

Impact of the Synergy of Agriculture Policy and Social Protection Programs on the Agricultural Household Economy, Karawang Regency, West Jawa

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Abstract: Both agricultural policy and social protection programs are needed for reducing poverty, but little attention has been paid to the integration between them. This study aims to analyze the impact of changes in agricultural policy and social protection programs on agricultural household economics. The results showed that the synergy of agricultural policy in the form of support price of grain (HPP) and social protection programs in the form of conditional cash transfer (CCT) was the best policy instrument in improving the welfare of rice farmers and in reducing the number of the poor in rural areas. The synergy of these two policies can be applied and is possible as an alternative choice. In addition, CCT instruments in particular are also able to redistribute income so that they have a stronger push to reduce the number of the poor in the rural countryside. The impact of policy synergy is higher for farmers with a strata of land area below 0.5 hectares.

.Keywords - Agricultural Policy, Social Protection Programs, Agricultural Household Model.

I. INTRODUCTION

Karawang Regency is the second largest Regency to produce rice in West Java and is one of the national rice barn area [1]. There are 122 thousand agricultural households using the land and more than half (64 thousand) are smallholder farmers [2]. The percentage of the poor in 2017 is 10.25 percent as a part of roughly 2.3 million people [1]. The Ministry of Social Affairs in 2017 has distributed a social protection program in the form of CCT to around 60 thousand households, including rice farmer households [3]. The description of the low welfare of farmers in this Regency is in line with the theme that was built on the 2015 global food day, namely: "social protection for agriculture: breaking the cycle of rural poverty". This theme was raised given that more than 75 percent of the poor and the people experiencing chronic malnutrition in developing countries live in rural

areas while agriculture is an important part of their livelihoods [4].

Indonesian government has made the poverty alleviation agenda, especially rural poverty alleviation, as a critical issue that urgently needs to be accomplished. Correspondingly, a social protection program (PPS) was implemented. The policy instrument in the form of targeted programs to accelerate poverty reduction is expected to be far more effective in efforts to reduce poverty. The policy instruments from the PPS are divided into clusters. One of them is referred to as Cluster I, based on direct assistance programs for those who are classified as poor and almost poor in order to fulfill the basic rights of individuals and households, which includes: food, education and health services [5]. These PPS include: conditional cash transfer (CCT/PKH=family hope programs) which are direct assistance in-cash transfers, and rice

programs for the poor (Raskin) which are assistance in-kind transfers.

In addition to using PPS, the government has long implemented agricultural policies as an intervention in order to reduce the poor population, especially in rural areas, which focuses on increasing agricultural productivity. The policy was carried out, amongst others, in the form of an agricultural price intervention instrument as the highest retail price (HET) of fertilizer and government purchase price is namely support price (HPP) of grain. This policy aims to protect farmers, so that balance between production costs and the selling price of grain can be achieved in order to benefit farmers and maintain a national food security system. The application of HET fertilizer and grain HPP policies is expected to be able to control production costs and provide economic incentives in the form of reasonable prices and certainty of income for farmers [6].

These two policies are an important element in the poverty reduction strategy by the Indonesian government indicated by the increasing allocation of the state budget each year. Until 2017 the state budget allocation for fertilizer subsidies amounted to 31.2 trillion rupiah whereas for CCT and Raskin each amounted to 13.9 trillion rupiah and 19.8 trillion rupiah. If this trend continues, it will weigh heavily on the state budget. In developing countries, integration and coordination between the two sectors is generally limited in general [7]. In reality these programs are spread across various ministries and institutions, therefore, it is expected that statistically the rate of decline in the number of the poor in each years tends to slow down, in contrast to the size of the government budget for poverty alleviation, which continues to increase every year [8]. Agricultural interventions and social protection programs are complementary instruments to reduce poverty in the agricultural sector [9]. This policy integration can be done and made possible as an alternative choice.

