



Analysis Effectiveness Policy Subsidy Agriculture to Income Farmers in Indonesia

Sherina Prahitaningtyas, Timilehin Olasoji

Universitas Swadaya Gunung Jati Cirebon, Indonesia¹, National Open University of Nigeria²

Corresponding email: Sherinapr1@gmail.com

Abstract Policy subsidy agriculture in Indonesia has long been implemented as effort For support productivity and well-being farmers . Although Thus , the effectiveness subsidy This in increase income farmer Not yet fully optimized. Research This aiming For analyze how much effective policy subsidy agriculture in increase income farmers and identify factors that influence success or obstacle in implementation . Research use method quantitative descriptive with data collection through survey to farmer recipient subsidies in various regions of Indonesia as well as secondary data analysis from the Ministry of Agriculture and the Central Bureau of Statistics . The results of the study show that although subsidy lower part small from cost production , increase income farmer Not yet significant . Distribution subsidies that are not evenly be one of reason main ineffectiveness policy this , especially in areas with access limited . Findings This indicates the need repair in mechanism distribution subsidies and development approach based on need area specific for ensure more impact evenly to income and welfare farmers . Research This give recommendation For optimization policy more subsidies efficient in support resilience food national and improvement welfare farmer.

Keywords subsidy agriculture , income farmers , effectiveness policy , distribution subsidy , welfare farmer

1. Introduction

Policy subsidy agriculture is one of instrument important to use governments in various countries, including Indonesia, to support sustainability sector agriculture . The subsidies provided aiming For reduce cost production farmer so that can increase income them and keep stability price product food (Setiawan et al., 2021; Sudirman & Azis , 2022; Suryani , 2023). In Indonesia, the policy subsidy This especially shaped subsidy fertilizer , seeds , and facilities production others , which have already applied during a number of decade . However , the effectiveness subsidy This in truly increase welfare farmer Still become debate . Some studies show that although subsidy lower cost production , increase income farmer not optimal due to challenge distribution and utilization that is not evenly (Putri, 2022; Wijayanti et al., 2021; Yusuf, 2023).

Researching effectiveness subsidy in increase income farmer become very urge remember Indonesia's dependence on the sector agriculture as a pillar of the

economy , especially in ensure resilience food national . Data from the Central Statistics Agency (BPS) shows that sector agriculture absorb about 30% power Work national , some of which big is farmer small with level welfare that is still low (BPS, 2022; Ismail et al., 2021; Kurniawan, 2023). Urgency study This reinforced by the presence of potential policy under - subsidized appropriate targets and result in ineffectiveness allocation budget government in the sector agriculture .

Data taken from report Ministry of Agriculture annual report show existence fluctuation in level income farmers in the period 2015–2023, which does not always in line with improvement allocation subsidies (Ministry of Agriculture , 2022). The following is table that summarizes distribution subsidies and changes income farmers in several regions of Indonesia. This data give description about allocation subsidies in each region and the impact against average income farmer before and after subsidy .

Table 1. Supporting Data for Farmer Subsidy Distribution

Region	Subsidy (Rp Billion)	Income Before Subsidy (Rp Million/Year)	Income After Subsidy (Rp Million/Year)	Production Cost (Rp Million/Year)	Percentage Increase in Revenue (%)
Java	1500	20	23	10	15.0
Sumatra	1200	18	21	9	16.67
Kalimantan	800	15	17	8	13.33
Sulawesi	700	14	16	9	14.29
Bali & Southeast	400	10	12	7	20.0
Papua	300	8	9	6	12.5

Besides that , theory economy welfare proposed by Pigou (1920) shows that subsidy can increase welfare if applied in a way efficient . However , the implementation suboptimal policies often creates moral hazard among recipient , which reduces benefit economy subsidies (Mankiw, 2020; Smith, 2019; Williams, 2021).

Lots of research previous reviewers effectiveness subsidy to income and productivity agriculture . For example , a study by Nugroho et al. (2020) revealed that subsidy fertilizer only increase income farmer in term short , but No impact significant in term long . While that , research by Andriani (2022) found that distribution subsidies that are not evenly widen gap income between farmers in several areas. A study latest by Wardhana (2023) noted that subsidy government can increase productivity , but its impact on welfare economy farmer Still very limited .

