**ABSTRACT**

An anthropometric survey of agricultural workers from Konkan region was carried out during 2004-2006 in order to investigate suitability of farm equipments with human body. Seventy-nine body dimensions and sixteen strength parameters were measured from 649 male and 377 female workers within the age group of 18 to 60 years. The pertinent anthropometric dimensions were identified and were grouped based on the relation between each other. The mathematical modeling was performed between the base parameter and sub-parameter from same group using ‘Table Curve 1.0’ package. The highest $r^2$ valued relationships were selected and finally reduced to the normal form. It was found that five base parameter can be utilized to predict thirteen sub-parameter. Hence, around 16% of drudgery involved in measuring of anthropometric parameters is reduced by developed model.

**METHODOLOGY**

The group of agricultural workers involved in field work, operation and maintenance of agricultural equipment is defined as the total user population. Therefore, a smaller group called sample is selected and measurements are carried on the individuals in that sample. The sample size was taken as 1000. The survey was conducted in the Konkan region of Maharashtra state. The distribution of 1000 samples (agril. workers) is given in the Table 1.

The random sample should be taken from the user population, however, in large-scale anthropometric survey; the ideal random sample procedure is not feasible. To make the sample representative it is desirable to take sample from each district of Konkan.

Keeping into consideration, the design requirements of hand tools, animal drawn equipment, tractor, power tiller, power operated machines, self-propelled machines and workplaces, a total 79 body dimensions were identified by the coordinating cell of All India Coordinated Research Project (AICRP) on Ergonomics and Safety in Agriculture (ESA) (Gite and Chatterjee, 1999).

**Equipment used for data collection:**

Seventy nine body dimensions were measured using Integrated Composite Anthropometer (ICA) developed...