Based on the description above, can these two policy instruments interact and work together to influence agriculture households to improve their welfare? What combination of instruments is appropriate as an effort to prosper farmers in efficient conditions? Insufficient research had been conducted in relation to the interaction between agricultural policy and social protection [10]. While social protection and agricultural interventions for poor farmers often cover the same geographical area and household targets, there is an opportunity for mutual synergy and complementarity that will strengthen the income of poor agricultural households [11].

There is a two-way relationship between social protection and agricultural programs [11]. First, on the one hand, rural poor households that are largely dependent on agriculture for their livelihoods are often influenced by limited access to resources and low agricultural productivity. In this case, social protection can help with liquidity constraints by providing cash and in kind. Furthermore, the regularity and predictability of social protection instruments help households to manage risk and engage in more profitable life and agricultural activities. On the other hand, agricultural policies and programs can help farm households manage risk by stimulating agricultural production, income, and overall household welfare. Second, because social protection and agricultural intervention to smallholders often cover the same geographical area and household target, thus an opportunity arises to mutually synergize and complement each other which will strengthen the income of poor rural households.

There are a number of reasons why important household economic models are associated with implementing social protection programs, namely: (1) economic agent (individuals or households) in developing countries in terms of interacting less through market activities than do economic actors in developed countries because households in developing countries are generally independent; (2) time allocation of household workers is not evenly distributed across all members, in which there are significant differences not only by sex but also by age, social status, etc.; (3) an important part of the survival of poor households in developing countries is achieved through household production activities and the labor market. The main resources used to achieve welfare improvement are the allocation of work time of household members (at the same time, leisure time is acceptable as long as the individual gains prosperity); and (4) development policy interventions aimed at improving welfare can yield information about time allocation in the household [12].

According to [13] social protection and agricultural interventions are able to play important roles in reducing constraints on rural households. The principles underlying the agricultural household model and other previous models help identify potential pathways of social protection interventions that can affect agricultural yields and agricultural interventions can function as instruments of social protection. The theory of change as suggested by [13] are also based on the idea that the impacts of social protection and agricultural policies are not parallel but are interrelated, so that they contribute to their respective goals to reduce risk and increase agricultural production.

This study aims to analyze the impact of the synergy of support price of grain and CCT policies on agricultural household welfare.

II. MATERIAL AND METHODS

1. Types and data sources

The type of data used in the study is a cross section based on the survey (primary data) carried out in Karawang Regency, West Java Province. The research unit of the survey was CCT recipient farm households with 139 respondents. The period of survei was November 2016 to October 2017, were studied as the household characteristics and agricultural farm performance. In addition, supporting data were also collected from various related agencies such as BPS, Food Crop Agriculture Service, and Representatives of the Ministry of Social Affairs in Karawang Regency.

2. Data Analysis Method

The tool used to analyze the research objectives was agricultural household model. This model applies simultaneous equations which will illustrate the complexity of the relationship between the variables of farm household economic performance. 55 equations consisting of 28 structural equations and 27 identity equations were built within the model. The number of variables in this model is 85 variables, consisting of 55 endogenous variables and 30 exogenous variables. The results of model identification show that the model is over identified and estimated using the 2SLS (two stage least squares) method.

3. Validation and Model Simulation

Model identification is done before the estimation process. Model identification criteria are based on the requirement condition (order condition) and adequacy requirements (rank condition) with the formula $(K - M) > (G - 1)$ [14]. The agricultural household economic model of CCT recipient rice farm household is built in the form of a simultaneous equation system that has undergone a process of respecification. The model consists of 55 equations (G), namely 28 structural equations and 27 identity equations. The endogenous variable is 55 (the table only analyzed 28 endogenous variable) and the predetermined variable is 30 so that the total variable in the model is 85 (K). The number of maximum (endogenous and exogenous) variables in an equation is 8 variables (M). The results of model identification are $(85-8) > (55-1)$ and the model shows over identification [14],[15]. This model is estimated to use the 2SLS (two stage least squares) method.

