Re-inventing the Honeybucket Hopper with 55-gallon Drums:

Yukon-Kuskokwim Health Corporation

The hopper "basket"

Basket and chariot

Hauler with drum

Challenge: The honeybucket is not "going to the museum" anytime soon. Communities lacking adequate sewage disposal are plagued by unregulated dumpsites, often on and near public walkways, roadways and near residences. There is a constant risk for infectious disease. Affordable, dependable alternatives to manage honeybucket wastes need to be explored and tested.

Project Objective

The YKHC demonstrated using 55-gallon drums as honey-bucket hoppers by designing, building, and testing locally designed frames and chariots to haul the drum hoppers.

Results

- Building and testing the initial design prototype resulted in several changes to adapt the chariot for typical use as well as make the loading and hauling of a hopper a one-person job.
- We made sure the design would allow the "basket" frame to hold steel drums as well as the plastic drums shown.
- Engineering drawings were completed to easily recreate the basket/chariot.
- Often the bins were filled too high. Just like traditional hoppers, when filled much over half way, they are more difficult to empty under freezing conditions. This results in frequent cracking. People naturally tend to fill them up as much as possible to get more for their money.
- Successfully adapted an affordable sewage collection system at a low cost, with easily acquired materials, and in a reasonable timeframe.

Community Environmental Demonstration Projects

Funding and technical support provided by Zender Environmental through the **Community Environmental Demonstration Grant Program**. Grants were small US EPA-funded, Alaska-based projects for innovative, locally-led ways to better the health of tribal members and their environment. The Community Environmental Demonstration Grant Program was made possible with the Alaska Tribal Multi-Media Grant from the US EPA.

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Benefits

A community could buy 20 plastic drums and a hopper basket/chariot addition for under $5,000 versus one single new traditional honeybucket hopper that costs nearly $4,000 dollars before shipping If a community already has a haul cart or can acquire one, they can equip 10-15 homes for roughly the same price as one traditional hopper. They are much more cost effective than traditional hoppers, but just like traditional hoppers, they have to be used properly.

Lessons Learned

- Emptying hoppers at the proper level—50-60% full—is the most important operational consideration. Local fee structures should reflect this.
- Simple solutions are effective. In this case, a sanitary way to dump honeybuckets and store the waste until it can be hauled. This solution was a covered, nearby drum; cheap, effective and timely.