



WHETHER ACCESS TO AGRICULTURAL AID IMPROVES THE WELFARE OF FARMER HOUSEHOLDS IN PALOPO, INDONESIA WITH BUDGET AS A MODERATE VARIABLE

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ABSTRACT

Purpose: The agricultural industry significantly contributes to poverty alleviation, particularly in rural regions as opposed to metropolitan ones. Hence, government programs should be able to target the areas afflicted by poverty effectively. Rural regions serve as the hub of commercial operations and play a crucial role in safeguarding and empowering farmers, particularly those who are small-scale.

Methodology/approach: This research aims to analyze the access to assistance and agricultural estimates by examining farmers' prescriptions. Data analysis techniques in this study are explanatory, descriptive statistical techniques with quantitative approaches and inferential statistical analysis using the Structural Equation Modeling (SEM).

Results: The objective is to determine if there is an impact on the growth in farm family welfare in the City of Palopo based on data from 105 farmers. This study utilises a descriptive and explanatory methodology, including quantitative techniques and inferential statistical analysis via Structural Equation Modelling (SEM) utilising Partial Least Squares (PLS). Hypothesis 1: Influence Aid (X) positively and significantly impacts to (Y) Household Welfare is accepted. The outcomes of SEM analysis obtained T statistical = 4.339 > T table = 1.983 and P value = 0.000 < Cut off Value = 0.05. Hypothesis 2: Influence the Aid (X) positively and significantly to (Z) Budget is accepted. The outcomes of the SEM analysis obtained T statistical = 89,957 > T table = 1.983 and P value = 0.000 < Cut off Value = 0.05. Hypothesis 3: Influence the Budget (Z) positively and significantly to (Y) Household Welfare is accepted. The outcomes of SEM analysis obtained T statistical = 2,872 > T table = 1.983 and P value = 0.004 < Cut off Value = 0.05. Hypothesis 4: Influence the Aid (X) positively and significantly to (Y) Household Welfare through Budget (Z) as a moderate variable is accepted. The outcomes of SEM analysis obtained T statistical = 2,830 > T table = 1.983 and P value = 0.005 < Cut off Value = 0.05.

Originality/scientific novelty: It was found that the access of farmer group households to agricultural assistance and the sustainable use of budgets and their very effective distribution in general can be said to greatly improve the welfare of farmer group households. This research is topically broader in scope making it very specific based on the scope of sources in Palopo, Indonesia. As far as is known, these results have not been previously reported.

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Practical value/implications: Management in the distribution of aid and access to agricultural budgets which are very vulnerable to misappropriation by the state apparatus has been identified as not improving the welfare of farmer households. One very effective way is to increase inherent surveillance.

Keywords: Development, Poverty, Participation, Policy, Rural, Technology.

SE O ACESSO À AJUDA AGRÍCOLA MELHORA O BEM-ESTAR DAS FAMÍLIAS DE AGRICULTORES EM PALOPO, INDONÉSIA COM ORÇAMENTO COMO VARIÁVEL MODERADA

RESUMO

Objectivo: A indústria agrícola contribui significativamente para o alívio da pobreza, particularmente nas regiões rurais, em oposição às metropolitanas. Assim, os programas governamentais devem ser capazes de atingir eficazmente as áreas afectadas pela pobreza. As regiões rurais funcionam como centro de operações comerciais e desempenham um papel crucial na salvaguarda e na capacitação dos agricultores, especialmente os de pequena escala.

Metodologia/abordagem: Esta pesquisa tem como objetivo analisar o acesso à assistência e às estimativas agrícolas, examinando as receitas dos agricultores. As técnicas de análise de dados deste estudo são técnicas estatísticas explicativas, descritivas com abordagens quantitativas e análise estatística inferencial por meio da Modelagem de Equações Estruturais (MEE).

Resultados: O objetivo é determinar se há impacto no crescimento do bem-estar das famílias agricultoras na cidade de Palopo com base em dados de 105 agricultores. Este estudo utiliza metodologia descritiva e explicativa, incluindo técnicas quantitativas e análise estatística inferencial via Modelagem de Equações Estruturais (SEM) utilizando Mínimos Quadrados Parciais (PLS). Hipótese 1: Influenciar a Ajuda (X) impacta positiva e significativamente no (Y) Bem-Estar Familiar é aceita. Os resultados da análise SEM obtiveram estatística $T = 4,339 >$ tabela $T = 1,983$ e valor $P = 0,000 <$ Valor de corte $= 0,05$. Hipótese 2: Influenciar a Ajuda (X) de forma positiva e significativa para (Z) O orçamento é aceite. Os resultados da análise SEM obtiveram estatística $T = 89.957 >$ tabela $T = 1,983$ e valor $P = 0,000 <$ Valor de corte $= 0,05$. Hipótese 3: Influenciar o Orçamento (Z) positiva e significativamente para (Y) O Bem-Estar Familiar é aceite. Os resultados da análise SEM obtiveram estatística $T = 2.872 >$ tabela $T = 1,983$ e valor $P = 0,004 <$ Valor de corte $= 0,05$. Hipótese 4: Influenciar a Ajuda (X) positiva e significativamente para (Y) Bem-Estar Familiar através do Orçamento (Z) como uma variável moderada é aceite. Os resultados da análise SEM obtiveram estatística $T = 2.830 >$ tabela $T = 1,983$ e valor $P = 0,005 <$ Valor de corte $= 0,05$.

