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Analytical Study of Transition to Circular Economy in the South Asia Region

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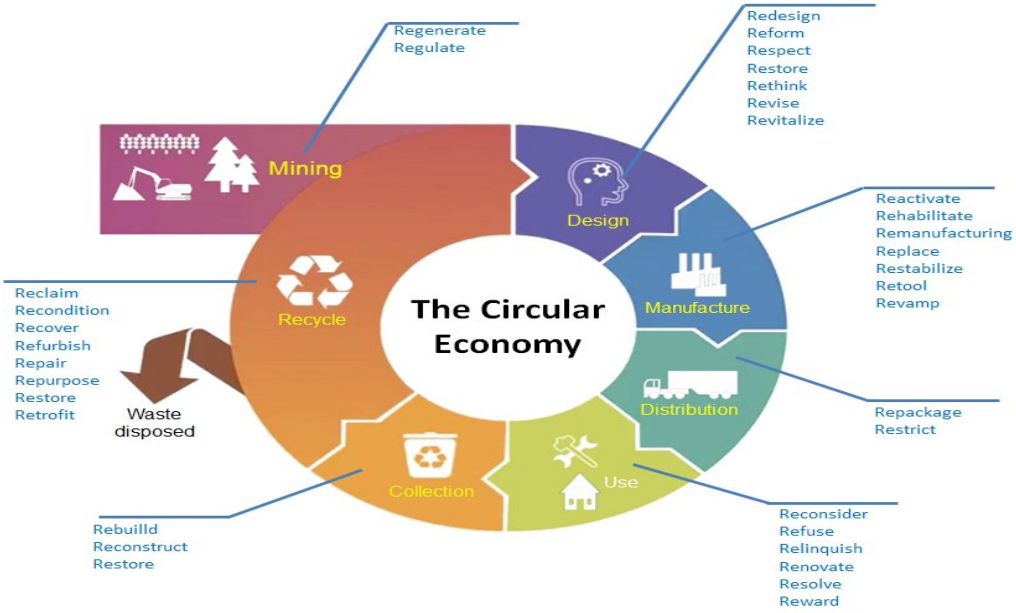
Introduction

This economic research is a case study that confirms that for several decades, the South Asian region has been facing the problem of electronic waste in its four countries. Large population, uncontrolled consumerism of electronic devices, increasing problem of purchasing and then throwing away when they become unusable are the main reasons for this and it is increasing. India is one of the three largest producers of electronic waste in the world. And yet, like other countries in the Global South, much of this waste is not processed there, and most recycling remains the responsibility of the informal sector.

Despite the current absence in the field of political orientation aimed at promoting a circular economy, some trends are emerging, particularly in India, and likely to trigger the sense of urgency needed to achieve the transition from linear to economic models. Which remains in the electronic equipment sector.



Growing problem of electronic waste in South Asian region

Data on mobile device usage indicates growth in consumption of digital devices in the region. This goes hand in hand with the unbearable accumulation of electronic waste and its harmful effects on the population and the environment. As of January 2021, there were 165.8 million mobile connections in Bangladesh, an increase of 1.1% over the 12-month period. Internet penetration rate reached 28.8% of the population.[1] January 2021 saw Sri Lanka have an Internet penetration rate of 50.8% of the population with 30.41 million mobile connections, an increase of 2.1% from the previous year. Pakistan had 173.2 million mobile connections, an increase of 4.2% from the previous year, and an Internet penetration rate of 27.5%.[3] India had 1.10 billion mobile connections, an increase of 2.1% from the previous year, and an Internet penetration rate of 45%. Is. There were 1.10 billion mobile connections, up 2.1% from the previous year. Internet penetration stood at 45%. [4]

Along with this, Bangladesh generated 0.40 million tonnes of e-waste in 2018. [5] It is estimated that this figure could reach 4.62 million tonnes by 2035. In 2019, India generated 3,230 kilotonnes of e-waste and Pakistan generated 433 kilotonnes of e-waste. In the same year, Sri Lanka generated 138 kilotonnes of e-waste.[3]

Various social and economic factors

E-waste processing in the region largely depends on the informal sector for collection, dismantling and recycling. Various social and economic factors explain this situation. For starters, many consumers in developing countries are unfamiliar with the concept of returning end-of-life digital devices and paying for their treatment. Second, many developing countries receive imports, legal or otherwise, of large quantities of electronic waste that enter as second-hand devices. Third, low levels of funding and investment for local e-waste recycling systems means that e-waste management and recycling infrastructure is often lacking. Finally, the fourth point, insufficiently strict implementation of national regulations related to electronic waste has strengthened the presence of informal economy in the recovery sector and market-priced trading of raw materials obtained from electronic waste.

By Associated Chambers of Commerce and Industry of India and KPMG

In a study titled Electronic Waste Management in India, it was observed that IT hardware accounted for about 70% of electronic waste, followed by telecommunication equipment such as telephones (12%) , electrical equipment (8%), medical equipment (7%) and finally, for the remaining percentage, household appliances. Domination of the informal sector in the collection, transportation, processing and recycling of electronic waste recovered using the formal system. Prevents any recovery of possible contents and values. This informality of the sector also includes serious issues of workers' health and safety due to the infiltration of toxic substances into the environment, which do not receive the attention they deserve.

Countries in the South Asian region lack electronic waste management policies.

