

The Present Distribution Pattern of Biogas Plants in Nepal

Geographical Distribution

A total of 5,739 biogas plants were installed in Nepal from 1974/75 to 1989/90 (see Figure 3 and Table 2). About 75 per cent of the total, i.e. 4,280 plants, were installed in the *Terai*, out of which 80 per cent, i.e. 3,438, are of the dome type. Similarly, about 25 per cent of the total, i.e. 1,459 plants, out of which 94 per cent, i.e. 1,369, are of the dome type, were installed in the hills. District-wise distribution of installed plants is also shown on the map of Nepal (Figure 4).

Table 2: Geographical Distribution of Biogas Plants in Nepal from 1974/75 to 1989/90

Region	Biogas Plant Type		Total
	Dome Type	Drum Type	
<i>Terai</i>	3438	842	4280
Hills	1369	90	1459
Nepal	4807	932	5739

Source: Biogas Company, Kathmandu, Nepal.

The *Terai* is a highly conducive region for the promotion of biogas, because of the favourable temperature range for the production of methanogenic bacteria responsible for biogas production (see Case Study A). In the hilly regions in winter, as altitude increases, the production of biogas diminishes because of the low temperature. The production of biogas is inversely related to the period of lower temperature. It should be kept in mind that biogas installation is equally useful in the mid-hills of Nepal. However, in winter months, depending upon the temperature, the production of biogas is low. The Swargdwari Biogas Plant is located at an altitude of 7,500ft in Pyuthan District and has been working satisfactorily (see Case Study B). Therefore, one should not rule out the feasibility of biogas in the hills, just because, for a few months, depending upon the altitude and duration of cooler months, the production of biogas is low. One may need to supplement with fuelwood during these low production period while substituting the fuelwood with biogas in cooking for most of the year.

Distribution According to Capacity or Size

In the fixed dome design, the size of the biogas plant in common demand is 10m³,* followed by 15 and 20m³ plants. Figure 5 indicates the distribution of biogas plants according to size.

* Biogas Plants of the dome design and the drum design are always measured in cubic metres and cubic feet respectively.

