

Tobacco use and its impact on poverty among forest households: The cases of Indonesia

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Abstract

Cigarettes are a widely distributed type of food product in the community, mainly in West Java (32.7%) and West Nusa Tenggara (30.3%). The government, therefore, needs to understand the impact of tobacco use on poverty among farm households. The study was conducted in three villages of Cukangkawung, Sukaharja, and Labuhan Badas, selecting 30 respondents per village. Those are farmers who work in the forest sector, for a total of 90 respondents. Data were obtained through interviews and desk studies that were analyzed descriptively. The results of the study showed that the highest number of smokers in Cukangkawung, Sukaharja, and Labuhan Badas were 10, 10, and 11 persons, respectively. Their yearly average consumption per person was IDR 2,754,000, IDR 9,375,000 and IDR 1,682,180 respectively. The smoking rate per village was 9.47% (Cukangkawung), 9.96% (Sukaharja), and 10.28% (Labuhan Badas). Cigarette consumption by farmers leads to lost opportunities to invest in other purposes, including education and health care. These two factors lead to productivity which is closely related to poverty. As productivity is low, farm incomes are also low, so the needs cannot be fully satisfied. It was revealed when income rises, cigarette consumption rises, but it is interesting to note that when income falls, cigarette consumption remains constant. If this continues, farmers and families will continue to live in poverty. This phenomenon requires government action to break the chain of poverty through a variety of policies and incentives.

Keywords: Cigarettes; Education; Health; Poor; Government intervention

1. Introduction

The number of rural poor in Java is 13.38%, while in Bali and Nusa Tenggara is 17.75%. The poor are those whose expenditure per capita is below the poverty threshold. Poverty is generally described as an inability to meet basic human needs, including the need for food, clothing, shelter, education, and health (1). The types of food products that influence poverty are rice, cigarettes, beef, chicken eggs, chicken meat, instant noodles, and granulated sugar (2). One of the foods that impact the poverty line is cigarettes. Currently, cigarettes can be easily consumed by everyone including children because there are no clear and strict rules regarding the age of smoking. It is easy to obtain cigarettes because the prices are varied and it is facilitated by merchants who allow the purchase of cigarettes to be made individually, not necessarily to buy a package of cigarettes. In addition, the price is affordable at all levels of society and cigarettes are readily available, although in remote villages. Most consumers of low-priced cigarettes are poor and live in rural areas or small towns and work in the agricultural sector (3). The risk of smoking is not only for users but also for second-hand smokers, i.e., people exposed to cigarette smoke. While the government has often called for cessation by describing the negative health impact of smoking, the number of users continues to rise.

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Smoking prevalence declined, while twenty years ago, one in three Indonesians smoked, and now two in three Indonesians smoke (4). This is a growing concern as smoking prevalence has also risen from 4.2% in 1995 to 6.7% in 2013. It means that four out of 100 Indonesian women smoked and currently seven out of 100 Indonesian women smoked (5). The same goes for farmers in the village of Labuhan Badas in Sumbawa Regency, the village of Cukangkawung in Tasikmalaya Regency, as well as the village of Sukaharja in Ciamis Regency. The highest smoking prevalence in Indonesia is West Java (32.7%) while the smallest smoking prevalence is Papua (21.9%). At this level, the prevalence of NTB tobacco use is 30.3% (6).

The study was conducted to determine the burden of cigarettes from smoking and their impact on the poverty of farm families. The results of this research may be used as assessment material for farmers and their families to regulate household consumption. Most importantly, it could provide policy documents to the government on the regulation of cigarette use in the community to break the chain of poverty.

2. Material and methods

The research was performed at Labuhan Badas Village, Sumbawa Regency; Cukangkawung Village, Tasikmalaya regency; and Sukaharja Village, Ciamis Regency, West Java. The choice of research site was intentional because it is a demonstration plot of research. This activity took place in February 2017 (Cukangkawung-Tasikmalaya), April 2017 (Labuhan Badas - Sumbawa), and January 2017 (Sukaharja - Ciamis). The respondents were all farmers involved in research activities in the three demonstration plots, for a total of 30 respondents each, resulting in a total of 90 respondents. The data collected was primary data which was collected directly through interviews using questionnaires and observations from farm families at the research site. Primary data include the income of farmers, the level of education, the consumption of farm families, and the observations of farm families related to the use of cigarettes. Secondary data included cigarette consumption, smoking health risk, number of smokers, number of poor, and other data related to this study. The collected data, both qualitative and quantitative, were combined and then presented in the form of tables, matrices, and figures. In addition, findings are drawn to meet research objectives that are presented in a descriptive manner (7).

