

Waste management in Africa and the growing case for marine litter

- 7 reasons why we should be paying attention now

Prof Linda Godfrey

Manager: Waste RDI Roadmap Implementation Unit, DST/CSIR

Principal Scientist: CSIR

Associate Professor: Northwest University

Africa Marine Waste Conference, Port Elizabeth

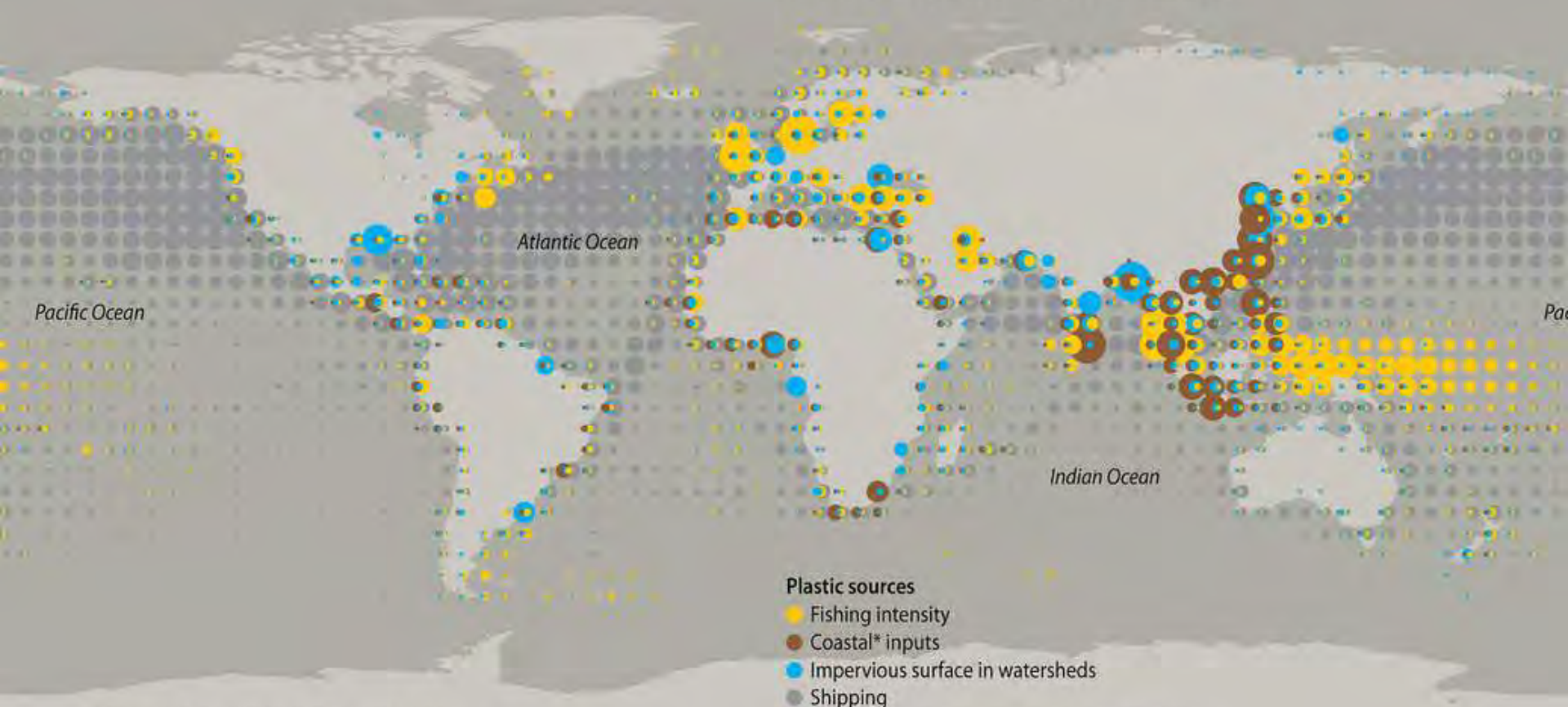
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So what do we know about Marine Waste?

Marine waste is an issue of **global concern**, considered to be in the league of global environmental challenges such as **climate change, ocean acidification and loss of biodiversity**

(Secretariat of the Convention on Biological Diversity, 2016)

Plastic input into the oceans



Data courtesy of Laurent Lebreton/The Ocean Cleanup.

Sources: IPCC scenario SRES B2; Jambeck, J., R., et al., Plastic waste inputs from land into the ocean, Science, 2015; Watson, R. A., et al., Global marine yield halved as fishing intensity redoubles, 2013; Halpern, B. S., et al., A Global Map of Human Impact on Marine Ecosystems, 2008.

*Includes mismanaged waste combined with population density
Note: the map utilizes a dimensionless model source input binned on 5x5 degree bins. Circles are indicative of the amplitude of the phenomena and do not express quantitative information.

