# Determination of Productivity and Welfare of Farmers in Langkat District

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***Abstract:*** *This study saw how the CFA analysis factors that affect the productivity and well-being of farmers in the district completed district Langkat.. This research uses primary data and is a causal study that sees how the influence of the social capital factor, capital, and production factors on the productivity and welfare of farmers in the district of completion. The population taken from existing farmers in Kecamatan is completed in Langkat district. The method used is the CFA analysis. The results of this research will describe which factors have the most dominant influence on the welfare and productivity of farmers in Langkat district. The expectation is that this research can explain the factors that have been the welfare of farmers, especially those in the district of the district completed Langkat. Therefore, this research can provide appropriate advice and policy to improve the welfare of farmers in North Sumatera in particular and Indonesia in general.*
***Keywords****: Production factors, social demographics, social capital, productivity, prosperity.*

## I.    Introduction

The Government has created policies aimed at achieving prosperity and prosperity for the community. But in fact, there are often obstacles that impede the process of increasing economic growth. Subject matter such as unemployment, income inequality, poverty problems and economic inequality between regions. There are several factors that affect the income of farmers, namely the social and economic sectors consisting of capital magnitude, number of workers, work experience, technology. Farmer's income is based on the small harvest, there are still several factors that contribute to the social and economic factors in addition to the above. Productivity is crucial in raising revenue that is later for prosperity. Farmer productivity is influenced by the inputs and outputs of the farm. Inputs from farming include capital, manpower, and technology while the output of agricultural enterprises includes the produce of farmers. Moreover, the productivity of farmers is not separated from social demographic and social capital in the vicinity (Ramalia, 2011). The social demographic factors affecting the productivity and welfare of the farmer's household include the experience, age and number of family members (Lilis, 2009). The number of family members will determine the level of farmer welfare, the number of family members the more dependents should be borne to meet their needs.

Productivity is heavily influenced in the use of efficient and effective production factors in farmed activities (Prasetyawan, 2011). Working capital production factor into this research because income is heavily influenced by working capital. As we know that in the theory of production factor of the number of outputs/production that means related to income depends on working capital. This means that with the working capital, farmers can farming and reap the crops. The greater the working capital, the greater the harvest obtained. The labor factor enters into this research because revenues are heavily influenced by Labor. As we know that in theory of the production factor of the amount of output/production that will be related to income depending on the amount of labor. Technological factors, the more sophisticated and the number of technologies used for farming will increase the productivity and the results further increase production, which implies that the community will earn revenue Higher.

A crucial component in terms of welfare is the personal characteristics of farmers that include formal education, training, and experience (Demihartini, 2005). The mastery of innovative technology is certainly used and often channeled through agencies or groups formed on the basis of similarity of objectives with this social capital will be formed. The social capital was formed from the Trust, the network, and the norm between the farmer group (goddess, 2014). Social capital is needed in production which starts from pre-production, production to post-production such as processing and marketing of production results. But it is all felt still not enough to improve the welfare of farmers in the district Selesai.
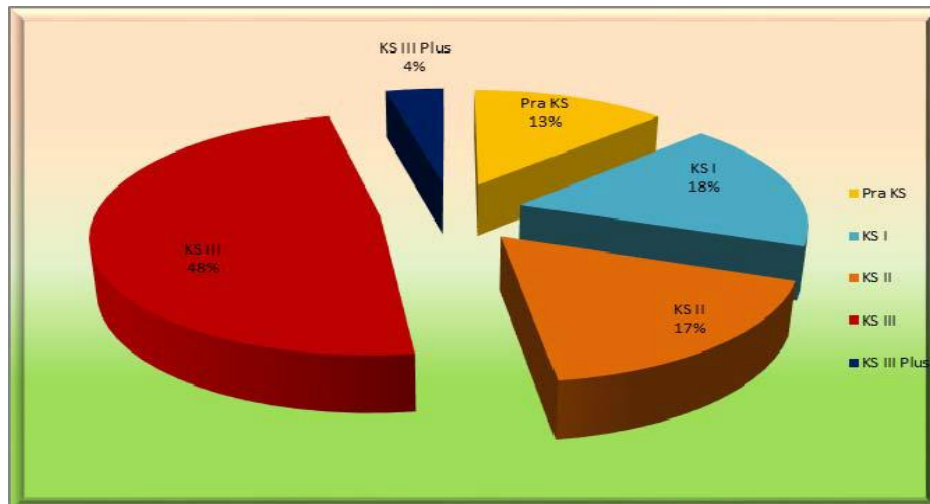
**Figure 1.The Welfare of Farmers in District Selesai**