India

More and more countries understand and recognize the need for proper management of electronic waste. However, even though bills are currently being examined in some countries, India is currently the only country in the region with legislation on the subject. This, which came into force in 2011, stipulates that only authorized dismantlers and recyclers can collect electronic waste. A clause to expand the responsibility of producers and impose financial sanctions on them has begun to bear fruit in formalizing waste collection in the country. India today has 321 authorized recyclers, which recycle about 800 kilotonnes of waste per year. Represent processing capacity.

Bangladesh

Currently there are no regulations specifically related to the management of electronic waste in Bangladesh. However, the Government has given top priority to the preparation of "Electrical and Electronic Waste (Management and Treatment) Rules", the first version of which was prepared in 2011.

It has also developed a national 3R strategy (Reduce, Reuse and Recycle) which integrates some aspects of electronic waste management. Additionally, two other rules, the Hazardous Waste Management Rules (in preparation) and the Draft Solid Waste Management Rules (in preparation and under consultation) are expected to take into account issues related to electronic waste.

Pakistan

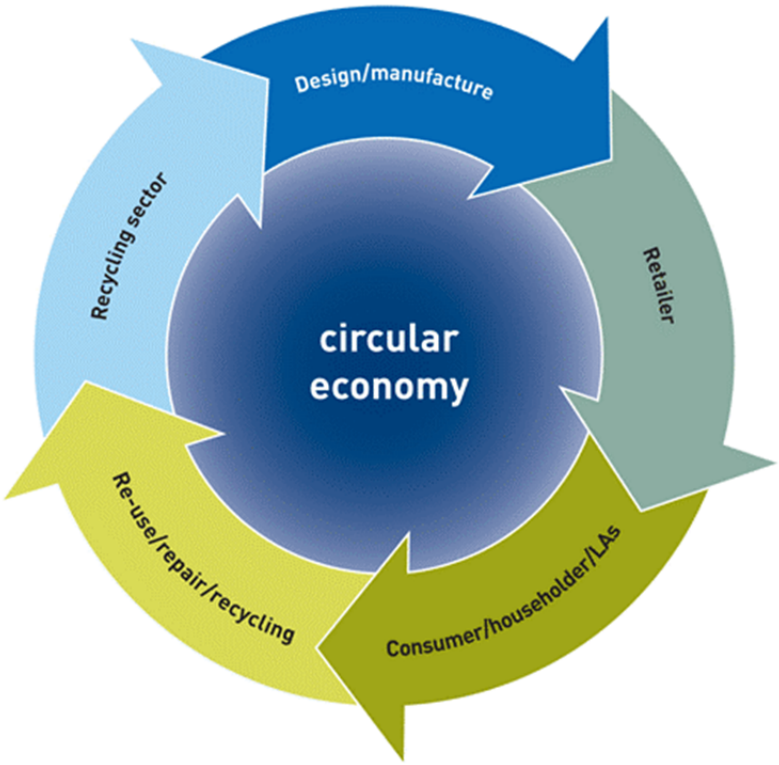
Pakistan does not have any e-waste management policy. The Ministry of Environment is responsible for environmental protection and monitoring of chemicals and waste activities. The informal recycling sector is very active, and a large number of workers, including children, make a living from dismantling electronic waste and extracting valuable metals.

Sri Lanka

Sri Lanka also lacks policies specifically addressing electronic waste. The Central Environment Authority is the main body responsible for the management of electronic waste under the 2008 ordinance.

From electronic waste management to circular economy

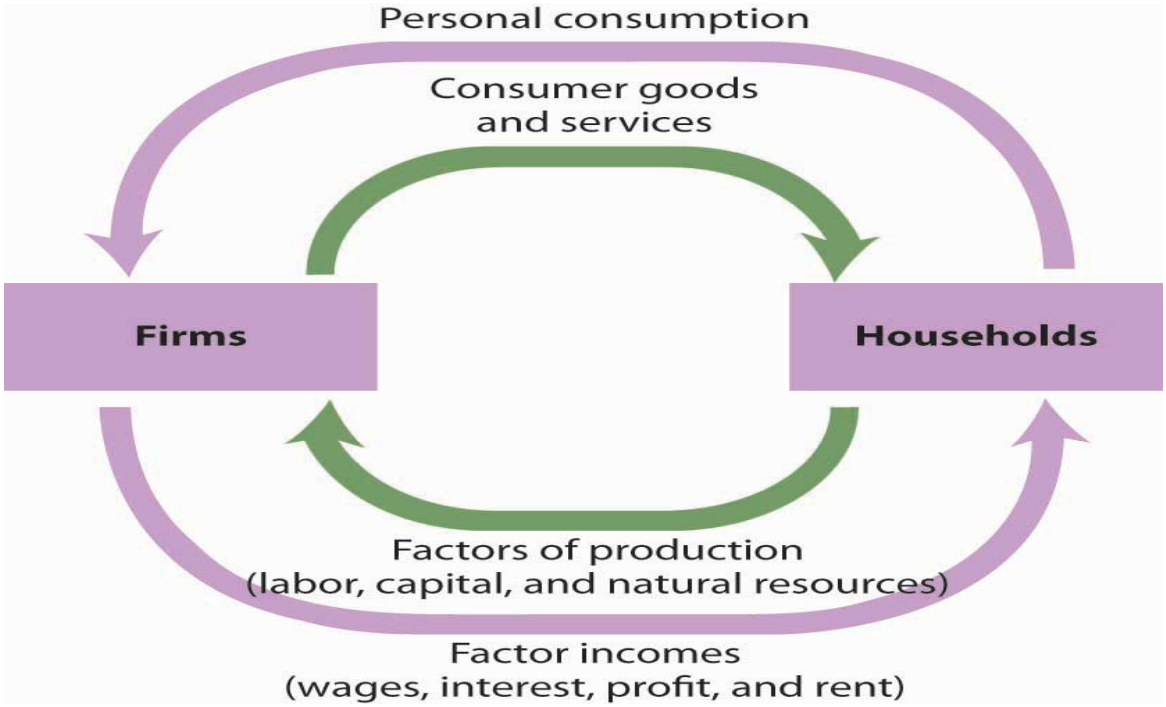
In South Asia, India is the only country that has taken formal steps to adopt a circular economy in electronic waste management by mid-2021. In May 2021, the Ministry of Electronic Devices and Information Technology drafted a guidance document, "Circular Economy in the Electronics and Electrical Sector", which invites stakeholders to provide public comments by June 2021. This guidance document on circular economy.