3. Results and discussion

3.1. Cigarette Consumption Burden on Farmer's Household

Cigarettes are products that farmers have been familiar with since childhood. They are used to seeing parents and the surrounding community smoking, unsurprisingly as children have begun to smoke. The study by Mirnawati et al (8) stated that the factors that influence teen smoking are gender, peers, environment, and willingness to try. The identical finding is served by Kahalley et al (9) who stated that ever smoking is related to peers, and household smoking. Based on the results of basic health research, the average number of cigarettes smoked per day for 10-year-olds in Indonesia is 12.3 cigarettes (equivalent to one pack). Cigarette consumption in rural areas is higher than in urban areas for both men and women. However, in 2010, women in urban areas smoked more cigarettes than women in rural areas. The total proportion of cigarette spending in rural areas is higher (14.18%) than the proportion of cigarette spending in urban communities (10.33%).

3.2. Tobacco use by income level

The amount of cigarettes consumed by the community at the research site is a function of income. Generally speaking, the higher the income, the higher the expenses for cigarettes, unfortunately, the lower the income, the more the expenses for cigarettes tend to stay constant. Income has a positive and significant effect on cigarette use and that the higher a person's actual income, the stronger the incentive to smoke (10). However, since cigarettes are considered to be addictive products, the price legislation does not apply to cigarettes. As such, increased prices will not reduce cigarette consumption (11). In addition, the income of farmers in the research location does not affect the amount of expenditure on cigarette consumption. Even though the income received is low, there are still expenditures for smoking cigarettes. Table 1 shows the smoking status by income group.

Table 1 Number of Smokers by Income Group

No.	Income Group/year (1,000,000)	Cukangkawung Village, Tasikmalaya		Sukaharja Village, Ciamis		Labuhan Badas Village, Sumbawa	
		Number of smokers	Average cigarette expenditure (IDR/year/person)	Number of smokers	Average cigarette expenditure (IDR/year/person)	Number of smokers	Average cigarette expenditure (IDR/year/person)
1	5-10	3	2,836,000	10	5,295,000	1	240,000
2	10-15	4	1,710,000	3	18,320,000	11	1,682,180
3	15-20	10	2,754,000	6	16,760,000	10	2,351,700
4	20-25	2	6,660,000	2	16,800,000	4	3,345,000
5	25-30	1	4,320,000	4	12,720,000	2	3,984,000
6	30-35	2	4,860,000	-	-	-	
7	35-40	3	5,160,000	2	21,120,000	1	4,800,000
8	40-45	1	6,480,000	-	-	-	
9	45-50	1	4,680,000	0	-	-	
10	50-...	3	8,940,000	3	39,200,000	1	5,400,000
	Total	30	48,400,000	30	130,215,000	30	21,802,880

Data source: processed from primary data in 2017

A total of 10 farmers in Cukangkawung village who earn IDR 15,000,000 - 20,000,000 smoked for IDR 2,754,000/year/person. A total of 10 farmers in Sukaharja Village, with an income of IDR 5,000,000 - 10,000,000 spent IDR 9,375,000/year/person for cigarettes. A total of 11 farmers in Labuhan Badas Village with an income of IDR 10,000,000-15,000,000 consuming cigarettes amounted to IDR 1,682,180/year/person.

