

ANALYSIS OF SOCIO-ECONOMIC OF TOBACCO FARMERS IN PROBOLINGGO REGENCY EAST JAVA INDONESIA

Nugrahini Susantinah Wisnujati ¹, Markus Patiung ^{2*}

^{1,2} Lecturer of Master of Agribusiness Program, Faculty of Agriculture, Wijaya Kusuma
University Surabaya

Corresponding author-email: ^{2*}markuspatiung@uwks.ac.id

ABSTRACT

The interest of tobacco ranchers in the Probolinggo Regency has forever been unsure because of changes in the cost of creation factors and the cost of tobacco items, affecting tobacco ranchers' pay and financial circumstances. The motivation behind the review is (1) to Analyze the pay of tobacco ranchers; (2) to Analyze the elements that influence the pay of tobacco ranchers. (3) Analyze the social states of tobacco ranchers. The strategies utilized in this study are specific techniques with R/C proportion investigation instruments and relapse examination. According to this review (1), the typical pay of tobacco ranchers in the Probolinggo rule added up to Rp 18,540,000/ha/developing season with an RC proportion = 1.6. (2) Factors that influence the pay of tobacco ranchers are land lease, ZA cost, urea cost, and pesticide cost. (3) Based on research, 83% of tobacco ranchers own their own homes and are incredibly durable dividers for the responsibility for merchandise utilized every day, which are fridges, TVs, and handphones. For vehicle possession, which is utilized to work and drop off from school, 57% use bikes, 28% use cruisers, and 14.29% use vehicles. Rata-normal wards of the rancher family at most is 3, to be specific, two youngsters and one spouse. Tobacco ranchers are OK with the climate; this is described by their functional improvement of a water system to clean the general climate, building love offices, and socialization spots to interface kinship. This demonstrates that the financial states of tobacco ranchers are satisfied and prosperous.

Keywords: Tobacco, Farmers, Social Economic

1. Introduction

Tobacco is an item that crosses areas, and its essential presence generally welcomes the consideration of many gatherings (Appau et al., 2020); (Appau et al., 2019); (Stratton et al., 2021). Nonetheless, not a local plant of Indonesia, the presence of tobacco has been joined and recognizable to the local area through the way of life of utilizing tobacco by not knowing the financial class. Moreover, the topographical states of a few districts in Indonesia, remembering a few regions for Probolinggo Regency, support the agricultural field with the jobs of most ranchers (Chingosho et al., 2021); (Shonhe et al., 2022).

The job of individuals' tobacco is considered vital in the social, monetary, and exchange fields. Prominent individuals' tobacco is required locally, particularly for cigarette organizations. On a fundamental level, the public authority ought to help the



advancement of farming and agrarian life and help its turn of events, including building modern regions in light of tobacco crop rural items. Tobacco is one of the backbone agribusiness wares. That gives extensive work, opens doors, and pays for the local area in every agribusiness chain. Tobacco additionally upholds the wheels of the economy with unfamiliar trade charges created (Hu et al., 2010); (Baker, 2018).

Probolinggo is one of the rules in East Java that produces tobacco of good quality. Practically all ranchers in 7 sub-locales, Kraksaan District, Krejengan District, Besuk District, Kotaanyar District, Paiton District, Pakuniran District, and Pajarakan District. The people who have rice fields or non-rice fields attempt to make the most of the potential chance to develop tobacco since it is felt entirely beneficial with a generally high selling cost assuming it delivers Good tobacco. Notwithstanding, a few ranchers feel that the probolinggo regime's tobacco wares today disliked previously — consistently, tobacco cultivation in Probolinggo Regency encounters changes underway. The environment and region fundamentally impact tobacco creation and the number of yields developed in light of the land region (Chingosho et al., 2021); (Geist, 2021); (Shonhe et al., 2022).

The Probolinggo Regency Government will assemble a Tobacco Products Industrial Area situated in one of the tobacco-creating focuses of the Probolinggo Regency (Hiscock & Bloomfield, 2021); (Gupta et al., 2022). The advancement of this Tobacco Products Industrial Area intends to foster the tobacco business in the Probolinggo Regency, which will build the success of tobacco ranchers in the Probolinggo Regency. The Probolinggo Regency Government additionally leads advising and gives other rural business needs like seeds, seeds, manures, and other supporting requirements. This is done to the gathering of tobacco ranchers (Gapari, 2020).