E-waste in India outlines the following key objectives

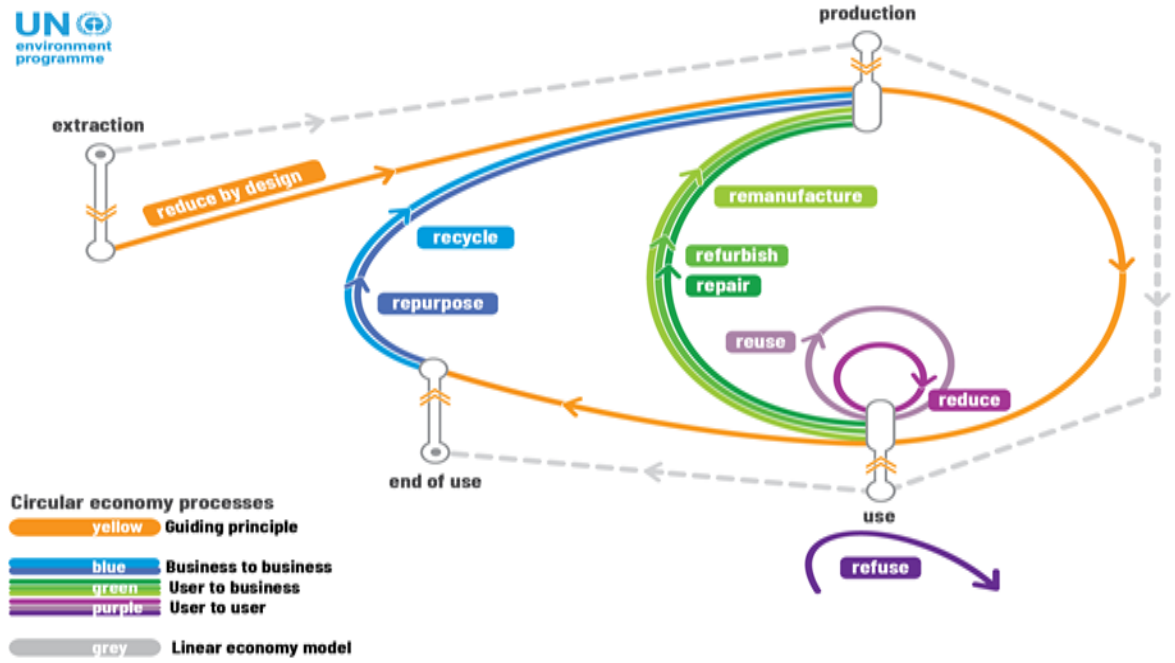
The life cycle of digital devices should be defined in the context of the circular economy, from the first stage of raw material acquisition.

- Digital devices should be designed to facilitate repair, refurbishing, repair, recovery and recycling.
- Digital devices should be designed to extend their lifespan so that the contents can be used for as long as possible and their value is retained as much as possible.
- Consumers and users of electronic products should be better informed about the need to adequately manage electronic waste.
- It is necessary to train the informal sector and gradually integrate it into the main electronic waste management system.
- The circular approach taken in the draft policy is beneficial in many ways. Compared to the traditional linear model of production, use and disposal, the movement towards a circular model in which resources are used more efficiently offers the opportunity for substantial savings to companies wishing to benefit from the economic benefits of circularity.