NUMBER OF BIOGAS PLANTS INSTALLED FROM 1974 / 75 TO 1989/90

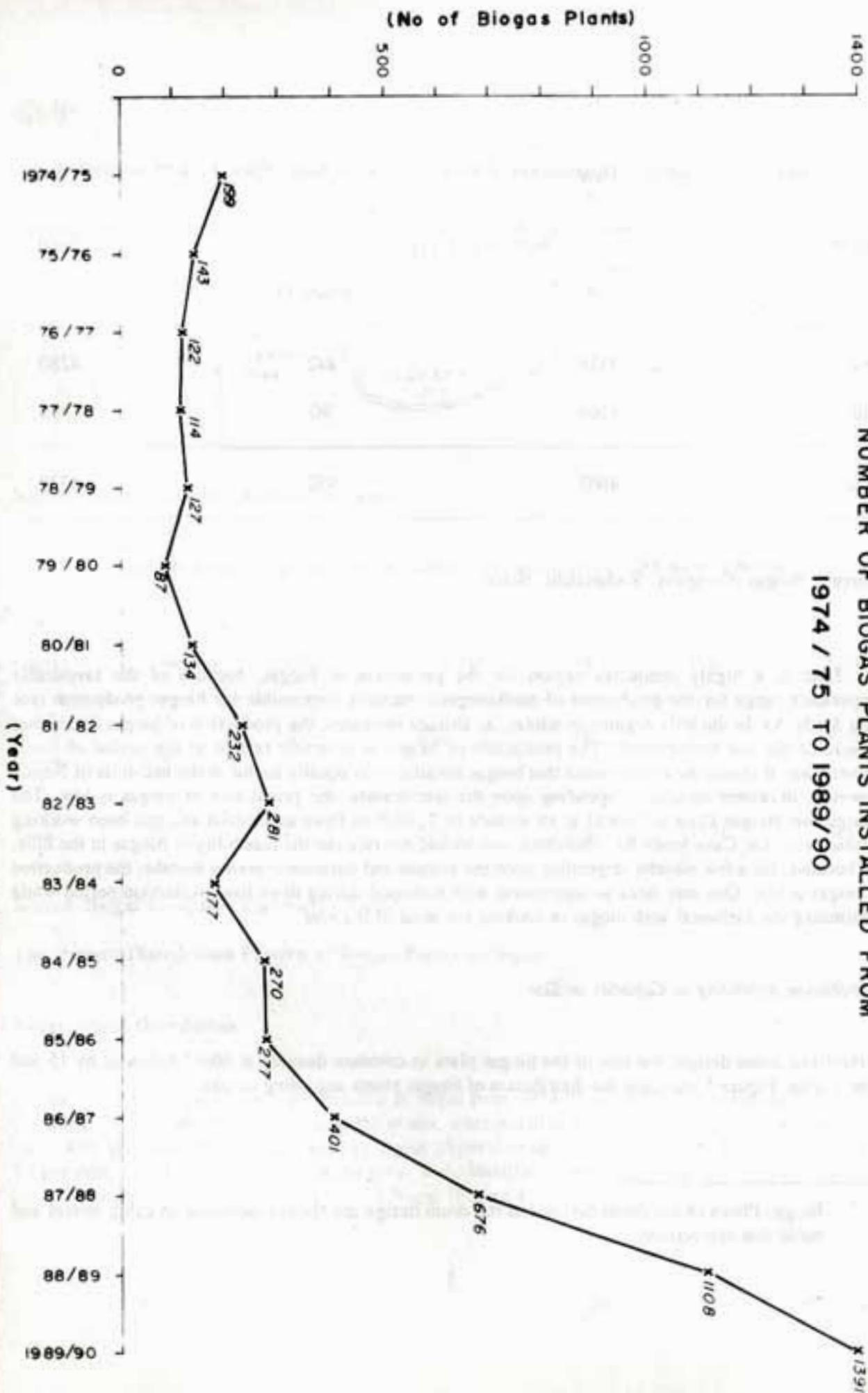
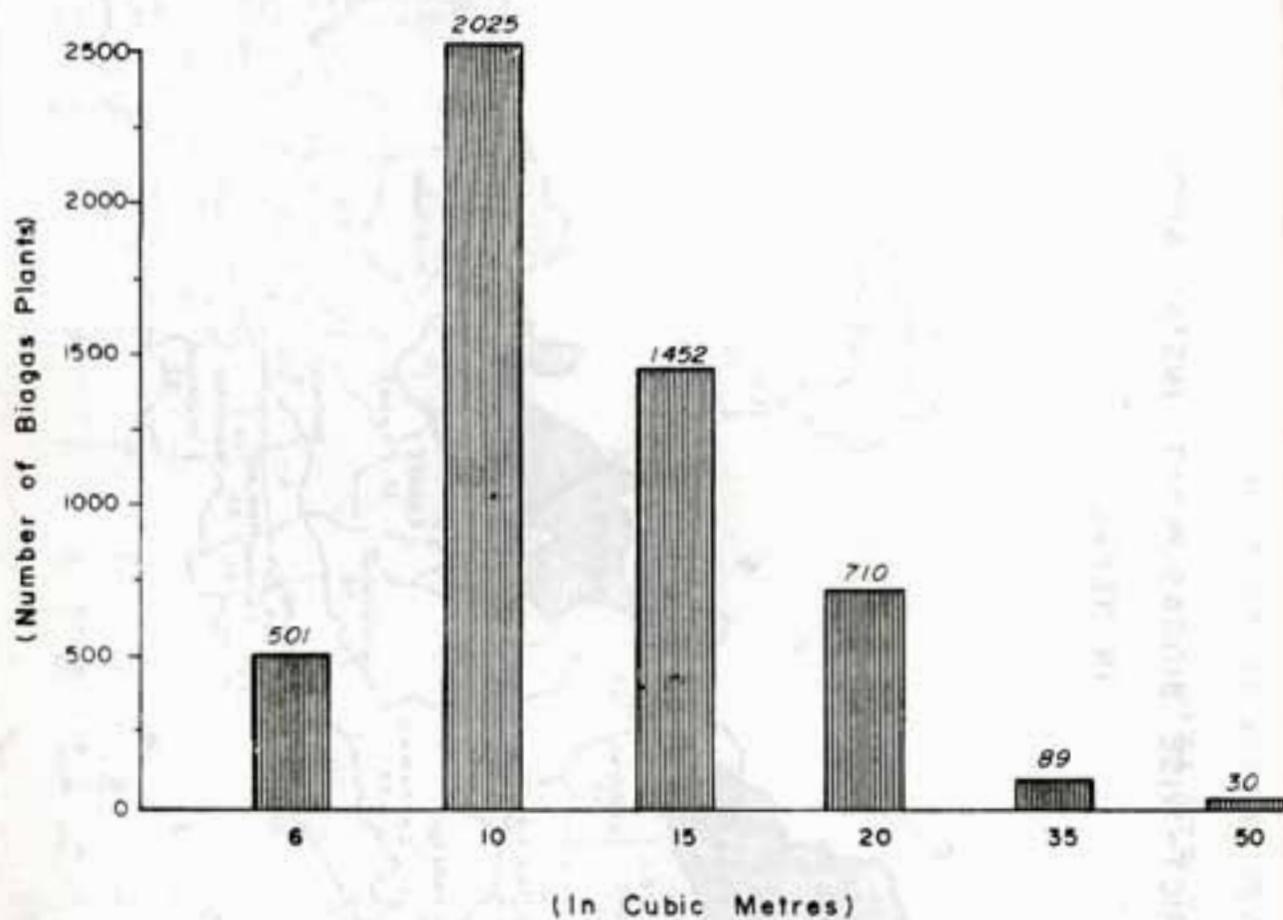