The world's oceans are estimated to already contain **150 million tonnes of plastic** (Ocean Conservancy, 2015) and without intervention, this figure is expected to increase to **850-950 million tonnes by 2050** (Ellen MacArthur Foundation, 2016)





Over **80%** of ocean plastic **originates on land**, entering the oceans via rivers, storm-water runoff, or directly discharged into coastal waters (Allsopp, *et al.*, 2006)

Of that, **75%** comes from **uncollected waste** (poor city cleansing) and **25%** from **collected waste**, where the waste re-enters the environment from poorly operated formal or informal dumpsites (Ocean Conservancy, 2015)

What does this mean for Africa?

... and why should we be paying attention right now?



Many African cities face challenges in rendering basic **city cleansing** functions, resulting in high levels of **litter and illegal dumping**



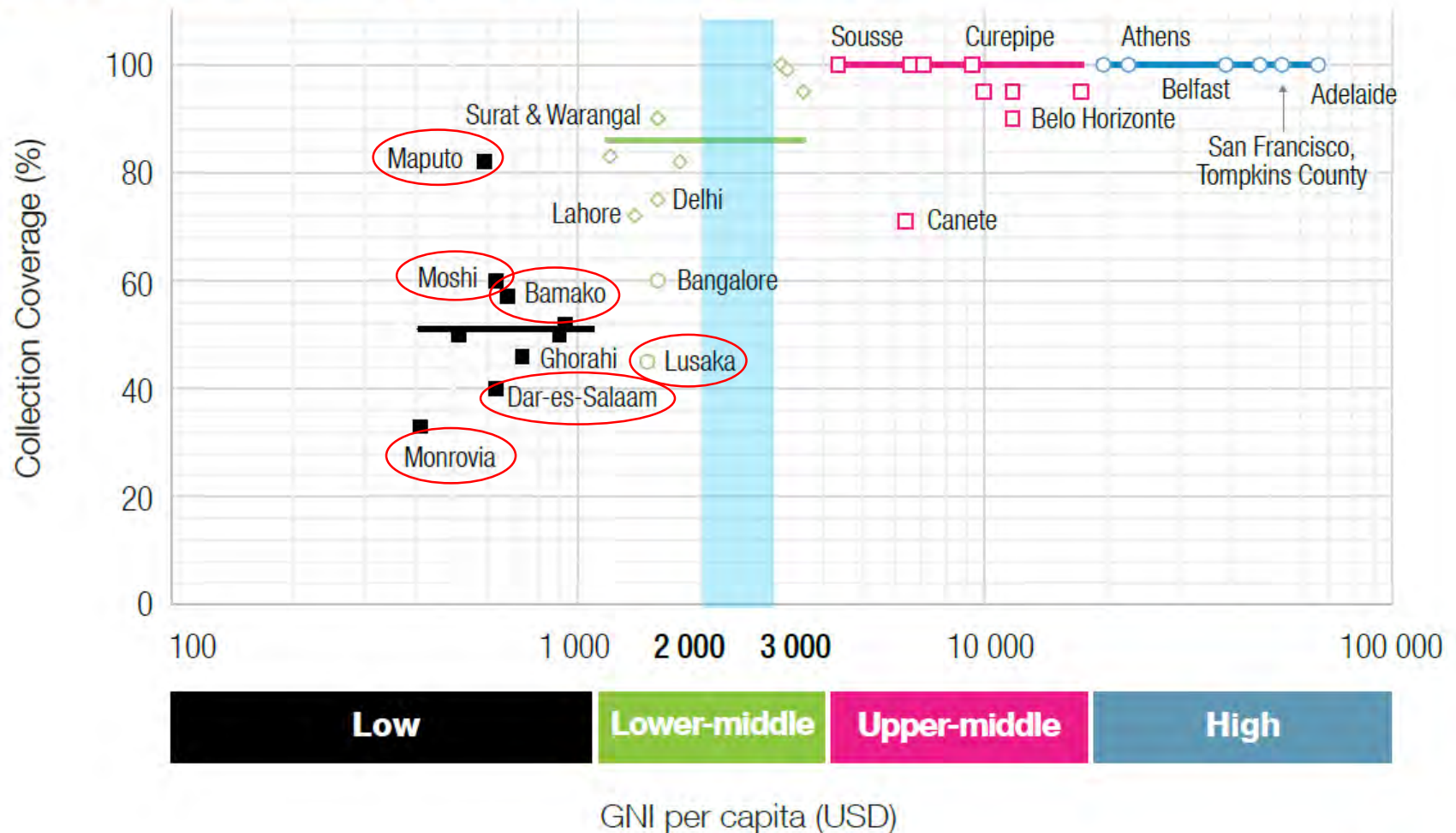


Many urban and peri-urban areas in Africa are **not serviced** with regular municipal waste collection services, resulting in **open dumping**