2. Literature Review

Tobacco ranchers' livelihoods have forever been dubious because of sporadic tobacco costs due to the dealers' games, so it generally influences the financial states of tobacco ranchers. With the foundation of the tobacco business claimed by the neighborhood government and oversight by the tobacco rancher bunch, it is customary to expand tobacco ranchers' pay, which eventually further develops tobacco ranchers' financial circumstances. To increment pay, many elements influence.

The examination targets of the E-financial Social Condition Analysis of Tobacco Farmers in Kabupaten Probolinggo in 2022 are as per the following:

1. Investigating the pay of tobacco ranchers;
2. Investigate the elements that influence a rancher's pay Tobacco;
3. Investigating the financial states of tobacco ranchers;

3. Research Method

The technique utilized in this study is a spellbinding quantitative strategy that dissects rural information utilizing R/C proportion examination and relapse investigation.



4. Result

Tobacco Farming Business Analysis

Land Ownership; Tobacco ranchers' territory is not generally their own; the expense of leasing land is Rp 7,500,000 for each hectare. Selling Price of Tobacco. At the selling cost of class A dried tobacco leaves, the typical selling cost per kilogram is Rp 32,000. Class B dry tobacco leaves are assessed to average Rp 25,267/kg, and dry leaves class C selling cost of Rp 18,958/kg. For class A tobacco comprising of center leaves or more, class A tobacco leaves are the best quality tobacco leaves. Class B tobacco comprises center leaves, implying that this leaf has a standard quality under class A leaves. While class C tobacco comprises lower leaves with less standard quality or less significant the selling cost is lower than class A tobacco and class B tobacco.

**Table 1. Total Cost, Total Production, Revenue, Profit, and R/C Ratio
Tobacco Farming in Probolinggo Regency in 2022.**

No.	Description	Budget			Unit Price (Rupiah) Total
		Volume			
A.	Fix Cost				
	Land Lease	1,00	Hectare	7.500.000	7.500.000
	Total				7.500.000
B.	Variable cost				
	▪ Seed	20.000	(EMWD)	40	800.000
	▪ Fertilizer				
	SP-36	100	Kilogram	2.400	240.000
	ZA	100	Kilogram	1.700	170.000
	Urea	200	Kilogram	2.250	450.000
	▪ Pesticide	1	Paket	1.000.000	1.000.000
	▪ Worker				
	- Tractor Hand Machine (rental)	1	Package	200.000	1.200.000
	- Making beds, soil scattering	40	(EMWD)	50.000	2.000.000
	- Planting hole making	20	(EMWD)	50.000	1.000.000
	- Planting	30	(EMWD)	40.000	1.200.000
	- Planting hole closure	20	(EMWD)	50.000	1.000.000
	- Hoarding	20	(EMWD)	50.000	1.000.000
	- Fertilization	20	(EMWD)	50.000	1.000.000
	- Pest and disease control	10	(EMWD)	50.000	500.000
	- Harvest	70	(EMWD)	50.000	3.500.000
	- Transportation	6	Package	150.000	900.000
	- Equalization	10	(EMWD)	50.000	500.000
	- Peddling	30	(EMWD)	100.000	3.000.000
	- Put in a tray	60	(EMWD)	45.000	2.700.000
	- Drying	40	(EWWD)	50.000	2.000.000
	- Packing	20	(EWWD)	50.000	1.000.000
	- Contributions of the Association of Water Users Farmers	1	(EMWD)	600.000	600.000
	Total				25.160.000
	Total Cost of A+B				32.660.000
	Total Production	1.600	Kilogram		
	Total Revenue	1.600	Kilogram	32.000	51.200.000
	Profit				18.540.000
	R/C ratio				1,6

Data Source: PPL Probolinggo Regency
Equivalent Man Working Day (EMWD)
Equivalent Women Working Day (EWWD)