Originalidade/novidade científica: Verificou-se que o acesso dos agregados familiares de grupos de agricultores à assistência agrícola e a utilização sustentável dos orçamentos e a sua distribuição muito eficaz em geral podem melhorar significativamente o bem-estar dos agregados familiares de grupos de agricultores. Esta pesquisa tem um escopo tópico mais amplo, tornando-a muito específica com base no escopo das fontes em Palopo, na Indonésia. Tanto quanto se sabe, estes resultados não foram relatados anteriormente.

Valor prático/implicações: A gestão na distribuição da ajuda e no acesso aos orçamentos agrícolas, que são muito vulneráveis à apropriação indevida por parte do aparelho estatal, foi identificada como não melhorando o bem-estar das famílias agrícolas. Uma forma muito eficaz é aumentar a vigilância inerente.

Palavras-chave: Desenvolvimento, Pobreza, Participação, Política, Rural, Tecnologia.

SI EL ACCESO A LA AYUDA AGRÍCOLA MEJORA EL BIENESTAR DE LOS HOGARES DE AGRICULTORES EN PALOPO, INDONESIA, CON EL PRESUPUESTO COMO VARIABLE MODERADA

RESUMEN

Propósito: La industria agrícola contribuye significativamente al alivio de la pobreza, particularmente en las regiones rurales, a diferencia de las metropolitanas. Por lo tanto, los programas gubernamentales deberían poder dirigirse eficazmente a las zonas afectadas por la pobreza. Las regiones rurales sirven como centro de operaciones comerciales y desempeñan un papel crucial en la protección y el empoderamiento de los agricultores, en particular los de pequeña escala.



Metodología/enfoque: Esta investigación tiene como objetivo analizar el acceso a la asistencia y a las estimaciones agrícolas examinando las prescripciones de los agricultores. Las técnicas de análisis de datos en este estudio son técnicas estadísticas explicativas, descriptivas con enfoques cuantitativos y análisis estadístico inferencial utilizando el Modelado de Ecuaciones Estructurales (SEM).

Resultados: El objetivo es determinar si existe un impacto en el crecimiento del bienestar de las familias campesinas en la ciudad de Palopo con base en datos de 105 agricultores. Este estudio utiliza una metodología descriptiva y explicativa, que incluye técnicas cuantitativas y análisis estadístico inferencial mediante modelado de ecuaciones estructurales (SEM) utilizando mínimos cuadrados parciales (PLS). Se acepta la Hipótesis 1: Influir en la Ayuda (X) de manera positiva y significativa en el Bienestar del Hogar (Y). Los resultados del análisis SEM obtuvieron T estadístico = 4,339 > T tabla = 1,983 y valor P = 0,000 < Valor de corte = 0,05. Se acepta la Hipótesis 2: Influir positiva y significativamente la Ayuda (X) en el Presupuesto (Z). Los resultados del análisis SEM obtuvieron T estadístico = 89,957 > T tabla = 1,983 y valor P = 0,000 < Valor de corte = 0,05. Se acepta la Hipótesis 3: Influir positiva y significativamente en el Presupuesto (Z) para (Y) el Bienestar del Hogar. Los resultados del análisis SEM obtuvieron T estadístico = 2,872 > T tabla = 1,983 y valor P = 0,004 < Valor de corte = 0,05. Se acepta la Hipótesis 4: Influir positiva y significativamente la Ayuda (X) en el Bienestar de los Hogares (Y) a través del Presupuesto (Z) como variable moderada. Los resultados del análisis SEM obtuvieron T estadístico = 2830 > T tabla = 1,983 y valor P = 0,005 < Valor de corte = 0,05.

Originalidad/novedad científica: Se encontró que se puede decir que el acceso de los hogares de los grupos de agricultores a la asistencia agrícola y el uso sostenible de los presupuestos y su distribución muy efectiva en general mejoran en gran medida el bienestar de los hogares de los grupos de agricultores. Esta investigación tiene un alcance temático más amplio, lo que la hace muy específica según el alcance de las fuentes en Palopo, Indonesia. Hasta donde se sabe, estos resultados no se habían informado anteriormente.

Valor práctico / implicaciones: Se ha identificado que la gestión en la distribución de la ayuda y el acceso a los presupuestos agrícolas, que son muy vulnerables a la apropiación indebida por parte del aparato estatal, no mejora el bienestar de los hogares de agricultores. Una forma muy eficaz es aumentar la vigilancia inherente.

Palabras clave: Desarrollo, Pobreza, Participación, Política, Rural, Tecnología.

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1 INTRODUCTION

Sector agricultural has a vital role in poverty reduction efforts, especially in rural areas compared to urban areas, while in urban areas, businesses in the processing industry sector reduce poverty (Kuzman et al., 2017a). The agricultural sector is vital and can lead to poverty reduction because rural areas are the centers of the most significant pockets of poverty(Tumewu et al., 2022). Therefore, government policy must be able to go directly to the center where poverty is located. Rural areas are the center of agricultural activities and are an essential starting point to protect and empower farmers, especially smallholders (Hermawan, 2012).

