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Sustainable Consumption and Production

Introduction

The importance of sustainable consumption and production (SCP) has long been recognised in global discourse, yet the Millennium Development Goals (MDGs) did not address this key objective of achieving SCP patterns. The High-Level Panel of Eminent Persons on the Post-2015 Development Agenda specifically noted the omission. Many governments in the Open Working Group on Sustainable Development Goals (SDGs) recognised that this objective should be embedded in the SDGs, either as a stand-alone goal, or cutting across other goals on food, health, economic growth, industrialisation, cities and ecosystems.

Chapter 4 of Agenda 21, endorsed by the United Nations Conference on Economic Development (UNCED) in Rio de Janeiro in 1992, identified unsustainable consumption and production patterns, particularly in industrialised countries, as the major cause behind the continued deterioration of the global environment. Agenda 21 stresses that changes in consumption and production patterns are necessary to ensure more sustainable development. The concept of SCP was also recognised in the Johannesburg Plan of Implementation adopted in 2002 at the World Summit on Sustainable Development (WSSD).

The following year in 2003, the Marrakesh Process was initiated to respond to the specific call of the Plan of Implementation to develop a 10-year framework of SCP programmes.¹ In 2012, the United Nations Conference on Sustainable Development (Rio+20) reaffirmed that fundamental changes in the way societies consume and produce are indispensable for achieving global sustainable development (UNGA Resolution 66/288, p.4).

Eventually, sustainable consumption and production has been included as a stand-alone SDG as the goal 12 reads – Ensure sustainable consumption and production patterns. The goal 12, however, has strong linkages with other goals – several themes that are of relevance under Goal 12 are also of interest to other goals. For example, SCP can contribute to social goals or poverty reduction without an increase in the global use of resources, materials and chemicals and, thereby, sustain this progress over time. There are thus linkages with Goals 7, 8 and 13 on sustainable growth, energy and climate change. Another linkage is that in the context of efficiency of water use which is dealt under Goal 6 as well (ensure availability and sustainable management of water² and sanitation for all).

The Conceptual Framework

Sustainable consumption and production (SCP) promotes social and economic development within the carrying capacity of ecosystems, raises efficiency and ensures sustainability in the use of resources and production processes, reducing resource degradation, pollution and waste. Sustainable consumption addresses the demand side, focussing on consumers' choices of goods and services such as food, shelter, clothing, mobility and leisure, to fulfil basic needs and improve the quality of life (UNEP, 2006). It means buying goods and services that do not harm the environment, society, and the economy. However, it is important to understand that sustainable consumption is not necessarily about consuming less; it is about consuming better, i.e. more efficiently, with less risk to our health and environment.

Sustainable production concerns the supply side, focussing on the economic, social and environmental impacts of production processes. The focus is on achieving more resource efficient and cleaner production, which aims at reducing the risks to humans and the environment. Producing sustainably refers to optimising the use of natural resources such as raw materials, energy, and water at all stages of the production cycle, thus reducing the ecological footprint of products. More resource efficient production practices allow consumers to meet more of their needs (therefore, consume more) by using the same amount or even less resources. At the core of the SCP concept is the lifecycle approach which requires that at each stage of a product's lifecycle, due consideration is given to alternatives which improve the system, and ensures that there is no burden shifting between different stages of product life cycle.

Countries need to either reduce their footprint, or might increase it only to the extent that they remain within global and regional bio-capacities (Kitzes *et al.*, 2008). The changes in consumption and production patterns must be led by the developed world where per capita consumption is high and that has particular responsibility in sharing SCP-related technologies (High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (HLP), 2013). Sustainable consumption can be promoted through a mix of policy, economic and voluntary instruments, including formal and informal education.

The Targets and Potential Indicators

This section briefly discusses the philosophy behind each of the targets and the technical architecture for monitoring them and suggests some potential indicators. The goal on SCP has eleven targets linked to it, progress against which will need to be monitored by defining indicators. This paper focuses on the aspects of the targets which are not already included elsewhere such as under agriculture, transport, and energy.

