

## Inventive use of non-recyclable plastics in Eraviperoor

### Plastic shredding unit and tarring roads with shredded plastics

Plastic Waste Management Rules 2016 of Ministry of Environment, Forest and Climate Change, Government of India under section no. 5 which deals with plastic management says local bodies shall encourage the use of plastic waste (preferably the plastic waste which cannot be further recycled) for road construction as per Indian Road Congress guidelines or energy recovery or waste to oil etc.

Further, Government of Kerala through its orders allowed the local bodies to use 10% plastic in the tarring mixture they use for tarring in 10% of roads under their jurisdiction.

Eraviperoor panchayat of Thiruvalla taluk in Pathanamthitta district has become a torch bearer in this regard.

One among the many initiatives Eraviperoor panchayat has implemented is a plastic recycling project, which makes use of plastic for laying a road in the panchayat. To manage the enormous quantities of used plastics strewn around, the panchayat opened a plastic shredding unit in 2013. The unit named Haritha plastic, managed by Kudambasree, has been collecting plastic covers and bottles from the houses for shredding. The project installed a plastic shredding machinery that cost an amount of Rs. 2.10 Lakhs. 500 Kg of plastic waste can be shredded in one day. Used plastics are collected from the nearby

Panchayats too with an intention to help them to be plastic free.

Awareness to the public was given through environment gramasabhas, eco club, NCC Cadets and Self Service Organizations etc.

Around 50 dustbins are placed at anganawadis and schools and public institutions. People dump the plastic in these dustbins which is then collected by the recycling unit and shredded.

Among the municipal solid waste, plastic create serious harm to the environment. Burning of plastic carry bags which do not dissolve in the soil and are below 50 microns create serious health hazards. However, these plastics can be shredded, melted and mixed with the aggregate for road construction. This will have dual advantage:

1. Since melted plastic is used, the roads will be more durable and strong
2. This will help in elimination of non-recyclable plastic

As per the G.O (RT) No. 3119/2016/LSGD dated 17.11.2016, instructions for the construction of road using non-recyclable plastics has been issued. Besides, in the plan formulation guidelines for ULBs and 3 tier panchayats for the year 2017-18 this has been emphasised [GO(MS)No.79/2017/LSGD Dt.3.4.2017 and GO(MS)No.72/2017/LSGD Dt.29.3.2017].

Clean Kerala Company Ltd under LSGD has been entrusted to facilitate this activity.

The shredded plastic from this unit was mixed along with bitumen for road laying. PWD and clean kerala mission gave technical advice for this. Shredded plastic and bitumen is mixed at 165-degree centigrade temperature in a tar mixing unit. This mixture is laid out on the road before it cools. A 100-metre road to the vallamkulam market was tarred in 2013-14 on an experimental basis, using this technique. A total of 54-kilogram plastic was used for the road tarring in Vallamkulam. Following the success of this initiative, 6 kms of road in different wards were tarred using this technique using 6000kg of shredded plastic

The project of the eraviperoor panchayat is the first such project to be undertaken in a panchayat in the state. The mixing of bitumen with plastic can overcome frequent damage of the

village roads by heavy rains and hence provide a solution for water logging the state roads. The same

project can also help reduce pollution caused by plastic.

Eraviperoor Panchayat successfully implemented the project of plastic waste management scientifically. So far, the panchayat has sold 800 kg of plastic to PWD at a cost of Rs. 20 per kg, adding an amount of Rs. 16000 to its own fund. Various international agencies like Sweden based International Centre for Local Democracy (ICLD) have visited the project and recorded words of praise in the visitor's diary.

The people who commute regularly on the road tarred using plastic vouch for the quality they see in this road. They say 'there is a marked difference



from the other roads where plastic is not used. There is hardly any damage in the vallamkulam road until now since it was tarred using plastic 3 years back’.

Four state awards and a coveted national honour, the eraviperoor grama panchayat has got much to cheer about. The panchayat won the award for bio diversity board, sanitation award of the state sanitation mission and the pain and palliative care award of the district panchayat for consecutive three years.