Factor of government financial management budgeting is the most important and can be explained from various perspectives, such as politics, economics, finance, and accounting. Budgeting policies are shaped by a variety of elements, such as political, economic, and technical impacts. The true effects of these influences on society cannot be determined until



they are actually seen. (Fajri, 2020). The implementation should possess adaptability and versatility while maintaining authority and responsibility, despite the usage of short-term budget periods that follow the usual yearly timeframe for government budgeting (Kuzman et al., 2017b)

In budgeting public goods, there needs to be government intervention because the main problem is that almost everyone is unwilling to pay for the benefits received. However, because many people feel the benefits of public goods, many are willing to pay (Wahyuni et al., 2018). Problems will arise regarding the type and quality of goods, such as what must be provided by the government (Mutiha, 2016). Another concern arises when the government determines the requisite financial resources for the acquisition of public goods. A political process is necessary to ascertain the views of individuals on the specific forms of public goods that should be supplied by the government (Sitepu, 2016).

The agricultural circumstances in Palopo City exhibit weaknesses across several dimensions, and the problems faced are becoming more demanding. Therefore, it is imperative to enhance and expand extension efforts. The role of extension workers needs to be sustainable and directed. Agricultural extension workers must play a role and be strategically positioned, meaning that the implementation must be well coordinated to run effectively and efficiently (Anwarudin et al., 2020). Farmers need to get new inspiration to grow motivation and business passion with consistency and high commitment to increase agricultural business production (Novianda Fawaz Khairunnisa et al., 2021).

The goal of national development carried out by the local government, especially the Palopo City government, is to improve the people's welfare by providing various means to support social life. The demands of the times in the era of globalization also encourage the development of multiple competitions in technology and the community's social life (Pratama & Handoko, 2018). One of them is economic development, which is marked by increasing per capita income and reduced unemployment, showing developments that should be proud of the Indonesian government, especially in Palopo City.

Agricultural development in Indonesia, especially in Palopo City, is the most important sector, where most of the population works in farming. The number of Palopo City residents who mainly depend on agriculture shows the massive role of the agricultural industry in supporting the regional economy. It has important implications for future economic development. Development in the farming sector is inseparable from the development of rural areas that place agriculture as the economy's main driver. Based on the rural local economy is



a significant factor in the development of Agriculture, animal husbandry, and plantation development (Purba et al., 2016).

Therefore, Palopo City Government policy in the last five years has assisted 577 Farmer Groups. The agricultural production improvement program by the Palopo City Government focuses more on increasing agricultural production by introducing new technology by assisting farmers to increase crop yields with various types of assistance such as farm equipment and Information on recipient demographics and funding allocations for the Agriculture, Livestock, and Plantations sectors. machinery, seeds and seeds of horticultural and plantation crops, livestock seeds, fertilizers, pesticides, and agricultural processing equipment. Socioeconomic life is the interaction of society's economic behaviors and social behavior related to income and utilization (Mansyah, 2013). Data on farmer groups for each sub-district in Palopo City are presented in Table 1, recipients of infrastructure assistance and agricultural budgets.

Table 1

Information on recipient demographics and funding allocations for the Agriculture, Livestock, and Plantations sectors. (source Department of Agriculture in 2022)

No	Subdistrict	Number of Groups	Sample 20%
1	Sendana	74	14
2	Mungkajang	54	10
3	Wara	27	5
4	Wara Selatan	48	9
5	Wara Timur	37	7
6	Wara Barat	63	12
7	Wara Utara	36	7
8	Bara	13	2
9	Telluwanua	198	39
Sum		577	105

Given the aforementioned backdrop, it is essential to investigate whether providing access to aid and increasing budget allocations enhances the well-being of farming families. Analysis of access to assistance and agricultural budgets will be studied by assessing farmers' perceptions using inferential analytics by Structural Equation Modelling (SEM) techniques to see if there is an influence in improving the welfare of farmer households in Palopo City.

2 RESEARCH METHODOLOGY

The study was conducted from February to March 2024 in Palopo City, Indonesia, with recommendations from the Provincial Government of South Sulawesi, Indonesia, Investment