On a regional basis, MSW collection coverage for Africa typically ranges between 25% to 70% (UNEP, 2015)

Figure 3.9 Collection coverage for selected cities by income level





In many African towns and cities, waste is disposed of to **uncontrolled**, poorly designed and operated **dumpsites**, often associated with open burning



Developing countries have made significant progress since the 1990s, when controlled disposal rates were often 0%” (UNEP, 2015)

However, African countries are still far from **eliminating uncontrolled dumping**. The shift to controlled disposal of waste and the elimination of uncontrolled dumpsites and open burning must be a priority for African cities



Figure 3.10 Controlled disposal for selected cities by income level

According to the Global Waste Management Outlook (UNEP, 2015), 19 of the world's 50 biggest dumpsites are in Africa



5 of the top 20 countries ranked by mass of mismanaged plastic waste in 2010 were in Africa (Jambeck et al., 2015)

13. Algeria

60% mismanaged waste
0.52 MMT/a mismanaged plastic waste
0.08-0.21 MMT/a plastic marine debris

18. Morocco

68% mismanaged waste
0.31 MMT/a mismanaged plastic waste
0.05-0.12 MMT/a plastic marine debris

9. Nigeria

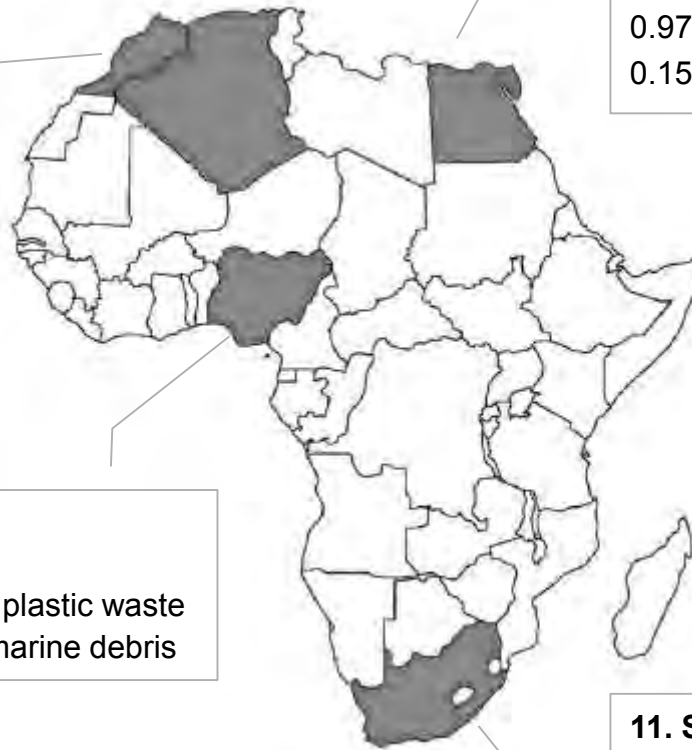
83% mismanaged waste
0.85 MMT/a mismanaged plastic waste
0.13-0.34 MMT/a plastic marine debris

7. Egypt

69% mismanaged waste
0.97 MMT/a mismanaged plastic waste
0.15-0.39 MMT/a plastic marine debris

11. South Africa

56% mismanaged waste
0.63 MMT/a mismanaged plastic waste
0.09-0.25 MMT/a plastic marine debris



