

# THE ECONOMICS OF TOBACCO FARMING IN NORTH MACEDONIA

*Myths and Realities*





**THE ECONOMICS  
OF TOBACCO  
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NORTH MACEDONIA**

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## KEY FINDINGS FROM THE FARMERS' SURVEY

- ❖ Contrary to the government's claims that tobacco is a strategic crop that delivers high profits for tobacco farmers, the results of this research show that tobacco cultivation is barely profitable, at best.
- ❖ Input costs for growing tobacco are typically very high in North Macedonia, particularly compared to most other crops.
- ❖ Income of tobacco farmers decreases significantly when the opportunity costs (unpaid family labor) of tobacco cultivation are considered. This is largely what makes growing tobacco less profitable, because households are misallocating scarce labor to a less productive economic endeavor.
- ❖ Children's help in the harvesting of tobacco is 2.3 times more common compared to children's help in harvesting other crops.
- ❖ Considering per capita income, current tobacco farmers have the highest incidence of poverty, whereas never tobacco farmers have the lowest.
- ❖ Although tobacco cultivation results in significant financial loss, the long tradition of farming this crop in the country, generous subsidies, the advanced age of most tobacco farmers, and the lack of information about alternatives keep many farmers in tobacco cultivation.
- ❖ Former tobacco farmers have greatly shifted to other economic activities rather than agriculture and have a more diversified economic profile.
- ❖ 77 percent of tobacco farmers state that if the subsidies are taken away, they would stop growing tobacco, suggesting that cultivation continues largely due to this assistance.

## METHODOLOGY

This Policy Brief highlights the findings of a survey of 806 farming households from a nationally representative sample of 14 municipalities (urban and rural) in the top tobacco-producing regions in North Macedonia. The core target groups (categories of respondents) for the survey are the following:

1. tobacco farmer (farmer who grew tobacco in 2021);
2. former tobacco farmer (farmer who grew tobacco in any year before 2021 and now cultivates other agricultural crops); and
3. farmers who never grew tobacco (farmer who cultivates any agricultural crop other than tobacco and never cultivated tobacco).

## BACKGROUND

Tobacco farming is on the decline in North Macedonia. There is a decreasing trend in the number of cultivated hectares of tobacco and in the number of signed contracts with tobacco buyers. The number of tobacco farmers is decreasing: in 2020, the number of tobacco farmers was 19,702, which is less than half of the number it was in 2010 (42,622). Tobacco producers are relatively older, suggesting that younger generations are not very interested in tobacco farming. Most tobacco farmers struggle financially, living with an average monthly income below the average net monthly wage and below the value of the minimum household consumer basket. Tobacco leaf cultivation occupies around 3.2 percent of total arable land in North Macedonia<sup>1</sup> and North Macedonia is the second largest producer of oriental-type tobacco leaf after Turkey.<sup>2</sup> More than 90 percent of tobacco is exported, and the remaining 10 percent is used in domestic cigarette manufacturing. Tobacco exports exceed imports by several times in North Macedonia.<sup>3</sup> According to the latest data, the tobacco industry comprises only four percent of total industry in the country.

**North Macedonia ratified the Framework Convention on Tobacco Control (FCTC) in 2006**, which not only introduced a legal commitment to reduce tobacco production and consumption but also to help those who are employed in the tobacco sector to find alternative viable livelihoods.<sup>4</sup> The process of EU integration will require the reduction of crop-specific subsidies, likely leading to less income from this source to tobacco farmers and an eventual reduction in the area harvested. The Government adopted a new Strategy for Tobacco Production (2021–2027) in 2020<sup>5</sup> that includes an action plan with a short-term period (2021–2024) in which there is envisaged indirect support for tobacco farmers, but preparations will be made with education and counseling for future change to other crops.

**Most tobacco-farming households are focused on growing tobacco as a main source of their livelihood. For the majority of tobacco farmers (around two-thirds), tobacco revenue represents a large share of total household revenue.** This could perhaps be attributed to the tradition of families growing tobacco, the generous subsidies provided by the government, and the contract market for tobacco leaf. This could also suggest that growing tobacco is considered more profitable by tobacco farmers than growing other crops. **However, it is important to consider that many tobacco farmers (30 percent) are also growing nontobacco crops.**

<sup>1</sup> Hristovska Mijovic, B., Spasova Mijovic, T., Trpkova-Nestorovska, M., Tashevskaa, B., Trenovski, B., & Kozeski, K. (2022). *Tobacco farming and the effects of tobacco subsidies in North Macedonia*. Analytica, Skopje, North Macedonia.

