



## An Economic Study of the Possibility of Increasing the Production of Maize in Egypt

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**Abstract:** The local production of maize reached about 51% of the total consumption. Besides, the exports' amount reached about 3.1 million tons by a value that reached about 1932 million dollars during 2013. This represents a huge burden on the payments' scale. Therefore, this study aims at increasing the local production of the harvest under study.

Moreover, in an attempt to achieve its objective, this study surveyed the cultivated areas of rice and maize in different governorates. Additionally, this attempts to scrutinize the possibility of replacing parts of rice areas in these governorates by maize along with replacing the current sorts of the two harvests by other highly productive ones. Besides, the study suggests various scenarios to fulfill its objective. This study suggests three scenarios to achieve its goal; through reducing the cultivated area of rice by about 5%, 10% and 15% and its influence on the possibility of increasing the production of maize to reduce both the food gap of maize and its imports' amount along with guaranteeing the keeping of the rice's self-sufficiency rate. Also, it saves the amount of water used in rice irrigation (especially with the possibility of declining Egypt's share of water due to the building of the Renaissance Dam).

In conclusion, this study finds out that through replacing the varieties that have low productivity by their counterpart that have high productivity with yellow and white maize harvest in each governorate, an increase of the total production of the two crops will be achieved. This increase valued by about 28.9 % in comparison to 2013. As for the watery regulations of the two crops under study, it became clear that through reducing the rice area by about 10% and cultivating it with maize, this will save about 448 million m<sup>3</sup> of water irrigation (it is important to mention that cultivating this area with rice needs about 993.5 million m<sup>3</sup> of water, while cultivating it with maize needs about 545 million m<sup>3</sup> of water irrigation only). However, if the two current planted varieties of the total rice area all over the Republic are replaced by these two improved ones; 3.9 million m<sup>3</sup> of water irrigation will be saved. This is highly important, especially on the current time, because Egypt suffers from a shortage in water irrigation in addition to what Egypt will face due to the reduction of its River Nile share after completing the building of the Renaissance Dam.

**Key Words:** Maize – Rice - Water Irrigation –New varieties.