12.1 Implement the 10-Year framework of programmes on sustainable consumption and production (10YFP), all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries

This is more of an implementation framework rather than a target and actually covers all other targets. The primary objectives of the 10 YFP are to:

- Support regional and national policies and initiatives to accelerate the shift towards SCP, contributing to resource efficiency and decoupling economic growth from environmental degradation and resource use, while creating new job/market opportunities and contributing to poverty eradication and social development.
- Mainstream SCP into sustainable development policies, programmes and strategies, as appropriate, including into poverty reduction strategies.
- Enable all stakeholders to share information and knowledge on SCP tools, initiatives and best practices, raising awareness and enhancing cooperation and development of new partnerships – including public-private partnerships.

The 10 YFP includes an initial list of five programmes to be developed under the Framework, as well as a mechanism to further develop and expand this list over time to include other programme areas. The initial list includes: consumer information, sustainable lifestyles and education, sustainable public procurement, sustainable buildings and construction and sustainable tourism, including ecotourism.

Since this is not a pure target, the indicators for this target need not be outcome oriented. Rather, in this context, it will be important to see if there are frameworks, policies and actions in place. Nevertheless, an effort can be made to make it more specific and measurable by looking at the public expenditure on programmes in each of these areas as percentage of GDP or government expenditure.

Sustainable Land and Water Use: This will look at whether India has a comprehensive framework to deal with these issues. Since, state governments have a major role to play in this regard, comprehensiveness will require that all the state governments also have such frameworks in place.

Renewable Energy Development Policies/Actions: This will include promotional and regulatory policies for renewable energy including incentive schemes and subsidies and support for research and development. In this area also, state governments will have an important

role to play and hence their policies on feed in tariffs, net metering etc. will be part of the considerations.

Sustainability or Green Parameters in Public Procurement Policy: Governments and its agencies are the biggest consumers in any economy. Hence if government consumption becomes sustainable and if it demands sustainable production process from its suppliers, an economy can make a major breakthrough towards sustainable consumption and production.

Standards, Certification and Eco-labelling: If consumers want to adopt sustainable consumption habits, they will require information about the production process through which the goods that they are consuming have been produced, and they also require information about the performance of the products. Such information can be made available to them through standards, certification and labelling.

Policies and rules on recycling: There is no comprehensive recycling policy in India but it is primarily driven by economic considerations. However, in recent years, recycling has become a part of policy framework in some sectors. This indicator can look at coverage of sectors in recycling policy.

Policies and Rules to Limit or Ban Use of Hazardous Materials: Consumer use many products in their day to day life which include hazardous materials like lead, mercury and other CBRN (chemical, biological, radiological and nuclear) materials. Some countries have either banned or limited use of such materials in some relevant products through standard setting. This indicator will see if the country has such policies and their coverage of sectors/products.

Building Code and Policies: These are used for promoting materials and energy efficiency in construction activities.

Multilateral Environment Agreements (MEAs): It will be useful to prepare a list of inventories of MEAs that are relevant for the country and see how many of them have been signed and ratified by this country. This will include agreements on hazardous chemicals and waste such as the Basel, Rotterdam, Stockholm and Minamata conventions, the ILO Chemicals Conventions and the International Health Regulations. This will also include agreements like Montreal, Kyoto and Cartagena protocols and Convention on

Biological Diversity, the UN Convention to Combat Desertification, etc.

12.2. By 2030 achieve sustainable management and efficient use of natural resources

Natural resources are fundamental for any economy or society. They provide raw materials, energy, food, water and land, as well as environmental and social services.

