

Making ‘Make in India’ a green development project: A social cost-benefit analysis

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Abstract: *‘Make in India’ is an initiative program of the Government of India to encourage multinational and domestic companies to manufacture their products in India. It is an international marketing strategy, conceptualised by the Prime Minister of India, Sh. Narendra Modi, to transform India into a global manufacturing hub. In this study, an effort has been made to analyse this new investment project of Indian government. The main focus of the study is on doing a social cost- benefit analysis of the ‘Make in India’ project. The benefits that Indian economy and Indian people will get, and also the costs in terms of natural environment that would be affected by this project, are discussed under this study. The inflow of foreign investments in India in the form of setting up of new manufacturing units will bring countless benefits for its people and economy as a whole, but at the same time they will certainly bring with them several hidden costs that risks Indian natural environment resulting in deteriorated people’s health and ecological scarcities. India cannot afford such hidden costs as it already rank slow (112th) on Social Progress Index as far as the Environmental Quality is concerned (Source: <http://www.socialprogressimperative.org/>). This social cost- benefit analysis concentrates on identifying such hidden social and environmental costs of ‘Make in India’ project and finally providing some suggestions/recommendations so that ‘Make in India’ can become a remarkable step in promoting a transition to a green economy.*

Keywords: Make in India, Social Cost- Benefit Analysis, Foreign Investment, Natural Environment, Green Development.

Introduction

The manufacturing sector is crucial for employment generation and development of any country’s economy (Vijayaragavan, 2015). India is a country well-known for its treasure of natural resources; also the labour is plenty, and skilled labour is easily available given the high rates of unemployment among the educated class of the country. This makes India one of the best countries to invest in and hence attracts several foreign and domestic investors to set up manufacturing units, but earlier India ranked very low on the ‘Ease of Doing Business Index’ due to the bureaucratic approach of former governments, lack of robust transport networks, widespread corruption, and unnecessary laws and regulations which made it difficult for investors to manufacture and invest in India. The new Indian government’s ‘Make in India’ project is a major national initiative designed to facilitate investment; foster innovation; enhance skill development; protect intellectual property, and build best-in-class manufacturing

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infrastructure (www.makeinindia.com). Since the inception of this project, India has moved up from rank 142 to rank 130 on the 'Ease of Doing Business Index' by World Bank among 189 countries which further attracts more investment. Also, India ranks up in Global Competitiveness Index 2016 i.e. from No. 55 to No. 39; India registers the largest jump amongst 138 countries in World Economic Forum's Global Competitiveness Index 2016 (<http://www.makeinindia.com/home>). It gives a clear indication that this project has proved to be one of the best steps taken by any of the Indian governments so far. Needless to mention here, with the advent of this project encouraging investors to manufacture in India, the economy of India has risen and will certainly rise further, resulting in providing several visible and invisible benefits to the Indian people in the form of employment opportunities, accessibility to newer and advanced technologies, improved standards of living, availability of products at cheaper prices and so on. But at the same time, the hidden costs resulting from this project on account of extreme use of natural resources resulting in resource scarcities and other social costs like environmental pollution cannot be ruled out. India already ranks very low on Social Progress Index as far as the Environmental Quality is concerned i.e. 112th out of 133 countries (www.socialprogressimperative.org), and hence cannot further afford such costs. Prime Minister of India, Sh. Narendra Modi has given the 'Zero Defect, Zero Effect' slogan which indicates production process wherein products have no defects and do not have any adverse effect on environment and ecology, but it is also true that all kinds of economic activities undertaken for the development, use some kind of resources and have some impact on the environment. Hence, it becomes very important at this point of time, to analyse this project on account of the social benefits that it accrues and also the social costs that are incurred. For this purpose, a social cost-benefit analysis is crucial because any kind of development that is directed towards the development of economy and the society at large aiming at enhancing the quality of life of the people cannot be fulfilled if the environment quality is deteriorating.

