

Tracking the Progress and Feasibility of Alternatives to Tobacco Cultivation

A report on crop diversification in tobacco growing regions of Karnataka, India

FINANCIAL SUPPORT: WHO, SOUTH-EAST ASIA REGIONAL OFFICE, NEW DELHI

Study Team: Nayantara S. Nayak, A.R. Kulkarni, D.R. Revankar



Centre for Multi-disciplinary
Development Research (CMDR), Dharwad

(A National Institute of Research, Teaching and Training, Supported by Indian Council of Social Science Research (ICSSR), New Delhi and Government of Karnataka, Bengaluru)



Abstract

Tobacco in India is grown due to high returns with guaranteed prices supported directly or indirectly by the tobacco industry, institutional support, political backing, and lack of similar marketing facilities for alternate crops. While the cases of targeted shifting to alternate crops, supported by national and international agencies or voluntary shifting of farmers due to irrigation, demand for cash crops, organic farming, and health concerns have shown promising results with shifting over to equally remunerative alternate crops, there is a little progress in the entire farm community embracing alternate crops and livelihoods in tobacco growing regions. In this background, the information about an entire village or a cluster of families moving out of tobacco cultivation in bidi and Flue Cured Virginia (FCV) tobacco growing regions in Karnataka state, India, and, sustaining it during the past one decade was a major revelation to researchers as tobacco is a complex issue with multiple entities involved in the promotion of its cultivation.

*In this context, this study was undertaken adopting a **purposive sampling** strategy to select **Bennihalli** and **Adaguru** villages, representing bidi and FCV tobacco-growing regions, respectively. A household survey covering **352 farm households** willing to participate was conducted in **2025**, with a **full-time farmer** serving as the key respondent in each household. The investigation employed an **exploratory case study** approach to address the study objectives, particularly focusing on motivating factors and sustainability concerns. For comparative analysis, the immediately adjacent tobacco-growing villages were selected as a **control group**, and farm household surveys were conducted in these villages as well. Despite numerous constraints, it is noteworthy that **Adaguru** and **Bennihalli**, both located in tobacco-growing regions, demonstrate a substantial transition away from tobacco cultivation. Specifically, **80.65% of farmers in Adaguru** (excluding non-growers who permit the sale of tobacco under their licences) and **99.06% of farmers in Bennihalli** have shifted to alternative crops and livelihoods.*

*The focused group discussions revealed farmers' interests in organic farming, agro-forestry, sericulture, turmeric, sandal wood cultivation, etc. Dairy, goat rearing, poultry, floriculture, etc., have been supportive sources of income to farmers. The transition indicates that crops such as sugarcane, black gram, Bengal gram, green gram, soy bean, vegetables, maize, ground nut, in bidi tobacco region, and, areca nut, ginger, yam, ragi, cowpea, horse gram, coconut, vegetables, and banana in FCV tobacco region can be both **profitable and environmentally sustainable** when supported by a **planned transition strategy**, institutional backing from the agriculture and horticulture departments, and strong farmer unity through community mobilisation, and organisation through Farmer Produce Organisations (FPOs).*

Introduction

Tobacco has been viewed as an indispensable cash crop with no feasible alternatives in tobacco growing regions across the world. But the very fact that it was not an indigenous crop in most of these regions that grow it now is an overlooked issue in the discussions and dialogues that centre around the economics of tobacco crop or alternate crops to tobacco. It became a cash crop due to its addictive qualities. It is a plant introduced to the economies of Europe and Asia by traders and dates back to the discovery of America by Columbus in 15th century who found the practice of smoking of dried tobacco leaves by the natives of the region, and introduced it to Europe.¹ This writing considers tobacco to be originating also from Brazil and that its use spread widely in Europe as a ‘holy herb’ for many illnesses. In India, tobacco was probably introduced in the early 17th century by Portuguese during the Mughal rule. The British, promoted its commercial use particularly for the manufacture of cigarettes. Later, due to its revenue earning capacity and export potentials, the cigarette tobacco received the institutional support from the Government of India through Tobacco Board set up in 1975. Till 2025, it was the sole crop receiving research support by Central Tobacco Research Institute (CTRI), Rajahmundry. CTRI was renamed as National Institute for Research on Commercial Agriculture (NIRCA) in January 2025, and the institute is required to extend its support to castor, chilly, ashwagandha and turmeric in addition to tobacco. This initiation is expected to boost research and the cultivation of these crops in the near future.