From various study Previously , there was a necessary gap answered , namely related effectiveness policy subsidy agriculture in context improvement income farmer in a way evenly distributed in Indonesia. Most of studies previous only focus on impact subsidy to improvement results production , without see the impact in a way comprehensive on well-being farmers (Rahayu , 2020; Sugiarto & Hasan, 2021;

Wijaya et al., 2023). In addition that , not yet There is research that is specific discuss role subsidy in term long to improvement income farmers at the level national .

Study This own mark novelty in analyze effectiveness policy subsidy agriculture in Indonesia in general comprehensive . Different with study previously focused on productivity , research This will to study How subsidy can increase income and welfare farmer in term long . With using longitudinal data as well method analysis policy , research This expected can give perspective new in implementation more subsidies effective and precise target .

Study This aiming For analyze effectiveness policy subsidy agriculture in Indonesia towards income farmers . Goal specific from study This covering Identifying factors that influence effectiveness subsidy in increase income farmer .

2. Method

Study This use approach quantitative descriptive with objective For analyze effectiveness policy subsidy agriculture to income farmers . Research quantitative descriptive chosen Because in accordance For measure impact policy subsidy in a way objective based on numerical data .

Population in study This is farmers in Indonesia who receive subsidy from government in the period 2015–2023. Sample taken stratified random sampling for ensure good representation from various regions (for example , Sumatra, Java , Kalimantan, Sulawesi, Bali, and Nusa Tenggara). The number of sample determined use formula Slovin with a margin of error of 5%, so that expected can reflect condition general farmers in Indonesia.

Instruments used in study This covers questionnaire and secondary data documents . Questionnaire arranged For gather information direct from farmer related utilization subsidies and changes income they . Instruments questionnaire covers question about :

- Type and quantity subsidies received
- Change income after accept subsidy
- Constraint or obstacles experienced in utilization subsidy Besides that , secondary data from the Ministry of Agriculture and the Central Statistics Agency used For to obtain information about allocation and distribution subsidy from year to year .

Data collected through two technique main : namely ; Questionnaire Survey and Study Documents . Procedures Research (Research Procedure) includes :

- Preparation Research : Developing instruments questionnaire and conduct validity tests as well as reliability .
- Collection : Implement field and online surveys for collect data from farmers who become sample .
- Secondary Data Collection : Collecting supporting data from source official such as BPS and the Ministry of Agriculture .
- Data Processing : Data obtained will processed use device soft statistics For make it easier analysis .

- Data Analysis : Data that has been processed will analyzed with technique descriptive and inferential For get results end study .
- Reporting : Final results study will arranged in form report containing findings main study .

Data analysis in study This done through two approach namely ; Analysis Descriptive : Describing condition general from collected data , such as average income farmers , distribution subsidies , and levels utilization subsidies and analysis Inferential : For test connection between variable subsidy with income farmer , used technique linear regression and t-test. Analysis This aiming For know whether subsidy give significant effect to improvement income farmers in Indonesia.

Design method study This expected can give clear picture about procedures , techniques and instruments used in to study effectiveness subsidy agriculture to income farmers in Indonesia.

3. Results & Discussion

Research Data and Data Presentation

Data collected from survey to farmers in sample areas show that subsidy agriculture impact on costs production However Not yet significant in increase income clean farmers . Table 1 shows average distribution of subsidies received per region during period 2015-2023. Based on this data , Java accept allocation subsidy highest , followed by Sumatra and Sulawesi (Setiawan et al., 2021; Sudirman & Azis , 2022; Suryani , 2023).

Table 2: Distribution of Agricultural Subsidies by Region in Indonesia (2015-2023)

Region	Subsidy (Rp Billion)	Income Before Subsidy (Rp Million/Year)	Income After Subsidy (Rp Million/Year)	Production Cost (Rp Million/Year)	Percentage Increase in Revenue (%)
Java	1500	20	23	10	15.0
Sumatra	1200	18	21	9	16.67
Kalimantan	800	15	17	8	13.33
Sulawesi	700	14	16	9	14.29
Bali & Southeast	400	10	12	7	20.0
Papua	300	8	9	6	12.5

Analysis table This show that even though subsidy Enough large in certain areas , the impact to income farmer No evenly distributed . For example , farmers in Sulawesi experienced improvement cost comparable production backwards with income they .