Based on the background of the above problem, researchers are interested in researching the welfare level of farmer households located in Kecamatan District completed Langkat, and find out the level of the household welfare is seen from The productivity traveled by the family head in a family is a key supporter of the economy in the family, as well as judging by the factors of production, social demographics, and social capital.

## II. Theoretical Review

**Produktivity**

In agricultural economics, productivity is a comparison between the expected results will be received at the time of Harvest (admission) with the cost (sacrifice) to be issued. The results obtained by farmers at the time of harvest is called production, and the cost incurred is called production costs. Good farming is productive or efficient farming. Productive farming means farming that has high productivity. This sense of productivity is a merger between the conception of business (physical) efficiency with soil capacity. Physical efficiency measures the amount of output produced from a single unit of production factor (input). If physical efficiency is then in value with money then it will be discussed economic efficiency. While the capacity of a certain land plot illustrates the ability of a plot of land to absorb energy and capital to provide the maximum gross production result at a certain level of technology. So technically productivity is a multiplication between efficiency (effort) and soil capacity (Mubyarto, 1989:68).

**Welfare**

The term welfare is not a new thing, both in global and national discourse. In discussing the welfare level analysis, of course, we must know the understanding of prosperous first. That welfare encompasses safety, safety, and prosperity. The sense of prosper according to W.J. S Poerwadarminta is a condition that is safe, Sentosa, and prosperous. In the other sense, if the need for safety, safety and prosperity can be fulfilled, it will be welfare. According to Mosher (1987), the most important thing about Kesejahteraaan is income, as some aspects of household welfare depend on the income level. Fulfillment of needs is limited by household income owned, especially for low-income. The higher the household income, the more the percentage of income for food will be reduced. In other words, if the increase does not change the consumption pattern, the household is prosperous. Conversely, if the increase in household income can change the consumption pattern, then the household is not prosperous. According to the Central Statistics Agency (2007), welfare is a condition where the temporal and spiritual needs of the household can be fulfilled in accordance with the standards of life. The welfare of the people can only be seen through a certain aspect, it is because the dimensions of welfare are very broad and complex. Therefore, the welfare of the people can be observed from various aspects namely population, education, health, and nutrition, employment, consumption or expenditure of households, housing and the environment, social, and others.

**Production Factor**

The production factor is the objects provided by nature or human-created that can be used to produce goods and services. The production factor in the economy will determine the extent to which a country can produce goods and services. Sukirno said the production factor can be differentiated into four types, namely capital, this production factor is a business capital or objects created by humans and used to produce the goods and services needed. Labor, these production factors include skills and skills, which are distinguished from

being an abusive workforce, skilled workforce, and an educated workforce. Land and natural resources, these factors are provided by nature covering the soil, some types of mines, forest, and natural resources are used as capital, such as water that is dammed for irrigation and power generation. Entrepreneurial skills, this production factor is the expertise and ability of entrepreneurs to establish and develop various business activities (Sukirno,2005:6).

## III.    Method Research

**Research approaches**

This type of research is causal research, Umar (2008) mentions the causal design is useful to analyze how a variable affects other variables, and also useful in experimental research where variables Its independence is treated in a controlled manner by researchers to see its impact on its dependencies variables directly.