The High-Level Panel of Eminent Persons on the Post-2015 Development Agenda (HLP) has specifically noted that the poor directly depend on natural resources, for food, fuel, medicine, shelter and livelihoods, and are especially affected by resource depletion and environmental degradation (United Nations, 2013). Thus there is growing recognition that the natural resource base of economic growth and human well-being has to be managed more effectively and efficiently to secure future prosperity and well-being on this planet (UNEP, 2014). India is committed to the efficient and sustainable use of resources. Resource use efficiency is one of the stated objectives of India's National Environment Policy. The need to improve energy efficiency across the energy chain is one of the guiding premises of India's Integrated Energy Policy.³ One of the eight national missions under the National Action Plan on Climate Change deals directly with the issue (National Mission for Enhanced Energy Efficiency) while several other missions refer to the need to enhance resource use efficiency (e.g. National Water Mission, National Mission for Sustainable Agriculture). Resource-specific strategies and policies such as the National Water Policy 2012 also highlight the imperative for enhanced efficiency.

Ideally, an indicator of efficient resource use should take account of all resources including fossil fuels, biomass (e.g. agricultural, timber, marine resources) and minerals that are used in the economy. However, there is insufficient information to give an integrated view of how minerals, metals, energy, timber or water flow through the economy. In recent years, several efforts have been made to develop the methodologies for material flow analysis (MFA) and the number of practical applications is growing. Countries are, however, at a variety of stages in developing and using MFA (OECD, 2008).

Most available indicators emphasize efficiency considerations with little or no attention to the need of maintaining a critical stock of natural resources.

While efficiency measures might suggest progress in the right direction, they frequently do not indicate when a natural or ecological threshold may be crossed, undermining long-term sustainability (UNEP, 2008). Thus, we need to find the appropriate balance between “critical stock” indicators on absolute environmental limits) and relative performance-based efficiency indicators.

UNEP (2008) reviews SCP indicators used by international agencies, developed countries (OECD and European Commission) as well as 20 developing countries. From this review, we list below the main indicators that are of relevance for India. We exclude from this review indicators of land, forests, and biodiversity, which are the topic of Goal 15, and water which is dealt with specifically under Goal 6.

- Material intensity of consumption (tonnes per capita)
- Material intensity of GDP (PPP)
- Energy consumption per capita
- Energy intensity of GDP (PPP)
- Depletion rate of minerals and non-renewable resources
- Alternative indices such as the Ecological Footprint and the Inclusive Wealth Index

12.3 By 2030 halve per capita global food waste at the retail and consumer-level, and reduce food losses along production and supply chains including post-harvest losses

FAO estimates that each year, one-third of all food produced for human consumption is lost or wasted – around 1.3 billion tonnes. Food losses and waste can occur at various stages from the production of food to its handling and storage, processing and packaging,

distribution and marketing right up to its consumption. Thus, ideally we would need indicators to quantify wastage at each of these stages. However, studies suggest that in the case of developing countries, most food loss takes place in post-production, harvesting, transportation and storage, and is primarily related to financial and structural limitations in harvest techniques, storage and transport infrastructures, combined with climatic conditions favourable to food spoilage. On the other hand, food waste is largely a problem in the marketing and consumption stages in more developed countries (Gustavsson *et al.*, 2011).

Containing food loss is obviously an important issue for India in view of the number of malnourished children and the prevalence of hunger in the country. In India, while people take care not to waste food at homes, but in social gatherings (like marriages, meetings, parties, etc.) substantial food is wasted. A study by IIPA (2011) estimated that 15-25 per cent of food is wasted in such gatherings. Addressing post-harvest loss however has its own challenges. This will need significant investment in supply chain and storage capacities which will also make the system more energy intensive. We are not sure what the net result will be as the gains from reduction of wastage might be offset by the higher level of consumption of energy and the material consumption that will be accompanied with the huge investment in the supply chain system.

Moreover, the cost of measuring losses and waste by tracking quantities of a commodity from production through different stages of the value chain and distribution to final consumption could be challenging both methodologically and cost-wise.

