**ABSTRACT**

The objective of this article is to analyze the increasing sources of soya production in the municipality of Savè from a production field of stock. A sample has been taken from producers at random, about 66 home producers of soya. The results of the production in stock shows that all the soya producers lack techniques at the rate of 56%. The distribution of the efficiency indices shows that on the sample of 66 producers, 25 of them (37.87%) have registered the best scores (80% to 99%). Such distribution also pointed out that small holders are technically more efficient than real farmers. For more efficient level, concrete actions should be guided to certain factors like industrial system, the training sessions, the sex issue and the sown floor space. Finally the article suggest to soya producers the rationalization of sown floor spaces in order to carry out an optimal result of disposal factors for increasing the yield of soya and improvement of the technical efficiency. JEL: CS1- N57- Q12

**Introduction**

Agriculture stands as fundamental to Benin economy. It contributes about 40% to GNP. It provides more than 50% of the outgoing and assures relatively the wellbeing of about 70% of the population (PSRSA 2011)

Soya is a strategic culture for human nutrition as in developing countries, for the soya producers and agro-industry. More than 20 percent of the world production of oil and fatty food made from (FAO,1977).After craft industry or industrial oil extract (20% to 25%); the common residual contains 45% to 50% of higher quality of protein composed of acid is closed to optimum defined by nutritionists CIRAD and al (2002). Soy constitutes then of a potential source of protein as in animals and human –beings with lower incomes and could not offer genuine proteins from animals.

Different ways of transformations of soya is presently observed in villages particularly “cheese made up of soya” commonly called “AMON SOJA” in Nago dialect. In fact, the cheese made up of soya, a consistent paste made from soya milk coagulated is largely consumed by the population at a low level as meat replacement. This practice highly spread is beneficial and deserves to be encouraged because it contributes much in fighting against malnutrition of vulnerable people (children, nourish or pregnant women and old people). The soya seed is a useful source of oil and protein and maybe to improve the nutritional values of traditional food. The seeds are transformed into flour, semolina or soya milk. Some oil can also be extracted and it gives some semolina for animal food. The soya flour prepared in bowl can replace meat in the soup. Soy is also used in Nigerian industries for biscuits. Its production requires a hot climate of winter. Benin is known with such potentials in agriculture, promoting agricultural diversification thanks to other agricultural filed development in order to reduce its dependence regarding to cotton production.

