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Concentric Circles: The Emerging Circular Economy

By David Spring

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Circles have a unique place in the human psyche. The concept of cycles and continuity is as innate as nature itself. Summer to winter, the circle of life, heat turns to cold. The anomaly has been modern humanity's linear regression to an extract-manufacture-consume-waste paradigm. And it is literally not sustainable—we cannot sustain this approach.

Around the world, urban recycling has been practiced since the 1980s. Growing out of this, and the 1970s realisation of the scarcity of resources,[1] two streams of sustainable resource usage practice have emerged:

1. Those that foster reuse and extend service life through repair, remanufacture, upgrades, and retrofits; and
2. Those that turn old goods into as-new resources by recycling the materials.

An economy that values and implements both approaches to resource management is a mature, progressive, sustainable economy. Read on to find out how the Pacific has implemented these circular economy principles in its waste management and what more could be done to reduce the resource impact on the planet.

[1] Walter R. Stahel, "The Circular Economy," *Nature* 531, (2016): 435–438, https://doi.org/10.1038/531435a.

Going in circles

Attempts have been made across the Pacific to adopt a recycling approach to resource management. Most recently, the 31st Secretariat of the Pacific Regional Environment Programme (SPREP) Meeting of Officials plenary session on September 4-8, 2023, endorsed that SPREP develop a Circular Economy Policy Framework and establish a Circular Economy Network. The aim of these and similar initiatives are to move beyond the take-make-waste linear model and expand opportunities for Pacific firms and countries to engage in this economy.

Euro-centric neo-colonialism, or an idea for its time?

Is this just another European idea, thrust upon the Pacific islands, with little thought to context and suitability? Afterall, the idea originated in the industrialized West, with sustaining economic growth as its motivation. Does it suit the Pacific, with its interwoven culture, reliance on natural resources, and different priorities?

The answer is yes. The existential threat of rising seas due to climate change are an imperative for action. Recycling optimizes resources and for every 1kg of plastic recycled, 1kg of carbon dioxide (CO_2) is not burned.[2] Continuing to transfer the costs of waste is not an option. Waste management of plastics to save them from entering the oceans is also an issue that animates the Pacific.

So, it is necessary, but it's complicated. "The economy" as we know and use it is wedded to the integrated global supply chain. It cannot change to become circular overnight, as this will have myriad unintended and inferior consequences.[3] Where recycling capability does not exist within a country, that adds additional dependencies in operating a circular economy. Further, a circular economy is at odds with established ways of increasing gross domestic product (GDP) (i.e., by increasing economic throughput, not by making things last).

Pacific-specific difficulties in implementing any changes to create a circular economy are that the region does not participate deeply in the main activities that contribute to it—extraction, manufacturing, product design. Its main function is consumption—Pacific trade imbalance (imports minus exports) was negative USD $3.8 billion in 2021-22.[4]

Pacific countries can not only participate but lead the circular economy. How can firms engage in this?

Key entry points

While there is an outsized role for government in establishing policy settings, including levies, incentives, and enforcement of "reuse quality" import standards, there is also a role for private sector.

To make recycling in-country commercially viable, several factors need to be in place. Economy of scale is required, to ensure that the cost per kilogram is optimized—this requires steady flows of tens of thousands of tons. A manufacturing industrial capability is necessary to ensure that expertise and support industries (parts, logistics) are in place. Collection systems are essential, whether these are local government or private systems. Small countries are not well placed to sustain these.

However, many developing economies are motivated to repair, remanufacture, upgrade, and retrofit, to a greater extent than their rich country counterparts, as the import of new equipment is expensive. There can often be a well-developed series of industries to strip and reuse parts, from cars, to electronics, to fabrics.

Several Pacific organizations are working to promote and develop recycling initiatives—the first step in a circular economy:

- Fiji-based Pacific Recycling Foundation—waste management towards a circular economy and a social justice focus to support waste pickers;
- ANZPAC Plastic Pact—focused on plastic recycling by developing a circular economy; and
- SWIRE Shipping–Moana Taka Partnership–provides containers and ocean shipping *pro bono* to enable firms and governments to move recyclable waste out of the Pacific Islands to countries with established recycling plants.

Business opportunities also exist in partnership with government. Incentivized recycling (e.g., 10 cents per aluminium can) have proved popular in many countries. The incentive alone is enough to mobilize people to extract containers, otherwise destined for landfill, to be presented for recycling. These schemes must be connected to the relevant end markets to process the waste.

Extended producer responsibility (EPR) policies are designed to encourage or require manufacturers to take responsibility for the lifecycle of the waste that their products create. These typically

[2] Paper ~0.46kg of CO_2; glass ~0.31kg of CO_2; metals are ~5.86kg of CO_2. "Recycling Carbon Footprint Savings Calculator", Last updated 5 April 2024, https://recyclewits.com/tools-calculators/carbon-footprint-savings.

[3] "The trade dependency rate (ratio of the sum of export and import of goods and services to gross domestic product) is an indicator of the ease to formulate a circular economy within the country. High trade dependency rates indicate that various industries are not located in the country. Such countries may have difficulties in creating a circular economy because the recycling supply chain might not reside within the country." Linda Arthur, Derek Hondo, Maria Hughes, Reetta Kohonen, "Prospects for Transitioning from a Linear to Circular Economy in Developing Asia," *ADB Institute,* (2022), 23.

[4] Figures exclude French territories and Papua New Guinea. PNG had a trade surplus of USD 4.6bn in the same period due to its resource extraction industry. Pacific Community, "Pacific Imports, Exports and Balance of Trade," *Statistics for Development Division*, 2023, https://sdd.spc.int/digital_library/pacific-imports-exports-and-balance-trade.

build in an incentive to return products such as tires, white goods, and packaging. ANZPAC has established voluntary EPR schemes to collect, recover, and reprocess plastic packaging from Pacific Island countries.

Sustainability in design is less relevant as Pacific countries are not typically large-scale product designers. However, policies can be designed to require sustainable product design for imports. This encourages industry to design their products for recycling, reduce the cost of recycling, and improve recyclability.

Hope

Hope is not a strategy; but strategy gives hope. Current efforts to create a circular economy across the Pacific appear isolated, discontinuous, and either low-priority government or NGO project based. A coordinated transitional strategy around which recycling and reuse industries develop, and support businesses coalesce, could be implemented over time. This will enable the touch points with the integrated global economy to adjust. Employment is created and the economy will grow.

Firms and governments alike will support reducing unemployment and increasing economic well-being. If it can be achieved through a transition-to-circular rather than the linear take-make-waste model, environmental sustainability is added to the bottom line. I mean, why reinvent the wheel (circle)?

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