

Tackling waste management in communities: a collaborative approach

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Good evening to all attendees. Thank you for inviting me to speak to you tonight. I'm here to talk about solid waste management in remote communities and how an ongoing collaboration between regional councils aims to improve environmental health outcomes by creating constructive partnerships. In keeping with the theme of this conference, the steps taken and progress made is the result of many partners that have all had a hand in making the Big Rivers Region Waste Management Working Group (BRRWMWG) work.

Waste and landfill management in remote communities

Waste management in communities is a bit of a mixed bag. Most, if not all, have mobile garbage bins with lids that are collected on a regular basis for each property by compactor trucks, and many also have public bins set up in high-traffic areas. However, littering is still a major issue, especially when bins are knocked over and dogs scavenge in them for scraps.

Generally speaking, the disposal of waste is well below the Northern Territory Environment Protection Authority (NTEPA) guidelines. Straight-walled, unlined trenches are widely used, and limited or no waste separation occurs, with hazardous and toxic wastes often ending up mixed in. Burning of waste is common, either intentionally or by arson, and a lack of fencing results in open access to the public and feral animals and further increases litter issues when waste remains unburied.

Limited to no recycling occurs, with the most common initiative being the Container Deposit Scheme (CDS) implemented in the Territory in 2012.



Figure 1. A straight-walled trench with hazardous waste mixed in and evidence of uncontrolled incineration



Figure 2. Mixed waste pushed into a shallow pit with evidence of groundwater intrusion

Consequences

Poor waste management creates a number of environmental issues which can lead to significant health problems in the community. Unburied waste attracts vermin and insects, which are vectors for disease. It can also cause infections of the skin, eye and ear, tetanus, diarrhoea and viruses when handled without proper hygiene practices. Burning of hazardous wastes, rubbers and plastics produces a toxic smoke that, if inhaled, could lead to lung disease and cancer, while pollutants leaching from the landfill have the potential to contaminate water sources.

Barriers to improvement

Generally speaking, waste management options are reduced and costs inflate the further you are located from major urban centres. This is due to a number of factors, including reduced competition, increased travel costs, an inability to access to global markets and poorer economies of scale. Remote communities in the NT are among the most isolated in Australia, and difficulties with waste management are compounded by an undeveloped waste industry in Darwin. This leads to the interstate transport of some recyclable wastes, and further costs.

Regional councils struggle with a low ratepayer base and most of their income, such as funding from grants, is tied. The management of multiple small communities, each requiring their own landfill and associated waste management resources, means that this funding is stretched across huge distances rather than concentrated in one area.

Waste collaboration in the Big Rivers Region

The BRRWMWG was formed following the successful implementation of a similar working group in Central Australia and is comprised of three regional councils (Roper Gulf, Victoria Daly and West Daly), Katherine Town Council, the Local Government Association of the Northern Territory and representatives from the Department of Health (DoH), the NTEPA and the Department of Housing and Community Development.

The group meets every two months to discuss waste management issues in the region, develop solutions, identify potential areas of collaboration and communicate with representatives from interested government departments.

Since its inception, this collaboration has had a number of positive outcomes in the region, including; increased sharing of regional resources, improving economies of scale, creating a region-wide voice and providing for further collaboration between regions. Over the following slides, I'll be providing more detail about these benefits and going into a few specific examples.

Pooling regional resources

Funding and resources are precious commodities, however in certain circumstances pooling them can be advantageous. Regional grants can be more attractive and obtain higher levels of funding. This has been the case for the BRRWMWG, where funding was provided to allow works staff to obtain waste handling related training.

Money isn't the only resource worth pooling; knowledge and experiences are valuable when it comes to effective waste management strategies. An example of this has been the trial of a spring device for garbage bins that keeps the lid from falling open when the bin is pushed over. The spring still allows for the bin to be emptied and doesn't require a stand. Following a successful trial the same strategy was implemented in another community with similar animal scavenging issues.

The Big Rivers Coordinator role was the result of a need for waste management-specific knowledge without the required resources within each regional council to support their own positions. For the past year and a half, the regional councils have combined with the DoH to support a Regional Waste Coordinator position.

Coordinator's role

Apart from coordinating all group meetings and activities, one of the key outcomes from the DoH perspective is improving the landfill facilities in three communities to a standard where they would be able to obtain an Environmental Protection Licence from the NTEPA. After an audit, the three communities, one from each regional council, were chosen based on population size and the state of the landfill facilities. They are Wadeye, Ngukurr and Kalkarindji.

