

Solid waste management in Queensland

Using WHO (1999) DPSEEA framework:

<http://www.who.int/wssd/resources/indicators/en/-Chapter 7>

Describe the driving forces, pressures, state changes, exposures and effects relevant to your chosen region and environmental health issue.

The WHO(1999) DPSEEA framework for solid waste management of Queensland has following elements.

Driving forces

- Increase in Population in Queensland has increased the rate of generation of waste. The urban growth exerts pressure on existing solid waste management machinery.
- Industrial development has led to increased industrial waste that requires proper treatment and disposal facilities.
- Policies of the government regarding import and export of waste internationally and interstates have increased total waste tonnage.
- Urban growth has led to an increase in construction activities in Queensland resulting in a steep increase in construction and demolition waste accrual.

Pressures

- Illegal dumping of waste in Queensland amounted to about 8500 tonnes.
- Untreated Asbestos waste from industries increases with industrialisation every year. Queensland reported a total of 2.8 million tonnes industrial waste in 2016-17 (Queensland Government, 2017).
- Infrastructural developments and resulting in steep increase of demolition and construction waste containing lethal products like asbestos, sulphates and acids that can severely damage soil health.
- Interstate waste received from interstate waste sources has increased every year for the last 5 years.

State changes

- The above factors have created changes in an environmental state like land site pollution, where untreated waste is disposed off illegally.
- Construction and demolition waste ruining soil quality by increasing acid and sulphate content along with hazardous asbestos in construction material can lead to serious ill effects.

Exposures

- The population near landfill sites may be exposed to hazardous and radioactive waste exposure if it is untreated. Recently a football field where untreated soil containing asbestos was spread, students were exposed to asbestos and risking their health and life (Faa, 2018).
- Exposure to Vector-borne diseases in areas of water logging due to illegal dumping.
- Unhygienic and poor living conditions may arise for residents staying near the landfill sites.

Effects

- Vector borne diseases like dengue can easily arise due to breeding grounds created by rainwater trapped in solid waste sites (Lyth, Holbrook & Beggs, 2005)
- Presence of Radioactive waste in industrial waste, if untreated can lead to dangerous diseases like Leukaemia.
- Queensland has seen the menace of disposal of untreated waste containing asbestos in the past. This can cause cancer to people constantly exposed to it.

• Social, political or economic influences on the issue that aren't captured by the DPSEEA framework

One of the social influences on the solid waste management of Queensland has to be social obligations of the states to help other states in waste disposal transfer of waste for treatment in Queensland. It includes maintaining trade relations and national obligations under solid waste management plan of the country. One of the major factors why other states are choosing to transport and dispose of their waste in Queensland is the financial aspect (Lyon, 2017). The cost of disposing waste in Queensland is much lower than other states like South Wales. Resulting in increased load of solid waste management on the region in the past 5 years.

This factor is not accounted for in the DPSEEA framework. This factor may influence trade relations between states and hence stern change in policies may not seem like a feasible option. This is not very well reflected in the framework.

• How is the environmental health issue currently being managed? What is the role of existing health agencies and other agencies, key stakeholders including community groups, critical infrastructure and legislative and regulatory measures at the federal and state level?

Solid waste in Queensland has been managed by ministry of environment and science. The ministry has been regularly publishing waste recycling and treatment reports each year. The waste disposal policy of Queensland is enforced with fines for illegal dumping and littering. Solid waste management in Queensland focuses on recycling rather than disposal. It is governed by the Waste reduction and recycling act 2011 that encourages recycling and discourages landfill disposals.

The Queensland region has a proper solid waste management that includes local governments as well as private players as key stakeholders. These entities operate a wide range of waste collection facilities for waste collection from households, businesses and construction sites. Some of these are later disposed off at landfills and the rest is recycled. A lot of reusable items like aluminium cans and batteries etc. are recycled at facilities whose locations are made available on an updated map on the website of the ministry.