4. Validation and Model Simulation

There are several error measures that are commonly used as instructions to evaluate how trends between variables affect each other [16]. The study used simultaneous econometrics with the selected criteria being U-Theil statistics. The general U-Theil value close to zero indicates that the model is quite well used for simulation. The decomposition of the U-Theil criteria is the values of the bias component (Um), the component of variance (Us), and the covariance component (Uc). Um value grows closer to zero, meaning the proportion of bias between the simulation value and the actual value is very small. Us values close to zero indicate that regression slope deviations are very small, while the value of Uc approaching one indicates that the component of residual bias is also very small [16].

In addition, in assessing the results of validation on the use of U-Theil, it will be simpler if it presents the minimum and maximum quantities and uses certain quantities, for example 0.5. Specifically for Um decomposition, the certain quantity used is a value of 0.1. The results of the validation of the study through the use of U-Theil criteria detailed according to groups of land area are shown in Table 25. The results of these validations in strata household land area below 0.5 hectares ranged between 0.0079 and 0.7435, while the results of the validation on the strata household area of 0.5 hectares and above ranged between 0.0055 and 0.6721. In both strata of land it is known that 44 of the equations (81.48 percent) have values less than 0.5. The results of the overall evaluation of the validation above generally shows that the predictive value of endogenous variables in the model is close to the actual value, it can be said that the model is feasible to use for the simulation.

Alternative simulation scenarios are as follows: (1) increasing rice prices by 10%, (2) increasing in cash transfer by 50%, (3) combination scenario (1) and (2).

III. RESULT AND DISCUSSION

1. CCT Recipient Farmer's Household Income Structure

On average, the income of CCT recipient farm farmers is 30.5 million per year (2.54 million rupiah per month) or 614 thousand rupiah per capita per month. Observing the structure of household income as shown in table 1, a tendency for diversification of income sources is visible. The tendency for income diversification is due to: (i) besides originating from rice farming, most farmers and members of their household work as farm laborers in other people's paddy fields which are a form of local wisdom; (ii) The big city are more accessible

in addition to the availability of employment opportunities in the non-agricultural sector at the research location; and (iii) the existence of sources of social protection programs in the form of CCT along with additions in the form of Indonesia Smart Card (*Kartu Indonesia Pintar, KIP*), and Raskin.

2. Farmer Input Structure

Table 2 displays the use of inputs and the total value of farm products per hectare. The total cost per planting season for one hectare of paddy rice harvested area is 18.7 million rupiah. The biggest component of business production costs is for land rent (43.71 percent). This is because most (95

percent) farmers possess a profit sharing system. In addition, the relatively large component of production costs is the workers' wages (30.94 percent) and agricultural services (10.73 percent). This confirms that the cultivation of rice is still labor intensive. While the contribution of fertilizer, in the cost of farming in this segment of farmers is 7.30 percent (1.28 million rupiah).

Table 1. Structure of Small Farm Household Income, Karawang Regency

No	Uraian	2017 Survey Results ¹		ST 2013 Results ²	
		Value (Rp 000)	(%)	Value ³ (Rp 000)	(%)
	Total Income	30.523	100,00	53.309	100,00
	Total Yield Income	14.691	48,13	36.364	68,21
1	Rice Plants Sector	10.297	33,74	27.218	51,06
2	Non-Rice Agriculture Sector	109	0,36	NA	NA
3	Non-Agricultural Sector	4.285	14,04	9.146	17,16
	Total Wage	9.844	32,25	7.850	14,73
4	Wages in the Rice Agriculture Sector	6.402	20,97	5.702	10,70
5	Wages in the Non-Rice Agriculture Sector	34	0,11	NA	NA
6	Wages in Non-Agricultural Sector	3.408	11,16	2.149	4,03
	Other Income	5.988	19,62	9.094	17,06
7	Transfer Receipt	784	2,57	NA	NA
8	Receipt from Social Protection	2.308	7,56	NA	NA
9	Estimated Rent, Interest, Profit & Others	2.896	9,49	NA	NA

Source: ¹Source: Primary Data, 2017 ²Sensus of Agriculture, 2013;

Note: ³The average value that has adjusted the inflation conditions for 2013-2017