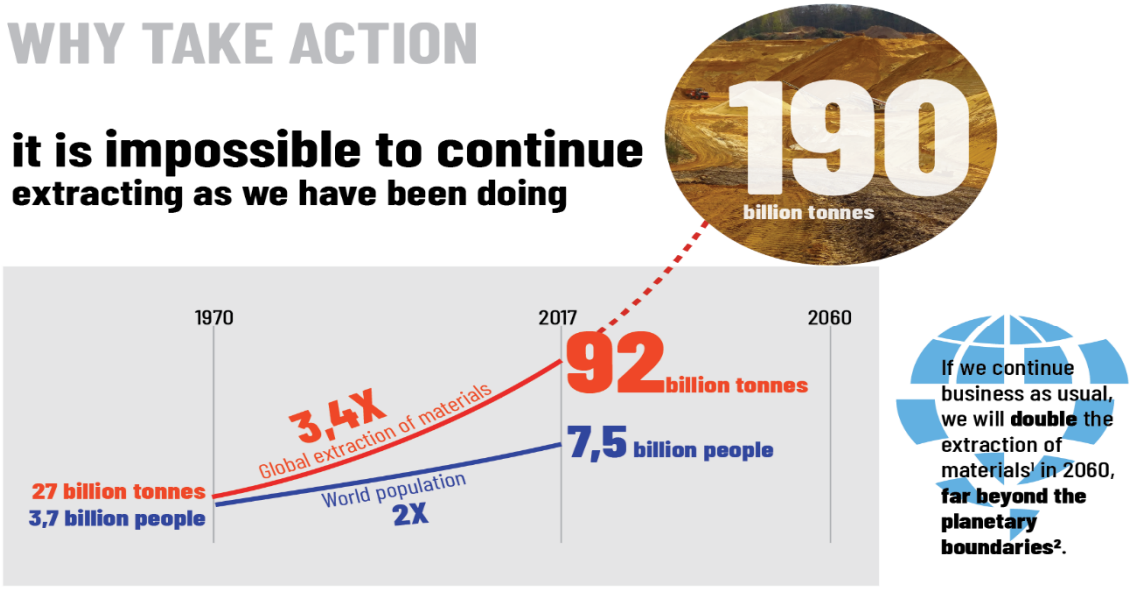


- Reducing raw material extraction through circularity can also reduce pressure on scarce resources. Thus there will be an impact at the social level, with fewer communities displaced due to migration from mining activities and mineral-induced conflicts.
- According to the document, circularity should address all stages of the life cycle of a digital device, from raw material acquisition to product design, component manufacturing, assembly, sale and use, waste collection systems, etc.
- Disposal, recycling and recovery of secondary materials. This electronic waste management policy therefore deviates from typical policies in the sector, which focus only on disposal, reuse and recycling of digital devices.

Accelerating circularity roadmap for digital devices in the region

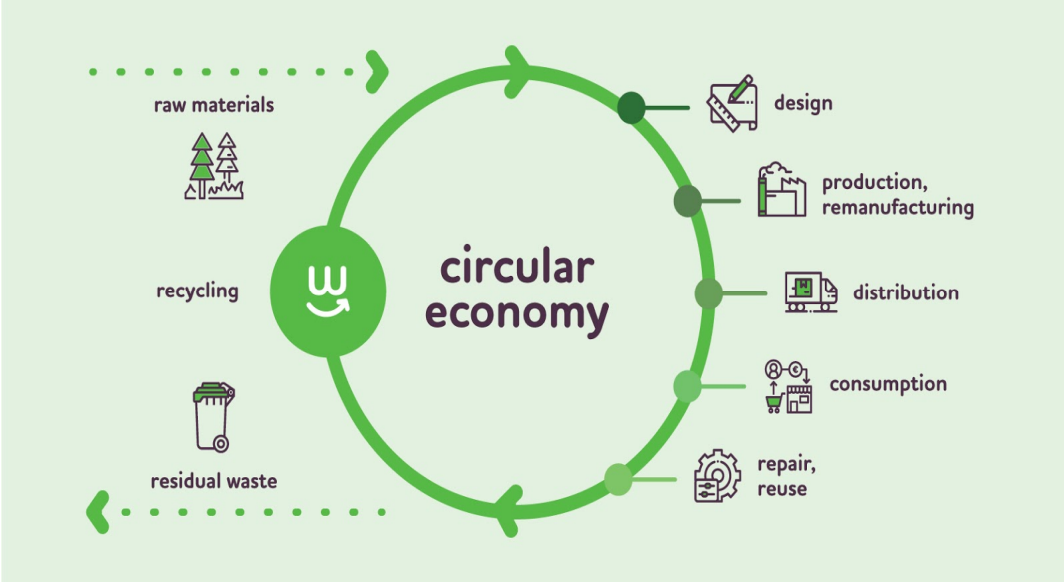


The two economic orientations, whether linear or circular, are neither contradictory nor opposed in economic planning and action at the national level. It is entirely possible to create a mixed and sustainable economic model based on circular orientations judiciously implemented in the region's economies. The use of both linear and circular elements in the information and communication devices (ICT) sector can give rise to an alternative paradigm of economic development and promote the implementation of full circularity in the economy, thereby reducing economic shocks and undesirable effects in the financial system. Can be saved. ,