The drive against tobacco cultivation arises from the fact that consumption of tobacco is a major cause of adverse health impact and loss of life, which are proved to be true scientifically by several studies across the world. Its continued production on a large scale with high yielding varieties and vertical growth is sustained by domestic and international demand. Its products are fused into different varieties, and ways to attract the younger generation exposing them to health hazards. This demands institutional intervention in regulating its production as well consumption. Several state governments and the central government in India and, countries across the world have taken steps to control its usage over the past two decades.

The world tobacco area, which was above 40 lakh hectares during 2011 to 2014, showed a sustained reduction thereafter coming down to 31.37 lakh hectares in 2022 showing a reduction of 22% (Statista 2024). In India, the area under tobacco has been hovering around 4 lakh hectares with sustained production promoted by domestic and international demand, and the tobacco industry. It reduced by 7% during 2018-19 to 2022-23 from 4.1 lakh hectares to 3.8 lakh hectares. But, increased by 28% during 2022-23 to 2024-25. The area recorded in 2024-25 was 4.9 lakh hectares.²

¹ References/quotes in the original project report – “A report on tracking the progress and feasibility of alternatives to tobacco cultivation”, CMDR, Dharwad, 2026.

² Department of Agriculture and Farmers Welfare Economics (2026) “Agricultural Statistics at a Glance- 2024-25”. Statistics and Evaluation Division, MoA& FW, Government of India.

According to Global Adult Tobacco Survey-GATS-2, the prevalence of tobacco use has declined from 34.6% in 2009-10 to 28.6% in 2016-17 in India. There has been a decline in smoking and smokeless tobacco use from 14% and 25.9% in GATS-1 (2009-10) to 10.7% and 21.4% in GATS-2 (2016-17) respectively. The restrictions on consumption have yielded positive results worldwide, while measures to control the production/supply of tobacco are still in the initial stages. The vast tobacco dependent employment and the livelihood of tobacco farmers has been a justification for its cultivation and an obstacle in promoting shifting from tobacco.

The 'World No Tobacco Day 2023' theme declared by the World Health Organisation (WHO) highlighted the importance of food security with its slogan "***We need food, not tobacco***". This campaign sends a message to tobacco growing countries and their farmers across the world to grow food crops and shun away tobacco cultivation.

There are many best practices of tobacco growers who have successfully shifted to other crops across the world including India. Most of them are scarcely spread, being either individual efforts of progressive farmers or cluster of farmers facilitated by NGOs, state agricultural universities/research institutions/Indian Council of Agriculture Research (ICAR) institutes or international agencies. In India, Centre for Multi-disciplinary Development Research (CMDR) located in Dharwad carried out an action research in a small village named Sidnal in bidi tobacco region of southern Karnataka in the year 2000 to examine the feasibilities of shifting from tobacco. The intervention saw a positive impact with shifting of more than 50% of the farmers to sugarcane, soy bean, vegetables and fruit cultivation. Bidi tobacco farmers in Nippani tract of Belagavi district in Karnataka and Kolhapur district of Maharashtra have shifted to sugarcane, vegetables, maize, floriculture and the cultivation of fruits due to the availability of irrigation and market. So also the farmers in southern black soil region of Andhra Pradesh have shifted to chickpea, black gram, red gram, maize, oil seeds, millets, etc. Uttar Pradesh Government started the UP Diversified Agricultural Support Project (UPDASP) in September, 1998 with World Bank assistance to encourage diversification of agriculture in the state. Phase-II of the project was started in November, 2007 with support from the state government and from 2015-16, the programme received funds under the Rastriya Krishi Vikas Yojana (RKVY) to encourage farmers to replace tobacco cultivation with alternative crops. Potato, masoor, maize and mustard are the crops being grown by farmers, but shifting to alternate crops is not on large scale. CTRI, Rajahmundry in Andhra Pradesh and Hunsur in Karnataka also conduct research on alternate crops, and the Tobacco Board organises training/awareness programmes on alternate crops. In West Bengal, the Uttar Banga Krishi Viswavidyalaya (UBKV), located in Pundibari, Cooch Behar has engaged in agricultural transformation in North Bengal by promoting crop diversification and training farmers in alternative high value crops like mushroom and organic seed cultivation. Maize, potato, medicinal and aromatic plants have been identified as alternatives to traditional tobacco farming.