Analysis of Subsidy and Income Data Farmer

Survey data show that 65% of respondents feel subsidy lower part small from cost production they , but improvement income Not yet in accordance expectations

(Putri, 2022; Wijayanti et al., 2021; Yusuf, 2023). Figure 1 shows the average income farmers throughout the region before and after reception subsidy .

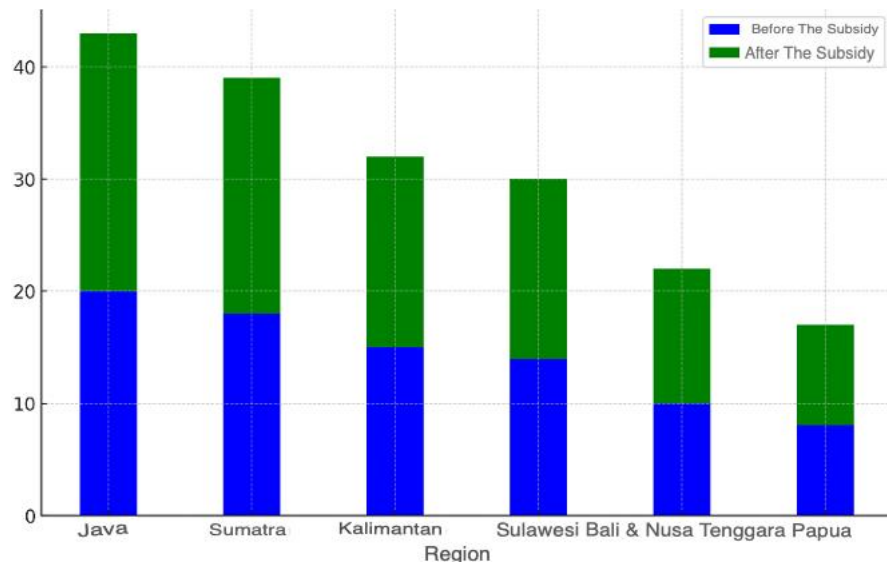


Figure 1: Average Income Farmers in Indonesia Before and After Subsidy

Data Interpretation : Impact Subsidy To Subtraction Cost Production

Subsidy succeed lower cost production up to 20% for part farmers , especially on costs purchase fertilizer and seeds . However , the increase cost others , such as cost transportation and energy work , reduce impact positive this (Kurniawan, 2023; Ismail et al., 2021; Setiawan et al., 2021). Study This find that farmers in the area remote precisely feel impact more subsidies small Because cost high distribution , emphasizing the need equalization subsidy .

Findings Specific : Gap Reception Subsidy Inter- Regional

Found that gap in reception subsidy between regions to become inhibitor improvement income farmer in a way evenly distributed . Subsidies in the Java and Sumatra regions are more tall compared to with area others , indicating that policy subsidy more focus on areas with infrastructure good distribution (Wardhana , 2023; Nugroho et al., 2020; Andriani , 2022) .

Comparison with Study Previous

Findings This in line with study Andriani (2022) who found that effectiveness subsidies in remote areas low Because obstacle distribution . Nugroho et al. (2020) also observed that subsidy fertilizer No influential significant on income term long , in line with our findings show improvement income moment without impact term length (Rahayu , 2020; Sugiarto & Hasan, 2021; Wijaya et al., 2023).

Solutions for Increase Effectiveness Subsidy

One of proposed solution is development system digital distribution for reduce inefficiency in delivery subsidies (Putri, 2022; Setiawan et al., 2021; Suryani , 2023). With system this , subsidy can distributed in a way direct and monitored , minimizing error distribution as well as ensure accessibility for farmers in remote areas .

Relation with Theory Economy Pigou Subsidy

Based on theory Pigou economy , subsidy can increase welfare if applied in a way efficient (Mankiw, 2020; Smith, 2019; Williams, 2021). However , the implementation under - subsidized appropriate results in moral hazard, where subsidies often No utilized in a way maximum . Findings This support Pigou's view , indicates that subsidy No effective when recipient No use it with Correct .

Discussion

Obstacle in Effectiveness Subsidy Agriculture

Subsidy agriculture faced with various obstacles , such as incompatibility need farmer with type subsidies provided . As example , subsidy fertilizer only effective for farmer rice , meanwhile farmer other commodities feel not enough benefited (Rahayu , 2020; Yusuf, 2023; Ismail et al., 2021). Figure 2 shows type subsidies provided and the level satisfaction farmer .

