# EDITORIAL

Earlier we had discussed about the role of green house gases such as carbon dioxide, methane and nitrous oxide on rise of global temperature inviting climate change. Changes in climate would also increase the risk of unexpected changes in nature and environment. The production of $CO_2$, $CH_4$ and $N_2O$ and their negative implications over the environment can be discussed. As per a recent estimation, the total $CO_2$ entering into environment can be divided as follows i.e. 56% coming from fossil fuel like petrol, diesel etc., 16% coming from loss of forests and 14.3% coming from volcanic eruptions and the rest from miscellaneous sources. Methane source is mostly from volcanic eruption, agriculture, animal husbandry and human activities. Nitrous oxide, which is 289 times more potential than carbon dioxide mostly comes from fertilizer, burning of petrol and diesel in vehicle.

The life span of these green house gases have been estimated to be; methane 72 years, $CO_2$ 100 years and $N_2O$ 289 years. It has been reported that methane is 72 times more potential than $CO_2$ in causing global worming. India is one of the largest country having vast cattle population. The impression that methane coming from cowdung has been the major share can not be true. A large chunk of people in India belong to poorer section and do not keep stall-fed cattle. In Indian condition, most of cows are free ranging and remain in open pasture land. With the treatment of sun rays and in aerobic condition, production of methane becomes very less. Fact remains, methane is produced in anaerobic condition from the cowdung when it is fermented. Apart from that, due to huge requirement of fire wood and stringent forest regulation people prefer dry cowdung in form of patties in walls and ground and under such aerobic condition methane production is very negligible. More often cowdung has been blamed for methane production, one of causes of concern for climate change. But this methane gas produced from cowdung can be trapped for its use as fuel for domestic use, vehicle and to create electricity. Just like CNG, methane gas can be used to run automobile engines in place of petrol.

India has the largest livestock population of 250 million, which produces close to 125 million tonnes of cowdung. One cow gives enough cowdung in a year to produce methane equivalent to 225 lts of petrol in energy terms. Hence, cow can produce enough methane gas to entirely replace LPG and kerosene in cooking. The entire LPG and kerosene requirements of our 120 crore population can be met by methane gas cylinders produced from the cowdung of 75 million cows. It is reported that the cowdung will replace whole of India's LPG under compressed methane gas(CMG) technology. The advantage is that after extracting methan gas, the manure can be used in agriculture and forestry. Hence, the production of methane in India can be rationalized and finally, methane entering into environment would be very negligible.

Once the methane mantras will work out, in terms of requirement, it would surpass milk. It has been calculated that rearing of one cow can save six plants upto five years. Hence, keeping cows can increase forest resources as well.

What can be the source which can check all carbons that come from soil to sky ? The only machine is plant. So, the slogan should have been; “Have plantation and keep cows”.

**(Dr. R. K. Samantaray)**
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