The present research paper aims to perform a social cost-benefit analysis of the 'Make in India' project and finally to provide some key policy tools that Indian government may use to make this project a green development project

Social Cost-Benefit Analysis

A Social Cost-Benefit Analysis (SCBA) is, somewhat, different from a commercial cost-benefit analysis. In commercial cost-benefit analysis, only the direct costs and direct benefits are taken into account whereas in social cost-benefit analysis, the indirect costs and indirect benefits are also analyzed along with the direct costs and direct benefits. The main objective of an individual, a firm or a company in investing on a project is to earn the maximum possible returns for the investment (Nagarajan, 2010). Hence more stress is, therefore, on the evaluation of only the commercial profitability of a project. However, some projects affect the society as a whole, due to which they impose certain costs to the society and deliver certain benefits also. Hence, it becomes very important to analyze a project from a social perspective as it also takes the hidden factors into account. Social cost-benefit analysis is also termed as 'National profitability Analysis'. While a nation bears the indirect cost, the people of the nation enjoy the indirect benefits (Nagarajan, 2010).

For determining the rational of investment in any project, whether commercial or a project undertaken for social upliftment as a whole, cost benefit analysis is necessary. (Sirajuddin, 2013). 'Make in India' campaign also aims to provide social benefits to India; hence, it will impose certain social costs also. So, it becomes extremely important to perform a Social Cost-Benefit

Making 'Make in India' a green development project: A social cost-benefit analysis

analysis of 'Make in India' project to evaluate the total impact of this campaign on Indian economy and society as a whole.

SCBA of 'Make in India'

To perform a social cost benefit analysis of 'Make in India' campaign, firstly the social costs that it will impose on the society will be discussed, wherein, the main focus will be on the natural environmental aspect i.e. a discussion in detail about those costs that directly affect the natural environment will be made. Then, the social benefits that 'Make in India' will deliver to Indian society will be discussed and finally, some suggestions/recommendations will be made keeping in view these social costs and social benefits.

Social Costs

Though there are several hidden costs that India and its people will bear as a result of the Make in India campaign like: negligence of agriculture, depletion of natural resources, loss for small entrepreneurs, disruption of land, manufacturing based economy, increase in interest of people in international brands, pollution, etc. but in this study our main focus is on those costs which affect the natural environment of India and its people's health. The probable social costs that the natural environment of India is expected to bear as a result of more and more of manufacturing due to the 'Make in India' campaign can be classified into the following three broad areas:

Scarcity of Natural Resources

Resource scarcity is an increasing threat to future economic growth and a real challenge to the manufacturing industries, especially scarcity of fresh water, oil and gas, and some metals (UNEP, 2011). Manufacturing industry has impacts and dependencies on biodiversity and ecosystem services.

The main problem in this context is of land use. Setting up of a manufacturing unit requires a piece of land where the unit will be established and manufacturing activities will take place. This land may be a productive one, i.e. good to be used for agricultural purposes but now it would be used for manufacturing purpose and hence the benefits that a country could have accrued from it by using it for food production will go waste now. Further, high usage of agriculturally productive land for industrial purposes may raise a situation in which the country has to import food products from other countries. And it makes no sense when a country manufactures and exports highly technical industrial goods when it has to import basic things like food from other countries.

The second main natural resource largely used by manufacturing industries is water. Water is an important natural resource not only for manufacturing industry but also for agriculture and urban consumers. At the same time, a balance needs to be maintained between the water demand by ecosystems/biodiversity and by manufacturing industry and local people. Several industrial uses of water leave polluted and sometimes toxic waste streams. These streams then need to be treated, which uses even more water and those treatment costs are, sometimes, not reflected in the total cost of production.

Apart from basic resources like land and water, other natural resources like oil reserves are diminishing, and their further extraction need technological innovations. Due to this need of new technologies to further extract the oil reserves or any other natural resource, the energy and other costs are rising. As a result, gas prices are also rising as gas is a partial substitute of oil.

Similarly, high quality metal ores are also gradually depleting. Though absolute scarcity is not yet perceived as an immediate problem for most metals.