Table 2. Structure of Small Farm Input, Karawang Regency

No	Uraian	2017 Survey Results		SOUT 2017	
		Value (Rp 000)	(%)	Value (Rp 000)	(%)
A.	Total Revenue	26,796		18,371	
B.	Total Cost	18,699	100.00	13,219	100.00
1	Wages	5,785	30.94	4,120	31.16
2	Agricultural Service	1,951	10.43	2,332	17.64
3	Seed	345	1.85	492	3.72
4	Fertilizer	1,380	7.38	1,207	9.13
5	Pesticides	576	3.08	584	4.42
6	Land Rent	8,173	43.71	3,375	25.53
7	Others	490	2.62	1,110	8.40

Source: Primary Data, 2017

3. Impact of Increasing 10 percent of HPP Policy

One of the agricultural policies that is often carried out by the government is market intervention by determining the price of production output. The price of grain is also an integral part of government policy through the mechanism of HPP of grain. This policy will affect the price of GKP at the farm level. An increase in HPP grain will provide the same amount of magnitude of changes in the price of grain transactions at the farm level [17]. In the study, the HPP policy was raised in such a way that grain prices increased by 10 percent. The simulation results of the policy impact are shown in Table 27. The table explains that the impact of the simulation results of the GKP price increase has a positive effect on all variables of farmer household economic performance in the rice farm, in line with the research of [18], stating that the policy of improving the price of farm products is a policy with a positive impact on farming performance.

The increase in the price of GKP on the model directly affects the area of arable land. This indicates that the increase in output prices provides incentives for farmer households to increase the area of arable land. The increase in arable land

area here is actually translated as an increase in planting intensity for one year, instead of expansion of land tenure. The increase in arable land area in turn has an impact on increasing production, resulting in an increase in rice farming revenues. Increasing the price of GKP by 10 percent based on the model led to an increase in the income of CCT recipient household rice farm at a relatively similar percentage in both land strata. In the input costs that are relatively unchanged, this increase caused an increase of rice farming income, so that the total household income also increases. This ready-to-spend income will affect household expenditure both on food and non-food. Similar effects also happen in investing in human resources. Detailed according to the strata of the land area, the increase in income from rice farming as a result of the increase in grain prices has a stronger impact on the land area of 0.5 hectares and above. Similarly, observed from the level of welfare indicated by the level of expenditure per capita, the increase in the price of grain has a higher impact on the group of land area of 0.5 hectares and above.

Table 3. Impact of Increasing 10 percent of HPP policy simulation

No.	Endogen Variabels	Unit	below 0.5 ha		0.5 ha above	
			Base value	(%Δ)	Base value	(%Δ)
1	Area of arable land (2 planting seasons)	Ha	0.5916	0.09	1.7845	0.06
2	Production of harvested dry grain (GKP)	Kg	3,529.10	2.58	10,023.30	1.34
3	Marketed Surplus	Kg	3,407.00	2.45	9,852.30	1.05
4	Total Revenue of rice farm	Rp 000	16,590.70	12.39	48,650.00	11.32
5	Urea fertilizer demand	Kg	200.50	1.10	520.30	0.46
6	TSP fertilizer demand	Kg	96.97	20.04	265.00	8.64
7	NPK fertilizer demand	Kg	39.74	12.55	137.80	8.49
8	Costs of Seeds, Fertilizers, and Pesticides	Rp 000	1,162.30	11.28	3,342.10	4.83
9	Labor costs	Rp 000	3,026.00	-0.81	10,698.30	-0.70
10	Total Cost of rice farm	Rp 000	10,803.10	1.17	33,851.00	0.35
11	Use of household workforce of rice farm	Day	36.45	2.23	54.55	4.14
12	Use of workers	Day	41.69	-0.81	140.70	-0.71
13	Total demand of rice farm labor	Day	78.14	0.61	195.20	0.67
14	Work allocation of the field hand	Day	77.81	0.50	86.85	1.28
15	Total work time allocation in non agr	Day	121.00	4.05	122.00	11.23
16	Total supply of household labor	Day	236.20	2.58	266.80	6.37
17	Yield of rice farm	Rp 000	5,787.60	33.33	14,799.00	36.39
18	Wages of field hand	Rp 000	6,054.90	0.35	6,683.40	0.83
19	Income of non-agricultural	Rp 000	7,505.40	3.29	7,772.80	9.19
20	Total household income	Rp 000	26,255.70	8.37	34,803.30	17.69
21	Value of rice consumption	Rp 000	4,060.80	2.10	4,421.10	6.81
22	Value of non-rice food consumption	Rp 000	12,411.60	5.42	15,157.20	12.89
23	Value of Non-food consumption	Rp 000	7,050.50	5.19	8,494.60	12.09
24	Total of consumption (21+22 +23)	Rp 000	19,462.10	5.34	23,651.80	12.60
25	Total investment value of HR	Rp 000	3,419.50	12.48	4,902.20	24.19
26	Total household expenditure (24 + 25)	Rp 000	22,881.60	6.41	28,554.00	14.59
27	Monthly per capita expenditure	Rp 000	480.00	6.38	617.40	14.77
28	Percentage of poor households	%	54.10	-20.08	26.51	-6.63