Factors Affecting Tobacco Farmers' Income

A. Classic Assumption Test

1. Normality Test

The ordinariness test intends to test whether the disruptor variable or buildup has an ordinary appropriation in the relapse model. This review utilized chart investigation testing and the Kolmogorov-Smirnov test. In graph investigation, the ordinary dissemination will shape one corner to corner straight line. If the dispersion of leftover information is ordinary, the line portraying the truthful information will follow its corner to corner line. Ordinariness test with Kolmogorov-Smirnov test, with test standards, if the consequences of One-Sample Kolmogorov Smirnov at asymptotic are critical over the importance level of 0.05 shows a traditional appropriation design. Assume Kolmogorov Smirnov's One Sample result at a critical asymptotic underneath the importance level of 0.05 does not show a run-of-the-mill dissemination design. The relapse model does not meet the suspicion of ordinariness.

a. Graph Analysis

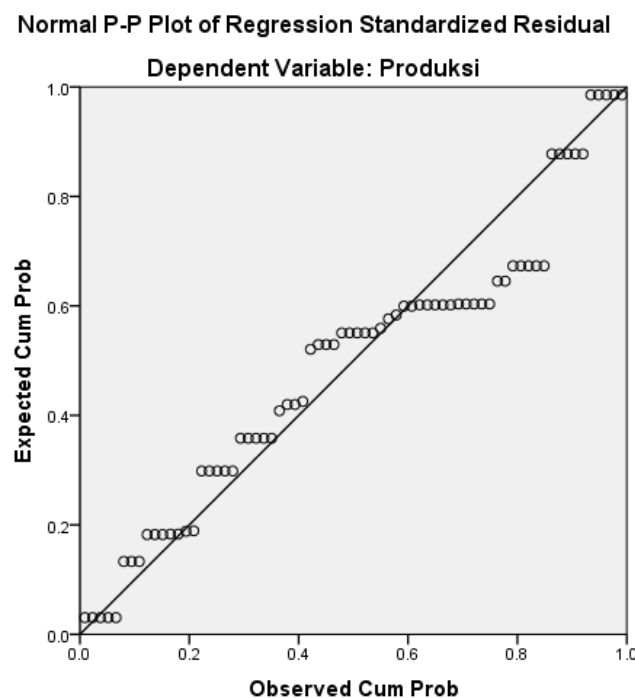


Figure 1. Standard P-P Plot Test Chart

On the P chart. the plot can be presumed that it tends to be reasoned that the dabs follow and move toward the askew line. So it very well may be inferred that the relapse model meets the presumption of ordinariness, implying that the information is conveyed typically. Nonetheless, the diagram is not from the natural world; this should be seen by directing the Kolmogorov-Smirnov measurement test.

Table 2. Kolmogorov-Smirnov One-Sample Normality Test Results

One-Sample Kolmogorov-Smirnov Test									
		Land Lease	Seed Price	ZA Price	Urea Price	SP-36 Price	Pesticide Price	Labour Wages	Income
N		70	70	70	70	70	70	70	70
Normal Parameters ^b	Mean	.7429	15672.8571	217.0000	134.8571	129.5714	2.9000	125.4857	1101.4286
	Std. Deviation	.25170	5123.67824	175.05486	70.43638	66.00254	.88711	38.24208	390.26389
Most Extreme Differences	Absolute	.347	.287	.220	.264	.244	.288	.307	.183
	Positive	.347	.278	.220	.264	.244	.288	.307	.183
	Negative	-.332	-.287	-.185	-.163	-.143	-.235	-.300	-.135
Kolmogorov-Smirnov Z		2.903	2.397	1.845	2.211	2.045	2.407	2.566	1.532
Asymp. Sig. (2-tailed)		.000	.000	.002	.000	.000	.000	.000	.018
a. Test distribution is Normal.									
b. Calculated from data.									

One-Sample Kolmogorov Smirnov Normality results are met assuming the worth of importance got is more noteworthy than the degree of importance. In the table of Kolmogorov-Smirnov test results got asymp esteem. Sig. (2-followed) 0.000 more modest than alpha 5%, the information meets ordinarieness. So it tends to be inferred that the lingering in the model is dispersed ordinarily.