Though not all manufacturing units affect the economy and environment equally and not all materials are equally important in terms of economic or environmental impacts, but resource scarcity does impact the prices of commodities and manufacturing inputs.

Industrial Pollution

There are several processes in manufacturing industry that cause air, water and soil pollution. Manufacturing units release GHG emissions and other pollutants such as particulate matter, sulphur dioxide, nitrogen dioxide, lead, and chemicals, etc. resulting in health and safety problems and degrading ecosystems. Some impacts of these pollutions on human health are: premature mortality, chronic illness, such as bronchitis and asthma, and several acute illnesses. Also the costs of control policies for such pollutions are very high and are projected to increase further, owing to higher activity levels and increasingly stringent controls.

Hazardous Industrial Waste

Manufacturing processes leave hazardous substances as wastes. These toxic wastes cause health and safety problems and degrade ecosystems. To cope with these problems, waste management becomes a necessity. In the absence of good waste management, the following industries in particular (according to UNEP, 2011) may face toxicity challenges:

- Textile industry and leather industry in relation to dyeing and tanning products;
- Paper and pulp industry in relation to bleaching processes and related water emissions;
- Chemical and plastics industry, depending on the type of chemicals produced; and
- High-temperature processes such as in the cement and steel industry, where the formation of by-products or emissions of metals can be a problem.

This results in various fatal and non-fatal occupational accidents and number of deaths caused by hazardous chemicals. These social costs of industrial accidents represent a great source of social distress.

Hence, from the above stated facts, we can say that manufacturing on large scale results in several huge social costs i.e., public and private costs but it provides several social benefits also to the society. In the next section, we will discuss about the social benefits of increased manufacturing due to the 'Make in India' campaign.

Social Benefits

The various social benefits of 'Make in India' can be seen as interrelated to each other, as one social benefit gives rise to the other social benefits. These are as under:

The first and foremost social benefit of Make in India campaign is that it is generating and will further generate a huge amount of employment opportunities for as many citizens of India as possible. The main advantage is that along with direct employment generation, indirect employment opportunities are also rising as some people who gets direct employment in a newly set up manufacturing unit hire domestic helpers for their day to day related work. In this way, the poor, unskilled and less-educated (or uneducated) people living near by the area where the manufacturing unit has been established get indirect employment benefits. The young generation of the country is the prime beneficiary of 'Make in India'. The young Indian entrepreneurs with their innovative ideas are encouraged to come forward further giving rise to generation of

Making 'Make in India' a green development project: A social cost-benefit analysis

employment for others. Foreign investments in manufacturing sector will also open several job opportunities for in India.

Now, the generation of huge amount of employment opportunities further paves way for other social benefits like: poverty alleviation, improvement in purchasing power, and expansion of consumer base. If lesser number of people will be unemployed, lesser will be the number of people living below the poverty line. And if people will have a regular source of income, it will definitely raise their purchasing power. Consequently, there will be a larger consumer base attracting foreign investments and making India a best place to invest because of its expanded market size.

A social benefit that is most obvious and sought for from 'Make in India' is the improvement in the standards of living. As more and more construction of infrastructure will take place and more and cheap products will be made available, the standards of living of Indian citizens will definitely improve.

In order to manufacture in India, a good location is the basic requirement to set up machinery as well as factories with minimised cost. After establishing the factory locality and the neighbouring locations will enjoy many advantages. For a developing nation, an initiative of this kind is extremely crucial. In addition to this, the labour will be hired from the locality which will enhance the financial status of the concerned families.

A major social benefit of employment opportunities within a country is that of reduction in the brain drain (or human capital flight). When highly skilled and educated people will get employment opportunities within their own country, there will be lesser number of people leaving the country and going outside in foreign countries (for better jobs and lifestyle) and will use their skills and abilities for their nation's well-being.