Solid waste management plan has been well articulated to promote reuse and recycle and to incentivise this, the government has introduced several policy measures. Some of which are,

- Plastic ban imposed by the government On the 1st of July 2018, on a single use thin plastic bags that pollute land and water bodies. Waste generation in Queensland has increased by 40% in the past 5 years(Waste Reform Division Department of Environment and Resource Management, 2010). Introduction of stringent measures such as this can help in reducing the overall waste tonnage. The increasing number of plastics in the solid waste has made it difficult as well as expensive to segregate and treat the waste. This ban will help tackle such issues.
- To complement the plastic bags ban, another measure of policy is the container refund scheme called as the Containers of change ("Countdown is on for Queensland's Containers for Change", 2018). This scheme incentivises the return of aluminium cans that are easily recyclable but end up in trash in parks and other common public places. A small monetary incentive of 10 cents per can will encourage people in stopping street litters and help in recycling a sizable portion of the solid waste. It will be rolled out on 1st November 2018 by the government with over 280 collection points in the state and plans of creating more points in the future.
- Penalising illegal dumping and littering. This is one of the major issues at hand in the solid waste management scheme of Queensland. The government has now made illegal dumping of waste in areas not meant for landfills and littering the streets and common public spaces an offence. Leaving stuff outside the charity bins is also considered as dumping and can be counted as an offence. Fines for illegal dumping is higher for high volumes of waste like household items etc.
- The government has introduced a bill to impose a waste disposal levy to inhibit the growing load of interstate waste disposals. Queensland has a majority of landfill solid

waste disposal system compared to any other region in Australia. The waste disposal fee is too less and hence does not deter interstate business and industrial solid waste from coming in the state. This levy will make it uneconomical for the businesses to dump the waste in Queensland landfills and hence reduce a sizeable amount of waste tonnage load. This bill hasn't been passed yet and has been referred to a parliamentary committee.

- The Queensland government is also a voluntary signatory to the Australian packaging covenant. This federal government's covenant is not legally binding but effective on a volunteer basis. It puts impetus on first minimizing use of packaging waste, secondly reuse of the packaging material and then recycling of the waste generated. This strategy will help reduce the effect of plastic contamination in solid waste landfills.

The Queensland government has also been publishing data related to annual waste treatment and management endeavours of the state. It publishes the data as well as trends of the solid waste management of the region. This data is extremely helpful in educating citizens of the current state of the waste management systems of the region. It also provides a better insight to policy makers for decision making process. This data is collected by QWDS system that allows private entities to report and submit their information directly.

The Queensland solid waste management involves the community by encouraging support and participation by educating the people of the ill effects of the solid waste dumping and littering etc. Social media campaigns to involve the population in helping to keep the region free from littering are carried out. People are encouraged to report illegal dumping of waste and keep the state clean. A dedicated website has been created for people to reach out in order to report cases of illegal dumping and littering. These public campaigns augment solid waste management efforts by involving the public in the development and management process.

• What suggestions do you propose to address gaps in current policy, regulation and management for this environmental health issue?

In order to make the Queensland waste reduction and recycling strategy efficient, there are a few gaps in the policy and machinery of the management system that can be addressed. One of the most important being creating realistic targets to achieve. Instead of the govt. publishing data and information, it can have targets and updates on the website that will make the efforts of the citizens and other entities like industries and businesses more quantifiable and engaging. A waste reduction target or a simple recycling waste target that can make every effort count will make the population more interested and involved in the process and also make them more aware and hence reduce the occurrence of dumping offences.

Another step would be to impose a special waste levy on industrial and hazardous disposal without treatment. This will prevent any effects on the human health due to exposure to such harmful chemicals. The proposed waste levy should also be imposed to prevent neighbouring

states from just dumping their waste in the region's landfills. This will go a long way as interstate waste is a large component of the total solid waste.

Encouraging partnerships with communities, local stakeholders and residents to handle local waste treatments, recycle and reuse plants will improve the illegal solid waste menace.

Carrying out idea and innovation programs for citizens, to create innovative solutions to tackle simple waste problems. This can lead to the generation of many out of the box ideas and may also help in making the community more stronger and aware to fight the environmental health issues arising of solid waste management.

References

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