Figure 5.

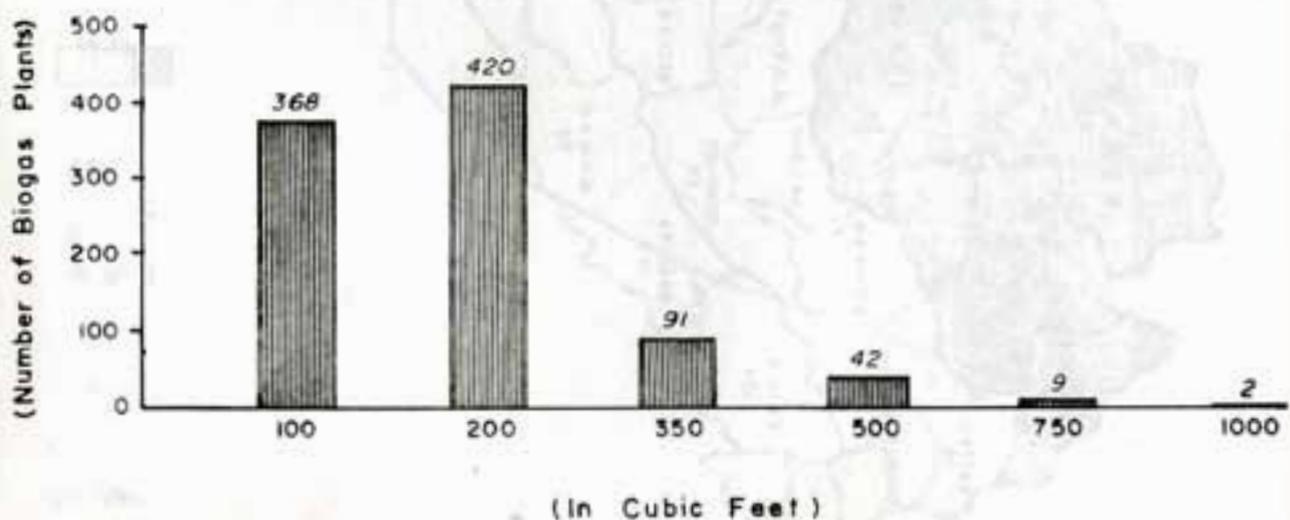
Distribution of Biogas Plants According to Sizes
from 1975/76-1989/90

DOME DESIGN



Distribution of Biogas Plants According to Sizes
from 1975/76 - 1989/90

DRUM DESIGN



Source: Biogas Company, Kathmandu, Nepal.

In the case of the floating drum design, the most popular size is 200ft³ followed by 100ft³. Both the 10m³ of the dome type and the 200ft³ size of the drum type require four to six head of cattle for operation and to meet the cooking needs of a household with seven to nine members.

The Biogas Company has also promoted the attachment of latrines to the biogas plant. In Siswa and Lekhnath villages of Kaski District, a total of 195 biogas plants were established, out of which 142 biogas plants have latrines attached to them (see Case Study C). This has increased the production of biogas as well as manure and has become a good method of exploring the value of night soil which otherwise is mostly wasted. It has also improved the sanitation of the village.