The strategic plan of agricultural sector launching (PSRSA) has identified 13 value chains (pineapple, cashew, maize, cotton, rice, bananas) either on raising cows breeding and pigs, a lot of works have evaluated the effectiveness of the farmers even the determining factors. The first studies on the necessary measures starting from Farrel (1957) which is inspired by the works of Debreu (1951) and Koopmas (1951) cited by Breyneck (1999), propose the idea of effectiveness of two components exploitation: the technical efficacy which represents an exploitation skill to produce a maximal output from a certain level of inputs in optimal proportions since their respective price and the technology of disposal. The combination of the two measures give the economical efficacy level. During many studies on producers size and rural agricultural household. Despite that Farrel has been the pioneer of borders production structures and some indexes measure of efficacy Aigner and Chu (1968) have been the precursors of production borders parametric. This function of parametric production is represented by a type of Cobb-Douglas function or the translog ones. The production functions parameters can be determining or stochastic relating to one’s introduction or not which stands as the uncertain term. The non-parametric methods had been introduced by Charnes, Cooper and Rhodes (1978) who defined a technical efficacy ratio based on the approach called Data Envelopment Analysis (DEA). This approach allows to spread out the measures of Farrel (1957)
with a context of multi-product of various incomes, an overview of more detailed on this approach is contained in the works of Fare, Grosskopf and Lovell (1984). The approach of linear program method. A lot of works that lead to developing countries notify that farmers Arouna and al., (2005) have analyzed the technical effectiveness; allocative and economic production units of cashew in Benin from a parametric stochastic production model. It comes out from the result of their studies that it reveals inner the different classes some production units technically and economically effective. The studies conclude that the farmers are not effective on the small one. Those actors suggest the cultivation of cashew in Benin obtained by Venkataramani and al (2006) in a technical efficacy study of specific input in each district of India linked to a function of production Cobb –Douglas. They only get better health care and associated to a significant increase of technical efficacy. According to Loureiro (2009), does he finds the differences between farmers health that explains the variance in the effectiveness of agricultural production in Norway, therefore the increase of input access would liable to the raising of the productivity and reducing the poverty, furthermore, Costa and al (2013) study the relation between agricultural productivity and food security of homes in underground regions in Brazil regarding to other individual factors. They notice that the productivity profit are associated to a greater food security of houses in low proportions caused by a high influence of particular characteristic such as education and the benefits. In Benin Adegbola and al (2008) and Adegbola (2010) analyze the determinants of technical efficiency level of production units respectively in the rice production system which are competitive from the Northeast -Center; production units and the processing of cashew using stochastic production function. It turns out that rice producers are among the ineffective; 62% of the variant incomes in rice is mostly caused by technical inefficiency, 77% of rice producers concerning allocative efficacy and 50% for economic efficacy. They conclude that the most effective rice producers are characterized by an efficiency level not less than 0.636. In 2009, Moutou, (2009) suggests only program and policy focus on training improved varieties on small spaces. Those results are deepened very later by other actors like Mounirou, (2015) in a perception study and agriculture innovation techniques adoption in a cotton basin of Banikoara (Benin) reveal only variables like age, education level and instructions risk and doubt do not help with a good perception of adoption of agricultural innovation techniques in the production of cotton and producing-food (maize cassava groundnut) he suggests only program and policy focus on training intensification in agricultural basis; technical agricultural co-operative promotion are some appropriate condition to increase efficiently the best rates of a good perception in the adoption of agricultural technical innovation to the ornamental lake. Also, in the different class of producers, it exists some departments of production that are technically and economically inefficient and that the big farmers are not more efficient than the small ones. Labyi and al, (2012) have evaluate the technical efficacy, allocative and economical part of resources in the production of soya in Benin particularly in the municipalities of Ouèssé and Savé at the center. They show that the average of the technical efficacy signs, allocative and economic are respectively about 0.640, 0.747 and 0.476. finally they conclude that the access to credit, teaching of literacy, the level of education, the sex, the training and the number of experience years are the determining factors of the technical efficacy of soya producers level in the commune of Ouèssé and Savé and that the improvement of the level of economic efficacy of production should necessarily pass through targeted action on such variety. This result is conformed to Yves-Roland Konan and al (2014) ones on << analysis of the technical efficiency of rice producers toward the infestation of cultivation by the parasite species Striga in Côte-d’Ivoire >>. Those results show that the infestation’s frequency by the species Striga and the level of rice producers’ education has positive impact on rice producers’ efficiency. Studies realize by Mouzoun in 2010, on the determinants analysis of technical efficiency of producers of irrigated rice in the South west of Benin with stochastic approach productions borders, have shown that the medium efficiency level of producers of the study is about 83.55% with a lower variability. The less efficient producer has registered an efficacy score of 18.18% whereas the most efficient has presented the score of 99.99%. He concluded that the micro-credit, the cultivate units and the decision to use the DEA method are the significant factors of technical level of efficiency. Kane (2010) analyses the productive performance of Family Agricultural Exploitation (FAE) of Zoé telé locality in the south Cameroun. He gets interest to cultivation systems made of groundnut and maize. The analysis is center on the partial productivity of production factors uses related to statistics analysis, an analysis of multiples correspondence and an hierarchichal efficiency, they use the DEA methods << Data Envelopment Analysis>> and a Tobit censored to generate and identify the factors of efficiency of FAE. About these works, the result obtained on sample of 62 Family Agricultural Exploitation can be set up as such: the fixed assets, which is obsolete, and the factor is the less productive compare to land and work factors. So in medium, productivity of land is about 194, 606, 25 tcf/a ha; the one the work about 1212. 08 man/day and the fixed assets one’s 3.88 fca per unity of fixed assets; technical efficiency level of FAE’s are estimate 0.446 when the scope yield are constant and at 0.678 when the scope yield are variable, whereas the surface in cultivation and the destination of production affected negatively technical efficiency, belonging to a farming organization and the age improving the latter. Ulwengu (2009) uses stochastic border production functions to estimate agricultural efficiency indication in rural Ethiopia. He shows the negative impact of farmers’ health rate at the same time on agricultural efficiency and to the decrease of poverty. He concludes that the improvement of agricultural conservative efficiency and any investment in farmers’ health may not lead the decreasing of poverty because supplementary strategies are necessarily to reach simultaneously the increase of the productivity and the reduction of agricultural poverty rate. Finally Ndeque and al.(2011) in their study on<<efficient techniques, efficient environment and agricultural >> show that more the producer length of service increase, less they are inefficient in technical and environmental domain, consequently the experience plays an important role on deficiency. An element that also comes Angisga in Moxhele Agisga (2009) in a technical efficiency study of economy efficiency scape in American’s milk industry. This review, though it is exhaustive, allows us to set vis-a -vis the actual method which favored technical unity of production efficiency. Two approaches are appropriate to tackle this type of analysis. it then has to do with para-metrical approach and non-parametric. The parametric approach deals with production of specification, of cost or profit (in type of Cobb-Douglas) and allows defining the boundary of the whole production. Which can, then take two forms: determinist functions or stochastic functions<< stochastic frontier>> (stochastic frontier). The maximum method of likelihood allows making this assessment through data of the sample. Talking about the non-parametric approach, it passes through an analysis by wrap data methods (Data Envelopment Analysis, DEA), which don’t need any hypothesis about the kind of production function, cost function or profit. It looks back for lineal program and get particularly fit to measuring efficacy relative to firm or optimizations decisions of cost or profit none being a priority. This approach is limited in our research domain, and consequently, will not be used because our first worry is to practice the determinants that allow cost minimization and production maximization (the output). Our choice in the study of this domain has to do with the first approach, the parametric ones. It is the all the same with stochastic frontier method of production which must guide us in getting expert result.