**Population and Samples**

According to Sugiyono (2008, Hal: 73) "Population represents the total number of objects studied". According to Sugiyono (2003, Hal: 73): "Samples are part of the number and characteristics of the population." The population in this study is all farmers located in the district of completed which amounted to 2,516 HOUSEHOLDS scattered in 122 farmer groups and came from 14 villages and 1 village in the district of completed. The samples in this study were farmers who had their own land. The sampling way using the formula Slovin in Husein Umar (2007), based on the calculations with the formula Slovin known number of samples in this study as much as 345.130316, rounded up to 345 respondents. So, from 345 samples can be selected based on the criteria as many as 200 KK respondents who have their own land. Sugiyono (2008, hal:73).

**Data Collection Techniques**

The data collection techniques used are primary data and secondary data. Primary Data is derived from a direct interview from the respondent with the help of a prepared questionnaire. Besides primary data, this study also used secondary data as supporting data. Secondary Data is obtained from related agencies, such as district offices, village Balai, related agencies and other relevant sources.

**Data analysis methods**

This data analysis technique uses quantitative and qualitative data. The data used in this study is the primary data of secondary Data collected to support in the analysis of this research collection from through the questionnaire with existing farmers in the district completed Langkat district, economic Journal and Development, research results and reports of previous research results, and other scientific publications related to the study. Data retrieval techniques using poll and interview deployment. In the analysis of data using the CFA analysis Lo See the extent of the factors that are indicators in influencing the productivity and welfare of farmers in the district completed Langkat district.

## IV.    Result

**Confirmatory Factor Analysis (CFA)**

Cfa is a special form of factor analysis. CFA is used to assess the relationship of a number of variables independent of others. Factor analysis is a technique for combining questions or variables that can create new factors and combine goals to create new groups in succession.

There are two types of tests in this stage: Confirmatory Factor Analysis (CFA), the measurement model and the structual equation model (SEM). The CFA measurement model is directed to investigate the unidimensionality of the indicators describing a factor or a latent variable.

As is the case in CFA, SEM testing is also carried out with two kinds of testing i.e. the model conformance test and test the significance of causality through a regression coefficient test. The analysis step to test the research model is done through the first three stages: testing the conceptual model. If the test result of the concept model is less satisfactory then the second stage is to provide modifications to the model developed after the modification of the index and Support (justification) from Existing theories. Furthermore, if at the second stage is still obtained unsatisfactory results, it is taken the third stage by removing or deleting (drop) A variable that has a value of C. R (Critical ratio) which is smaller than 1.96, because this variable is seen as dimensionally similar to other variables to describe a latent variable (Ferdinand, 2002:132). The Loading factor or Lamda value ($\lambda$) is used to assess the suitability, suitability or unidimensionality of the indicators that make up the dimensions or variables. To test CFA from any variable against the overall model is satisfactory or not is guided by the criteria of goodness of fit

**1.) Variable production factors**
Production factor variables have 3 (three) indicators to be tested, I.e:
FP1 = Labor
FP2 = Business Capital
FP3 = Technology
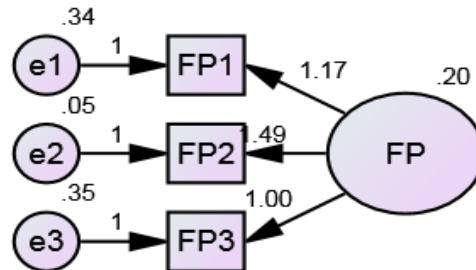Here are the results of AMOS 22 test image with CFA analysis:  Faktor



**Figure 2. CFA Production Factor**

Based on the output of AMOS it is known that all the indicators of the conception of the Firs order products it has a significant loading factor, whereby the entire value of loading factor exceeds the number 0.5. If all the construc forming indicators are already significant it can be used in representing data analysis.

