INTRODUCTION: In present scenario, there is a huge demand for conventional fuels. In order to overcome the demand for conventional fuels there is a need for alternate fuels. Basically there are plenty of biofuels available in nature. Depending upon the availability of the plant seeds, biofuels are used. The oil obtained from the seeds of different plants is extracted and are used to run engines. In order to extract oil, obviously there is need for a machine that would extract the oil. Our project aims at design and fabrication of biofuel oil extractor. It provides a market for excess production of vegetable oils and animal fats. It decreases the country’s dependence on imported petroleum. Biofuel is renewable and does not contribute to global warming due to its closed carbon cycle.

OBJECTIVE:
1. To design and fabricate biofuel oil extractor to extract pongamia oil.
2. To totally automize the total oil extractor.
3. To reduce manual labour.
4. To increase efficiency.

METHODOLOGY: The total model was built using sheet metals and stainless steel. The tool used was screw auger and a casing like pressing chamber which was made of stainless steel. A heater was incorporated above the pressing chamber so that it heats the total screw auger and it intern heats the total seeds which are put from hopper. Then at the bottom we get the oil and at the end of the machine, cake is obtained.
RESULTS AND CONCLUSION:
We have conducted an experiment for pongamia seeds to show the capacity of the oil extraction. That result is shown below:

<table>
<thead>
<tr>
<th>Sl. no</th>
<th>Type of seed</th>
<th>Weight of seeds (gms)</th>
<th>Oil obtained (ml)</th>
<th>Time required for crushing (sec)</th>
<th>Weight of cake outcome (gms)</th>
<th>Waste obtained after filtering (gm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pongamia</td>
<td>500</td>
<td>155</td>
<td>1200</td>
<td>312</td>
<td>33</td>
</tr>
</tbody>
</table>

The combination of roasting and expelling units led to an efficient and effective production of pongamia oil.

SCOPE FOR FUTURE WORK:
1. The designed model can be implemented on a large scale even at the commercial level.
2. A system could be designed for heating the seeds prior to their entry in crushing barrel. This helps to open up oil pores in the seeds leading to better oil extraction.
3. Twin screw is a promising concept. However there are various design and fabrication difficulties involved. Research in this direction is also an important topic of study.
4. A compact cage bar assembly to maintain the pressure built inside the barrel can be designed.