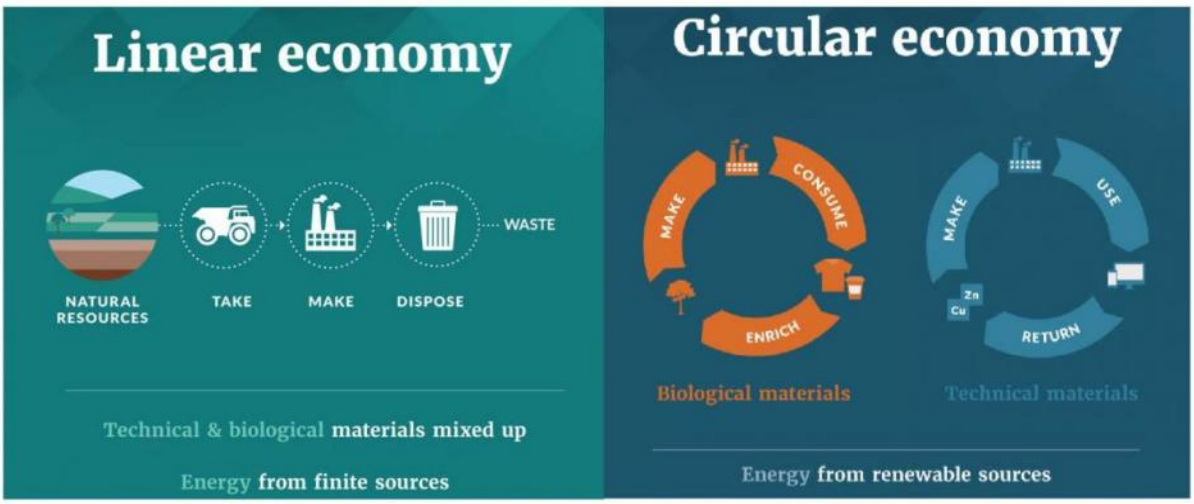


Source: IRP (2019): Global Resources Outlook 2019: Natural Resources for the Future We Want. A Report of the International Resource Panel. United Nations Environment Programme. Nairobi, Kenya
1: "Materials" include biomass, fossil fuels, metals and non-metallic minerals, being are a subset of natural resources which encompasses all material plus water and land.
2: For more information: https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html

Provides an overview of the potential benefits of moving away from a linear economy to a circular economy for digital devices in South Asia.

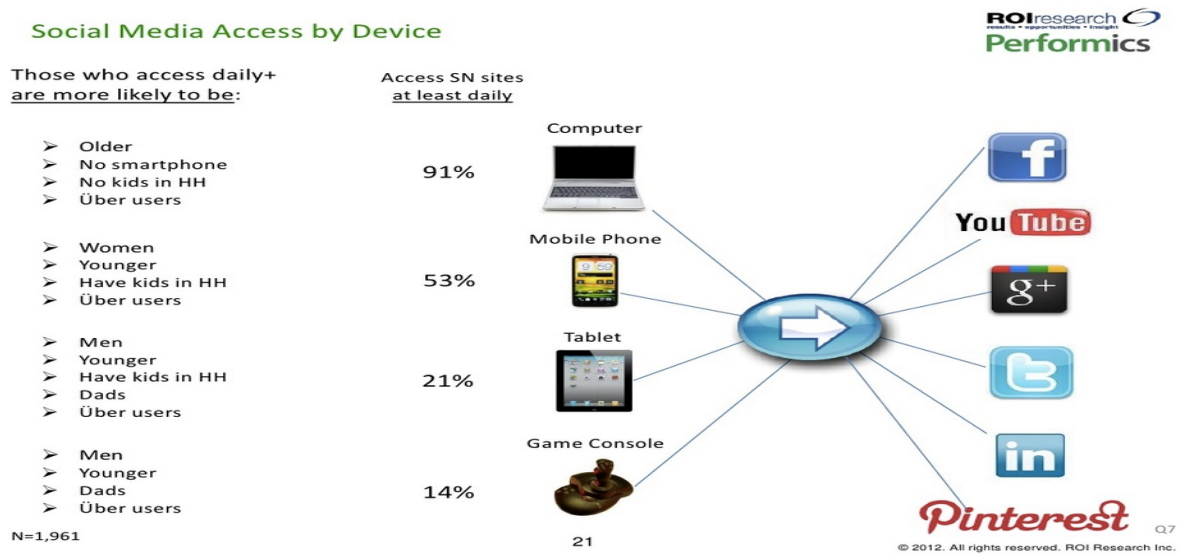


Potential benefits of moving from a linear to a circular economy for digital devices in South Asia



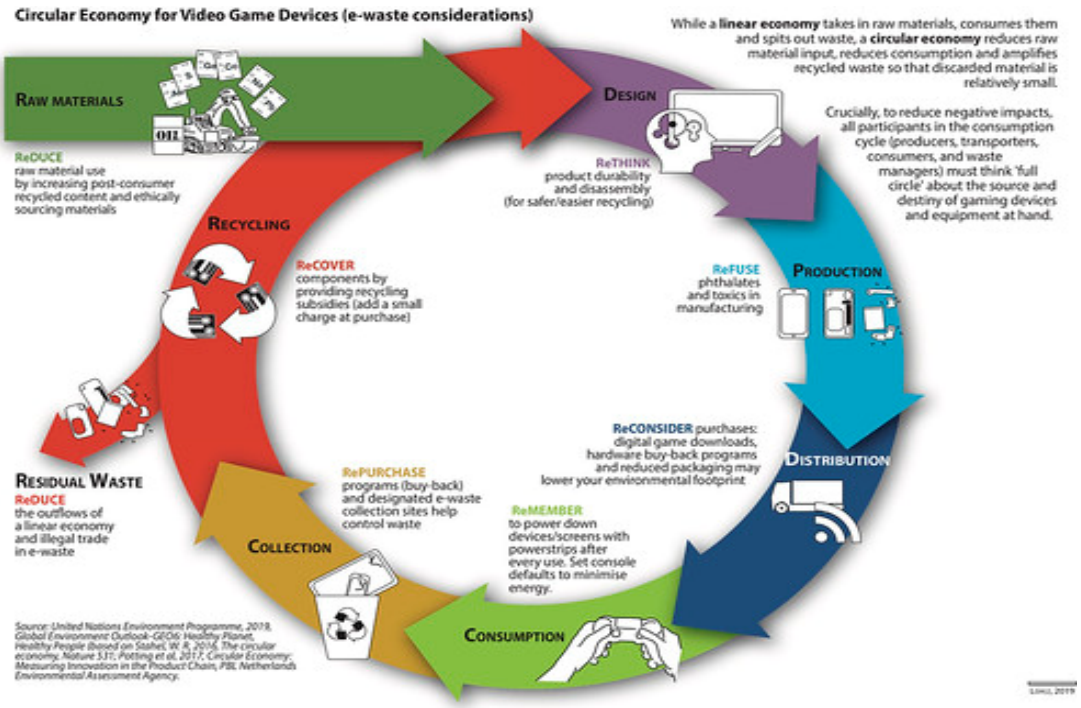
Linear approach to digital devices, social development and the market