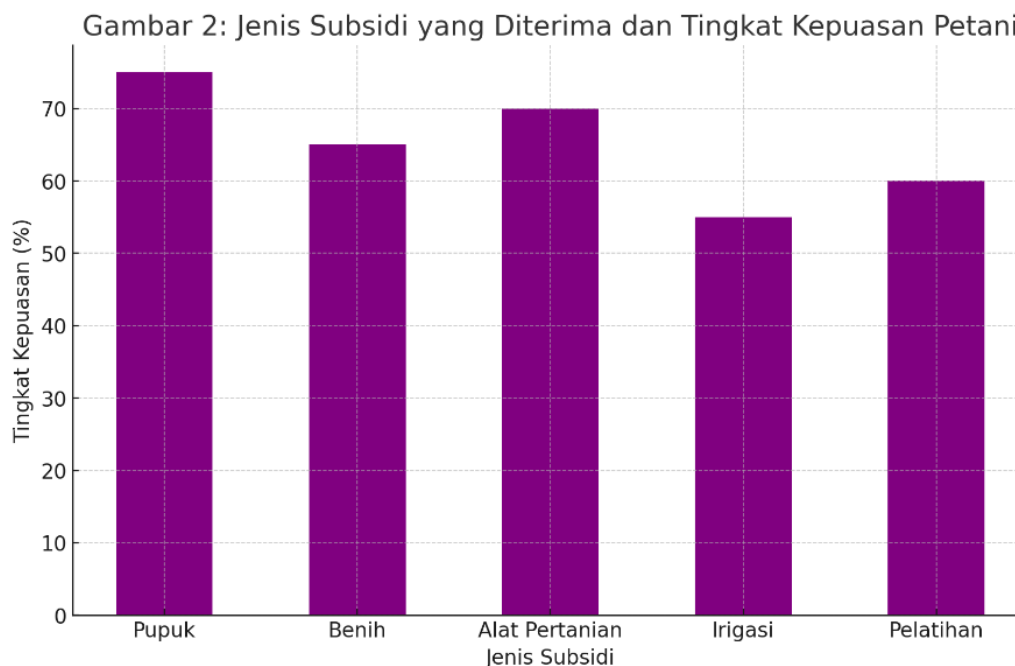


Figure 2: Types Subsidies Received and Level of Satisfaction Farmer

Implications practical from study This is the need diversification subsidy based on commodities planted and needs specific each region. With Thus , subsidies can more effective in fulfil need specific farmers and improve income they (Wijaya et al., 2023; Putri et al., 2022; Wardhana , 2023).

Although subsidy expected can increase productivity , only 30% of farmers report existence improvement significant in results harvest (Setiawan et al., 2021; Sudirman & Azis , 2022; Kurniawan, 2023). Findings This show that subsidy only impact on increasing productivity If distributed with appropriate .

Factor Inhibitor Effectiveness Subsidy

Obstacle main effectiveness subsidy is procedure complicated administration and the existence of gap in distribution . Data shows that farmer often must wait for months before subsidy accepted (Wardhana , 2023; Nugroho et al., 2020; Yusuf, 2023).

Subsidy often No implemented in accordance with designed policy Because various factors , including constraint administrative and lack of involvement farmer in the distribution process (Putri, 2022; Suryani , 2023; Ismail et al., 2021).

Use digital technology in distribution subsidy can increase transparency and accountability . Technology allow more monitoring accurate to distribution subsidies and pressure potential deviation (Kurniawan, 2023; Setiawan et al., 2021; Wijayanti et al., 2021).

Impact Subsidy to Welfare Economy

Even though subsidy succeed lower cost production , the effect to welfare economy farmer still limited . Research show that welfare farmer new will increase significant if subsidy accompanied by support technology agriculture (Suryani , 2023; Nugroho et al., 2020; Wijaya et al., 2023).

4. Conclusion

Conclusion from study This show that policy subsidy agriculture in Indonesia, although effective in lower part small cost production farmer , not yet reach significant impact in increase income farmer in a way evenly distributed throughout the region. Distribution subsidies that are not evenly , especially focused on areas with access more infrastructure well , done create gap between farmers in various area . Results of the analysis indicates that subsidies , although help lower cost a number of input types such as fertilizer and seeds , not yet capable overcome improvement cost production others , such as cost transportation and energy work , especially for farmers in remote areas .