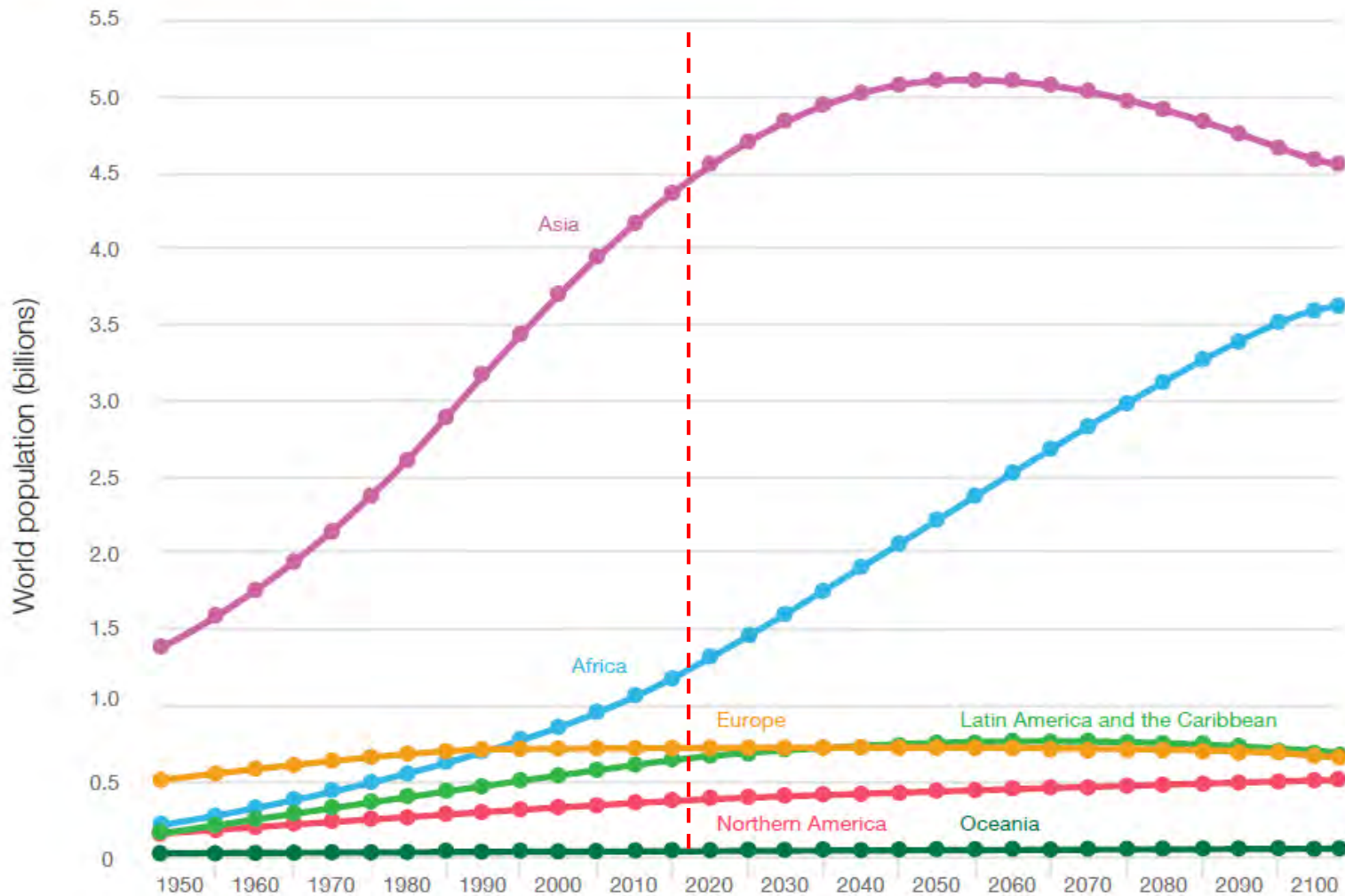
The poor management of waste, results in high levels of urban litter and pollution of urban rivers and stormwater canals





Based on estimated and projected population growth from 1950 to 2100 (for the 'medium variant') – Africa is expected to see a near 14 fold growth in population

Figure 3.5 Estimated and projected world population by region



10 countries are expected to account collectively for more than half of the world's projected population increase over the period 2017-2050 – 6 of these are in Africa (UN DESA, 2017)

Ranked by their expected contribution to global growth

By 2100 Nigeria will only be surpassed by China and India in terms of country population size

2. Nigeria

1950 - 37 860 000
2017 - 190 886 000
2050 - 410 638 000
2100 - 793 942 000

3. Democratic Republic of Congo

1950 - 12 184 000
2017 - 81 340 000
2050 - 197 404 000
2100 - 378 975 000

10. Egypt

1950 - 20 713 000
2017 - 97 553 000
2050 - 153 433 000
2100 - 198 748 000

5. Ethiopia

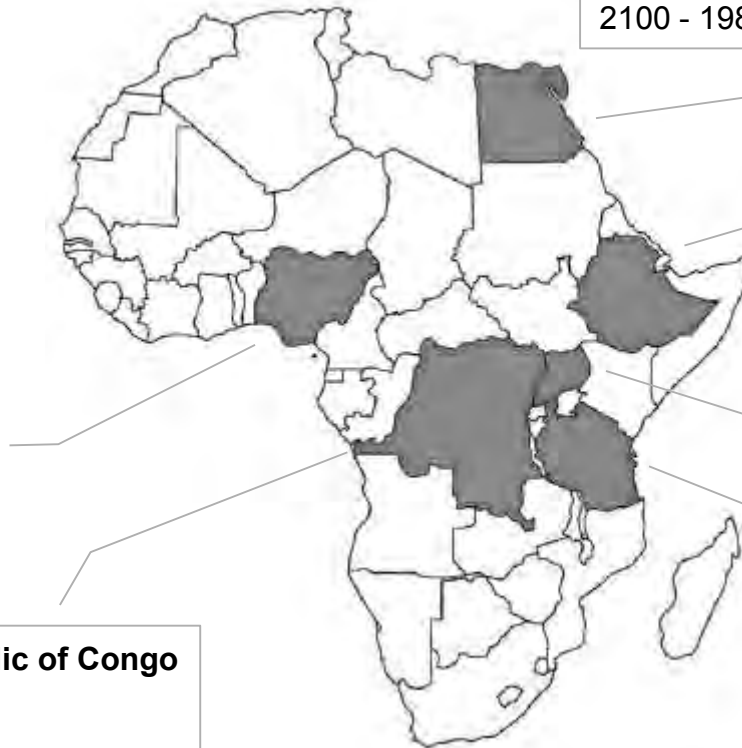
1950 - 18 128 000
2017 - 104 957 000
2050 - 190 870 000
2100 - 249 530 000