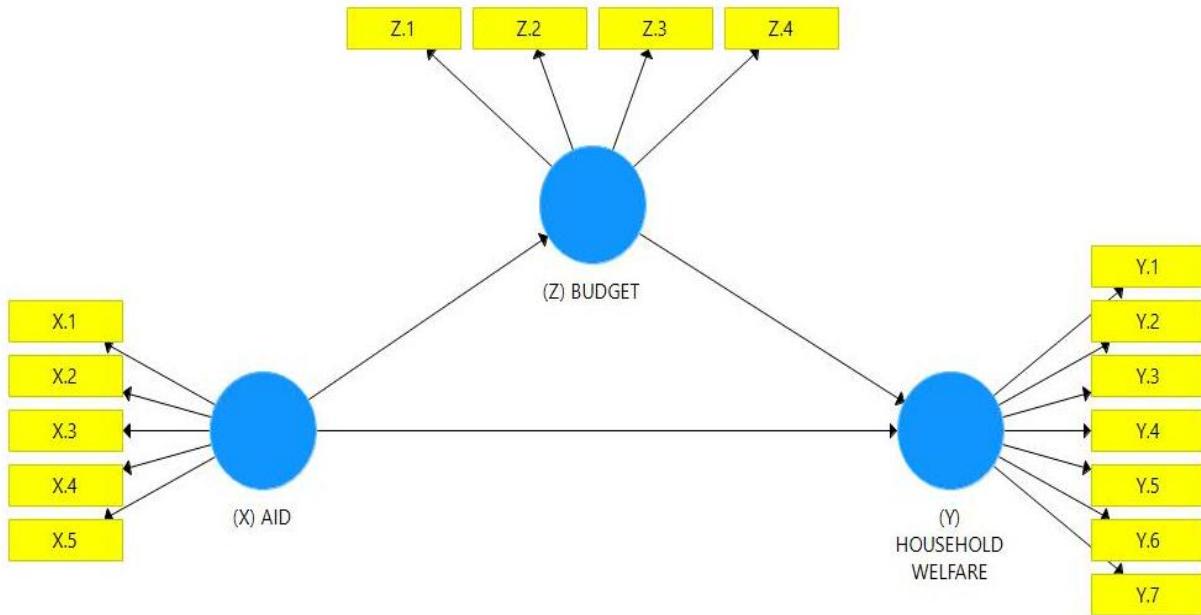
Office, and One-Stop Integrated Services number 4470/S.01/PTSP/2024. This research involved farmer groups receiving aid and agricultural budgets within five years. The research sample size was determined as much as 20% of the population. The determination of this sample is based on opinion (Gay et al., 2012). Descriptive research requires a minimum sample size of 10% of the population, while correlation research necessitates a sample of 30 respondents. Therefore, considering population representativeness and the type of descriptive research with a quantitative approach, the number of samples is determined at 20% of the population, namely 105 farmer groups. The selection of farmer groups that will become respondents is determined by proportional stratified random sampling techniques. Data on the proportion of samples based on the suggested aid of agricultural infrastructure and budget received by farmer groups are presented in Table 1.

Data analysis techniques in this study are explanatory, descriptive statistical techniques with quantitative approaches and inferential statistical analysis. Descriptive statistical analysis is a test to reveal the form of data in sensing whether there is a relationship between the values of a distributed variable. In contrast, inferential statistical analysis is used to infer the results derived from a sample concerning the population. A distinction is also made between the number of variables considered concerning each other (Agung & Yuesti, 2013). The framework of the research concept is shown in Figure 1.



Figure 1

Research concept framework



Inferential statistical analysis uses SEM methods that are based on variance. The analysis tool used is smart PLS 3.0. Partial Least Squares (PLS) is a statistical method used to handle multiple regression in situations when there are specific issues with the data, such as a small study sample size, missing values, and multicollinearity (Fan et al., 2016).

3 RESULTS AND DISCUSSION

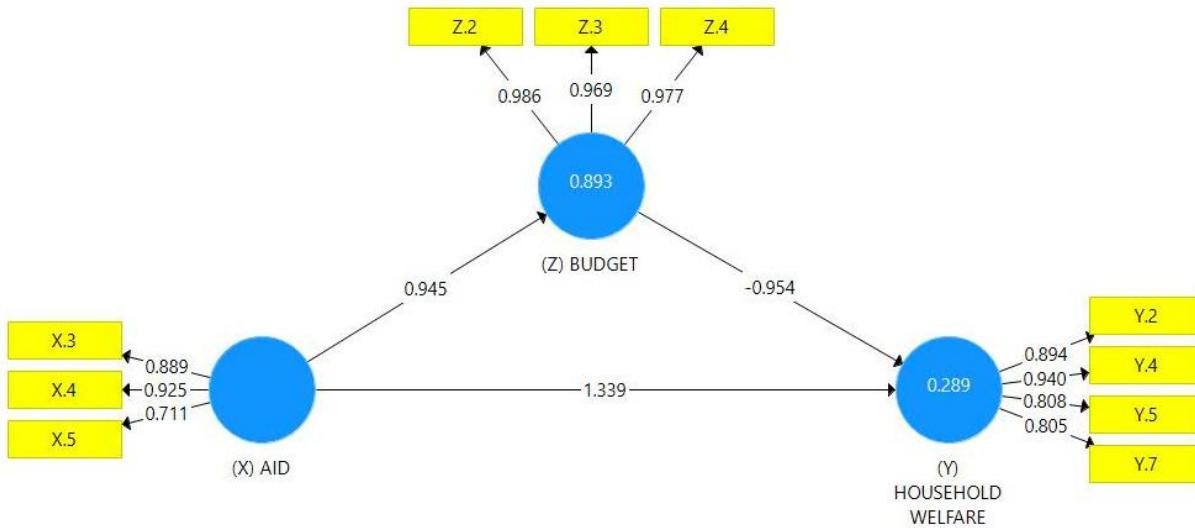
3.1 TEST OUTER MODEL

The term "Outer Model" refers to the measurement of the external aspects or dimensions of an object. It is also known as a "measurement model". The primary objective of the outer model test is to precisely define the correlation between observable variables and indicators. Utilise the PLS Algorithm process to evaluate the external part of this Model. The outcomes of this procedure are shown in Figure 2. The Convergent validity test seeks to ascertain the loading factor's significance in the latent variable as compared to its indicators (Setiaman, 2020). The results of the outer model analysis showed that the outer loading value for each variable indicator above the validity criteria of 0.7. Consequently, the Model is deemed legitimate, and the findings of the external loading are shown in Table 2.



