## ABSTRACT

A Wireless Sensor Network (WSN) is a wireless network consisting of spatially distributed autonomous tiny devices (nodes) using several sensors to cooperatively monitor physical or environmental conditions. Major constrain in WSN is energy limitation, so every activity in WSN must efficient in utilized energy. Sensing, information processing, routing protocol calculation also using energy but compare to transmiting and receiving information the energy used is relatively small. Transmiting and receiving information is activity that most utilised energy in WSN. Many routing protocol is proposed to manipulate the way WSN sending and receiving information to minimize energy used. E-LEACH protocol is member of hierarchy routing protocol proposed to solve high energy disipation in WSN. In E-LEACH cluster head will send data directly to base station when all member node have send their data. Direct transmision from cluster head to base station still have high cost when distance between cluster head and base station is far. Proposed method is improvement from E-LEACH where cluster heads are not directly sending information to base station but it will used cluster head as transit for data sending. Instead of direct sending to base station cluster head will search nearest cluster head and used it as next hop. Cluster head chain formation from one cluster head to another is build as a path to base station. Experiment show that proposed method overcome E-LEACH in network lifetime. From the experiment results, it can be identified that using of chain formation can increase lifetime of network by 15% from previous method E-LEACH.