8. Uganda

1950 - 5 158 000
2017 - 42 863 000
2050 - 105 698 000
2100 - 213 758 000

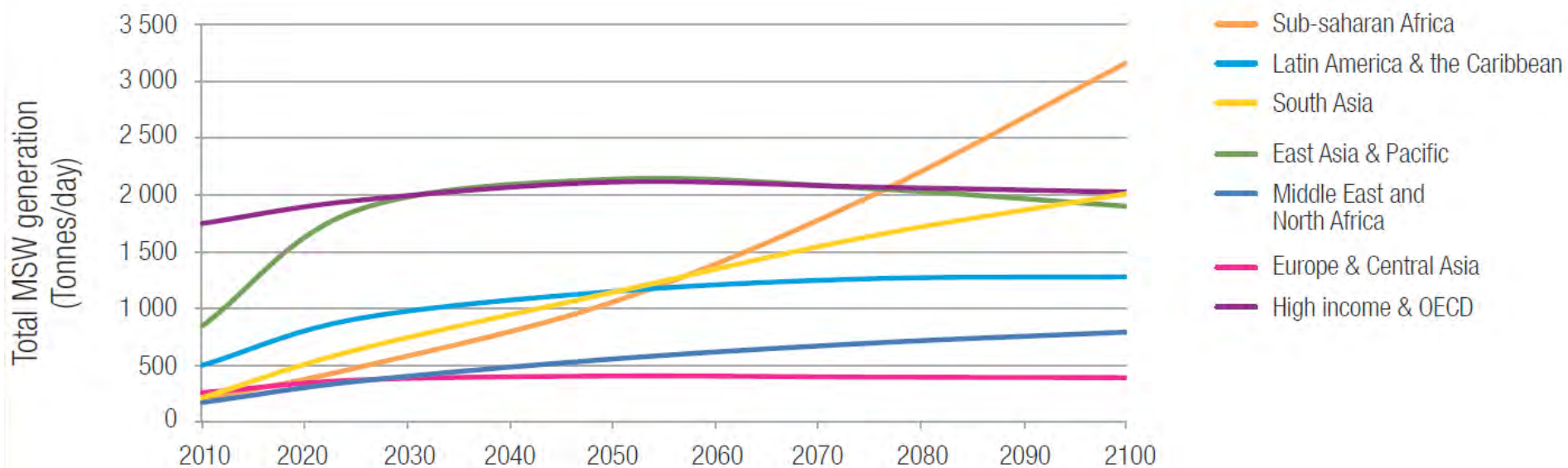
6. Tanzania

1950 - 7 650 000
2017 - 57 310 000
2050 - 138 082 000
2100 - 303 832 000



Given predicted population growth and urbanization, MSW generation in Africa, particularly sub-Saharan Africa, begins to rise very quickly after 2050

- Sub-Saharan Africa is forecast to become the **dominant region** globally in terms of total waste generation
- Lower income cities in Africa will **double** their municipal solid waste generation within 15-20 years (UNEP, 2015)





With increasing population, urbanisation and a growing middle class, comes **changing consumption patterns** and changing waste composition in Africa