<sup>2</sup> The four major producers of oriental type tobacco are Turkey, North Macedonia, Greece, and Bulgaria, where natural and climate conditions are suitable for this crop.

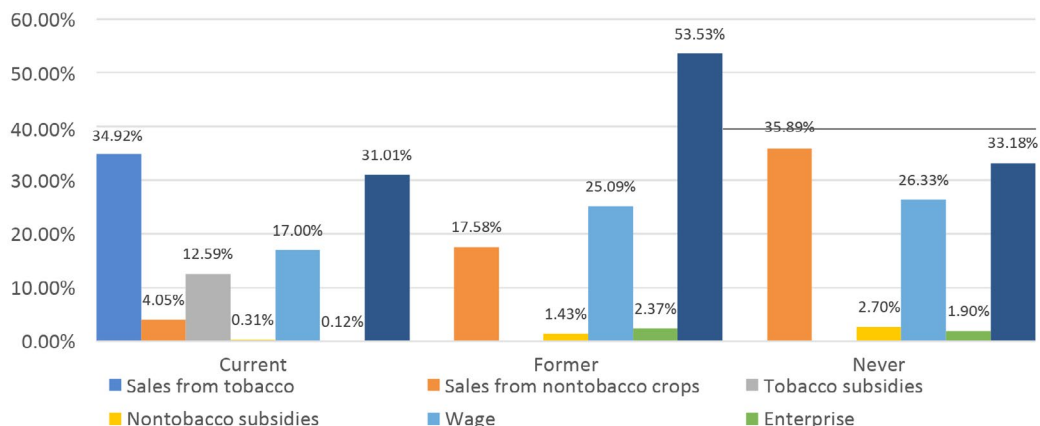
<sup>3</sup> SSO Database

<sup>4</sup> Law on ratification of the Framework Convention of Tobacco Control of the World Health Organization Official Gazette of the Republic of Macedonia No 68,2006

<sup>5</sup> TOBACCO PRODUCTION STRATEGY FOR THE PERIOD 2021-2027, WITH ACTION PLAN, Official Journal of the Republic of North Macedonia no.32/2021 from 08.02.2021

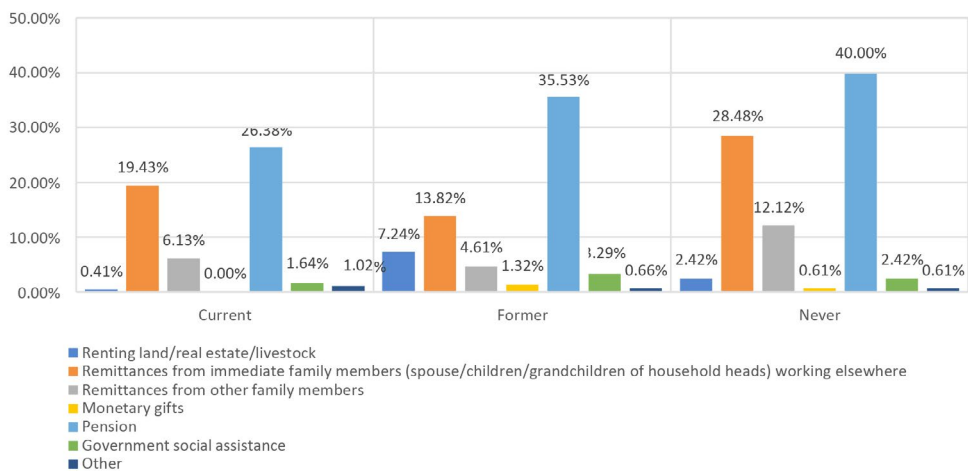
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Figure 1. Shares of different sources in total household revenue