3-Presentation of the study zone and framework methodology analysis

This session deals with the study zone with its agro-ecological potentialities and methodological problems (choice of models, specification, and choice of technical variable estimation).

3.1-Presentation of the study zone

Colline Department has many agro-ecological potentialities. The choice of commune of Savé is based on the fact that it is part of the three productive Communes of soya in the Department of Collins (DEDRA, 2012). The commune of Savé is located in Collins department. It is limited in the north by the commune of Ouèssé, in the south by the commune of Kétéou, in the east by the Republic of Benin precisely in the municipalities of Ouèssé and Savé at the south by the commune of Kétou, in the east by the Republic of...
n: the size of the sample, \( \beta \) is the vector of the parameter to estimate, it represents the elasticity because the function of production is from Cobb-Douglas type, prod: Production of soya in (kg/ha); \( \text{seed} \) : quantity of seed used in (kg/ha); \( \text{fret} \): total quantity of fertilizer NPK and used urea (kg/ha); \( \text{insect} \): the quantity of fertilizer used in liter (l/ha); labor: quantity of work force capi: this is the fixed capital that groups together the equipment which have a life duration superior to one year and the value of the acquisition for the materials that have a life duration inferior or equal to one year used in the production of soya for the considered campaign (in f/cha); Suf: the sown surface of soya in (ha); \( \text{Vi} \): is the risky error term; \( \text{Ui} \) is the error term which explains the technical efficiency of the farmer.

Note that the calculation of work times is carried out by choosing as basic unitary human/day. For this, we made use of applied level-headness coefficient by the FAO. These coefficients are expressed in equivalent human/day. Then we would determine the number of hours carried out by 8 (a man/day amount to 8 hours duration work time per day). We would consider two hypotheses concerning the terms of error: We suppose that \( U_i \) follows a normal law of parameters \( N(0, \sigma_1^2) \) and \( V_i \) follows a normal distribution truncated meaning \( N(0, \sigma_2^2) \). Basing on these hypotheses, we get from the frontier the Coelli (1996) program, the coefficient and \( \sigma_1^2 = \sigma_2^2 = 6 \). \( l = 6u/(6u+6l) \) measures the part of the technical efficiency in the total variation observed between the points on the production border and the ones of data. The estimation procedure of the border function of production is the one adopted by Coelli, (1996). It consists in maximizing the Naperian logarithms of the likelihood function and to calculate the likelihood ratio LR.