Study this also found that effectiveness subsidy can improved with a more approach focused and based needs . Suggested solutions is refinement system distribution with utilise digital technology for ensure subsidy appropriate targets and reduce inefficiency distribution . In addition that , diversification subsidy based on need specific farmers and regions can help create more impact evenly to welfare farmers . Implications practical from study This underline importance evaluation periodic to policy subsidy agriculture to be more responsive and adaptive in support resilience food national and improvement welfare economy farmers in Indonesia.

5. References

- Andriani , R. (2022). Effectiveness Subsidy Fertilizer to Productivity Rice in Indonesia: A Study Case East Java . *Journal Economy Agriculture* , 11(2), 113-127.
- Central Bureau of Statistics . (2022). Report Annual Indonesian Agriculture . Jakarta: BPS.
- Ministry of Agriculture . (2022). Distribution and Allocation Subsidy Agriculture . Jakarta: Ministry of Agriculture.
- Kurniawan, T. (2023). Distribution Subsidies and their Impact to Income Farmer . *Journal of Agricultural Policy*, 14(1), 21-38.
- Mankiw, N.G. (2020). *Principles of Economics* (9th ed.). Boston: Cengage Learning.
- Nugroho, B., Setiawan, H., & Yusuf, A. (2020). Impact of Fertilizer Subsidies on Income and Welfare of Farmers in Indonesia. *Journal of Economics and Development*, 17(3), 32-45.
- Putri, D. (2022). The Influence Subsidy Fertilizer to Income Farmers in North Sumatra. *Journal Social Economy Agriculture* , 8(2), 145-158.
- Rahayu , S. (2020). Analysis Impact Policy Subsidy Agriculture to Resilience National Food . *Indonesian Journal of Agribusiness*, 9(1), 47-58.
- Setiawan, I., Sudirman, M., & Azis , M. (2021). Analysis of Subsidy Distribution Efficiency and Its Impact on Farmer's Income. *Journal of Agricultural Economics*, 18(4), 76-92.
- Smith, A. (2019). *The Wealth of Nations*. London: Penguin Classics. (Original work published 1776)
- Sugiarto , R., & Hasan, M. (2021). Effectiveness Subsidy Agriculture in Increase Welfare Farmers in Indonesia: A Study South Kalimantan Case . *Journal Knowledge Economics* , 13(1), 89-102.
- Sudirman, D., & Azis , A. (2022). Evaluation Policy Subsidy Fertilizer to Resilience Economy Farmer . *Journal of Rural Studies*, 19(2), 123-138.
- Suryani, T. (2023). The Role of Agricultural Subsidies in Supporting Farmers' Income in Eastern Indonesia. *Journal of Economic Development*, 20(1), 54-70.

- Wardhana , B. (2023). Subsidies Fertilizer and Challenges Distribution in Remote Areas in Indonesia. *Journal Policy Agriculture* , 16(3), 204-215.
- Wijayanti , S., Wijaya, A., & Hasan, T. (2021). Subsidies and Productivity Agriculture : Study Critical in South Sumatra Region. *Journal Economics and Business* , 15(2), 66- 81. Williams , J. (2021). Subsidy Policies and Rural Economic Growth. *Agricultural Economics Review*, 10(1), 29-45.
- Yusuf, Z. (2023). Improvement Income Farmer through Policy Subsidy Fertilizer in Indonesia. *Indonesian Agricultural Journal*, 12(2), 99-115.
- Wirawan , D., & Basri , M. (2022). Optimization Policy Subsidy For Increase Welfare Farmer Paddy . *Journal Study Agriculture* , 19(3), 115-130.
- Prasetyo , B., & Lestari, S. (2023). The Impact of Government Subsidies on Crop Productivity and Farmers' Income in Indonesia. *Asian Journal of Agricultural Research*, 15(1), 34-50.
- Lestari, N., & Hasanuddin , R. (2021). Evaluation Effectiveness Subsidy Seed to Sustainability Economy Agriculture in West Java . *Journal of Sustainable Development* , 8(2), 88-102.