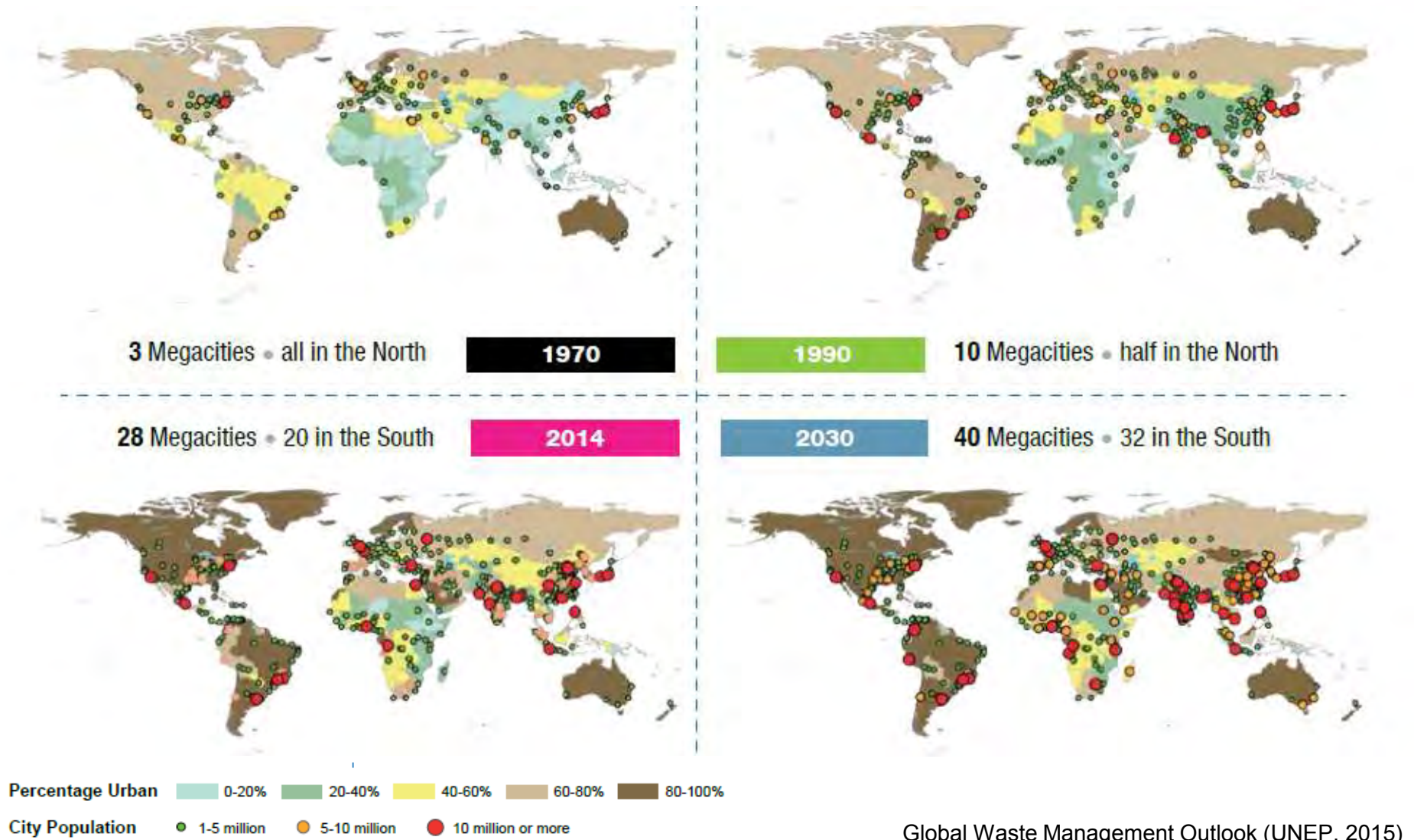
- Africa's middle class has tripled over the last 30 years from 111 million in 1980 to 313 million in 2010 (Deloitte, 2012)
- With this change, comes changes in **consumptions patterns** and resultant waste streams towards more **plastics** and e-waste (UNEP, 2015)
- Consumption accounts for two thirds of Africa's GDP growth (Deloitte, 2012)
- Changes in waste composition are putting additional pressure on already strained municipal services (UNEP, 2015)





Urbanisation, megacities and the growth of coastal populations will place more strain on Africa's coastline

Figure 3.6 Percentage of urban population and locations of large cities, 1970 – 2030





Increasing **tourism** in many African countries, in particular, **coastal areas and small island states**, results in increased waste generation in proximity to the coast and the potential for increased marine litter



Africa has enormous potential for tourism with its rich natural and cultural resources

International Tourist Arrivals (millions) between 2011 and 2014

Egypt	9.9
Morocco	9.8
South Africa	9.2
Tunisia	6.8

Data: UNCTAD Economic Development in Africa report 2017

Those **four countries** accounted for more than **60%** of all international tourist arrivals to Africa between 2011 and 2014.

- According to the UNWTO “*Tourism is one of Africa’s most promising sectors in terms of development.*”
- And accounts for nearly 9% of the continent’s GDP (WEF, 2015)
- International tourists arriving in Africa more than doubled from 26 million in 2000 to 58 million in 2016
- However, tourism is still, for the most part, in the early stages of development (WEF, 2015)
- The South African Department of Tourism, for example, has developed a Marine and Coastal Tourism strategy to boost tourism and the economy

So let's recap on the growing threat of marine waste along Africa's coastline...