Figure 2

Displays the structural equation model (SEM) of the outer model



Source: Output generated by Smart-PLS software

Table 2

Displays the outer loading values, which are used to assess convergent validity

Indicator	(X1) Aid	(X2) Budget	(Y) Household Welfare
(X.3) Quality	0,889		
(X.4) Level of innovation	0,925		
(X.5) Ability to innovate	0,711		
(Z.2) Amount of benefits received		0,986	
(Z.3) Efesiensi		0,969	
(Z.4) Target achieved		0,977	
(Y.2) Changes in sources of livelihood			0,894
(Y.4) Ability to manage assets			0,940
(Y.5) Partnering Ability			0,808
(Y.7) Ability to develop a business			0,805

Table 3

Displays the Average Variance Extracted (AVE) values

Variable	Average Variance Extracted (AVE)
(X) Aid	0,717
(Y) Household Welfare	0,746
(Z) Budget	0,955



Table 4

Displays the figures for Composite Reliability and Cronbach Alpha

Variabel	Cronbach's Alpha	Composite Reliability
(X) Aid	0,798	0,883
(Y) Household Welfare	0,885	0,921
(Z) Budget	0,976	0,985

The Average Variance Extracted (AVE) is a test used to assess the validity of indicators in reflective models. It is considered valid if its predicted value is more than 0.5. Table 3 data indicates that all research variables in the SEM had average variance extracted (AVE) values above 0.5, confirming their validity. The dependability level of the SEM model is assessed using the metrics of Composite Reliability and Cronbach' Alpha. This kind of reliability evaluates the degree to which the indicators of variables demonstrate same characteristic or construct. The minimal threshold for Cronbach's Alpha that is considered acceptable variable to be considered trustworthy is more than 0.6, and the minimum acceptable value for Composite Reliability is > 0.7 . Table 4 demonstrates that all variables exhibit a Cronbach's Alpha value > 0.6 and a Composite Reliability value > 0.7 . Therefore, it can be confidently said that the analysed SEM is trustworthy.

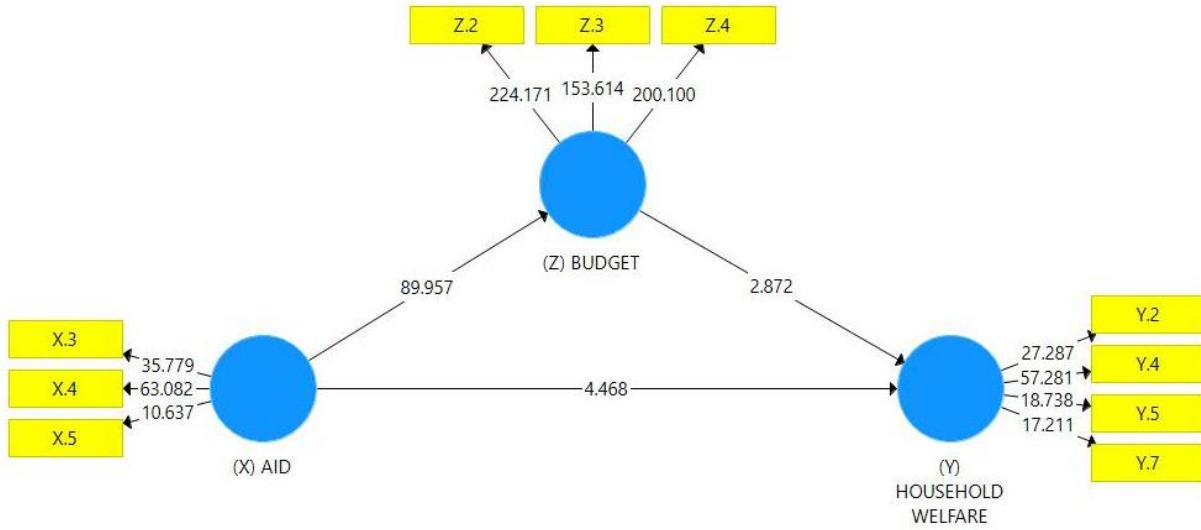
3.2 TEST INNER MODEL

The purpose of the inner model test is to evaluate the proposed connection between external and endogenous components. The evaluation of the inner model testing values in Smart PLS is conducted using the bootstrapping approach. The outcomes of this procedure are shown in Figure 3. The Inner Model exam is sometimes referred to as the structural test (Budhiasa, 2016). The measurements used in this test inside smart PLS include the determinant coefficient R Square and T Statistical. The purpose analysis of T Statistical is quantify the effect between variables. Value of T statistical that exceeds the T table value indicates the effects of positive and significant factors with P values less than 0.05. The inner analysis of the SEM model is used to evaluate the magnitude of the Statistical T value and P Value. These values serve as indicators of the intensity of the effect exerted by the independent variable on the dependent variable.