**2.) CFA Variable Social Demographics**
The social demographic variables have 3 (three) indicators to be tested:
SD1 = Work Experience
SD2 = Age
SD3 = number of RT members
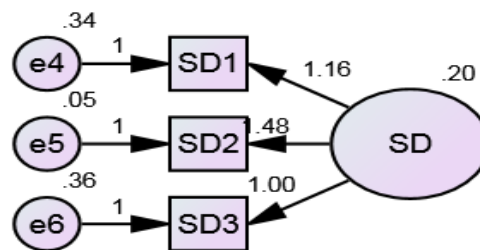Here are the results of AMOS 22 test image with CFA :



**Figure 3. CFA Social Demographics**

Based on the output of AMOS it is known that all the indicators of the conception of the social order Demografihave a significant loading factor, where the whole value of the loading factor exceeds the number 0.5. If all the construc forming indicators are already significant it can be used in representing data analysis.

**3.) CFA Variable Sosial Capital**
The social capital variable has 3 (three) indicators to be tested, namely:
MS1 = Norma
MS2 = Network
MS3 = Trust

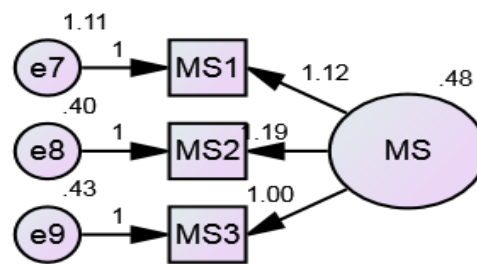Here are the results of AMOS 22 test image with CFA analysis :

**Fiigure 4. CFA Social Capital**

Based on the output of AMOS it is known that all the indicators of the construction of the social capital Order have a significant loading factor, whereby the entire value of the loading factor exceeds the number 0.5. If all the construc forming indicators are already significant it can be used in representing data analysis.

**4.)  CFA Variable Productivity**
The productivity variables have 3 (three) indicators to be tested, namely:
P1 = Labor
P2 = Capital
P3 = Farm Tools

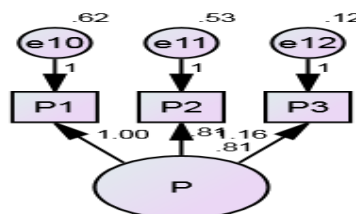Here are the results of AMOS 22 test image with CFA analysis:



**Figure 5. CFA Productivity**

Based on the output of AMOS it is known that all the indicators of the construction of productivity orders have a significant loading factor, whereby the entire value of loading factor exceeds the number 0.5. If all the construc forming indicators are already significant it can be used in representing data analysis output.

**5.)  CFA Variable welfare**
The welfare variable has 3 (three) indicators to be tested, namely:
KP1 = consumption
KP2 = Education
KP3 = Revenue
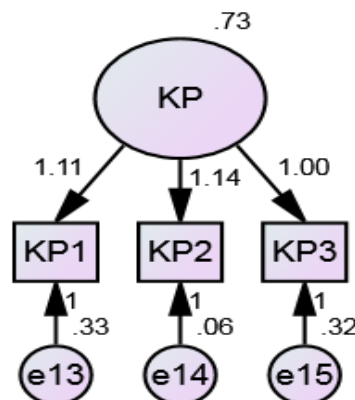Here are the results of AMOS 22 test image with CFA analysis:



**Figure 6. CFA welfare**

Based on the output of AMOS it is known that all the indicators of the construction of the prosperity order have a significant loading factor, whereby the entire value of the loading factor exceeds the number 0.5. If all the construc forming indicators are already significant it can be used in representing data analysis.

## V. Conclusion And Recommendation

**Conclusion**

Based on the results of analysis and discussion that has been done, it can be concluded as follows:

1. Descriptive development in the district completed in Langkat District

2. Normality results show normal distribution data

3. CFA results show that indicators of production factors, social capital and social demographics are influential in the productivity and welfare of farmers in Langkat district.

**Recommendations**

Based on the results of analysis and discussion that has been done, it can be concluded as follows:

1. Based on the previous description, efforts are needed to develop agriculture in the district completed in Langkat District.

2. To increase Kesejahtraan farmers need training for efficiency and product effectiveness.

3. Government policies that can relieve farmers in terms of land management and delivery of goods produced

4. Further research, is expected to analyze the welfare of the farmer thoroughly and incorporate other variables by using different methods and a deeper explanation.

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