Further increases in expenditures have triggered households to provide more time to spend both on rice farming and non-rice farming so that the total supply of work time increases. Increasing the total amount of work time spent on rice farm will have an impact on increasing rice production. This demonstrates that the impact of changes in output prices is more responsive to household economic performance than the impact of changes in input prices. The percentage increase in the outflow of rice working time is relatively similar in the two strata of the land area. On the other hand, the increase in grain prices also has an impact on the increase in the total supply of working hours. A higher increase occurred in the 0.5 hectare land area strata which amounted to 6.37 percent, compared to the increase in the total outpouring of higher working time in the 2.52 percent strata of land area below 0.5 hectares. In addition, an increase in grain prices of 10 percent also has an impact on the increase in per capita expenditure which has a higher impact on the 0.5 hectare land strata and above. However, if the expenditure is compared to the poverty line, the number of the poor in this stratum decreases by 6.63 percent, this decrease is lower compared to the strata of the land area under 0.5 hectares whose number of poor people decreases by 20.08 percent.

4. Impact of CCT's 50% Cash Value Increase

Social protection programs can reduce economic barriers to access education, nutrition and health services, and contribute to increasing food security and food diversity. In rural areas, social protection can increase more efficient uses of resource, allowing poor rural households to invest in riskier

yet larger-yielding livelihood activities, especially by reducing liquidity constraints and supporting labor mobility [19]. One of the goals of CCT is to reduce the burden of expenditure and increase the income of poor and vulnerable households. Simulation of CCT policy changes by 50 percent so that the impact of CCT shock increases. This is because the proportion of CCT value for income is still considered to be very small compared to target households in Mexico at 20 percent of their income [20].

The impact of the simulation on increasing transfer value is presented in Table 29. The table demonstrates that an increase in the transfer value of 50 percent has a positive effect on all variables of household economic performance of rice farming in Karawang Regency, although not as extensive. An increase in cash transfers directly increases total household income. In addition, this policy also raises the level of employment, both the supply and demand for work time, and both in the rice farming sector and outside the agricultural farm. Increasing the level of outpouring of household work time will in turn increase income. Increased cash transfers indirectly increase the area of arable land. The increase in the area of arable land will increase the total production and marketed surplus of rice farmers. Although the increase in the area of arable land will also increase farming costs due to the increase in demand for fertilizer, the total income of rice farm is greater than the cost, so that income from rice farming increases. This increase has caused the total household income to increase.