Figure 3

Structural Equation Model (SEM) of the inner model



Source: Output generated by Smart-PLS software

The goal of determinant analysis, specifically R Square, is to quantify the extent to which independent factors impact the dependent variable, based on certain criteria. Value of R square > 0.75 is considered to be in the strong group. Under such circumstances, value R square = 0.50 falls within the moderate range, whereas < 0.25 falls within the weak range. (Awang et al., 2015). The determinant analysis findings of the SEM Model are shown in Table 6. The table reveals that value of R square in the SEM model by variabel (Y) Household Welfare is 0.289, signifying that this research model falls into the moderate group, sedangkan variabel (Z) Budget secara keseluruhan nilai R square is 0,893 signifying that this research model falls into the strong group.



Table 5

Results that the T satatistical

Variable	T Statistical	T Table	P Values	Cut off Value	P	Result
(X) AID -> (Y) HOUSEHOLD WELFARE	4.339	1.983	0.000	0.05		Accepted
(X) AID -> (Z) BUDGET	89.957	1.983	0.000	0.05		Accepted
(Z) BUDGET -> (Y) HOUSEHOLD WELFARE	2.872	1.983	0.004	0.05		Accepted
(X) AID -> (Z) BUDGET -> (Y) HOUSEHOLD WELFARE	2.830	1.983	0.005	0.05		Accepted

Table 6

Results of determinant analysis of independent variables

Variable	R Square	R Square Adjusted
(Y) HOUSEHOLD WELFARE	0.289	0.275
(Z) BUDGET	0.893	0.892

Based on the results of the T statistical analysis, as shown in Table 5, the hypothesis test of the independent variable against the dependent variable can be stated as follows:

Hypothesis 1: Influence Aid (X) positively and significantly impacts to (Y) Household Welfare

The outcomes of SEM analysis obtained $T \text{ statistical} = 4.339 > T \text{ table} = 1.983$ and $P \text{ value} = 0.000 < Cut \text{ off } Value = 0.05$, the variable (X) has a positive and significant effect on (Y). So, it can be stated that hypothesis 1 is accepted. The findings of this investigation are consistent with the research carried out by (Tri Agustin et al., 2023) with the title The Role of Laying Breed Chicken Farming in Improving the Economy in the Community of Pucung Lor Village, Ngantru District, Tulungagung Regency, the results of the study stated that innovation and technology adoption affect improving the community's economy.

Another study with the title "Effectiveness of Assistance for Increasing Planting Index through Clusters on Increasing Rice Farming Income in Tamban Catur District, Kapuas Regency" research results is not in line with the research submitted by (Saragih et al., 2020). The study affirms that aid's efficacy has a favourable and substantial impact on enhancing the local economy. Other research conducted by (Devi Yanti et al., 2023) with the title "Effectiveness of the Beef Cattle Assistance Program as One of the Poverty Reduction Strategies in Padang Pariaman District" stated that the effectiveness of assistance can increase the community's economic income. It is proving that the community needs rocks from the



government. The SEM analysis revealed that the primary factor influencing the distribution of assistance was the X.4 indicator (Level of innovation), which accounted for 63,082 %. In comparison, the lowest indicator contributing was X.5 (Ability to innovate) of 10.637 %.

Hypothesis 2: Influence the Aid (X) positively and significantly to (Z) Budget

The outcomes of the SEM analysis obtained T statistical = **89,957** > T table = 1.983 and P value = 0.000 < *Cut off Value* = 0.05. The variable (X) has positive and significant effect on (Z). So, it can be stated that hypothesis 2 is accepted. The results of this study are in line with research conducted by (Hong et al., 2019) under the title “Income Diversification Strategies and Household Welfare: Empirical Evidence from Forestry Farm Households in China”. Another study also found that budget affects the welfare of farmer households; “Towards Redesign Conducted the Study Scale Through Zero-Budget Natural Farming in Andhra Pradesh, India (Bharucha et al., 2020). The SEM analysis revealed that the primary factor influencing the distribution of assistance was the X.4 indicator (Level of innovation), which accounted for 63,082 %. In comparison, the lowest indicator contributing was X.5 (Ability to innovate) of 10.637 %.

Hypothesis 3: Influence the Budget (Z) positively and significantly to (Y) Household Welfare

The outcomes of SEM analysis obtained T statistical = 2,872 > T table = 1.983 and P value = 0.004 < *Cut off Value* = 0.05, the variable (Z) has a positive and significant effect on (Y). So, it can be stated that hypothesis 3 is accepted. The findings of this investigation are consistent with the research carried out by (Sundayana, 2018) with the title Effectiveness of Agricultural Program Implementation by Agricultural Extension Workers in an Effort to Improve Farmer Welfare in Cintaratu Village, Parigi District, Pangandaran Regency. The SEM analysis revealed that the primary factor influencing the distribution of Household Welfare was the Y.4 indicator (Ability to manage assets), which accounted for 57.281 %. In comparison, the lowest indicator contributing was Y.5 (Ability to develop a business) of 17.211 %.

