

**Kolkata cracks whip on two-stroke three-wheelers**

A division bench of the Calcutta High Court headed by Chief Justice S. S. Nijjar on July 18, 2008 converted an environment department's notification into a judicial directive and directed the state government to phase out all two-stroke three-wheelers plying in the city by December 31, 2008 and to ensure that only four-stroke three-wheelers on clean fuel operate. All four-stroke three-wheelers plying within the Kolkata Municipal Corporation area have to convert to liquefied petroleum gas (LPG) by March 31, 2009 and those plying within the Kolkata Metropolitan Area by December 31, 2009.

The city has around 38,000 registered two-stroke three-wheelers running on petrol. In addition, 30,000 illegal three-wheelers also operate in the city. Large numbers of three-wheelers use adulterated fuel popularly known as '*katate*' which comprises of petrol, kerosene and naphtha, a toxic mix contributing significantly to the city's air pollution. As per the directive, all two-stroke three-wheelers were supposed to be phased out by end of December. But this did not happen.

**Protest**

On December 23, when only a week was left for the deadline, the state government approached the court seeking more time for implementation of the court's order. The state government did not get reprieve as expected. The bench rejected its petition and directed to ensure compliance. The three-wheelers unions also put pressure but in vain. The court refused to entertain their plea seeking time for majority of them who had not been able to buy LPG four-stroke three-wheelers.

Three days later at a meeting of the monitoring committee appointed to oversee the implementation of the High Court order, it was decided that fitness certificates of the two-stroke three-wheelers, which have been plying would be repealed to pave the way for phaseout. The public vehicle department was asked to issue an order to ensure that all such three-wheelers with fitness certificates lose legitimacy from January 1. The police was also asked to act accordingly and confiscate two-stroke three-wheelers if they are seen plying on the roads. On the other hand, the transport minister on December 31 informed that around 14,000 two-stroke three-wheelers operators have applied for replacement to four-stroke three-wheelers and they be given time.

As expected there were strong protests from the three-wheeler operators, and worker Unions leading to arson and riots on the roads. These vehicles were seen plying on the roads in defiance of the court order with flags of their unions on top of their vehicles. Even the political parties came out in support of the three-wheelers operators against the ban. On January 1, the first day after the expiry of the deadline, the police confiscated only 6 two-stroke three-wheelers.

Subhash Dutta, environment activist and petitioner of the case, lamented, 'The court order has not been implemented. Almost five and a half months have passed after the July 18 order, the state government did not initiate any roadmap. There were many issues to be looked at such as supply of new four-stroke three-wheelers, availability of LPG, finance for replacement/conversion and the issue of unauthorized three-wheelers plying in the city. If the state government would have taken the initiative after the court passed the order, there would have been some progress.' 'There is no coordination between the two departments --- environment, which formulated the notification and transport department, which has to implement it,' added Dutta.

The chief justice bench heard the matter on January 9. Considering the inability of the state government to enforce the court order, the bench stated that it would itself monitor implementation of the ban on two-stroke three-wheelers. The state government that wanted extension of the deadline has been asked to submit fortnightly action taken reports till polluting three-wheelers are off the roads. It will now depend on the first action taken report to be submitted before the next court hearing whether the court will give more time to the government or not.

**Implementation**

To cushion the cost of this transition the state government has announced fiscal incentives. The state government is providing a subsidy of Rs. 10,000 to the three-wheelers operators for replacement of three-wheelers. In addition, manufacturers are providing a subsidy of Rs. 6,000. An additional sum of Rs. 6,000 is also being provided for scrapping. In the meantime the city is expanding its LPG refueling infrastructure. The conversion to LPG is expected to improve the overall emissions from this fleet. According to the current law, new LPG three-wheelers are expected to meet the current emissions standards.

**Pollution challenge**

Kolkata now joins the league of other Asian cities that have also taken similar steps to remove gross pollution from cities to protect public health. The older generation of three-wheelers in our cities is powered with extremely inefficient two-stroke engines that allow nearly 25 per cent of the fresh air fuel charge to go out unburnt and thus contributing to excessive hydrocarbon and particulate emissions. Typically the small engines of two-stroke engines belch profusely when made to carry excessive load. This is very common in our cities.

Improper lubrication further aggravates the problem. In fact, tests carried out in Automotive research Association of India on three-wheelers obtained from Dhaka shows that use of straight mineral oil increase particulate emissions by upto 10 times the typical values obtained in the US during the late 70s. Moreover, vehicles using straight mineral oil will emit three to four times more particles than those that use 2T oil.

Not only these vehicles emit enormous amount of particulates, but they are also cause of massive exposure to harmful pollutants to the riders of these vehicles. A 1997 World Bank study in Delhi has found that people using three-wheelers are more vulnerable to exposure from PM pollution compared to those traveling in other modes. The exposure level can be as high as 782 microgramme per cum, nearly six to five times more than the ambient level of PM10 in Delhi's air.

Legal ban on these vehicles is a common strategy to stop two-stroke three-wheelers across Asia. Dhaka, Kathmandu, Delhi, cities of Philippines, Colombo are some such cities that have taken such a step to control excessive pollution. Other cities in the region including Bangalore, Hyderabad, Ahmedabad, Chennai, Kanpur, Lucknow, Surat among others in India, Bangkok, Lahore etc are now taking steps to move to cleaner gaseous fuel.

**Intermediate public transport**

Given the importance and popularity of three-wheelers as intermediate public transport in nearly all India and many Asian cities, it is important to deploy them with proper planning, management framework and to ensure that they are clean. These vehicles can be more space efficient and also less polluting passenger it carries on a daily basis. A car on an average carries approximately one or two persons during peak traffic time, occupies larger road space and, emits more per person. But three wheelers carry more passengers on a daily basis. According to information available from the field surveys in Delhi, a three-wheeled scooter rickshaw travels for approximately 150 km in day covering 12 trips. A private car in its full capacity can accommodates 5 people including the driver in one trip and on an average working day completes 2-4 trips. This signifies that, on an average, a car can transport 10 – 20 people a day whereas a three-wheeler that operates 12 trips a day in its full capacity can transport 36 people. Thus operating on clean fuel – CNG or LPG, they actually reduce emission per passenger. They also use less energy per passenger as the small engines use a lot less fuel per kilometer compared to a car.

Three-wheelers can also play a very effective role in integrating different modes of mass transport (high capacity buses, metro-rail, etc) as feeder service. Integration of the available bus and other mass transport system in the city is an important approach to improve access and usage of public transport systems in the city. This requires effective inter-linking of the interchange points of different public transport modes in the city to enable easy transfers from one mode to the other

for smooth and convenient mobility. In this regard, three-wheelers can be effectively deployed as feeder services to connect the interchange points with the high travel demand zones in the city.

--- Compiled by Priyanka Chandola