Challenges for effective implementation of National Resource Efficiency Policy 2019

K. Lenin Babu and S. Jagadeesh

Compelled by the growing economy, India is extracting resources @ 1580 tonnes/acre, much higher than the world average of 450 tonnes/acre with a low recycling rate at 25% only. Together, economy and consumption patterns are expected to double the demand for materials from the current 7 billion tonnes by 2030, leading to several ecological and economic backlashes. To prevent such a situation, the Government of India has proposed a draft Resource Efficiency Policy and sought suggestions from stakeholders. This contribution aims for a wider dissemination of information about the Draft Policy and also suggestions by the authors for effective implementation of proposed policy.

Resource efficiency or resource productivity is defined as the ratio between a given benefit or result and the natural resource use required for it[1]. Compared to other industrial countries, resource efficiency of the Indian industry is low. In addition, recycling of resources in India is 20–25% compared to 70% in developed countries[2]. Lower rates of resource-use efficiency and lower rates of recycling on the one hand, and demand for more materials from the growing economy on the other hand, force India to either increase its mining (for minerals that are endowed domestically) and/or import the same (for those minerals of inadequate domestic reserves). Resource extraction rate of India is 1580 tonnes/acre, which is much higher than the world average of 450 tonnes/acre (ref. 3). In addition, there is a high import dependency of many critical raw materials. Mining or import, both options are unsustainable as there are several tangible and non-tangible economic, social and environmental costs associated with each of them; for instance, environmental pollution, eco-toxicity, etc. Under such circumstances, a framework of action based on the 6 Rs principle, viz. Reduce (to require less use of materials), Reuse (use of goods or items again by different sets of consumers or by re-purposing them for a different use), Recycle (transformation of the goods into raw materials that can be reshaped into a new item), Refurbish (restoration of a used product for its intended use by performing minor alterations), Redesign (to rethink the design of a product to minimize use of materials, facilitate recyclability and reduce environmental impacts) and Remanufacture (rebuilding a product to specifications of the original product using reused, repaired and new parts) could hold the key to higher and better resource efficiency[4]. In this background, it is a laudable effort by the Ministry of Environment, Forests and Climate Change (MoEF&CC), Government of India to adopt a 'National Resource Efficiency Policy, 2019 – Charting a Resource Efficient Future for Sustainable Development' (NREP 2019) to mainstream resource efficiency efforts in select sectors and seeking suggestions on this Policy from the general public.

Indian economy is growing and its Gross Domestic Product (GDP) is at US$ 2.6 trillion. The material consumption stood at 7 billion tonnes in 2015, but is expected to double by 2030. Extraction of materials is bound to result in a wide range of environmental consequences such as acidification, climate change, eutrophication, environmental pollution or eco-toxicity, and many more such adverse impacts which may result in making the Earth less hospitable. It is a welcome initiative by MoEF&CC to develop a National Policy on resource efficiency guided by five principles, viz. (i) reduction in primary resource consumption to 'sustainable' levels, (ii) creation of higher value with less material through resource-efficient and circular approaches, (iii) waste minimization, (iv) material security and (v) creation of employment opportunities. Most importantly, this Policy aims to foster circular economy approach and move away from linear economy. Creation of an institution – the National Resource Efficiency Authority (NREA) to provide for regulatory provisions and an organization – the National Resource Efficiency Board (NREAB) to implement stipulations to be issued from time to time by it are provided in this Policy. In addition, to achieve effective level of implementation and desired results, participation and collective action of all major stakeholders, including from Government agencies, industry, policy makers, academia, civil society organizations like non-profit institutions, think-tanks and business groups, consumers, and technology developers are also encouraged through NREP 2019.

Increase in resource efficiency naturally leads to more output as products/services using less input and reducing waste generation as well. It creates a more competitive economy, addresses resource scarcity issues, and helps reduce the associated environmental impacts. Further, adoption of the circular economy approach helps keep resources in use for as long as possible and extract the maximum value so as to limit the extraction of natural resources to maximum possible extent.

As a first step, NREP 2019 is planning to adopt a three-year Action Plan to achieve resource efficiency in select sectors and track the progress with the help of monitoring frameworks. Accordingly, for the first Action Plan from 2009 to 2012, seven sectors have been selected, viz. automotive, plastic packaging, building and construction, electrical and electronic equipment, solar photovoltaic, steel and aluminium. Strategic, suitable but ambitious action plans and sector-specific targets to be achieved at the end of 2022 have been defined and comments/suggestions are invited on this Policy document. NREP 2019, like any other Policy document by the Government, has drawn a canvas for achieving significant objectives of promoting resource efficiency. However, a closer examination indicates that more attention and emphasis on implementation of recommendations in terms of its enforcement could help in achieving better

performance. Similarly, suitable measures should be prescribed to avoid too many organizations functioning within the existing Command and Control Structure Environmental Protection Act.

The first generation of environmental management instruments like Water Act and Air Act have adopted 'concentration-based standards', as they were easy to monitor and find out violations, if any and defaulter can be penalised. However, as the cost of compliance was costlier than non-compliance, most of industries have adopted shortcuts in pollution control that has led to significant deterioration of resources. Second-generation instruments like Ecomark, ISI Certification have failed to take-off because of mismatch between costs and benefits and Indian Inc has stuck to its path of profit maximization and went on reaping the low-hanging fruits while ignoring the environmental externalities.

Third-generation instruments for environmental protection like NREP 2019 and their effective implementation require a perfect synchronization and coordination between not only the organizations, but also between various institutions as well. It is certainly a difficult task to achieve such integration as there is little coordination between the organization, but possible with sincere concerns. Over and above, the most important stakeholder is the consumer, and he/she is extremely price-sensitive. NREP, at least in the initial years, is bound to increase the costs and consequently, negative impact on market performance, ultimately may dampen the spirit of NERP 2019. Awareness aimed at the end-user and stringent complying conditions, encompassing every producer could be a few strategies that might help.

1. United Nations, EU, FAO, IMF, OECD, and The World Bank. Systems of Environmental–Economic Accounting 2012; Central Framework, 2014; http://unstats.un.org/unsd/envaccounting/seea-Rev/SEEA_CF_Final_en.pdf
2. MoEF, Draft of National Resource Efficiency Policy 2019. Ministry of Environment, Forests and Climate Change, Government of India; http://moef.gov.in/wp-content/uploads/2019/07/Draft-National-Resourc.pdf (assessed on 5 August 2019).
3. International Resource Panel, Assessing global resource use: A systems approach to resource efficiency and pollution reduction. Bringezu, S., Ramaswami, A., Schandl, H., O'Brien, M., Pelton, R., Acquatella, J., Ayuk, E., Chiu, A., Flanegin, R., Fry, J., Giljum, S., Hashimoto, S., Hellweg, S., Hosking, K., Hu, Y., Lenzen, M., Lieber, M., Lutter, S., Miatto, A., Singh Nagpure, A., Obersteiner, M., van Oers, L., Pfister, S., Pichler, P., Russell, A., Spini, L., Tanikawa, H., van der Voet, E., Weisz, H., West, J., Wiijkman, A., Zhu, B., Zivy, R. A Report of the IRP. United Nations Environment Programme. Nairobi, Kenya, 2017.
4. NITI Aayog, Strategy on resource efficiency, Government of India, New Delhi, 2017.

ACKNOWLEDGEMENTS. We thank Dr G. S. Srinivasa Reddy, Director, and Dr C. N. Prabhu, Karnataka State Natural Disaster Monitoring Center, Bengaluru for encouragement and support.

K. Lenin Babu and S. Jagadeesh are in the Karnataka State Natural Disaster Monitoring Center, Major Sandeep Unikrishnan Road, Yelahanka, Bengaluru 560 064, India.*
**e-mail: klenin2011@gmail.com*

COMMENTARY

A wild encounter to ensure a food secure 2050

Basabdatta Das, Samik Sengupta, Kashinath Bhattacharya and Swati Gupta Bhattacharya

A significant number of the world population suffers from the lack of food security and malnutrition due to constraints of financial instability as well as due to restrictions in crop yield intensification. Many wild plant resources are potential nutritional sources, but are not sustainable due to lack of scientific data or inadequate trade policies. Proper initiatives pertaining to ecology, conservation and government policies will bring wild edible plants into limelight.

Challenges of nutritional insecurity

The FAO has defined food security as the physical, social and economic access to sufficient, safe and nutritious food to meet the dietary needs for a healthy and active life. However, either due to food unavailability or nutrient deficiency, a significant number of the global population does not conform to this definition, and is thus 'food insecure'. A majority of this 'insecure' population is concentrated in Africa, Southeast Asia and South America. Incidentally, the United Nations has projected these areas for major population growth by 2050 (ref. 1). Deleterious impacts of climate change, water scarcity, habitat destruction, genetic erosion of various wild and indigenous crop breeds, and rising oil prices will be detrimental for intensive agriculture as is practised today, especially in these regions. To counter such challenges FAO[2], in its World Food Summit on Food Security (2009, Rome) urged for prompt increase in investments towards sustainable 'smart' agricultural system, which will be good for the farmer, the consumer and above all good for the earth.