Current tobacco farmers rely mostly on tobacco farming and tobacco subsidies, comprising together 47.5 percent of their total revenue (34.9 percent from tobacco sales and 12.6 percent from subsidies). In addition, 31 percent of their household revenue comes from other revenues (rent, remittances from family members, pensions, and government social assistance). However, current tobacco farmers earn less than former and never tobacco farmers from sources other than tobacco crops. **Former tobacco farmers are more likely to rely on revenue sources other than agricultural revenue. Never tobacco farmers have the most balanced proportion of agricultural and nonagricultural activity contributing almost equally to their household revenues.**

Figure 2. Participation of each income source in the category "Other income," by type of farmer



Remittances are one of the most important components for maintaining an adequate level of income and standard of living for tobacco farmers' families. The survey results show that more current tobacco farmers rely on remittances (25 percent) compared to former tobacco farmers (19 percent), but less than never tobacco farmers (40.6 percent). In addition, many farmers' households rely heavily on pensions for additional income, pointing to the outsized share of older farmers.

**Tobacco farming is input intensive**, both in terms of direct inputs such as fertilizers and chemicals and in terms of farm labor (hired and household). **Consistent with research in other countries, labor and non-labor input costs for growing tobacco are typically very high in North Macedonia, and median tobacco input costs are significantly higher than median nontobacco input costs.**<sup>6</sup>

**On average, former tobacco farmers generate much higher household income than never tobacco farmers and current tobacco farmers.** The average former tobacco farmer generates USD 16,451.56, per year while the average tobacco farmer only generates USD 12,072.40 per year. The higher household income of former tobacco farmers can be explained, among other reasons, by shifting to non-agricultural activities that generate higher wage income and other income (including pensions and remittances). Even though never tobacco farmers realize much higher nontobacco crop income than former tobacco farmers, their realized other income is lower.

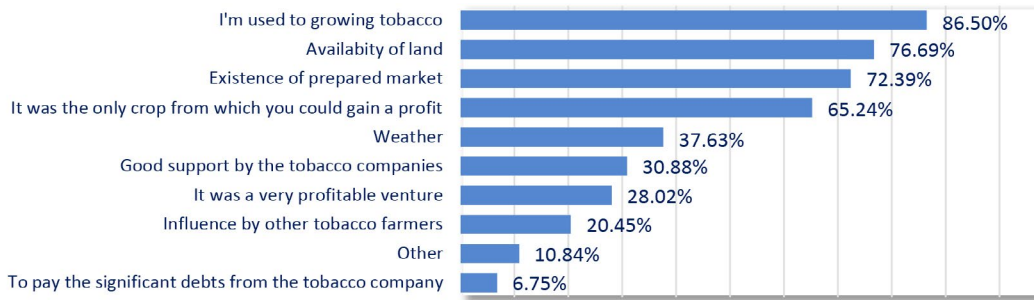
**Table 1.** Average income from different sources (in USD)

	Current tobacco farmer		Former tobacco farmer		Never tobacco farmer	
	Income	Valid N	Income	Valid N	Income	Valid N
Nontobacco crops profit	5,819.01	15	5,237.26	15	12,519.78	33
Nontobacco crops income	1,290.27	63	1,057.44	48	2,600.89	88
Tobacco income	-279.54	336	n/a	0	n/a	0
Enterprise income	n/a	0	-31,854.55	1	-22,145.45	2
Wage income	6,456.02	202	7,223.85	57	7,915.71	77
Other income	10,863.89	219	11,119.98	79	6,455.62	119
Total household income	12,072.40	363	16,451.56	74	12,858.24	109

**Although tobacco farmers' livelihoods are not as lucrative as perceived, they continue to grow tobacco.** This is mostly because of the farmers' familiarity with tobacco farming (86.5 percent), availability of suitable land (76.7 percent), and the existence of a secure market via contracts with leaf buyers (72.4 percent). For traditional tobacco families, there is some reluctance to shift to other crops as it is resource-demanding and sometimes skills-demanding, and due to the incentives of the government subsidies and ready market for tobacco leaf they expect a sure revenue, even if it is not large. **Former tobacco farmers report switching to other crops due to the low price of tobacco as their primary reason, followed by unfair grading and more attractive alternatives. The last reason signals important potential for intervention and shifting possibilities.**