Some of the above are demonstrative efforts showcasing best practices, or experiments on alternate crops by research institutes, while a few others are voluntary shifting by farmers who found alternate crops on their own in the course of their experiments with other crops or through shifting induced by availability of facilities like irrigation, market, etc.

The success stories in alternate crops are also heard from other tobacco growing countries viz. Kenya (bamboo, cassava, soybean, beans, sweet potato, corn, etc.), Bangladesh

(tea, paddy, maize, sunflower, mustard, wheat, vegetables like, pumpkin, snake gourd, spinach, okra, potato, brinjal, etc.), Sri Lanka (paddy, green chilli, brinjal, carrot, bitter gourd, cabbage, onion, etc.). However, although the area under tobacco cultivation has come down in Sri Lanka, tobacco continues to be grown without government support. The tobacco industry continues to promote tobacco cultivation in Sri Lanka by luring non-tobacco growers and engaging political leaders in its activities. In Bangladesh, there are reports about farmers replacing tobacco farming in Rangpur district as against reports of farmers switching back to tobacco cultivation in Cox's Bazar area although the tobacco growers were not getting any assistance from the agriculture office. According to a research study in Indonesia, tobacco farmers are not static in their decision-making and are willing to shift away from tobacco farming when viable alternatives are available. And the earnings of non-growers were higher than the earnings of tobacco growers due to diversified earning sources. The area under tobacco in Kenya has also reduced during 2010 to 2019 mainly due to decline in leaf prices on account of poor quality and the promotion of alternate crops. The area under tobacco has remained the same since then and the interventions have shown promising alternate crops.

About the Study

This study was undertaken with an objective to explore the process of crop diversification in two villages viz., Bennihalli and Adaguru respectively in bidi tobacco and Flue Cured Virginia (FCV) tobacco region of Karnataka. The purpose was to examine the factors that enabled the villages to give up tobacco cultivation, identify crops grown by farmers as alternative to tobacco and the challenges if any in sustaining the shift from tobacco, and draw lessons for replicability of the model to other tobacco growing regions.

CMDR has been undertaking studies on the feasibility of transitioning from tobacco cultivation to alternative crops for over two decades. While bidi tobacco cultivation in northern Karnataka has declined substantially—by nearly fourfold—FCV tobacco cultivation in southern Karnataka has remained largely stable. This persistence continues despite the widespread adoption of alternative agricultural practices, including the cultivation of ginger, organic farming, and plantation crops in the region.