National Programme for LED-based Home and Street Lighting in India

Light Emitting Diode (LED) bulbs are 10 times more energy efficient compared to ordinary incandescent light bulbs and consumes about half the energy compared to compact fluorescents lamps (CFLs) per unit of light generated (lumens). LED bulbs also have a very long life, almost 50 times more than ordinary bulbs, and 8-10 times that of CFLs, and therefore provide both energy and cost savings in the medium-term. However, consumers do not go for LED bulbs due to high upfront cost. To overcome this problem, the Government of India launched a National Programme for LED-based Home and Street Lighting in January 2015. Under the programme, as scheme was launched in Delhi where LED bulbs will be provided to all domestic consumers at an initial payment of Rs. 10 each and recovery of Rs. 10 each for 12 months from their electricity bill. Hence, the cost for an LED bulb to domestic consumer will be Rs 130 through this programme due to bulk procurement, compared to the current open market retail price in the range of Rs. 350-600 for LED bulbs.

12.4 By 2020 achieve environmentally sound management of chemicals and all wastes throughout their life cycle in accordance with agreed international frameworks and significantly reduce their release to air, water and soil to minimise their adverse impacts on human health and the environment

Many industrial areas have seen gross chemical contamination, with grave damage to human health, genetic structures and reproductive outcomes and the environment. India has been among the worst victims of an accident involving hazardous chemicals. The Bhopal disaster is the world's worst industrial catastrophe. It occurred on the night of December 2–3, 1984 at the Union Carbide India Limited (UCIL) pesticide plant. A leak of methyl isocyanate gas and other chemicals, according to government, caused 558,125 injuries including 38,478 temporary partial and approximately 3,900 severely and permanently disabling injuries and the estimated death was 15,000.⁴ Since it involved a foreign company, India found it difficult to ensure justice and adequate compensation to the victims. India was thus quite serious in dealing with the issue of safe handling of hazardous materials. The three major conventions, namely, the Basel, Rotterdam and Stockholm Conventions all came after the Bhopal disaster, and hence India played an active role in developing them.

About 4.4 million tonnes of hazardous wastes are being generated by 13011 units spread over 373 districts of the country (This data is based on the waste categories indicated in the Hazardous Wastes (Management and Handling) Rules, 1989 and is likely to be revised in view of the amendments of 2000). The states of Maharashtra, Gujarat and Tamil Nadu account for over 63 per cent of the total hazardous wastes generated in the country.

The Hazardous Substances Management Division (HSMD) is the nodal point within the Ministry of Environment, Forests and Climate Change (MoEFCC), for management of chemical emergencies and hazardous substances. The Division is also the nodal point for the three International Conventions mentioned above. The Manufacture, Storage and Import of Hazardous Chemical (MSIHC) Rules, 1989/2000 and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 are the main instruments for ensuring chemical safety in the country. Currently, there are 1464 Major Accident Hazard Units (MAH) in India. A comprehensive National

Chemical Profile assessing the existing institutional, administrative, technical and legal infrastructure vis-a-vis the requirements of safe handling of chemicals is being prepared.

India is actively involved in the work relating to preparation of technical guidelines for environmentally sound management of ship-breaking along with Norway and the Netherlands under the Basel Convention. As far as Rotterdam Convention is concerned, India is fully compliant with its commitments. India is also a party to the Stockholm Convention on Persistent Organic Pollutants (POPs). The Convention seeks to eliminate production, use, import and export of 12 identified POPs. A Preliminary Enabling Activity Project to prepare National Implementation Plan (NIP) for POPs has been assigned to Industrial Toxicology Research Centre (ITRC), Lucknow in association with United Nations Industrial Development Organisation (UNIDO) under Global Environment Facility (GEF) assistance.

In the first part of the target, the indicators can be derived from the Basel, Rotterdam and Stockholm Conventions. The indicators, at the first level, can look at the national implementation plan of the Conventions and incorporate specific commitments and their coverage in relation the hazardous chemicals listed under the three Conventions.

