ABSTRACT

Pondok Permai Lestari Housing is one of the middle to the lower class of which which is located in the village of Panenjoan, Cicalengka, East Bandung. This Pondok Permai Lestari Housing has no PDAM flowing into this housing. The community in the housing uses dug wells and bore wells to get clean water. In addition, the available water is not necessarily obtained, sometimes there is water and sometimes there is not available, especially during teh dry season. The water quality is still not good, so people use filters to get cleaner water or buy refill water.

Rainwater can be an alternative for people to get clean water by rainwater harvesting. For this reason, this study aims to create a proposal design from a rainwater harvesting tool with the Gama Rain Filter by Mr. Agus Maryono, as a guideline for designing the proposal design of rainwater harvesting. To support the maintenance process in rainwater harvesting tools, this design uses the Design for Assembly (DFA) approach with the Boothroyd and Dewhurst method. This method was chosen to simplify the process of rainwater harvesting tools when dismantled. The results obtained from this study that the initial design has a number of components as many as 183 components, with an assembly time for 1246,06 seconds and assembly efficiency of 39%. After the repeat design, there are changes to the number of components in 169 components where there are changes in the proposal design where there are some parts missing and there are modifications such as pipe 3” (14 inches length) to pipe 3” (21 inches length) and there is elbow 3” to connect it. In addition to the number of components, there are a change with assembly time for 1191,75 seconds and assembly efficiency of 41%. Therefore, the proposed design was chosen to be with a number of components and a little assembly time and a better level of efficiency.

Keywords: Rainwater Harvesting Tools, Gama Rain Filter, Design for Assembly, Boothroyd and Dewhurst.