Specifically, the role of the coordinator entails providing advice and support to the regional councils to achieve improvements to the waste management facilities in these communities.

Coordinator's progress

Since commencing in the role of coordinator, I have travelled to 15 communities within the Big Rivers Region and provided advice on improved management of waste at a local scale. One of the side benefits that I didn't see coming was the regular calls and emails I get, asking very specific waste management questions.

Roper Gulf Regional Council recently went out to tender for works at a number of landfills, including Ngukurr, based on recommendations and reports I have prepared as part of my position. Their aim is to provide the region with a network of landfills that have no deleterious effect on the environment.

The development of Environmental Management and Emergency Response Plans for the target landfills was an important step towards licensing. The plans provide a simple and easy to follow approach to managing the site, the environment and emergency situations. Along with the management plans, I have developed reporting and recording documents which provide an easy way to manage the compliance side of licensing.

Improving economies of scale

The second major benefit of collaboration in the group is the ability to improve the economies of scale. By this I mean that, although the waste generation in each community is quite small, if we can combine some aspects of that waste generation over the whole region, we can improve the viability of management options that aren't about throwing it in a hole and forgetting about it.

For example, one of the major fillers of space in a community landfill is scrap metal and particularly old vehicles. Historically we have struggled to find buyers for this resource, or even takers, especially in the case of communities which are further off the major highways and along gravel roads. Following a presentation by myself at the Waste Recycling Industry of the Northern Territory Conference earlier this year, we received feedback from a number of scrap metal recyclers that a milk-run style collection could be feasible if enough communities got involved. Since then, the group has worked on a 'whole of region' scrap metal collection expression of interest document, which includes data on the scrap metal available in 21 towns and communities. It is open for responses, closing later this week.

As the major business and population centre for the region, Katherine has an important part to play in improving economies of scale for the surrounding communities. A small recyclables transport policy has been developed as a solution to concentrate recyclable wastes in Katherine from community landfills and is currently being considered. Katherine Town Council has also started to broaden the number of recycling services it offers by utilising Product Stewardship Schemes.

On a more local scale, one community is overcoming the tyranny of distance and economies of scale by itself - by crushing lots and lots of cans.

Recycling cans in Kalkarindji

Kalkarindji has a population of approximately 550 and is located 450km southwest of Katherine, in the Victoria Daly Regional Council. Large numbers of aluminium cans were ending up in the landfill, with the local social club, which is a licensed venue, identified as the main source. As no recycling was taking place, the club was approached and agreed to separate the cans, which were then deposited at the council depot in bulka bags.

In 2016 the council purchased a can crushing machine, as the bulka bags were not financially viable to transport via truck. The council negotiated with a CDS depot in Darwin to accept the crushed cans at the 10 cent rate, which had previously been a sticking point for CDS collectors. Crushed cans are stacked on a pallet and back-loaded to Darwin on trucks, servicing the community when full. Further modifications to the can crushing machine, including a sorting tray and bale tray, have increased the baling rate to 10,000 cans per hour.

Since beginning operations, approximately 100,000 cans have been diverted from landfill. The money collected from this process is invested back into projects that benefit the community. Investments in caged pallets are being investigated by the council to further reduce the waste generated. The council is also looking at how to best capture the rest of the containers in the community, which includes plastic containers from sales at the general store.

A region-wide voice

As shown in the scrap metal example earlier, as a group we are better able to attract industry to our region. Apart from making a dollar, businesses are most attracted to stability, and region-wide strategies and approaches provide more stability than everyone doing their own thing.

As a whole, the group covers approximately 10% of the Northern Territory population and about 25% of its landmass. When it comes to political attention and government grants, having a sizeable chunk of the Territory on the same page helps, and we have already seen the benefits of this.

A bigger picture

Finally, as the BRRWMWG, we can form partnerships with other waste management groups. Earlier this year, we had our first joint group meeting between the BRRWMWG and the Central Australia Waste Management Working Group in Darwin. As part of this meeting, we discussed areas of collaboration between the groups.

What are we trying to achieve?

Just to wrap up, I thought I would go over what we would like to achieve in the long term. There are four major areas that we are trying to focus on: upgrading landfill facilities and procedures; creating recycling facilities and opportunities; improving staff training; and promoting waste education and litter programs. This should lead to an overall improvement in waste management and a greater awareness of waste issues in the community, leading to improved health outcomes.

For more information

Contact the Katherine Town Council
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Glossary

BRRWMWG	Big River Region Waste Management Working Group
CDS	Container Deposit Scheme
DoH	Department of Health
NTEPA	Northern Territory Environment Protection Authority