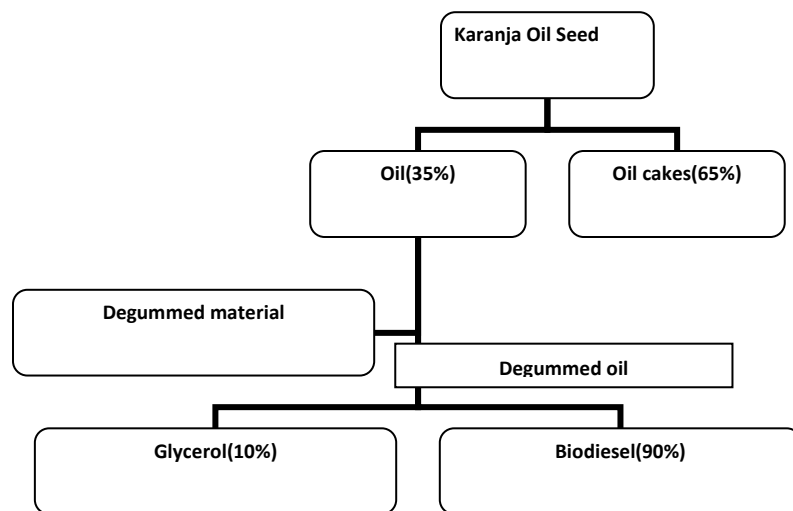


Production of Karanja Biodiesel and its byproducts for Agricultural application

Biodiesel is a clean and renewable fuel which is considered to be the best substitution for diesel fuel. There is considerable growth in the use of vegetable oils such as palm, rape seed, soybean, sunflower etc. as biodiesel. These oils are edible. So there is a conflict between food and fuel. Non-edible oils are likely the preferred feed stocks in India. Non-edible oil such as neem, mahua, karanja, jatropha etc. are easily available in India and are very cheap compared to edible oils. The project was based on Karanja (*Pongamia pinnata*) which is distributed in tropical Asia and is non-edible oil of Indian origin.

The detailed process is given in fig.1.



The economic viability of the biodiesel production depends to a large extent on the ability of the producer to derive value from the biodiesel it produces as well as the by-products that are generated during the process. The different by products in biodiesel production from Karanja seeds oil are shell, oilcake, degummed materials, unrefined glycerol and wash water.

The present work of the project was value addition of oilcake in different agricultural applications. Karanja Oil cake (KOC) has 3.2 to 3.7 nitrogen, 0.22 to 0.23 Phosphorus and 0.65 to 0.68 Potassium is a substitute of inorganic fertilizer.

The experiments were conducted for de-oiled cake as a source of biogas production. The results show in different size of digesters that the methane content of biogas increases in the biogas. The slurry of biogas has retained same nitrogen, phosphorous and potash as that of the oil cake.

Karanja oil cake briquettes can be act as mosquito repellants by burning.