At the second, level, indicators can include data on these chemicals that are released in the environment. It is understood that data might not be available for all different types of chemicals but a subset of them can be included. At another level, it will look at the quantity of different types of waste generated on a per capita basis.

MoEFCC has developed two important web-based information systems. National Hazardous Waste Information System (NHWS) which gives the status of Hazardous Waste Management in the country. Chemical Accident Information Reporting System (CAIRS) storing, retrieving and analysing data in visual form for all the information related to the chemical accidents happening in India. These will be useful in measuring the indicators.

12.5 By 2030, Substantially Reduce Waste Generation through Prevention, Reduction, Recycling, and Reuse

Wastes are inevitable by-products of consumption and production processes. Sound management of waste is necessary to avoid substantial adverse human health

and environmental effects. Despite achievements in waste recycling, amounts of solid waste going to final disposal are on the increase as are overall trends in waste generation. The Indian Government has enacted laws to regulate many kinds of waste generated in the country. The wide range of wastes include household/municipal waste, biomedical waste, e-waste, waste electronic and electrical equipment, waste from construction and demolition activities, waste from end of life cars, mining waste, waste from power plants, hazardous waste, waste from agriculture/forestry etc. The Environment Protection Act (EPA), 1986 is the umbrella Act that pertains to management of solid waste in the country. The National Environment Policy (NEP), 2006 of the Government of India emphasises the need for recovery and reuse of any material thereby reducing the waste destined for final disposal. The rules made under the EPA that would govern the management of all kinds of waste in India include:

- Management and Handling of Municipal Solid Waste (2000),
- Management and Handling of Bio-Medical Waste (1998, amendment 2003),
- Management and Handling of Hazardous Waste (1989, amended in 2000 and 2003),
- Recycled Plastics Manufacture and Usage Rules (1999),
- Notifications for the disposal of fly ash,
- Management and Handling of batteries, 2001, and
- E-Waste (Management and Handling) Rules, 2011.

Indicators could relate to the total amount of waste produced by sources including domestic, industrial and nuclear waste. Intensities are also used to show the amount of waste produced per capita and per unit of GDP (PPP). In the context of recycling indicators could apply to paper, glass, electronics, although they can and should be adopted for many other resources. The following can be considered:

- Municipal solid waste generation (volumes or mass) per capita and per year,
- Percentage of city population with regular solid waste collection (residential),
- Percentage of solid waste that is well managed to adequate final disposal (recycled, reused, composted, deposited in landfills, incineration sites, etc.),
- Recycling rate (Percentage of a city's solid waste that is recycled), and

- Percentage of the city's solid waste that is disposed of in a sanitary landfill.

12.6 Encourage companies, especially large and trans-national companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

The objective of sustainable production cannot be achieved without companies playing the leading role. India is one of the first countries in the world to mandate responsible business practices. The Securities and Exchange Board of India (SEBI) from November 2011 mandates the 100 largest listed entities must submit Business Responsibility Reports, as a part of their annual reports. This happened as a cascading effect of the launch of the National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business on 8 July 2011 by the Ministry of Corporate Affairs, Government of India. The new Companies Act, effective from 1 April 2014, has many new provisions, the most important being, liability of profit-making companies to spend a certain percentage of their profits on activities under Corporate Social Responsibility (CSR) as enumerated in Section 135 of the Act.

Sustainability reporting helps organisations set goals, measure performance, and manage change in order to make their operations more sustainable. Many companies and international organisations, such as the International Organisation for Standardisation and the Global Reporting Initiatives, have developed a set of indicators to measure progress of environmental performance and sustainable business. In India, companies have been reporting on sustainability since 2001 by using the GRI Framework, following the Carbon Disclosure Project (CDP) or completing the UN Global Compact's Communication of Progress (CoP). However, a small number of companies report under all these reporting norms. The indicator for this target could be quite straight forward. The big companies could be defined with an appropriate threshold level and it can be seen what proportion of them are reporting sustainability information.

