The purpose of this research is to design logical data model and relational database for cane and sugar industry system which covers the systems of cane orchardist registration; cane sending to factory; sugar production and sugar transportation and distribution. The design of these systems is derived from studying and analyzing data from the current operation of Office of The Cane And Sugar Board and Thai Cane and Sugar Corporation Limited. After design, the researcher developed prototype for sugar production, transportation and distribution by using ORACLE RDBMS. The result of the test has showed that the developing relational database can be practically operated.