This study shows that the ability of business development by increasing agricultural business through assistance assets and budgets that have been received, really needs support from the government to provide massive assistance, so that the target of assistance in the form of assets and budgets can gradually increase the welfare of farmer households in Palopo City.

Hypothesis 4: Influence the Aid (X) positively and significantly to (Y) Household Welfare through Budget (Z) as a moderate variable

The outcomes of SEM analysis obtained T statistical = 2,830 > T table = 1.983 and P value = 0.005 < *Cut off Value* = 0.05, the variable (X) has a positive and significant effect on



(Y) through (Z) as a moderate variable. So, it can be stated that hypothesis 4 is accepted. The findings of this investigation are consistent with the research carried out by (Pe'er et al., 2020) with the title of the study Action needed for the EU Common Agricultural Policy to address sustainability challenges.

The SEM analysis revealed that the primary factor influencing the distribution of Household Welfare was the Y.4 indicator (Ability to manage assets), which accounted for 57.281 %. In comparison, the lowest indicator contributing was Y.7 (Ability to develop a business) of 17.211 %. In order to support the welfare of other inkator farmer households in this study, namely (Y.2) Changes in sources of livelihood and indicators (Y.5) Partnering Ability must be used as an additional reference for the government in supporting future agricultural business sustainability programs.

4 CONCLUSION

The study's findings indicate that the variables (X) and (Z) are well-established, together, affect (Y) by 89.3 %. It can be said that this research model includes strong criteria. The impact of the assistance variable (Z) on the wellbeing of farmer families (Y) was found to be 28.9 %. Therefore, it is recommended that the government, through the relevant Office, in this case, the Palopo City Agriculture, Livestock and Plantation Office should pay more attention to assistance programs by using targeted budgeting by improving the optimal fencing system to get good results in terms of providing welfare for farmer households by improving the economy.

AUTHOR'S CONTRIBUTION

BH: The process includes ideation, gathering of data, analysis of data, writing, review, and preparation for editing: MR, WW and AS: Conceptualizing ideas, advising, and reviewing manuscripts; S and MYQ: Advisors, supervisors of data collection and review manuscripts.



REFERENCES

- Agung, A. A. P., & Yuesti, A. (2013). *Metode Penelitian Bisnis Kuantitatif Dan Kualitatif* (I Nengah Suardhika, Ed.; 1st ed.). CV. Noah Aletheia.
- Anwarudin, O., Sumardjo, S., Satria, A., & Fatchiya, A. (2020). Peranan Penyuluhan Pertanian Dalam Mendukung Keberlanjutan Agribisnis Petani Muda Di Kabupaten Majalengka. *Jurnal Agribisnis Terpadu*, 13(1), 17. <https://doi.org/10.33512/jat.v13i1.7984>
- Awang, Z., Afthanorhan, A., & Asri, M. A. M. (2015). Parametric and NonParametric Approach in Structural Equation Modeling (SEM): The Application of Bootstrapping. *Modern Applied Science*, 9(9), 58–67. <https://doi.org/10.5539/mas.v9n9p58>
- Bharucha, Z. P., Mitjans, S. B., & Pretty, J. (2020). Towards redesign at scale through zero budget natural farming in Andhra Pradesh, India*. *International Journal of Agricultural Sustainability*, 18(1), 1–20. <https://doi.org/10.1080/14735903.2019.1694465>
- Budhiasa, S. (2016). Analisis Statistik Multivariate Dengan Aplikasi SEM PLS SMARTPLS 3.2.6. In *Udayana University Press*.
- Devi Yanti, Asdi Agustar, & Rusda Khairati. (2023). Efektifitas Program Bantuan Ternak Sapi Potong Sebagai Salah Satu Strategi Penganggulangan Kemiskinan Di Kabupaten Padang Pariaman. *Jurnal Niara*, 16(1), 113–120. <https://doi.org/10.31849/niara.v16i1.13951>
- Fajri, M. (2020). *Analisis Kebijakan Pembiayaan Sektor Pertanian Oleh Related papers*.
- Fan, Y., Chen, J., Shirkey, G., John, R., Wu, S. R., Park, H., & Shao, C. (2016). Applications of structural equation modeling (SEM) in ecological studies: an updated review. *Ecological Processes*, 5(1). <https://doi.org/10.1186/s13717-016-0063-3>
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *EDUCATIONAL RESEARCH Competencies for Analysis and Applications* (J. W. Johnston, Ed.; 10th ed.). Pearson Education, Inc.
- Hermawan, I. (2012). Analisis Eksistensi Sektor Pertanian terhadap Pengurangan Kemiskinan di Pedesaan dan Perkotaan. *MIMBAR, Jurnal Sosial Dan Pembangunan*, 28(2), 135. <https://doi.org/10.29313/mimbar.v28i2.348>
- Hong, Y.-Z., Liu, W.-P., & Dai, Y.-W. (2019). Income diversification strategies and household welfare: empirical evidence from forestry farm households in China. *Agroforestry Systems*, 93(5), 1909–1925. <https://doi.org/10.1007/s10457-018-0300-0>
- Kuzman, B., Djuric, K., Mitrovic, L., & Prodanovic, R. (2017a). Agricultural budget and agriculture development in Republic of Serbia. *Ekonomika Poljoprivrede*, 64(2), 515–531. <https://doi.org/10.5937/ekopolj1702515k>
- Kuzman, B., Djuric, K., Mitrovic, L., & Prodanovic, R. (2017b). Agricultural budget and agriculture development in Republic of Serbia. *Ekonomika Poljoprivrede*, 64(2), 515–531. <https://doi.org/10.5937/ekopolj1702515k>
- Mansyah, N. (2013). Studi Tentang Dampak Pertambangan Batu Bara Bagi Kehidupan Sosial Ekonomi Masyarakat Di Kelurahan Jawa Kecamatan Sangasanga. *Administrasi Negara*, 1(3), 843–857.



