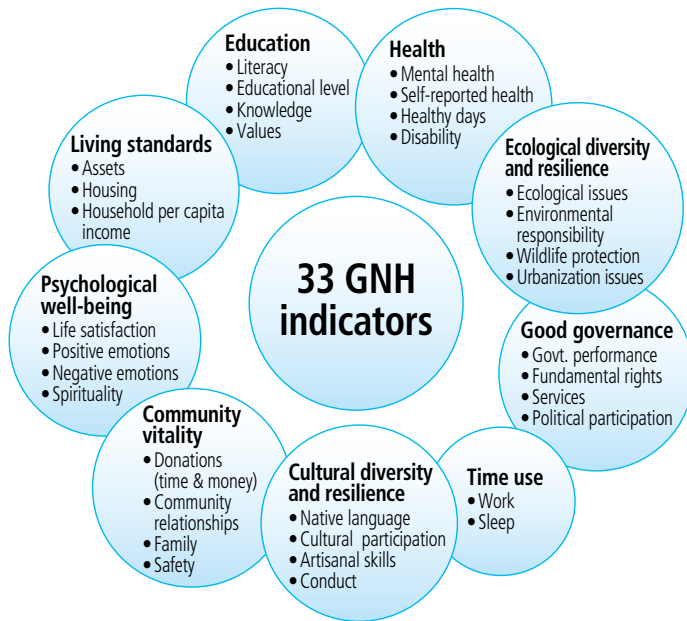


Figure. Nine domains and 33 indicators of GNH.

measures socioeconomic development by tracking seven development areas: economic wellness, environmental wellness; physical wellness; mental wellness; workplace wellness; social wellness; and political wellness. The GNH value is an index function of the total average per capita of the measures.

Thus the concept of productivity has evolved from a mere output-to-input ratio to a measure of economic prosperity with a better quality of life ensuring well-being and happiness. Its improvement should contribute to the sustainable, inclusive socioeconomic development of a country. 🌀



*Dr. S.K. Chakravorty holds a postgraduate degree in Plant Engineering, PhD in Production Engineering, and Master's in Chemical Engineering. He is trained in Advanced Industrial Maintenance Systems & Techniques and Advanced Risk Assessment and Hazard Analysis. Dr. Chakravorty is a Lead Auditor in OHSAS 18001 and has worked on management of physical asset projects in areas such as industrial tribology and lubrication management, vibration analysis, industrial thermography, wear debris analysis, total productive maintenance, and lean manufacturing. A contributor of numerous papers to international journals, Dr. Chakravorty is presently Deputy Director General of the National Productivity Council, India.*