Table 4. Impact of CCT's 50 percent policy simulation

No.	Endogen Variabels	Unit	below 0.5 ha		0.5 ha above	
			Base value	(%Δ)	Base value	(%Δ)
1	Area of arable land (2 planting seasons)	Ha	0.5916	0.03	1.7845	0.01
2	Production of harvested dry grain (GKP)	Kg	3,529.10	0.52	10,023.30	0.18
3	Marketed Surplus	Kg	3,407.00	0.33	9,852.30	0.11
4	Total Revenue of rice farm	Rp 000	16,590.70	0.58	48,650.00	0.20
5	Urea fertilizer demand	Kg	200.50	1.05	520.30	0.42
6	TSP fertilizer demand	Kg	96.97	0.78	265.00	0.30
7	NPK fertilizer demand	Kg	39.74	5.25	137.80	1.52
8	Costs of Seeds, Fertilizers, and Pesticides	Rp 000	1,162.30	1.08	3,342.10	0.35
9	Labor costs	Rp 000	3,026.00	-0.45	10,698.30	-0.14
10	Total Cost of rice farm	Rp 000	10,803.10	0.03	33,851.00	0.00
11	Use of household workforce of rice farm	Day	36.45	1.19	54.55	0.80
12	Use of workers	Day	41.69	-0.46	140.70	-0.14
13	Total demand of rice farm labor	Day	78.14	0.31	195.20	0.15
14	Work allocation of the field hand	Day	77.81	0.28	86.85	0.25
15	Total work time allocation in non agr	Day	121.00	2.23	122.00	2.21
16	Total supply of household labor	Day	236.20	1.40	266.80	1.24
17	Yield of rice farm	Rp 000	5,787.60	1.60	14,799.00	0.66
18	Wages of field hand	Rp 000	6,054.90	0.18	6,683.40	0.18

19	Income of non-agricultural	Rp 000	7,505.40	1.83	7,772.80	1.79
20	Total household income	Rp 000	26,255.70	4.52	34,803.30	3.43
21	Value of rice consumption	Rp 000	4,060.80	1.61	4,421.10	1.48
22	Value of non-rice food consumption	Rp 000	12,411.60	3.10	15,157.20	2.55
23	Value of Non-food consumption	Rp 000	7,050.50	2.81	8,494.60	2.35
24	Total of consumption (21+22 +23)	Rp 000	19,462.10	2.99	23,651.80	2.48
25	Total investment value of HR	Rp 000	3,419.50	6.64	4,902.20	4.67
26	Total household expenditure (24 + 25)	Rp 000	22,881.60	3.54	28,554.00	2.85
27	Monthly per capita expenditure	Rp 000	480.00	3.52	617.40	2.83
28	Percentage of poor households	%	54.10	-11.89	26.51	0.00

If detailed according to the land area group, the increase in income from rice farming as a result of the increase in CCT has more impact on the group of land area below 0.5 hectares. Likewise, viewed from the level of welfare, indicated by the level of expenditure per capita, it has more impact on the group of land area below 0.5 hectares. Similarly, the number of the poor also decreased by 11.89 percent. This indicates that the change in CCT value has more impact on CCT recipient farm households in the area of land under 0.5 hectares in terms of decreasing the poor population. Meanwhile, in the group of 0.5 hectares of land and above, the number of the poor has not changed. This is because the change in CCT value by 50 percent has not been able to raise the per capita income of poor households above the poverty line.

5. Impact of Combination Policy

Furthermore, if the policy simulation increases the price of GKP by 10 percent, combined with a simulation of increasing the cash transfer value by 50 percent, the results can be seen in Table 33. This combination of simulations is intended to explain the synergy between policies, known from the results of the combination of policies that have a better impact on

economic performance and farmer household welfare than each single policy simulation.

The aforementioned can be seen from the table that this combination of policies has a positive impact on all economic performance and household welfare. This is indicated by the increase in rice production, total income and income from rice farm, total outpouring of work time on rice farm, total supply of outflow of household work time, total income and total household expenditure. The increase in grain production, total revenue, and rice farm income is relatively similar in both strata of land area while the increase in total income and total expenditure has a higher impact on the land area of 0.5 hectares and above. Such impact is due to the increase in the larger non-agricultural income in the 0.5 hectare land area as a consequence of the increase in the total outpouring of non-agricultural household jobs that are larger in this strata.