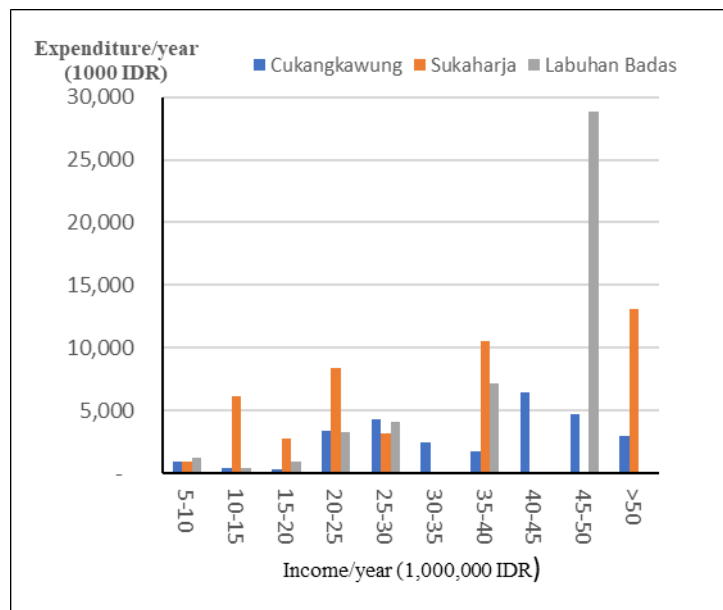


Figure 1 Graph of annual smoking usage by income

Farmers consume cigarettes every day; therefore, smoking has become an obligation and if not done, farmers feel addicted. Farmers prefer to buy cigarettes compared to buying food, they can withstand hunger as long as smoking. If

they do not have money to buy cigarettes, farmers will start making their cigarettes to save money. In addition, buying cigarettes by hand or borrowing cigarettes at the store first and getting paid later if the farmer has money. The form of cigarette consumption carried out by farmers is not only cigarettes but also tobacco.

The level of income earned by farmers does not affect the cost of smoking cigarettes. Farmers at the lowest income levels have been revealed to be still spending money on cigarettes. The more farmers earn, the more cigarettes they consume, as farmers in Sukaharja Village, have demonstrated. They consume IDR 5,295,000/person/year for the income rate between IDR 5,000,000–10,000,000/person/year and increase consumption to IDR 39,200,000/person/year when income exceeds IDR 50,000,000/person/year.

The high consumption of cigarettes among Sukaharja Village, farmers is due to higher incomes arising from various work activities. They often migrate to Lampung province, which greatly affects their lifestyle, especially tobacco use, as they often meet people outside the village (12). According to farmers, smoking is used to alleviate mood, particularly when they meet new people. For farmers, cigarettes can make them dependent even if some substances are harmful to their health, leading to reduced productivity (13). Figure 1 shows in more detail the amount of cigarette consumption concerning income.

3.3. Share of farm household expenditure

The income generated by farmers and families is used to address all family needs in the form of food, shelter, health, and other needs. The amount of the expenditure is usually regulated by the housewife because all income will be given to the wife and only leaves some to buy cigarettes. However, the husband is still asking for extra money to purchase cigarettes. As a result, the amount of tobacco consumed by farmers is much higher than the consumption of other commodities. Table 2 presents the amount spent on cigarettes on other commodities.

Table 2 Expenditure on cigarettes as a percentage of other basic materials

No.	Type of usage.	Cukangkawung Village, Tasikmalaya		Sukaharja Village, Ciamis		Labuhan Badas Village, Sumbawa	
		Total	%	Total	%	Total	%
1	Food	12,331,679	35.84	11,021,221	41.51	16,511,423	73.19
2	Clothing	5,989,467	17.41	1,574,486	5.93	312,333	1.38
3	Education	4,498,600	13.07	2,412,486	9.09	1,740,500	7.71
4	Others	5,103,067	14.83	4,267,438	16.07	722,217	3.20
5	Cigarette	3,259,600	9.47	2,644,500	9.96	2,320,300	10.28
6	Housing	2,612,717	7.59	4,137,317	15.58	692,300.0	3.07
7	Health	612,500	1.78	492,857	1.86	261,417	1.16
	Total	34,407,628	100	26,550,305	100	22,560,490	100

Data source: processed from primary data in 2017

The largest expenses of all farmers at the research site are entirely the same, namely food. Meanwhile, the percentage of total cigarette spending varies from 9.47% (Cukangkawung), 9.96% (Sukaharja) to 10.28% (Labuhan Badas). We find that the amount spent on cigarettes at the three research sites is almost identical. This shows that wherever farmers are located, they use the same quantity of cigarettes.