2. Multicollinearity

The multicollinearity test tests whether relapse models are found to have cholera between free (autonomous) factors. This review utilized resilience and VIF testing. The end esteem ordinarily used to demonstrate the presence of multicollinearity is a Tolerance worth of < 0.10 or equivalent to the worth of VIF > 10.

Table 3. Multicollinearity Test Results

Coefficients			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Land Lease	.012	85.945
	Seed Price	.011	90.870
	ZA Price	.431	2.321
	Urea Price	.368	2.715
	SP-36 Price	.212	4.726
	Pesticide Price	.104	9.636
	Worker Wages	.186	5.383
a. Dependent Variable: Profit			

Given the Coefficient Table, every independent variable has Tolerance esteem not more modest than 0.1. This indicates no relationship between progressions surpassing 95% and the VIF esteem is not more prominent than 10. So it very well may be presumed that the straight relapse model does not encounter multicollinearity issues aside from land lease and seed costs.

3. Autocorrelation

The Autocorrelation test expects to test whether the straight relapse model connects between the disruptor mistake in period t and the blunder of the disruptor in the $t-1$ (past) period. The review utilized the Durbin - Watson (DW) test.

Table 4. Autocorrelation Test

Model Summary					
Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Durbin-Watson
1	.980 ^a	.961	.957	81.14344	.443

a. Predictors: (Constant), Worker Wages, ZA Price, Urea Price, SP-36 Price, Land Lease, Pesticide Price, Seed Price

b. Dependent Variable: Income

Autocorrelation discovery is performed utilizing the Durbin-Watson measurable test. The quantity of free factors (k) utilized is 7, and the quantity of perceptions (n) is 70; then, at that point, the dU esteem is acquired at 1.8375, and the dL esteem is 1.4012. The outline model table shows a Durbin-Watson (DW) worth of 0.443. In light of the Durbin-Watson choice standards, assuming the worth is in the space of $dw (0.443) < dL (1.401)$, then, at that point, it tends to be reasoned that there is a positive autocorrelation.

4. Heteroskedasticity

In testing, heteroskedasticity associates autonomous factors with lingering unstandardized values. Testing utilizes an importance level of 0.05 with a 2-sided test. Assume the connection between autonomous factors and residuals can be of the meaning of more than 0.05. One might say that everything looks great with heteroskedasticity in relapse models.

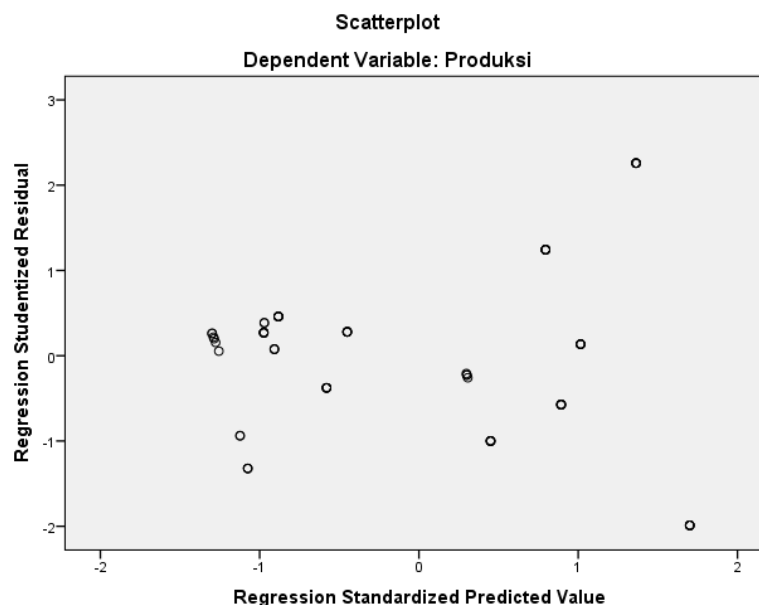


Figure 2. Heteroskedastity Test Graph

Heteroskedasticity testing is completed utilizing buildup tests given the scatterplot figure. It tends to be seen that the dabs spread arbitrarily and are spread both above and underneath the zero on the Y-pivot and do not frame a particular example. It may well be inferred that there is no heteroskedasticity in relapse models.