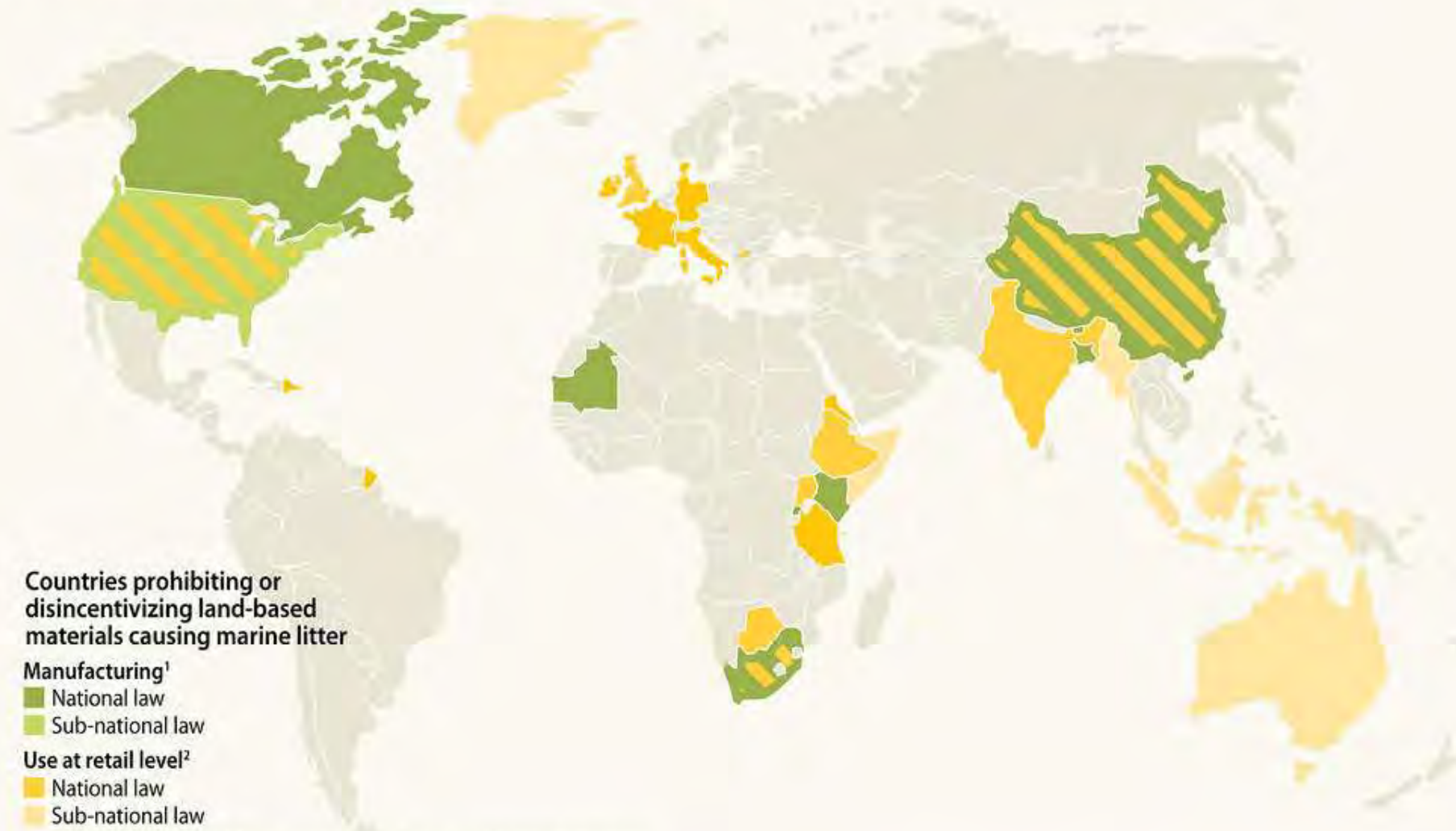
- 1 Poor **city cleansing** in many of Africa's cities
 - 2 Weak municipal waste **collection services**
 - 3 **Uncontrolled disposal** to open dumpsites and open burning
 - 4 **Population growth** and urbanisation
 - 5 Changing consumption patterns and **waste composition**
 - 6 Growing **coastal populations** in Africa
 - 7 Growing **tourism** in coastal regions
- Unmanaged, land-based source of waste
- More waste
- More packaging waste
- More waste near the coast

The poor management of waste across Africa, and the threat of growing and changing waste streams, will result in increased coastal and marine litter for Africa – if action is not taken



So what do we do about it?