With the increase in the manufacturing of products in India, economic growth is inevitable, which will not only boost the trade sector but also will increase the GDP of Indian economy. More investments will further flourish different manufacturing sectors, providing quality products to the consumers at lower prices because of the increased competition which will again increase the purchasing power resulting in improved lifestyle and increased consumer base.

A boost in FDI inflows is on the cards. FDI inflows have already started showing an upward trend after the advent of 'Make in India' as Government of India has allowed 100 % FDI in all sectors except Space (74%), Defense (49%) and News Media (26%). FDI restrictions in tea plantation have been removed, while the FDI limit in defense sector has been raised from 26% to 49% (Aneja, 2016). Apart from the boost in inflow of foreign capital, there are certain other benefits that Indian people will get with the increased amount of FDIs like technical expertise and creative skills. Technology transfer is the transfer of knowledge and equipment from one place to another. Needless to mention here that with foreign investment inflows will certainly bring technology transfer with them. It is certain that the augmentation of FDIs will bring newer and more advanced technologies from developed countries and will make India stand with these developed countries shoulder to shoulder. Also, the export-oriented growth model of Make in India will improve India's balance of payments and balance of trade and will help in accumulating foreign reserves.

Thus, it is a clear indication that 'Make in India' is certainly a good step taken by the Indian government as it will provide a number of benefits both to the economy and society of India as a whole.

Suggestions and Recommendations

Based on the above social cost-benefit analysis, following are a few suggestions that Indian government may consider to tackle the adverse environmental effects of manufacturing on large scale due to 'Make in India' campaign:

A manufacturing unit may be allowed to be established on such a piece of land which is unproductive or less productive for agricultural purposes to avoid the industrial use of such land that can provide agricultural benefits. A strategy for water treatment known as co-generation or Combined Heat and Power (CHP) can be used to reduce water loss where water is used in large amounts to cool the large central power facilities. As per this treatment, when water is used by industries for cooling purposes, a large amount of water is lost as vapor but much of this hot water can be used for other purposes. Also, governments may internalize some of the environmental costs of natural resource extraction or use to business. By doing this manufacturers are most likely to adopt innovative technologies that can improve resource efficiency. In this way, the selling price of their products will increase, making consumers search for less costly substitute and thus exploration and development of additional resources will make market reach a new equilibrium that stimulates innovation (UNEP, 2011).

Pollution control policies should be framed at central level to control the industrial pollution. Also, cleaner production approaches in management, cleaner raw material selection and cleaner technologies that reduce emissions and integrate by-products into a production value chain, can help reduce industrial pollution (UNEP, 2011).

Preventing chemical pollution at the source avoids generating harmful wastes and emissions while reducing and eliminating costs of clean up. Cleaner production patterns focusing on high-value chemicals and pharmaceuticals, substitution or emission reducing measures are relatively easy to achieve. Occupational Safety and Health (OSH) obligations should be distributed properly to avoid fatal and non-fatal industrial accidents (UNEP, 2011).

Conclusion

From the Social Cost-Benefit Analysis and suggested steps discussed above, it can be concluded that 'Make in India' is definitely going to encourage investors from within India and outside India to invest in manufacturing sector. More manufacturing due to 'Make in India' does impose several social costs in terms of natural environment such as natural resource scarcity, industrial pollution and hazardous substances and wastes as discussed above but at the same time the social benefits that it will accrue are large in number which can cover the social costs too. Also, the social costs of affected natural environment can be minimized by proper usage of natural resources, controlling industrial pollution from the very beginning of manufacturing processes and less costlier waste management processes etc. There are global benefits in human and environmental health associated with cleaner and safer industrial production, which has to be part of a transition to green manufacturing. Thus, an initiative from the Indian government itself in the field of saving the natural environment from the extreme industrial usage will be an appreciable step. In this way, the social benefits that 'Make in India' will provide will definitely outweigh the social and natural environmental costs and thus make 'Make in India' undoubtedly a remarkable and historical step taken by the Indian Government.

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Making 'Make in India' a green development project: A social cost-benefit analysis

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