B. Statistical Test

1. Test the suitability of the model with the coefficient of determination

Table 5. Model Conformity Test With Determination Coefficient

Model Summary					
Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Durbin-Watson
1	.980 ^a	.961	.957	81.14344	.443

a. Predictors: (Constant), Worker Wages, ZA Price, Urea Price, SP-36 Price, Land Lease, Pesticide Price, Seed Price

b. Dependent Variable: Income

The coefficient of assurance decides the number of varieties of autonomous factors that can make sense of a reliant variable. The location of the coefficient of assurance in this study is to take a gander at the worth (R^2) of the relapse yield. Because of exploration, the extent of the assurance coefficient is 0.961. This implies that 96.1% of pay variety can be made sense by seven free factors, land lease, seed value, ZA value, Urea value, SP-36 cost, pesticide cost, and work cost. The leftover 100 percent - 96.1% = 3.9% is made sense of for different reasons outside the model—standard Error gauge (SEE) of 81.14. The more modest the SEE worth will make the relapse model more exact in anticipating subordinate factors (Ahmaddien & Susanto, 2020); (Wufron, 2020).

2. Model conformity test

Techniques are utilized to examine factors influencing tobacco cultivating pay — a typical Least Square (OLS) strategy. The aftereffects of the assessed pay model in the financial investigation of farming should be visible in the Coefficient Table. In the Summary Model Table, the worth of the coefficient of assurance (R^2) is 0.961. This implies that the variation in pay-free factors was impacted by 96.1 percent. The excess 3.9 percent is made sense of by different varieties excluded from the model (condition).

3. The effect of variable independent on income simultaneously

Test F results are recorded in the ANOVA Table. In the Sig segment, it very well may be seen that acquired a p-esteem (0.000) more modest alpha of 5%; then, at that point, it tends to be reasoned that the relapse model overall is critical at the genuine degree of 5%. This implies that autonomous factors together altogether affect subordinate factors at the 5% level. Test standards are as per the following:

1. If the worth F ascertains \leq F table, then, at that point, speculation H_0 is acknowledged.
2. If the worth F ascertains \geq F table, then theory H_1 is acknowledged.

Table 6. Multiple Linear Regression F Test

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10100883.203	7	1442983.315	219.157	.000 ^b
	Residual	408223.940	62	6584.257		
	Total	10509107.143	69			

a. Predictors: (Constant), Worker Wages, ZA Price, Urea Price, SP-36 Price, Land Lease, Pesticide Price, Seed Price

b. Dependent Variable: Income

In light of exploration can be reasoned that the worth F determined (219.157) > F table (2.14) with a blunder pace of 0%. Theory H1 is acknowledged, implying that all factors simultaneously (together) are critical clarifications of ward factors (income).

4. The effect of variable independent on income partially

Table 7. Multiple Linear Regression t test

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.266	37.924		.429	.669
	Land Lease	1759.664	359.792	1.135	4.891	.000
	Seeding Price	-.024	.018	-.310	-1.300	.198
	ZA Price	-.623	.085	-.280	-7.331	.000
	Urea Price	-1.285	.229	-.232	-5.624	.000
	SP-36 Price	.500	.322	.085	1.553	.126
	Pesticide	123.996	34.182	.282	3.628	.001
	Labour Wages	.260	.593	.025	.439	.662

a. Dependent Variable: income

5. Discussion

Test this theory, a fractional examination of every one of the free factors is done, specifically:

a. Effect of land lease (X_1) on Income

Variable land lease (X_1) is worth sig 0.000 < 0.05, which means land lease influences income. The tangible experimental outcomes utilizing the t-test acquired a worth of 4,891 > t table 1.99, at a mistake pace of 0.5%; in this manner, land rents fundamentally affect income at a certainty level of 99.5% (Refnaldo et al., 2019).

b. Effect of seed value (X_2) on Income

Variable seed value (X_2) is worth sig 0.198 > 0.05, which implies the cost of seedlings does not influence income. The measurable experimental outcomes utilizing the t-test acquired a worth of - 1.30 < t table 1.99, at a mistake pace of 0.5%; in this manner, the cost of seedlings did not fundamentally affect income at the certainty level of 99.5%.