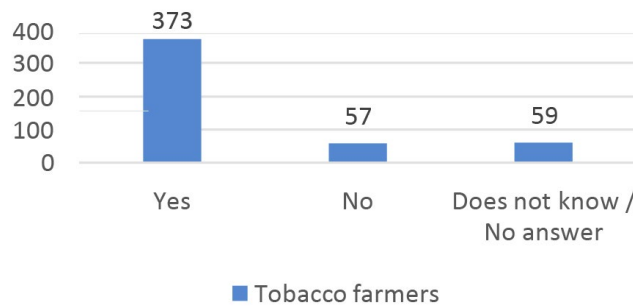
<sup>6</sup> This is consistent with previous research for other countries (e.g. Briones 2015; Chavez et al., 2016; Goma et al., 2015; Keyser and Juita, 2005; Magati et al., 2016; Makoka et al., 2016; Mulyana, 2015).

**Figure 3.** Current tobacco farmers' reasons for growing tobacco

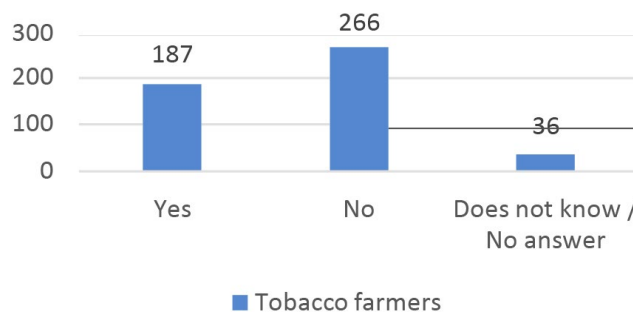


**Tobacco subsidies are blurring market signals in tobacco production. For more than a decade in North Macedonia, subsidies have been one of the key measures used by all governments, regardless of political background, to support agricultural production.** In 2020, the government spent EUR 30 million, or a quarter of the total agricultural subsidies, on tobacco farming subsidies. Regular increases in tobacco subsidies motivate tobacco farmers to grow more tobacco to get more subsidies, despite not being certain they will be able to sell the produced quantity. **The role of the subsidies is reflected in the fact that 77 percent of tobacco farmers state that if the subsidies were taken away, they would stop growing tobacco.** Subsidies also affect around half of tobacco farmers' decision to grow other crops. **However, 54.3 percent claim that the subsidies have not improved their standard of living.**

**Figure 4.** If the subsidies are taken away, would you stop growing tobacco?



**Figure 5.** Has the increase in subsidies improved your standard of living?





## RECOMMENDATIONS

**The government should create comprehensive evidence - based policies to incentivize farmers to shift away from tobacco farming.** Shifting to nontobacco crops is likely to result in better livelihoods for many farmers. The government must identify potential crops and the necessary conditions and actions (such as soil conservation and irrigation) such that shifting away from tobacco will be an attractive and viable option.

**Agriculture subsidies must emphasize long-term investment in the sector that contributes more broadly to increased productivity and efficiency.** The government should aim to increase domestic agricultural production, especially of wheat, corn, and barley, but also of other agricultural products that will increase domestic food security. The world export market for food crops also looks promising, with high demand and insufficient supply forecasts for the foreseeable future.

The government should provide **education on the opportunity costs related to cultivation of different crops. Many tobacco farmers are not aware of how much time they devote to their own crop cultivation and how they could improve their use of their own labor.** Better explanation of these costs may encourage farmers to transition to opportunities that are more lucrative. **Educational programs should also help farmers learn to grow alternative crops that bring higher income and are suitable for local conditions.** The education programs should inform farmers about possible access to loans and help them acquire skills and access to new, advanced farming technology that will increase the quality and quantity of the crops they cultivate.

**The government can establish financial and nonfinancial incentives to encourage cultivation of nontobacco crops.** For example, this could be done by increasing low-interest credit programs and allocation of state agricultural land for nontobacco crop cultivation. **To improve productivity of alternative farming activities, the government should increase their investments in improvement of the quality of soil and irrigations systems to increase their output.** The goal is to increase the arable land for other high-value crops, particularly food. In this way, the total annual domestic production of strategic food crops in the country will increase and the dependence on imports of these crops will be reduced.

**Connecting farmers to processing factories to establish long-term relationships for nontobacco crop growing would help farmers to transition and engender prosperity and security for those families.** These connections will provide farmers with access to available markets, which is cited as one of the top reasons why tobacco farmers continue to farm tobacco.

### **Acknowledgments**

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