

Sri Lankan engineer invents hybrid motorcycle

Text and Pix by
PATHMASEKARA NISSANKA
Rambukkana group corr.

The technological development in the world is taking place at a rapid pace. The new inventions and machinery and equipment developed using these inventions have a great impact on the livelihood of the people in the world and people are expecting more and more new inventions and innovations to make their life easy and comfortable.

The respective Governments of many countries and relevant authorities provide necessary assistance and encouragement to the persons who are engaged in research and development activities and make new inventions as they feel that new inventions are helpful for the development of their countries. That is the nature of such countries as they think the ones engaged in research and development are their national assets and take the country forward.

Though there is abundant talent among Sri Lankan who can create innovations and new inventions that are invaluable, it is not appreciated.

Recently I came cross a Sri Lankan mechanical engineer who has invented a hybrid motorbicycle that runs on electrical power as well as a automobile fuel. Deeptha Appuhamy of Mudukatuwa, Marawila has graduated as Mechanical Engineer from University of Moratuwa.

His vision is to invent and develop new machinery and equipment to suit the local conditions and requirement of ordinary people. He does not simply copy or extract the ideas from other developers, for his innovative creations.

"When I visited China recently on a business matter I noticed that the electric bicycles are a popular means of transport in China. The ordinary Chinese people use the electric bikes for their short and urgent trips. I as convinced that this could be a solution to Sri Lankan where a lot of people have faced with economic difficulties. The electric bikes are useful for low income people as well as rich.

The low income people can benefit from economic



hybrid motorcycle

advantages whereas rich can make use of efficient transprot avoiding traffic congestion on roads. Nevertheless the electric bike is mostly suitable for low income groups living in village areas as well. Majority of our population belong to this group," said Deeptha.

He further said, when I was marketing the electric bikes I studies their performance and decided to make improvements to the electric bikes. This painted a picture in my mind. I used my technological background and practical experience in this respect. With the assistance of my technical staff, I realised that it would be possible to provide an additional power to the eclectic bike with the use of a petro engine and suitable accessories."

A normal electric bike has a 48V DC battery having a 20 Ampere hour



Deeptha Appuhamy

capacity which can be used to travel approximately 70 to 80 kilometre after a full re-charge. Once the battery fully discharges, the user faces the problem as to how he could re-charge the battery when he is away from his/her home. Therefore, one has to decide or plan his journey before the electric bike is used for travelling.



Deeptha at work

"With my invention, I have coupled a 50cc petrol engine to an electric bike. The enhanced hybrid Motorcycle when running on petrol engine can travel approximately 60 kilometres per litre. The added advantage is that when we travel about 100 km with the fuel engine, it recharges the battery to run further 20 km on electricity. This brings more saving to the user," Deeptha said.

The hybrid motorcycle created by Deeptha has two separate starting switches. One each for electric mode and petrol engine mode. When used for short distance travelling using electric mode the user need not worry about his cost since the money has to be paid at the end of the month as charging of battery is done using house mains electricity and cost will be reflected in the electricity bill. Even then the cost is only thirteen cents per kilometre which would easily be the most economical transport cost. Therefore, this invention gives enormous benefits to the user. With the ever increasing fuel prices in the present world energy market, the hybrid motorcycle will be an invaluable vehicle.

Deeptha added, "A Chinese research and development company has tried to build a hybrid electric/fuel motor bike. But they have tried to fix the petrol engine to the front wheel while electric power is on the rear wheel. They have requested a patent certificate forwarding this conceptual design. But, so far their effort has not been successful. In my creation, I have coupled petrol engine and the electric motor to the rear wheel and the operation is independent which give me the success. No one in the world has so far made such a bike running on electric as well as engine power on the rear wheel of a motorcycle. I can proudly say that no other mechanism would be able to design a hybrid motor bike except my scheme of operation. I have made arrangements to patent my invention under the National Intellectual Property Act of Sri Lanka."

The field experiments have shown that the hybrid Motorcycle invented by Deeptha is very well suited to the climatic and road conditions of Sri Lanka.