- c. Effect of ZA (X_3) cost on income
Variable ZA (X_3) is worth sig 0.000 < 0.05, implying that ZA's cost influences income. The tangible experimental outcomes utilizing the t-test were acquired at a count worth of - 7,331 > t table 1.99, at a mistake pace of 0.5%; in this manner, ZA adversely influences income at a certainty level of 99.5%.
- d. Effect of Urea Price (X_4) on Income
Variable cost urea (X_4) merits a sig of 0.000 < 0.05, which implies the cost of urea influences income. The tangible experimental outcomes utilizing the t-test were acquired at a count worth of - 5,624 > t table 1.99, at a mistake pace of 0.5%; hence, the cost of urea adversely influences income at the certainty level of 99.5%.
- e. Effect of SP-36 (X_5) Price on income
Variable value SP-36 (X_5) is worth sig 0.126 > 0.05, and that implies SP-36 doesn't influence income. The measurable experimental outcomes utilizing the t-test were acquired at a count worth of 1,553 < t table 1.99, at a blunder pace of 0.5%; along these lines, SP-36 affected the income at a certainty level of 99.5%.
- f. Effect of Pesticide Prices (X_6) on income
Variable cost pesticide (X_6) is worth sig 0.001 < 0.05, implying the cost of pesticides influences income. The tangible experimental outcomes utilizing the t-test got a worth of 3,628 > t table 1.99, at a blunder pace of 0.5%; subsequently, the cost of pesticides essentially affected income at a certainty level of 99.5%.
- g. Effect of Labor Price (X_7) on Income
Variable work value (X_7) is worth sig 0.662 > 0.05, implying the work cost does not influence pay. The tangible experimental outcomes utilizing the t-test were gotten at a count worth of 0.439 < t table 1.99, at a mistake pace of 0.5%; in this manner, the work cost did not fundamentally affect pay at the certainty level of 99.5%.

Socio-Economic State of Tobacco Farmers

As of now, tobacco ranchers in Probolinggo Regency are OK with the climate; this is described by their dynamic dutiful work with cleaning the town, further developing water systems to clean the general climate, and building love offices and socialization spots to interface fellowship. In light of exploration of the condition of the rancher's home, 83% is its own home. It is a highly durable divider, demonstrating that the government assistance of the board angle is satisfied. Electronic things are utilized daily, like coolers, TVs, and handphones. In the vehicles used to get to work and drop off from school, 57% use bikes, 28% use cruisers, and 14.29% use vehicles.

The average family responsibilities at most are 3, namely 2 and one spouse. This demonstrates that the family arranging program (KB) has been effective. With not such a large number of wards, the satisfaction of monetary necessities is straightforward. It is combined with the impressive pay of tobacco cultivating, specifically Rp. 18,450,000 /hectare/establishing season overall, one might say that the monetary states of tobacco ranchers in the Probolinggo regime are tremendous and prosperous.

6. Conclusion

- a. The Probolinggo Regency Government can innovate. Innovation in the field of horticulture to be more productive. Tobacco cultivation requires the best creation and quality of creation—the best creation to answer the problems of the tobacco industry area of Probolinggo Regency.
- b. Farmers/gatherings of tobacco ranchers in land use with the Sustainable Food House Area Model (KRPL) in the modern area of Probolinggo Regency.
- c. It is essential to prepare and improve a show plot. It shows plots the improvement of tobacco grounds as a pilot unit in tobacco development following the specialized suggestions of development in the advancement area of potential delivering natural substances/tobacco. This expects to understand the efficiency of unrefined substances/tobacco with low nicotine, sound, and intensity. Demplot likewise expands the adequacy of land use during the dry season/absence of water through expansion of tobacco crop development, ranchers' pay, and government assistance.
- d. Tobacco plantation business in Probolinggo Regency is a hereditary business. Millennial farmers need regeneration. So it is necessary to do regular training