Table 5. Impact of combination policy simulation

No.	Endogen Variabels	Unit	below 0.5 ha		0.5 ha above	
			Base value	(%Δ)	Base value	(%Δ)
1	Area of arable land (2 planting seasons)	Ha	0.5916	0.12	1.7845	0.07
2	Production of harvested dry grain (GKP)	Kg	3,529.10	3.11	10,023.30	1.53
3	Marketed Surplus	Kg	3,407.00	2.78	9,852.30	1.16
4	Total Revenue of rice farm	Rp 000	16,590.70	13.00	48,650.00	11.53
5	Urea fertilizer demand	Kg	200.50	2.19	520.30	0.86
6	TSP fertilizer demand	Kg	96.97	20.86	265.00	8.94
7	NPK fertilizer demand	Kg	39.74	17.83	137.80	10.01
8	Costs of Seeds, Fertilizers, and Pesticides	Rp 000	1,162.30	12.37	3,342.10	5.18
9	Labor costs	Rp 000	3,026.00	-1.27	10,698.30	-0.84
10	Total Cost of rice farm	Rp 000	10,803.10	1.21	33,851.00	0.36
11	Use of household workforce of rice farm	Day	36.45	3.42	54.55	4.94
12	Use of workers	Day	41.69	-1.27	140.70	-0.85
13	Total demand of rice farm labor	Day	78.14	0.92	195.20	0.82
14	Work allocation of the field hand	Day	77.81	0.78	86.85	1.54

15	Total work time allocation in non agr	Day	121.00	6.20	122.00	13.44
16	Total supply of household labor	Day	236.20	3.98	266.80	7.61
17	Yield of rice farm	Rp 000	5,787.60	35.03	14,799.00	37.09
18	Wages of field hand	Rp 000	6,054.90	0.52	6,683.40	1.01
19	Income of non-agricultural	Rp 000	7,505.40	5.13	7,772.80	10.99
20	Total household income	Rp 000	26,255.70	12.91	34,803.30	21.14
21	Value of rice consumption	Rp 000	4,060.80	3.72	4,421.10	8.30
22	Value of non-rice food consumption	Rp 000	12,411.60	8.54	15,157.20	15.46
23	Value of Non-food consumption	Rp 000	7,050.50	8.02	8,494.60	14.45
24	Total of consumption (21+22 +23)	Rp 000	19,462.10	8.35	23,651.80	15.10
25	Total investment value of HR	Rp 000	3,419.50	19.16	4,902.20	28.88
26	Total household expenditure (24 + 25)	Rp 000	22,881.60	9.96	28,554.00	17.46
27	Monthly per capita expenditure	Rp 000	480.00	9.90	617.40	17.64
28	Percentage of poor households	%	54.10	-41.95	26.51	-13.86

The increase in income both in total and in the rice and non-agricultural farms was also a result of synergies in both policies. This can be observed from each endogenous variable whose percentage increase is greater than the sum of each single simulation policy on the selected endogenous variables. Such combination of policies also synergizes in order to improve welfare and reduce poverty. Policy synergy occurs in each strata of land area, but at different levels of change. Increased welfare due to synergy in both of these policies has a higher impact on the land area of 0.5 hectares and above, but the rate of poverty reduction is higher in the strata of land area below 0.5 hectares.

However, according to [11] a combination of subsidized agricultural policies and social protection programs are overlapping. In fact, the social protection policy agenda was raised as compensation for market liberalization policies that limits the scope of state intervention in the economy. The market liberalization policy in question includes government purchase prices or input subsidies. In other words, a new social protection policy is necessary due to the elimination of the aspect of social protection provided by the state intervention policy in the form of price intervention. Furthermore, [11] suggest that during the transition to market liberalization, some aspects of social protection policies can be integrated into agricultural development policies but institutionally to be put under the banner of social protection policies.

IV. CONCLUSION

The synergy of agricultural policies in the form of support price of grain and social protection programs in the form of CCT is the optimal instrument in improving the welfare of farmers in rice farms and reducing the number of poor population in rural areas. The synergy of these two policies can be applied and made possible as an alternative choice. In addition, CCT instruments in particular are also able to

redistribute income in order to have a stronger push to reduce the number of poor people in the countryside. The impact of policy synergy is higher for farmers with a strata of land area below 0.5 hectares.

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