Palm oil is one of the main commodities contributing in generating foreign exchange reserves outside the mining sector. So far what is produced from palm oil in Indonesia is still limited to the basic products as raw materials in derivatives industry abroad that have not been developed in Indonesia. In fact, industrial products of palm oil have very high added value and broad spectrum. As plantation is developed, new land is opened by converting forests into plantations of long period mono-culture production. Forest areas are cut down in size rapidly, the impact on the environment is not a priority and even ignored. Advantages of palm oil plantation expansion are mostly enjoyed by the owners. System Dynamics modeling approach is expected to see the future implications of policies that would be made before they are applied by government. The main consideration of selection of sites in Siak district, Province of Riau, is because the region is currently a major center of oil palm plantations and it can represent the other regions that have similar potential. It also makes the methodology in this research can be applied in other parts of Indonesia with some adjustments in accordance with local uniqueness. Based on the research, there is an increase of farmers’ income in palm oil by funding palm oil plantation sector. This scenario also shows that the income of farmers of palm plantations is not much different from the private sector and
PTPN. By funding forestry sector, deforestation can be reduced, the rate of temperature increase can be lowered but there would be changes in government’s income.

Keywords: palm oil industry, system dynamic, revenue, impact