Labuhan Badas Village farmers prefer cigarettes over other expenditures because the location of the fields is in the forest away from the village. Farmers usually work and stay in the fields for 2-3 days (14), therefore, to get rid of loneliness, cigarette consumption will increase. For food consumption, farmers generally only need to bring rice, while the accompanying dishes are enough to take in the fields. Although the fields of the Cukangkawung Village and Sukaharja Village farmers were also far from the village, they usually went to the fields in groups and never stayed in the fields. If the fieldwork is not completed, he will return the following day. Consequently, the use of cigarettes for these two farmers is not too much, they always have priority over other consumption.

The lowest consumption amongst farmers in Sukaharja Village and Labuhan Badas Village is in education, due to geographical constraints. The farmer's village is far away from school facilities and the lack of infrastructure makes it the community difficult to access schools. Therefore, for people with low educational standards, this is an excuse not to go to school. On the contrary, the educational consumption of Cukangkawung Village farmers is higher than the consumption of cigarettes due to geographic location. It gives the community access to schools, whereas the physical school buildings are already there in their villages. The lowest costs for farmers on the research site are health care because the community continues to prioritize treatment with medicinal plants that are often found in the natural environment. It is therefore very rare that people look for health services in the village or the sub-district.

3.4. Poverty among forest farmer households

Smoking cigarettes can lead to the loss of other consumption opportunities (opportunity costs) that can be used by other family members, including school and health costs. According to Adriana (15), poverty can be caused by many factors, including health status, educational attainment, and productivity. It is known in Table 2, that school spending is low, which makes the average educational level of farmers in the research site only primary school (SD). The limited cost of the allowance for family education and the fact that the head of the household is less educated can affect the level of education of the children. There are still many farm families who are not concerned about their children's education. When coupled with unfavorable geographical conditions, lead creates a weak educational spirit, even if the government has declared 9 years of compulsory education since 1994. The higher the level of educational attainment, the more knowledge and skills will increase, leading to increased productivity. In addition, low labor productivity is one of the sources of poverty.

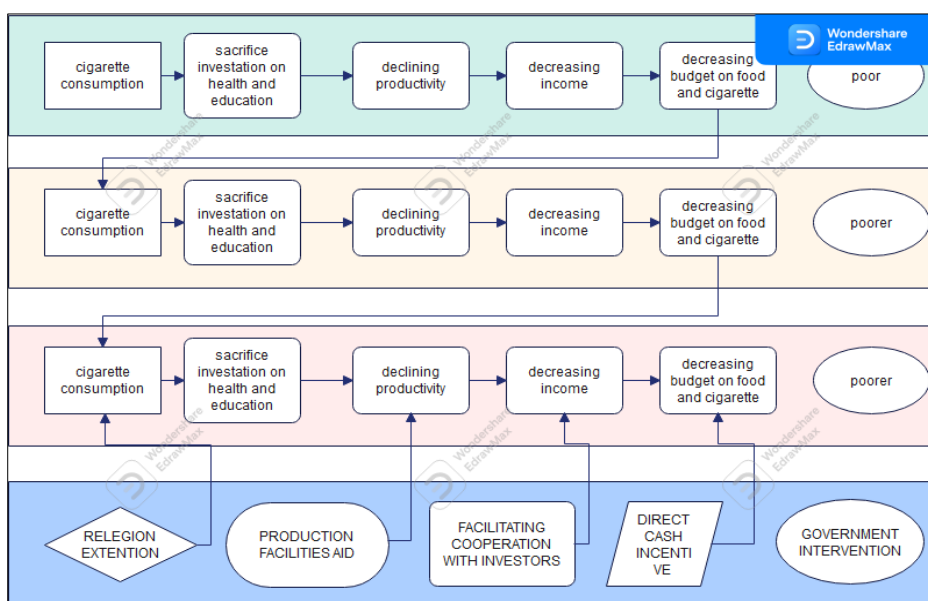


Figure 2 A circle of the impact of tobacco use on the livelihoods of farmers and the response needed

Farmers at the research site could not access the Health Social Security Administration Body (BPJS) because they could not set aside money to pay for the BPJS. Being a BPJS participant is mandatory for all Indonesians because the government has implemented a Beneficiary Assistance Scheme (PBI) that can be used to access this health insurance. PBI participants are not required to pay the regular monthly contributions of BPJS Health. Additionally, the contribution will be fully funded by the government (16). Sadly, even those farmers do not have access.