What countries are doing to combat litter



¹Includes one or more of the following categories: nurdles or pre-production plastic, plastic bags and microbeads in personal care products

²Includes one or more of the following categories: plastic bag laws; laws governing the thickness of plastic bags; bans on stirrers, utensils and cups; taxes or levies on plastic bags; bans on so-called "biodegradable" plastics; bans on polystyrene, mandating "re-usable" products such as beverage containers and shopping bags; cigarette bans on beaches

From: Grid Arendal **Marine Litter Vital Graphics**

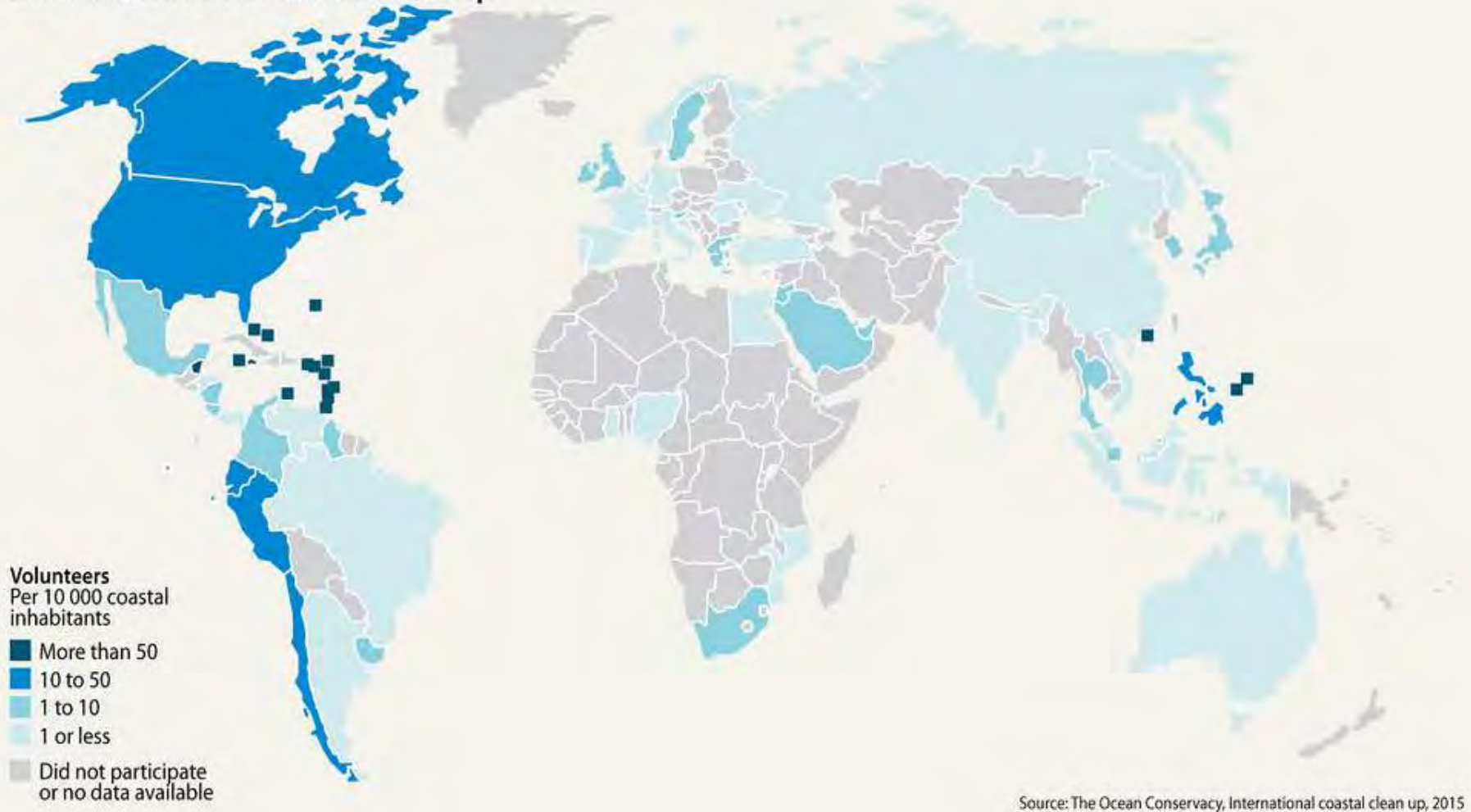
Source: UNEP Marine Litter Legislation: A Toolkit for Policymakers, document in preparation, 2016; The Independent, The Guardian, National Geographic press review

Regional action plans on marine litter



Marine plastic garbage clean up efforts

2014 International coastal clean up



CONCLUDING THOUGHTS...



- The state of waste management and the future growth on the African continent
- Means that unless measures are put in place to properly manage waste now, the African continent is likely to become a significant contributor to local, regional and global marine litter
- Now is the time for Africa to act



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<http://www.tourism4development2017.org/>

Thank you

Prof Linda Godfrey

Manager | Waste RDI Roadmap Implementation Unit | DST
Principal Scientist | Waste for Development | CSIR
Extraordinary Associate Professor | North-West University

Email: LGodfrey@csir.co.za

Web: www.csir.co.za