New vendors, new markets, new sources of income, generation of tax revenue, boost industry, growth of economy and employment Contextual approach in South Asia, is currently a priority Circular approach to digital tools and social and market development New in Circular vendors, massive new markets, new systems and possibilities for tax revenues and income, huge contribution to the economy, social improvements especially in terms of digital inclusion and employment, benefits for the environment, conservation of rare metals and special rare Earth not a traditional approach in decision making and implementation; It is present in a different form in the market of second-hand electronic devices.



The transition to a circular economy for digital devices in the region

For an effective transition to a circular economy in the region, several essential aspects must be taken into account: The circular economy has the potential to create employment at every stage of the product life cycle. It is important to clearly define what the benefits of each phase will be so that stakeholders can have a better vision of the additional economic benefits circularity will bring. It is essential to bring together global best practices and standards in design for recycling and product life extension to develop viable policies for product design, component manufacturing and product assembly. It is also important to know the standards governing planned obsolescence of electronic equipment. Furthermore, a detailed analysis should be conducted to estimate the costs of bringing different types of equipment into compliance with circularity.



Industry-to-sector responsibilities, consumer awareness, support for business setup and investment incentives should be provided to strengthen electronic waste collection. India is the third largest producer of e-waste in the world (with 3.2 million tonnes in 2019). Yet only 10% of this waste is processed for recycling. Other countries in the region also face the same challenge.

Electronic waste is a rich source of secondary materials

Therefore they contribute to guaranteeing resource security and environmental protection. It is necessary to encourage research aimed at enhancing the recovery of material P in Army electronic waste, especially rare earths. Establishing permits to use a certain percentage of secondary materials in manufacturing would further boost recovery.

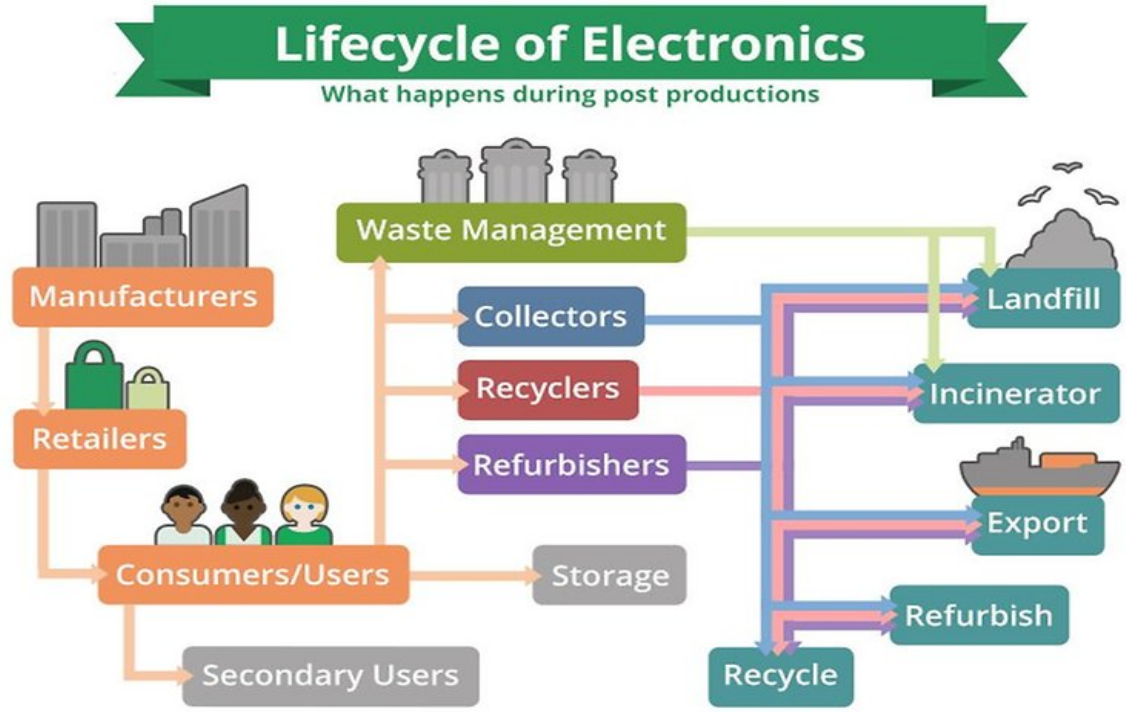
Given the predominance of the informal sector and small operators, it is important to strengthen the sector's capacity through improved decommissioning skills. This strengthening also includes investments in both technologies adapted to recycling and efficient systems to improve their recycling capabilities. Only with better qualified workers and dismantling and recycling infrastructure can the informal sector be formalized. In this way business creation will be encouraged.