Neglect of the education and health care of farm family member's results in reduced productivity, so poverty will continue to surround the farm family. Azahari (17) argues that poverty has a negative influence on public health, namely reducing the realization of public health figures, in particular the life expectancy of an individual. While education has a positive impact on public health, this means that increasing educational factors can improve public health indicators in this case the life expectancy of individuals. Poverty, which binds farmers together, is like an uninterrupted chain. Spending on education and health care to improve productivity and incomes does not happen because the money is spent on cigarettes. Figure 2 shows how tobacco use affects poverty.

Cigarette consumption by farmers will reduce investment in health care, education, and farm management so that productivity decreases, resulting in lower income. Unfortunately, when income goes down, that does not affect the number of expenses for cigarette consumption, but the amount remains or sometimes becomes higher. This happens because smoking causes farmers to have false pleasure and happiness. This pseudo-pretty pleasure is what the farmers continue to maintain at the expense of other interests. Consumption that is sacrificed is what is necessary for the long term, such as investing in education and health. Furthermore, food consumption cannot be reduced because it is necessary at present. If investments in education and health continue to decline, future farmers and their families will not be able to adapt to global developments. Farmers and their families will ultimately be marginalized.

3.5. The Role of Government to Reduce Cigarette Consumption

Consumptive lifestyle is one of the factors that trigger poverty in the farmer's environment. This condition occurs because the environment around the farmers also does the same so that it is regarded as natural and ends up becoming a habit. Tobacco use is one example of a way of life. This activity brings a lot of harm to farmers, families, and the environment. So, the government has to step in to regulate and control that. The government has an interest in the health and safety of the people because it can be a capital for the development of the nation. The government actions depicted in Figure 2 include:

- Advice on the health risks of smoking and religious views on cigarettes. This socialization activity must continue to be passed on to the community so that awareness increases to reduce cigarette use and even change farmers' behavior not to smoke.
- Assistance with suitable and timely agricultural production facilities, so that farmers' agricultural activities are not hampered and agricultural activities are not disrupted. This can have an impact on income growth so that the needs of farmers and their families can be met and well-being can be achieved. The high activity of farmers can reduce the appetite for smoking.
- To establish business partnerships with the financiers/product holders, this collaboration is very important for the farmers, in particular, so that they can host the products and offer capital loans for their agricultural activities. Marketing and capital certainty for farmers can ensure the livelihood of farmers and their families.

Direct financial assistance to the poor can help meet their basic needs so that the community becomes more prosperous.

4. Conclusion

Farmers' income goes entirely to domestic consumption, including food, clothing, education, health, housing, and cigarettes. At various income levels, food consumption cannot be reduced while other consumption is adjusted. When incomes increase, cigarette consumption increases, but interestingly, when incomes decrease, cigarette consumption remains constant. Consumption of cigarettes can still be maintained under certain conditions, at the expense of educational requirements and health care.

The rates of tobacco use in the research sites are 9.47% (Cukangkawung-Tasikmalaya), 9.96% (Sukaharja-Ciamis), and 10.28% (Labuhan Badas-Sumbawa). The educational uses are 13.07% (Cukangkawung-Tasikmalaya), 9.09% (Sukaharja-Ciamis), and 7.71% (Labuhan Badas-Sumbawa). While the consumption of medical care is 1.78% (Cukangkawung-Tasikmalaya), 1.86% (Sukaharja-Ciamis), and 1.16% (Labuhan Badas-Sumbawa). Levels of education and health affect productivity, where low productivity can lead to poverty. This poverty will continue to affect farmers and their families if their consumption habits remain unchanged. Farmers should reduce cigarette consumption and shift their consumption towards education and health. In the future, educational attainment is increasingly necessary because technological change is occurring rapidly. Farmers, therefore, need to be able to innovate and develop strategies for survival. However, the reality is that the quality of education is falling, which keeps farmers on a subsistence basis. For this reason, the role of government is urgently needed to break the chain of poverty through policy intervention. In addition, the government should help with health care and religious extension, subsidize production inputs, provide direct financial support, and facilitate partnerships. Equally important, helping children to choose non-smoking friends or teaching ways to resist smoking influences from friends may be important pathways for smoking prevention.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this document.

Statement of informed consent

Survey was conducted with Guidelines for the Indonesian Forestry Socio-Economic Survey (PSSEKI) 2000.

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