- Mutiha, A. (2016). Analisis Kinerja Keuangan Pemerintah Daerah Kota Bogor Tahun Anggaran 2010 -2014. *Jurnal Vokasi Indonesia*, 4(2). <https://doi.org/10.7454/jvi.v4i2.101>
- Novianda Fawaz Khairunnisa, Saidah, Z., Hapsari, H., & Wulandari, E. (2021). Pengaruh Peran Penyuluh Pertanian terhadap Tingkat Produksi Usahatani Jagung. *Jurnal Penyuluhan*, 17(2), 113–125. <https://doi.org/10.25015/17202133656>
- Pe'er, G., Bonn, A., Bruelheide, H., Dieker, P., Eisenhauer, N., Feindt, P. H., Hagedorn, G., Hansjürgens, B., Herzon, I., Lomba, Å., Marquard, E., Moreira, F., Nitsch, H., Oppermann, R., Perino, A., Röder, N., Schleyer, C., Schindler, S., Wolf, C., ... Lakner, S. (2020). Action needed for the EU Common Agricultural Policy to address sustainability challenges. *People and Nature*, 2(2), 305–316. <https://doi.org/10.1002/pan3.10080>
- Pratama, A., & Handoko, B. (2018). Implementasi Anggaran Berbasis Kinerja Dalam Meningkatkan Kinerja Pemerintah Daerah Di Lingkungan Kecamatan Datuk Bandar Tanjung Balai. *Jurnal Akuntansi Bisnis Dan Publik*, 8(2), 15–25.
- Purba, H. J., F., B. H., & Nuryanti, S. (2016). Dampak Penurunan Bantuan Domestik terhadap Kinerja Ekonomi Komoditas Pertanian Indonesia: Analisis Simulasi Kebijakan. *Jurnal Agro Ekonomi*, 25(1), 84. <https://doi.org/10.21082/jae.v25n1.2007.84-102>
- Saragih, O. J. F., Erlina, Y., & Anggreini, T. (2020). Efektivitas Bantuan Peningkatan Indeks Pertanaman Melalui Klaster Terhadap Peningkatan Pendapatan Usahatani Padi di Kecamatan Tamban Catur Kabupaten Kapuas. *Journal Socio Economics Agricultural*, 15(2), 108–113. <https://doi.org/10.52850/jsea.v15i2.3376>
- Setiaman, S. (2020). Analisa parsial model persamaan struktural dengan software SMART-PLS Versi 3. *Tutorial*, 1–95.
- Sitepu, B. (2016). Analisis Anggaran Pemerintah (APBN dan APBN-P) dalam Perspektif Demokrasi Multipartai dan Koalisi Government Budget Analysis in Perspective Democracy Multiparty and Coalition. *Jurnal Ekonomi Dan Pembangunan Indonesia*, 17(1), 28–43. <https://doi.org/10.21002/jepi.v17i1.03>
- Sundayana, R. F. (2018). Efektivitas Pelaksanaan Program Pertanian Oleh Penyuluh Pertanian Dalam Upaya Peningkatan Kesejahteraan Petani Di Desa Cintaratu Kecamatan Parigi Kabupaten Pangandaran. *Moderat: Jurnal Ilmiah Ilmu Pemerintahan*, 4(November), 103–113.
- Tri Agustin, F., Alhada Faudilah Habib, M., Syariah, E., Ekonomi dan Bisnis, F., Islam Negeri Sayyid Ali Rahmatullah Tulungagung, U., Mayor Sujadi No, J., Kedungwaru, K., Tulungagung, K., & Timur, J. (2023). Peran Peternakan Ayam Ras Petelur dalam Meningkatkan Perekonomian Pada Masyarakat Desa Pucung Lor Kecamatan Ngantru Kabupaten Tulungagung. *Journal on Education*, 05(02), 4907–4922.
- Tumewu, Chistian, D., A.J, M. V., & Masloman, I. (2022). Pengaruh Pertumbuhan Ekonomi Sektor Pertanian Dan Kapasitas Anggaran Pedesaan Terhadap Jumlah Kemiskinan Di Kabupaten Minahasa. *Jurnal Berkala Ilmiah Efisiensi*, 22(4), 47–61.
- Wahyuni, E. S., Firdaus, M., & Baga, L. M. M. (2018). Strategi Alokasi Anggaran Sektor Pertanian Untuk Mempercepat Pembangunan Daerah Di Kabupaten Pandeglang Provinsi



Banten. *Jurnal Manajemen Pembangunan Daerah*, 10(April).
https://doi.org/10.29244/jurnal_mpd.v10i-.22691