References

Bibliography following the American Psychological Association (APA) Style:

- Ahmaddien, I., & Susanto, B. (2020). *"Eviews 9: Analisis Regresi Data Panel. Ideas Publishing."* 1–95.
- Appau, A., Drope, J., Goma, F., Magati, P., Labonte, R., Makoka, D., Zulu, R., Li, Q., & Lencucha, R. (2020). *"Explaining Why Farmers Grow Tobacco: Evidence From Malawi, Kenya, and Zambia."* Nicotine & Tobacco Research: Official Journal of the Society for Research on Nicotine and Tobacco. 22 (12), 2238–2245. <https://doi.org/10.1093/ntr/ntz173>
- Appau, A., Drope, J., Witoelar, F., Lencucha, R., & Chavez, J. J. (2019). *"Why do Farmers Grow Tobacco? A Qualitative Exploration of Farmers Perspectives in Indonesia and Philippines."* International Journal of Environmental Research and Public Health, 16(13). <https://doi.org/10.3390/ijerph16132330>
- Baker, A. (2018). *"Policy points."* Lighting Design and Application: LD and A, 48 (5), 26–28.
- Chingosho, R., Dare, C., & Van Walbeek, C. (2021). *"Tobacco Farming and Current Debt Status Among Smallholder Farmers in Manicaland Province in Zimbabwe."* Tobacco Control, 30 (6), 610–615. <https://doi.org/10.1136/tobaccocontrol-2020-055825>
- Gapari, M. Z. (2020). *"Analisis Kondisi Sosial Ekonomi Rumah Tangga Petani Tembakau di Desa Batu Nampar Kecamatan Jerowaru."* Islamika, 2 (1), 20–35. <https://doi.org/10.36088/islamika.v2i1.427>
- Geist, H. J. (2021). *"Tobacco and deforestation revisited. How to move towards a global land-use transition?"* Sustainability (Switzerland), 13 (16). <https://doi.org/10.3390/su13169242>



- Gupta, P. C., Puntambekar, N., & Assunta, M. (2022). *"South Asia's Evolving Tobacco Hydra: Moving from Quandary to Hope."* Tobacco Control, 31 (2), 142–145. <https://doi.org/10.1136/tobaccocontrol-2021-057013>
- Hiscock, R., & Bloomfield, M. J. (2021). *"The Value of Studying Supply Chains for Tobacco Control."* Tobacco Prevention and Cessation, 7, 1–7. <https://doi.org/10.18332/tpc/131811>
- Hu, T. W., Mao, Z., Shi, J., & Chen, W. (2010). *"The Role of Taxation in Tobacco Control and its Potential Economic Impact in China."* Tobacco Control, 19 (1), 58–64. <https://doi.org/10.1136/tc.2009.031799>
- Refnaldo, R., Maiyastri, M., & Asdi, Y. (2019). *"Analisis Ketahanan Pangan Provinsi Sumatera Barat dengan Metode Regresi Data Panel."* Jurnal Matematika UNAND, 7 (4), 39. <https://doi.org/10.25077/jmu.7.4.39-49.2018>
- Shonhe, T., Scoones, I., Mutyasira, V., & Murimbarimba, F. (2022). *"Tobacco Farming Following Land Reform in Zimbabwe: A New Dynamic of Social Differentiation and Accumulation."* Journal of Southern African Studies, 0 (0), 1–21. <https://doi.org/10.1080/03057070.2022.2030954>
- Stratton, A. E., Wittman, H., & Blesh, J. (2021). *"Diversification Supports Farm Income and Improved Working Conditions during Agroecological Transitions in Southern Brazil."* Agronomy for Sustainable Development, 41 (3). <https://doi.org/10.1007/s13593-021-00688-x>
- Wufron. (2020). *"Analisis Regresi Linier dengan IBM SPSS Statistics."* Universitas Garut, 1 (March 2020), 0–10. <https://doi.org/10.31219%2Fosf.io%2Ffwex8>