12.7 Promote public procurement practices that are sustainable in accordance with national policies and priorities

Sustainable Procurement is a process whereby organisations (public or private) procure goods and services in a manner that generates benefits to the

PET Bottle Recovery and Recycling in Mauritius

The Ministry of Environment and Sustainable Development of Mauritius promulgated the Environment Protection (PET bottle permit) Regulations in 2001. In line with these regulations, bottling companies must encourage the return of used PET bottles and set up a collecting/compacting system so that the used PET bottles can be recycled and/or exported. In response to these regulations, the three big soft drinks producers, namely, Phoenix Camp Mineral (PCM), Quality Beverages Limited (QBL) and Compagnie Industrielle de Pailles (CIP), have set up the Mauritius Bottlers' Association which contracts out the collection, process and recycling of PET bottles to a private company called Polypet Recyclers Ltd. This company is actually responsible for purchasing used PET bottles from individuals, NGOs, schools and other organisations. Used pet bottles are collected, baled and sorted out by batch according to their colour. The used pet bottles are washed, granulated, re-washed and dried in specially designed machines. They are then ground and fed into other machines which melt them under sweltering heat and pressure. The PET waste is finally processed into pellets for export to South Africa.

Source: Sustainable Consumption and Production: Best Practices in Mauritius, Ministry of Environment and Sustainable Development, Government of Mauritius and United Nations Environment Programme, 2013.

organisation, society and economy, while ensuring that the environmental impact is minimal. On average, total public expenditures by central and local governments (including consumption and investment expenditures) are estimated to account for about 20 per cent of GDP in OECD countries, and roughly 15 per cent in non-OECD countries. Sustainable Procurement has a huge potential in India given that an estimated 20 per cent of the GDP per annum is spent on public procurement in India.

The main effort in the area of developing relevant indicators has been for the European Commission's Green Public Procurement programme. There are no universally accepted or widely used indicators of Sustainable Procurement, and one of the commonly proposed ones in the literature is^{5,6} :

- Share of labelled or otherwise classified sustainable goods and services at various levels of public procurement – municipal to national in monetary value and in terms of the number of contracts.

12.8 By 2030 ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature

Changing public understanding and attitudes are essential for the transition to SCP. Information and education can help create this understanding and attitude by raising awareness and thus leading to mass movements for recycling, renewable energy and

other sustainable consumption practices. Specifically, awareness-raising in schools, and public information campaigns could play a big part in changing mind-sets by showing the advantages of moving towards lifestyles that are in harmony with the nature. The new forms of participation such as social media can enable governments, businesses, CSOs and academia to interact with, understand and respond to citizens' needs in new ways. However, it will be difficult to develop workable indicators. The following can be attempted:

- Awareness and know-how about sustainable development is integrated in curricula and has significantly increased.
- Presence of Labelling: For example, for energy efficiency of white goods, labelling of food products, labelling of pharma products should be essential for any products that contain hazardous substances.
- Sales volume of eco-labelled products.

12.a Support developing countries to strengthen their scientific and technological capacities to move towards more sustainable patterns of consumption and production

India is not expected to have any obligations on this but it is expected that, as a developing country, India should receive assistance from developed countries in developing its scientific and technological capabilities. This can have two parts: financial assistance and technological assistance. While measuring financial assistance could be relatively easy, quantifying

technological assistance is a difficult proposition. India might have acquired some of the technologies but this might have been purely through market mechanisms and the element of assistance may not be visible.

Another important aspect of the issue is that though India does not have any obligation to assist other countries, in practice, India is actually providing both financial and technical assistance to other developing countries. However, India should not be included in the proposed indicator for comparing assistance to other countries, as India provides it under the framework of South-South Cooperation and at par with the major donors.