At consumer level, awareness program on electronic waste management

At the consumer level, awareness programs on electronic waste management should be established. Labels should indicate the recyclability and level of circularity of the products. Repair centers should be offered training, and larger consumers should work with these centers to be able to return their unused devices.

A circular approach also has the advantage that it is able to reduce the digital divide through re-use of technologies and extension of the lifespan of devices. Hence the reuse and remanufacturing sectors need to be strengthened through financial incentives, investment and skill upgradation. Policy instruments are needed to support the circular economy, including tax and legislative changes at national, regional and local levels. To be able to evaluate performance,

productivity and waste discharge, the implementation of the circular economy and its development must be effectively monitored the future of e-waste management does not depend solely on the effectiveness of local governments and informal recycling service workers. It also depends on the level of participation and commitment of private manufacturers in national and regional initiatives.

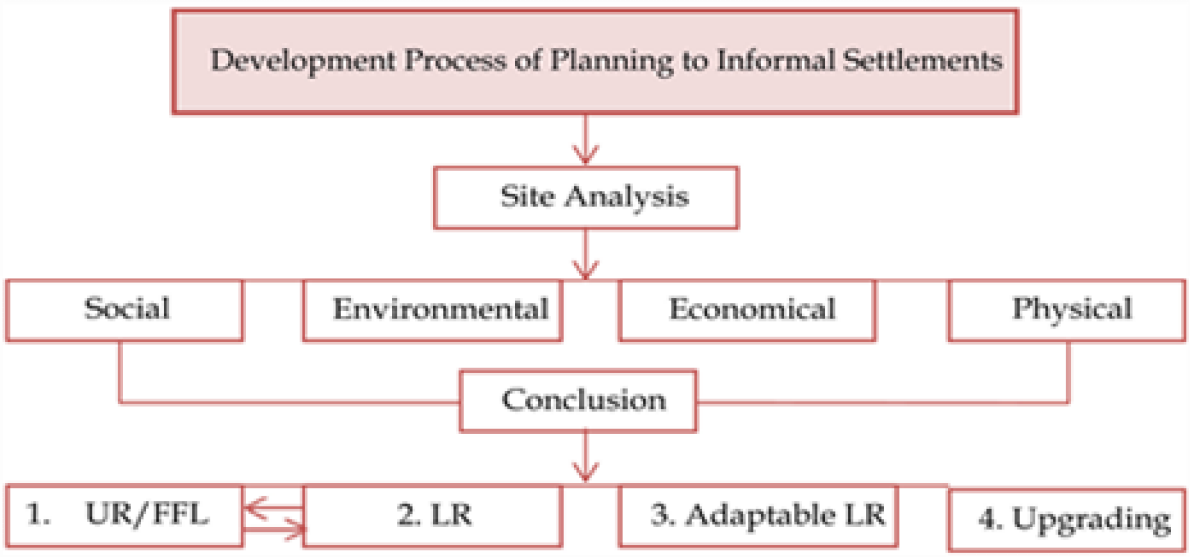


Formalization of informal sector

It is necessary to formalize the informal sector to develop policies for the sector. In 2019, 140 million smartphones were sold in India, of which 40 to 50 million were second-hand phones. India and China are the largest markets for second-hand phones in terms of size. Yet both the United States and Europe have large markets for remanufacturing, due to their existing laws and regulations.

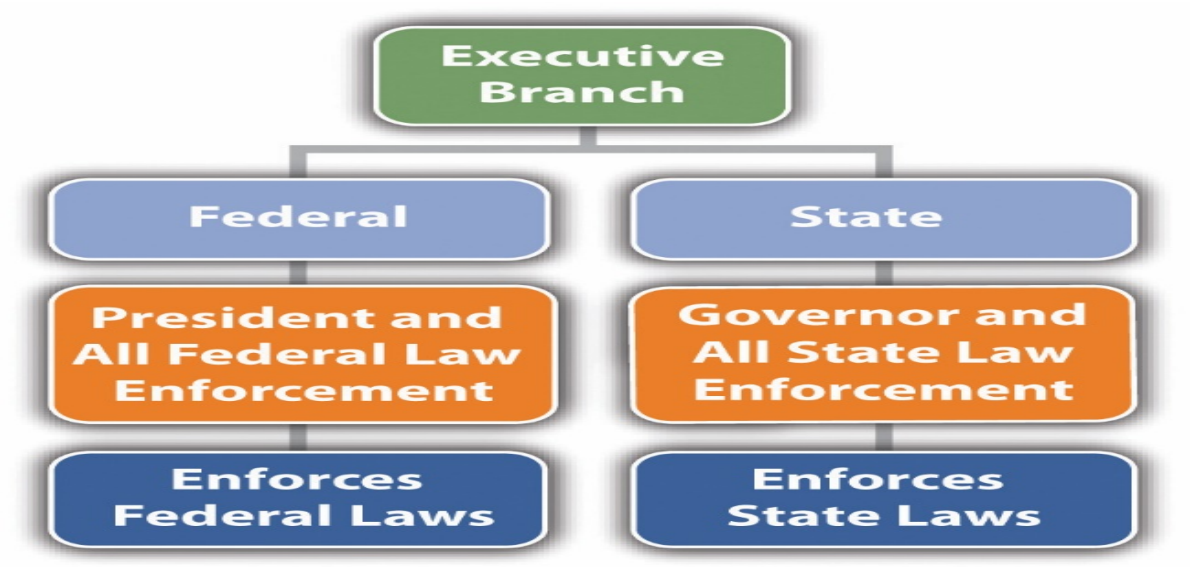
Formalization of the informal sector should be done in several stages. This process should begin with the identification of its main centers of activity. The next step should be to unite the dispersed members of each group and identify how each of these groups operates. Awareness programs should be conducted. Training and development of practical skills, besides improving process efficiency, are important steps in formalizing the sector.