The frequently used method to explain the effectiveness levels happens into two steps. It first of all consists in estimating the effectiveness levels of the different farmers, and then to make a regression of the effectiveness levels depending on certain specific factors such as: the size of exploitation, the age and the level of instruction of the farmer, access to credit, training received by farmer and his membership to a grouping, the sown surface of cotton, the sex. So the regression carried out during this second step, can follow the model of the linear regression or the Tobit model to take into account the truncated character (between 0 and 1) of the variable explained (technical effectiveness). Categorized the model goes as follows:

\[
\begin{align*}
\text{TE} &= a_1 + a_2 \text{Age} + a_3 \text{Sex} + a_4 \text{Inst} + a_5 \text{Sup} + a_6 \text{Height} + a_7 \text{Form} + a_8 \text{Group} + a_9 \text{Access} + a_{10} \text{Supcotton} + a_{11} \text{ACSEC} + a_{12} \text{APPLI} + a_{13} \text{EXP} + W(2) \\
\end{align*}
\]

TE: Technical effectiveness score of the producer; \( a_1 \) is the vector of the unknown parameter of the determinants of the technical effectiveness to estimate; \( W \) is the usual term of error; Inst: the producer’s instruction level: binary variable (1 if instructed and 0 if not); Age: the age of the producer; Sup: the sown surface of soya in ha; ACSEC: secondary actively and 0 if not); APPLI: the inoculation application: binary variable (1 if the producer applies the inoculation and if not); EXP: Number of years of experience in the soya farming; \( \text{Supcotton} \): the size of the permutation: binary variable: (1 if the producer is member of a group and 0 if not); Aces: the variable access to the chemical and spices credits of the producer. Binary variable (1 if yes; 0 if not); Supcotton: the sown surface of cotton in (ha). This approach presents several advantages: it is well pointed out when we suppose that more than a variable can explain the level of efficiency, only the variable which has been evoked above, the approach through stochastic boundary is used for the estimation of production boundary of soya producers in Savé commune. This approach is proceeded by the estimation of a production boundary.

Derived from the Cobb-Douglas type. Mathematically speaking, let’s consider a producer named, who combines factors of production (seed, fertilizer, insecticide, labor, capital, sown surface) for the production of soya. The functional form follows the following model:

\[
\ln(\text{prod}) = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Sex} + \beta_3 \text{Inst} + \beta_4 \text{Sup} + \beta_5 \text{Height} + \beta_6 \text{Form} + \beta_7 \text{Group} + \beta_8 \text{Access} + \beta_9 \text{Supcotton} + \beta_{10} \text{ACSEC} + \beta_{11} \text{APPLI} + \beta_{12} \text{EXP} + W(2)
\]
the review of the literature; some people can suspect of influencing the production of soya. The choice of the variable soya surface of cotton as determinant of the technical effectiveness of soy producers is justified by the fact that the farming of same period and observe the same technical itinerary just as the same treatments so, the more the sown surface of cotton by the producer is higher and the less it will be available to take care of the farming of soya. And that could negatively affect the income of soya and as an indirect result on the effectiveness of the producer.

4-Results and economic implications

We present the descriptive statistics, the results of economical results.

Table n1: Descriptive statistics of qualitative of variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean average</th>
<th>Gap-type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prod</td>
<td>Soy production (kg/ha)</td>
<td>66</td>
<td>85</td>
<td>5000</td>
<td>1243.17</td>
<td>1404.13</td>
</tr>
<tr>
<td>Sup</td>
<td>Sown surface (ha)</td>
<td>66</td>
<td>1</td>
<td>20</td>
<td>5.66</td>
<td>4.11</td>
</tr>
<tr>
<td>Capi</td>
<td>Fixed capital (FCFA/ha)</td>
<td>66</td>
<td>2400</td>
<td>2000000</td>
<td>51646.97</td>
<td>54430.5</td>
</tr>
<tr>
<td>Seed</td>
<td>Seed quantity (kg/ha)</td>
<td>66</td>
<td>20</td>
<td>175</td>
<td>107.5</td>
<td>48.30</td>
</tr>
<tr>
<td>Insect</td>
<td>Insecticide quant (kg/ha)</td>
<td>66</td>
<td>0</td>
<td>10</td>
<td>3.54</td>
<td>2.41</td>
</tr>
<tr>
<td>Fert</td>
<td>Fertilizer quantify (kg/ha)</td>
<td>66</td>
<td>0</td>
<td>500</td>
<td>141.89</td>
<td>123.69</td>
</tr>
<tr>
<td>Lab</td>
<td>Quant of lab (M/d)</td>
<td>66</td>
<td>45</td>
<td>265</td>
<td>136.19</td>
<td>67.68</td>
</tr>
<tr>
<td>Supcoton</td>
<td>Coton surface (ha)</td>
<td>66</td>
<td>0</td>
<td>15</td>
<td>3.68</td>
<td>4.22</td>
</tr>
<tr>
<td>Age</td>
<td>Production age (year)</td>
<td>66</td>
<td>20</td>
<td>75</td>
<td>36</td>
<td>14.72</td>
</tr>
<tr>
<td>Exp</td>
<td>Nbre of years in exp in the farming of soya (year)</td>
<td>66</td>
<td>0</td>
<td>35</td>
<td>5</td>
<td>7.06</td>
</tr>
</tbody>
</table>