12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products

India recognises the importance of the tourism sector in the promotion of faster, sustainable and more inclusive economic growth. Recognising its role in promoting sustainable tourism, the Ministry of Tourism, Government of India, had, as far back as 1998, extensively deliberated with the industry and other stakeholders to formulate the “Ecotourism in India – Policy and Guidelines”. The tourism sector’s capability as a driver of sustainable and inclusive development, was renewed with the National Tourism Policy, 2002. The Ministry of Tourism has also framed Sustainable Tourism Criteria and indicators for India applicable to tour operators and the accommodation sector.

Organisations such as the World Tourist Organisation, the EU, and OECD as well as institutions and experts, have made efforts to create indicators of sustainable tourism. The World Tourist Organisation⁷ and the Global Sustainable Tourism Council (GSTC) have come up with sustainable tourism criteria for tour operators, hotels and destinations.⁸ However, these indicators are site specific. At the macro level, indicators on the number and type of eco-tourism facilities and the number of operators/ tourist facilities that are certified as sustainable may be more relevant. However, given the lack of relevant information on the sector and very low level of certification, developing effective indicators will be challenging.

12.c Rationalise inefficient fossil fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimising the possible adverse impacts on their development in a manner that protects the poor and the affected communities

Fossil-fuel subsidy reform can deliver on all three domains of sustainable development. They are costly and represent a deadweight loss to society because they artificially lower costs, which encourages inefficient allocation and use of resources and reducing them can create economic gains. Fossil-fuel subsidies create incentives for higher levels of consumption, which in turn produce more local and global pollutants. Additionally, fossil-fuel subsidies are often socially regressive as they typically benefit medium- to high-income households and lead to diversion of the targeted resources.

India has done away with petrol and diesel subsidies but they are still there for kerosene and LPG. In fact petrol is now highly taxed, while diesel is moderately taxed. On cost of production basis, there is no subsidy on coal but on international price basis it enjoys some subsidy. Electricity, which is generated mainly through coal is however subsidised in several states. Currently, on a net basis, there is no fossil fuel subsidy in India, but this can change in the event of international energy prices rising substantially (Nanda 2015).

Means of Implementation

Means of implementation would be more of generic issue rather than goal or target specific. The open working group proposal for sustainable development goals has given 19 targets under five heads, which are: finance, technology, trade, capacity building and systematic issues. There is increasing bent towards domestic resource mobilisation for the developing countries. Domestic reserves are more effective since financial inflow is stable and has strong linkages to taxation, accountability and broader state building goals (Strawson and Ifan, 2014).

On the other hand international aid is encouraged to be effective and low cost. According to Roodman (2014) aid must play a supportive and catalytic role, instead developed countries in an attempt to meet their ODA obligations have tended to overstretch Official Development Assistance (ODA) boundaries to include development loans charging interest near market rates, and export-promotion credits hugely paying for expatriate personnel offering “technical expertise”. On a per capita basis, the amount of aid that India receives is quite low and it is unlikely to see a drastic rise and hence domestic resource will remain the mainstay. India has made it mandatory for companies to spend a portion of their profits on CSR and imposed a cess on coal. A part of the money involved can be used to promote the goal of SCP.

Fundamental to the issue of technology is its accessibility to the developing world. The intellectual property regime is a barrier towards technology transfer from the developed countries to developing countries (Cannady, 2009; UNCTAD, 2014; Schloss, 2013). Further, Cannady (2009) encourages mobilisation of intellectual capital that already exists in developing countries and encourages research and development within the developing world. UNCTAD argues that it is critical to translate technology transfer into local innovation that is economically relevant. It is also observed that technology from the developing world which is more adaptable and less costly is often overlooked in development assistance. It is encouraged therefore for South-South development cooperation to be considered for development assistance.

Central to international trade is market access. ITC (2010) established that poor countries cannot grow and reduce poverty without exports therefore market access and market entry is critical. There are concerns that standards can have a negative impact on equity and livelihoods if they are not designed carefully to integrate the views and concerns of the small producers and even to localise the standards to their understanding. There is also need to develop export capabilities in developing countries in terms of domestic supply capacity constraints, trade infrastructure and standards. Export performance is important for developing countries to raise finance on their own.