Formal economy to informal sector. To integrate into, it will be necessary to establish trust, recognize and strengthen relationships between the two sectors for common management. Furthermore, the cost structure of the informal sector will be completely modified by the introduction of certain mechanisms that were not previously part of their value chain. The government should provide assistance through financial assistance: facilitating access to credit, offering financial incentives such as subsidies, and setting up insurance schemes.



Remedial measures based on this economic research

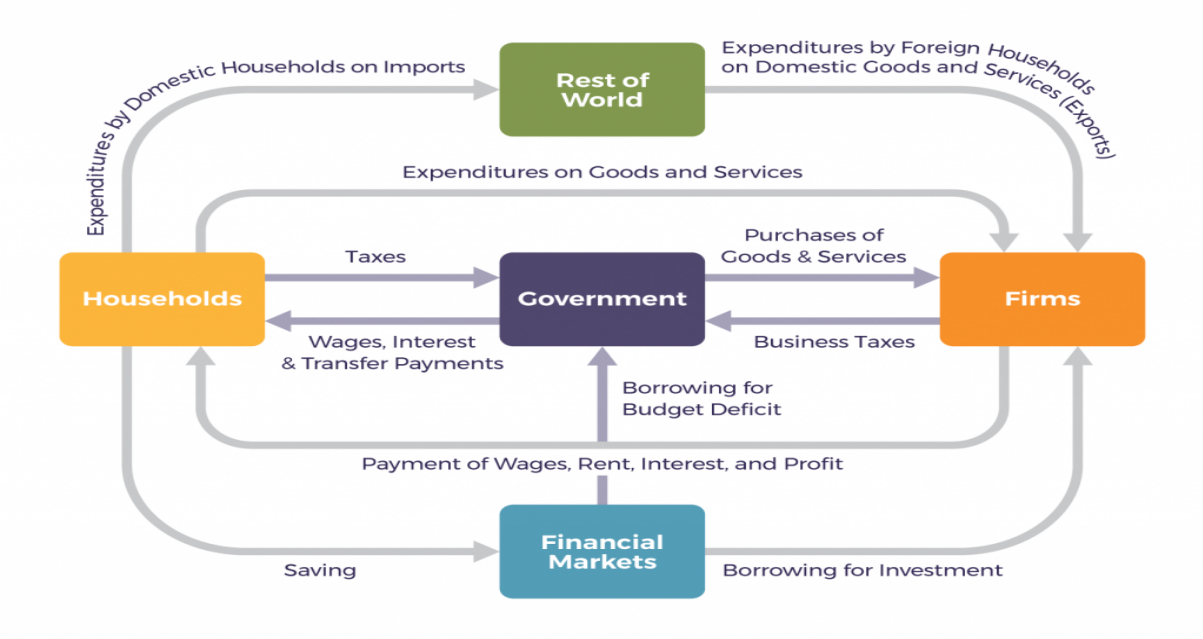
- The circular economy of digital devices can become an essential tool for decoupling digital economic growth from natural resource constraints and the growing needs of society. This will include planning new financing models and policy approaches that can accelerate collaboration and bring the circular economy to scale across key sectors of the region and value chains in the global economy.
- Decisions taken at the highest levels of the executive branch determine policies, programs, implementation, and impacts. However, they are influenced by market revenues, especially tax revenues and import-export profits, which have a close relationship with the health and employment rates of the local and national economy. They are the ones leading the industrialization. Therefore any policy change has multiple implications for the status quo and economic growth.



- Other determining factors in policy change are direct political interests and the activity of pressure groups. Thus, under the guise of working "in the national interest", bureaucracy is

established and priorities are established in the policy development process. However, it is difficult to fight for greater digital inclusion by following a toxic linear approach to economic growth.

- Mike, seller-focused. In contrast, establishing a circular economy for the digital devices market would lead to better results in achieving the sector's objectives in terms of generalized social, environmental and economic inclusion.



Conclusion

Through better collaboration, multinational companies, small and medium enterprises (SMEs), entrepreneurs, academics, associations, civil society and unions can create a circular economy for digital devices in South Asia. This would allow this most populous region in the world to find another use for waste, reduce its impact on the environment, and offer decent work to millions of people.

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