Source: Realized by the authors based on the 2016 investigation data.

An analyses of this table shows that in general the average production of soya per producer is 1243. 17 kg/ha with a strong variation of 1404. 13 kg/ha between the producers of the study area. Those producers sow an average surface of 5.66 ha of soya and from 0 to 15 ha for the cotton. Concerning the fixed capital, Note that producers of the study area constitute an average 51646. 97 FCfa for the renewal of the equipments and materials of work with a strong variation of 54,430.5 FCfa between them. For the semi, the producers use in average 107.5 kg of seed per hectare and area of the farmer. To upgrade their yield, some producers use in average 107.5 kg of seed per hectare and area of the producer. And that could negatively affect the income of soya and as an indirect result on the effectiveness of the producer.

The estimation results of the stochastic function of the production of soya.

The results of the estimation of the para-metric and stochastic border of the production of soya by the method of the maximum of likelihood are presented in the table below.

Table n2: Result of the estimation of the stochastic production function.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficients</th>
<th>z</th>
<th>P &gt;</th>
<th>i</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Steady)</td>
<td>-2.71** (1.003)</td>
<td>-2.70</td>
<td>0.007</td>
<td></td>
</tr>
<tr>
<td>Incapi</td>
<td>0.290** (0.0475)</td>
<td>6.34</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Insup</td>
<td>-0.240** (0.0693)</td>
<td>-3.46</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Unenger</td>
<td>0.157 (0.0693)</td>
<td>1.45</td>
<td>0.147</td>
<td></td>
</tr>
<tr>
<td>Unsem</td>
<td>0.176 (0.3917)</td>
<td>0.52</td>
<td>0.604</td>
<td></td>
</tr>
<tr>
<td>Intrav</td>
<td>1.102** (0.1821)</td>
<td>6.05</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Innsect</td>
<td>0.523** (0.23558)</td>
<td>2.22</td>
<td>0.026</td>
<td></td>
</tr>
</tbody>
</table>

Efficiency parameters

a² = 1.472** (1.382) 2.13
A = 0.9807** (0.56975) 1.721

Log of the maximum of likelihood function=56. 0557; test of the likelihood ratio = 40. 95.

Freedom degree=6; N=66; (): numbers into brackets are the error-types; Prolo >= chibar²= 0.00. ** Significant at 5%.
Source: Calculated based on 2016 investigation data’s.

After estimation of the model parameters, the stochastic border of the production of soya in the town is the following:

The yield ladder is equal to the amount of the factors elasticity to significant production. It adds up to 1,675. This number is superior to the unit. The conclusion is that the yield of ladder is steady at the level of Soy producers in the town of Save. The parameter is significant and different from zero. That permits to reject the hypothesis of the absence of producer's technique ineffectiveness effects absence.

Distribution of technique effectiveness level in the area of the study.

Table N°3: Distribution of technique effectiveness levels.

