# ABSTRACT

Indonesia is a tropical country with high rainfall. High rainfall is a major factor in flooding. Although some solutions have been implemented, flood disasters still exist. Instant floodproof products are needed so that users can prevent water from entering the house at all times. The product is the flood barrier, a flood-proofing door placed in front of the house door. The products designed should be suitable for the needs of the user and effectively resist flooding. Therefore, product design is carried out using methods centered on user needs, namely, Kano Method and Quality Function Deployment (QFD). The needs of users are obtained from the users whose homes are flooded in the Baleendah area because the area is an area that is estimated to have economic losses due to flooding in the largest household sector in Bandung, which is IDR 5,490,292,000,000. Bandung district is the region with the most flooding incidents in West Java and West Java province is the province with the largest number of floods in Indonesia in 2022. To ensure that the product is effectively water-resistant, it is tested using Finite Element Analysis. (FEA). Designed products have successfully satisfied users as most of the needs of users have already been realized in flood barrier products. The product has an affordable price, giving the user the ability to adjust its length, as well as easy to use. Users are satisfied with the added features of the Internet of Things (IoT). The product is also effective in water resistance because it has the equivalent value of elastic strain, equivalent stress, and a small deformation to the hydrostatic pressure of water. With these conditions, the product will be strongly resistant to flood water so that it does not enter the house.

**Keyword: Flood, Flood Barrier, Product Development, Kano, QFD, FEA, IoT**