

## Abstract

PT. Tirta Palasari Sindanglaya is a company that specializes in bottled drinking water (AMDK). Four years this company has been struggling with drinking water industry. The main problems that exist in this company is the high number of product defects that exist in the company. The value of this high defect has existed since the newly established company, at the beginning of the enterprise value of defective products in the range of 9% while the company set a target of only 1% of product defects that be allowed produce by company.

To control-quality products, PT. Tirta Palasari Sindanglaya then conducted research on quality control by using six sigma methods. where these methods focus to improve the value of reject to achieve perfection (3.4 DPMO) and the stability of the process in a company. Implementation step in six sigma only until improvement. Starting from defects which determine the object of stage six sigma and identify the CTQ. Then the measurement stability and capability in Measure step process. After that analyze of the root causes of problems on analyze the stages and in the last stage of improve performed proposed revisions to the root cause of the problem.

From the results, key CTQ such as the suitability of packaging, impermeable water, and suitability of water. Meanwhile, the stability of the company's process is still not stable because there are many processes that Out of Control. Beside that process capability is still about  $3.739\sigma$  and has a value of 12854 DPMO, those value is still far from the value of  $6\sigma$ . After analyzing the root causes of problems, is found several root causes of problems, such as throwing error, a hard incline, slipshod, hasty, less careful, and less examination. Based on those root cause of the problem, then proposed which can be given is the designed the inclined plane back, increase the frequency of inspection, give reward and punishment for employee.

Key word : Six Sigma, CTQ (*Critical to quality*)