<table>
<thead>
<tr>
<th>Effectiveness level (%)</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>[05-25]</td>
<td>17</td>
<td>25.76</td>
</tr>
<tr>
<td>[50-80]</td>
<td>13</td>
<td>19.70</td>
</tr>
<tr>
<td>[80-100]</td>
<td>25</td>
<td>37.87</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>100</td>
</tr>
<tr>
<td>ET Medium</td>
<td>-</td>
<td>56</td>
</tr>
<tr>
<td>Minimum</td>
<td>-</td>
<td>5.82</td>
</tr>
<tr>
<td>Maximum</td>
<td>-</td>
<td>99</td>
</tr>
<tr>
<td>Gap-type</td>
<td></td>
<td>0.3399</td>
</tr>
<tr>
<td>Big farmers</td>
<td>26</td>
<td>54</td>
</tr>
<tr>
<td>Small farmers</td>
<td>40</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Calculated by the authors based on 2016 investigation data.

The results of the estimation of the technical effectiveness levels inform us that the level of the technical effectiveness of Soya producers varies from 05 to 99% in the area of the study with an average of 56%. That score indicates that the producers are inefficient up to 44% and that none of the producers has scored 100%. The effectiveness frequencies distribution indicates that 37.87% of the specimen recorded some better scores (including between 80 to 99%). 19.70% with acceptable scores (including between 50 to 80%) whereas 25.76% did not record sufficient scores (less than 50%). The technical effectiveness frequencies distribution according to the farmers categories reveal that big farmers have an average level of technical effectiveness of 54% and small farmers have 60%. Therefore, the big producers are less reliable than the small ones. Let us also note a low variation of the technical effectiveness levels from one producer to another.

4-2. Technical effectiveness levels determinants analysis.

The descriptive statistics of the qualitative variables introduces in the model are presented in the following table:
The estimation of the production function has been done by the border function of production, type Cobb-Douglas. The decline results show that the model is globally significant to 5%. This means that 98% of the output variation is due to the techniques of the producers and at 2% of the variability is then attributing to the risky effects. It is noticeable that the statistics of distribution of student, which allows testing the hypothesis of the non-existence of the technical inefficiency of the production, is rejecting because λ is significantly different from 0 to the brink of 5%. The specification in terms of border of production (λ, 0) is then appropriate in this study. This stochastic formulation of the boundary, confirmed by the test of student, shows that in this study, besides the technical inefficiencies, we must take in account the factors purely risky (non-existent).

The variables as the fixed capital, the quantity of insecticide, and the quantity of the labor used are positively significant. It resulted that the quantity of soya in (Kg/ha) is positively correlate by the fixed capital, the quantity of insecticide, and the quantity of the Labor. An increase of those factors would lead to the increase of the produced soya quantity. Those results are in harmony with those of Amoussouhoui (2013) concerning the fixed capital (the absorption of the equipments) and the quantity of labor for the production of rice seed in the South Benin. Those results are also similar to those of many authors (mainly Kassimou, 2002).

According to the latter, the labor has sometimes positive signification on the technical efficacy. Let remember that the labor in the case of including species as well as the family labor and the salaries one. Nevertheless, this result is contrary to Labiyi et al.’s one, (2012) according to which, only the variable quantity of seed is positively significant in the production of soya in the Collines Department and that the other variables have no impact on the production. Concerning the other variables of our model, only the variable “sown floor space” reveals itself significant to brink of 5% with a negative effect, the others are non-significant. This negative sign of the floor means that the increase of the sown floor space thy producer move it away from the production border. Though it is astonishing, this result is just the confirmation of the fact that the small producers are more efficacy technically that the big producers found higher. It has its explanation by the fact that the producers operate in a risky environment and which the increasing of the floor space increases the risk of technical inefficacy. We should note that the output scales are ascending at the producers point, meaning that the increase of the productions factors (the fixed capital, the quantity of labor and of the insecticide) of a supplementary unit will increase the production more than proportionally. The technical efficacy indications have been directly obtained with the program Border (Coelli et al, 1998). Those results show that the whole producers of soya in the municipality of Savé have a medium level of technical efficacy of 56% (picture n5), meaning that their degree of inefficacy is 44%. There are still possibilities of production increase up to 44% without having a resort to supplementary inputs. It still exists wide worker to increase the production of Soya in the zone of study based on the resources actually used. So the interest of the study and identification of the determinants of the Savé producer’s efficacy in Savé locality.

The results of the factors analysis determine the level of the technical efficacy of the producers are obtained through the model Tobit of the Software Statta II (picture n5).