Core to the systematic issues is macro-economic stability. The financial crisis of 2008 affected developing countries including India by reducing foreign investment, demand for imports, and foreign remittances, as well as triggering capital outflows and instability. Proliferation of bilateral and regional trade and investment agreements that lead to shrinking of national policy space raises several concerns. While some agreements have imposed TRIPS-plus conditions on parties that reduce flexibilities and further reduce access to technologies, some have reduced their capability to regulate foreign capital that might be necessary to protect development interest. While protectionism might not be a good idea, developing countries often require adequate safeguard against trade induced deindustrialisation. The recent experience of Greece and some other European countries shows how dangerous shrinking of policy space could be for a country whether developed or developing. It will be important for India not to sign such trade agreements and thereby shrink its policy space.

Concluding Remarks

India does not have a comprehensive sustainable consumption policy or framework, though most of its elements are captured in several policies in different areas. Having an integrated policy or framework could be a good idea. Energy efficiency has been an important policy concern in India for several decades, but same cannot be true for other resources, particularly in case of water and mineral resources. While, per capita resource consumption is quite low, India must adopt measures to ensure delinking of its economic growth from resource consumption.

In India avoiding waste and recycling have been the cherished habits of people since ages. But things are changing gradually. For example, while farmers in eastern part of the country uses paddy straw as fodder and for other purposes, in north-western states like Punjab and Haryana, they are simply burnt down which is not only a wastage of bio-resources but also causes severe pollution. Awareness campaigns should be launched to ensure that people do not give up their good habits and do not adopt bad practices. There are several good examples in different parts of India which can be shared not only within India, but also outside. On the other hand, India can learn from other countries, particularly from the developing world.

The Government of India very recently launched programmes and campaigns like Clean India, Make in India and Smart Cities. Efforts should be made to leverage such programmes and campaigns to promote sustainable consumption and production by mainstreaming resource efficiency and sound management of wastes. While, finance and technology will have important roles to play, significant achievements can be made by awareness generation, education and promotion of good habits and practices.

Endnotes

- ¹ The Marrakech Process, co-led by UN DESA and UNEP, is a global multi-stakeholder process to support the elaboration of a 10-Year Framework of Programmes (10YFP) on sustainable consumption and production.
- ² It is important to make a distinction between water for drinking purposes and water for agriculture and industry and obviously water for direct human use must get priority.
- ³ See page 17 of India's Integrated Energy Policy. Available at: http://planningcommission.nic.in/reports/genrep/rep_intengy.pdf
- ⁴ Some non-government estimates put these figures at much higher levels.
- ⁵ http://seri.at/wp-content/uploads/2009/11/INDI-LINK_D-1.3.pdf
- ⁶ <http://rru.worldbank.org/Public-Procurement/>
- ⁷ <http://sdt.unwto.org/sites/all/files/docpdf/croatia.pdf>
- ⁸ GSTC has a diverse and membership including UN agencies, leading travel companies, hotels, country tourism boards, tour operators, individuals and communities. <http://www.gstcouncil.org/about/learn-about-gstc.html>

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| Goal 12. Ensure Sustainable Consumption and Production Patterns: Targets and Indicators | |
|---|---|
| 12.1 Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries | 12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies |
| 12.2 By 2030, achieve the sustainable management and efficient use of natural resources | 12.2.1 Material footprint, material footprint per capita, and material footprint per GDP |
| | 12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP |
| 12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses | 12.3.1 Global food loss index |
| 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment | 12.4.1 Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement |
| | 12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment |
| 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse | 12.5.1 National recycling rate, tons of material recycled |
| 12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle | 12.6.1 Number of companies publishing sustainability reports |
| 12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities | 12.7.1 Number of countries implementing sustainable public procurement policies and action plans |
| 12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature | 12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment |
| 12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production | 12.a.1 Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies |
| 12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products | 12.b.1 Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools |
| 12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities | 12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels |