Report on Webinar on "Circular economic utilisation of plastic waste in India and the Asian Region" as a pre-event for the upcoming UNCRD 11th Regional 3R and CE Forum 2021 held on Wednesday 8th December 2021

3R WASTE Foundation (India) in partnership with All India Institute of Local Self Government (AIILSG) and UNCRD Japan organised a webinar on "Circular economic utilisation of plastic waste in India and the Asian Region" as a pre-event for the upcoming UNCRD 11th Regional 3R and CE Forum 2021 on Wednesday 8th December 2021**.** The webinar was participated by experts from the industry and development sector as speakers and panellists from India and other countries in the region as well as officials of the central, state and local governments of India and the region and the professionals from the industry and businesses and the academia. There were seven speakers / panellists 1. Dr. Sushma Pardeshi, Researcher, NEERIE Nagpur (India) 2. Dr. Edward Roshan Miranda, Director, Waste Venture, Hyderabad, 3. Dr. Prashant Lingam, Plastic Waste Management Project Coordinator, UNDP, Hyderabad, 4. Dr. Trish Hyde, Director and Founder, Plasticity, Australia 5. Dr. Amit Jain, MD, IRG Systems, South Asia Pvt Ltd. 6. Dr. N B Mazumdar Chairman, Sulabh International Environment and 7. Dr. Anupam Khajuria, Researcher, UNCRD Japan. The Webinar session was moderated by Dr. Kulwant Singh, CEO, 3R WASTE Foundation. The webinar was participated by more than 60 participants from five countries of Asia.

This webinar focussed on the challenges involved in the process of plastic degradation, conventional and non-conventional treatments available to treat these plastics, the best possible routes of biodegradation and associated impacts on the society as well as on the environment and also on the economic utilisation of plastic waste in India and the Asian Region.

The webinar highlighted the major challenges of plastic waste due to its increasing production rate and unavailability of appropriate methods of treatment, management and disposal. According to the Central Pollution Control Board (CPCB) of India report, in 2018-19 as much as 3.3 million metric tonnes of plastic waste was generated in India, which is approximately 9,200 tonnes a day (TPD). The use of plastic waste in the construction of roads protects the environment from adverse impact of waste plastic. In 2016, India started the usage of plastic waste in road construction. Since then, plastic waste has been used in constructing roads in 11 states of India. The Ministry of Road Transport and Highways of India has issued guidelines for mandatory use of waste plastic in periodic renewal of national highways.

The webinar highlighted as to how cities and countries can enhance their contribution towards achieving SDG 14 through 3R and circular economy approach in plastics waste. Several innovative examples of sound policy, intuitional, financing and technology options were discussed in 3R areas to address plastics waste issues in coastal and marine environment.

The webinar also focussed on creating greater awareness at public and municipality level and also for enhancing the level of cooperation between city and national government authorities in addressing this issue. Several innovative actions being taken at scientific and research level on the issue of plastic wastes were shared with the participants.

In order to achieve zero plastic waste there are various good practices of plastic waste management. There are also many opportunities offered by the recycling of plastic, possibilities of job creation and other economic aspects. There are also concerns about the data management of plastic waste in marine environments and strengthening partnership on data sharing. Only 9% of plastic waste is recycled while 79% goes to landfill and marine environment. There is also the need for avoidance of single use plastic, innovation in recycling and priorities of CE into Policy for closing the loop. The urban population is expected to be 5.08 billion by 2050 from 4 billion (2017). Major drivers for plastic consumption in Asia & Pacific are economic growth, growing purchasing power and domestic private consumption.

The panelists explained that there was a strong correlation between GDP growth rate and plastic consumption. The increase in per capita income was resulting in per capita plastic consumption. The priority in 3R approach should be to reduce waste generation then reuse used material repeatedly and then recycled things that cannot be reused as raw material and also recover energy from things that are unable to recycle and having no alternative but incineration. Major challenges in implementation are lack of policy & regulatory frameworks, economic instruments, technology, data and information etc.

There is a mismatch between an increase in plastic production and consumption and available waste management infrastructure in Asian countries. This is particularly true in the case of remote and/or rural areas that receive plastic products but do not have adequate collection and recycling infrastructure.

The mapping of waste flows is extremely important. To achieve the circular economy in plastic waste, there must be selective ban on single use plastic, implementation of Extended Producer Responsibility (EPR) and use of Biodegradable material. Waste collection, recycling and proper disposal should be expanded to medium and small cities as well as rural areas and to increase recycling rate in rural and remote areas, reducing transportation cost for recyclable waste is important. To reduce the transportation cost it is important to invest in shredding, baling and compressing machines.

There are various approaches being practiced for sustainability and plastic recycling. Plastic makes our life better, if manufactured, used and recycled in a better manner. Minimize the resource input as well as waste and do recycle more. To achieve this, we could use Bio-base plastic and Bio-degradable plastic In a country like Japan around 20% of plastic waste is mechanically recycled, around 65% incinerated and remaining landfilled. Chemical recycling is another approach for managing plastic waste which converts waste plastic into plastic with the same performance as new plastic.

Most of the raw material of plastic is fossil-based and after uses it goes to either landfill or incineration and some of it gets mismanaged and reaches the ocean. By increasing recycling there will be less mismanaged plastic that means less marine littering. 80% of plastic waste can be reduced by adopting land-based solutions as

a strategy for reduction of marine plastic wastes in low- and middle-income countries. There may be time bound strategies - Short- term (to mitigate plastic waste leakages into the environment), Medium- term (for increasing plastic waste recovery and recycling) and long-term (establishing sustainable plastic production and customer society). These solutions can be used to reduce marine littering. Key factors affecting the recycled plastic supply chain in low-, middle- and high-income countries are (a) Collection (b) Primary sorting (c) Recycling. Waste collections in middle income countries are high when compared to low-income countries but still the main coverage is from urban areas only. Informal sector still plays a key role in plastic waste collection and recycling. Manual sorting is common in low-income countries. High income countries have some mechanical sorting but only if informal sector is active. Developed nations such as the United States (US), Japan and many European countries generate significant amounts of per capita plastic waste; the rate of plastic leakage is relatively low due to high rate of waste collection, recycling, treatment and disposal. Globally available data reveals that rapidly developing economies in Southeast and South Asia have not been able to keep pace with solid waste management policies and infrastructure resulting in significant contribution to marine plastic litters.