Those results reveals that the variables like the sown surface, the instructions’ level, the training, the access to credit, the secondary activities, the exploitation height are significant to the brink of 5% as well as the variables are supposed to explain this level of technical efficacy of the producers but we should note that the variables sown surface, the access to credit, the training and the secondary activity have negative effects on the technical efficacy level.

As far as the sown surface is concerned, it negative effect is nothing else than a confirmation of the previous results. This result is conform to Arouna and al’s one (2005) for the analysis of the technical efficacy, allocative and economical aspects of the production units of cashew nut in Benin. Those authors conclude that the great exploitations are fewer efficacies than the small exploitations and then, all action for the production of the Cashew
timber must be direct not only to the great units but also the smalls. The positive effect of the instruction is conforming to the one expected.

In fact, the instruction allows the producer to assimilate the training that is given to him and to control the technique required. It is true that most of the campaign of training and development are made in local language, therefore, the instruction arises the mental faculties of the individual to assimilate in a rapid way the new knowledge received. It allows the individual to have a spirit of opportuneness; which goes in favor to the adoption of new technologies. The instruction allow the producer of Soya to choose the quantities of appropriate inputs and to make a good choice taking in account the cultural techniques available Ahmadou and al., (2012).

The negative significance of the training shows that the producers do not apply the instructions given by the trainers. Remembering that more than 50% of the producers have never attended training on the Soya. The secondary activity reveals a negative effect on the technical efficacy level. This result is justified by the fact that the producers exercising other secondary activities have not sufficient time to oversee the Soya. The negative effect of access to credit reveals a bad management of the credit obtained by the producers. These results confirm that the fact that the great exploitations are technically less efficacy than the small exploitations. The variable just like the membership of a group, the experience year number the inoculation application and the entrepreneur age are all non-significant. That result reveals that the actions must be directed to the organization of the firm in order to contribute to the producers' technical efficacy. Talking about the entrepreneur’s sex, it is passively significant; so it’s clear that men are more efficient than women. The sown surface of cotton, contrary to what we expected, has no influence on the production of Soya. This result is understandable because the producers make a good distribution of the labor for their different cultures.

CONCLUSION AND SUGGESTIONS
This article has involved in evaluating the technical level of efficacy of Soya production in the urban district of Savé and to identify exogenous factors which explain that level of technical efficiency. The result of this study shows that producers have 56% of technical efficacy score. That result points out a sign of technique inefficacy of 44%. In other way Soya producers of Savé urban district can increase their yield up to 44% with the level of unchanged. That score is less to the one noticed by Labiyi and al. (2012) (56% versus 64%). That difference is justified by the fact that the study has to do only with the producers of Savé urban district but Labiyi and al urban district a reading of those results also show that the yields scale are increasing. It would be interesting to suggest some methods at different level in order to the increase of the technical efficacy level. Relating to the justified factors of that efficacy level, the study reveals that the sown surface (negative effect), the access to credit (negative effect), the farmer’s sex (male), the instruction level, the training (negative effect), the carrying out of secondary activity and the size of the exploitation are main points of that technical efficacy level. From the different results obtained, it is an emergency to suggest approaches of solutions to the different firms’ stakeholders.

Awareness raising service
Though the influence of the training are negative, it urge to increase the campaign of awareness toward the producers to let them understand the essential of the subject before moving to the modules of the appropriate training. In fact, it is found that the level of instruction has a negative effect on the technical efficacy level. That is why it is desirable to increase the sections of training and awareness for the producers in order to let them know the utility of the itinerant technique and answer to the cultural calenders’ requirements. Due to the advancement of the middle age (36 years), it seems absurd to propose the schools put up, the college or secondary schools in order to raise the level of instruction of the zone. The training then, can pass only by the work groups, useful and pragmatic for the farmers not to lost most of their time.

The Soya producers
The producers must give original information for research purposes because the study shows that 98% of the real productions’ deviation compare to the border production was almost irremovable to their inefficacy. Since then, they must no more wait for the government, because the great part of the production is used either to pay their debt, or to feed the family or any other issues. So, the producer must abandon a certain behavior and search for means which will help him to increase their production. The rationalization of the sown surface must lead the producers in the combination of factors because the surface has a negative yield according to the study’s findings.

References