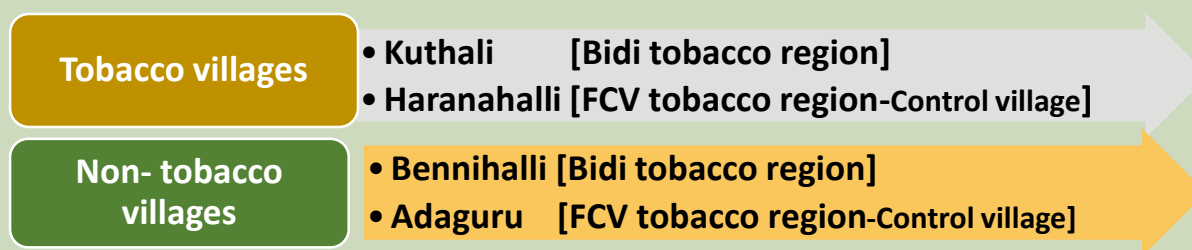
Methodology

The information about an entire village or a cluster of families moving out of tobacco cultivation in Karnataka and sustaining it during the past one decade in these two villages was a major revelation. Tobacco is a complex issue with multiple entities involved in the promotion of its cultivation making any intervention in shifting a difficult task. Media reports³ and CMDR's frequent interactions with farmers and visits to tobacco region in Karnataka revealed a significant extent of shifting in two of the villages one each in Belagavi and Mysuru districts of Karnataka. CMDR's intervention in bidi tobacco region had shown that shifting to viable alternatives in the absence market, irrigation and institutional support was not feasible. Deviating from the mainstream agriculture in the region in the case of the above two villages was striking and unique. In this background, the two villages, which were reported to have shunned out tobacco cultivation were identified for case studies. There

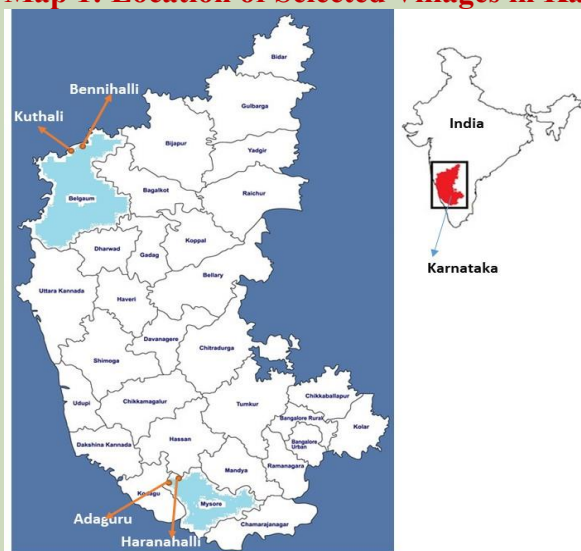
³ Vijaya Karnataka, 28 June, 2021[*Tambakininda Adaguru Doora*- Adaguru distances from tobacco].

could be a few other such attempts but beyond the knowledge of the researchers. It was therefore interesting to study the process of crop diversification in these villages and analyse the factors that have contributed to the shift and its sustenance.

The investigation followed the ‘Exploratory Case study’ approach in fulfilling the objectives of the study. The two villages, Bennihalli in Chikkodi taluk of Belagavi district in bidi tobacco region located in north Karnataka and Adaguru village in Periyapatna taluk of Mysuru district located in FCV tobacco growing region of south Karnataka were identified for the investigation. The two villages were selected purposively after knowing that these villages had shifted from tobacco to alternate crops and livelihoods. For a comparative analysis, the study team chose the very next (nearer) tobacco growing village as a control group in respective bidi and FCV tobacco growing regions and conducted a survey of farm households in these villages. Kuthali near Bennihalli village in bidi tobacco growing region and, Haranhalli village near Adaguru in Flue Cured Virginia (FCV) tobacco region were chosen for the investigation. It should be noted that although Bennihalli and Adaguru are termed as non-tobacco villages, 0.9% of the farmers in Bennihalli, and 8.1% (excluding 11.2% who sold tobacco under their license) of the farmers in Adaguru grew tobacco in 2024. As a majority have shifted, they are referred to as non-tobacco villages in this study.



Map 1: Location of Selected Villages in Karnataka



In Karnataka, bidi tobacco is grown in Nippani tract of Belagavi district in the north and FCV tobacco is grown mainly in Mysuru and Hasan districts in the south. Since the selected villages fall respectively in regions growing bidi and FCV tobacco, the study gives a comprehensive understanding of the facilitating factors.

The study followed a census survey of all the available farmer households in tobacco villages and 50% of the farmer households in control group (non- tobacco) villages. Totally, 352 farmer households were surveyed in four (2 tobacco growing and 2 non-tobacco villages) villages in northern and southern part of Karnataka.

The review of international studies, farm household surveys in tobacco and non-tobacco villages, the focused group discussions and the case studies of selected farmers in the study region viz., Belagavi and Mysuru districts in Karnataka state of India throw a light on the intricacies of farming in the context of existing infrastructure, institutional support, credit, climate change, price mechanism, marketing and transport facilities.

Key Findings

+ Insights from the review and Data

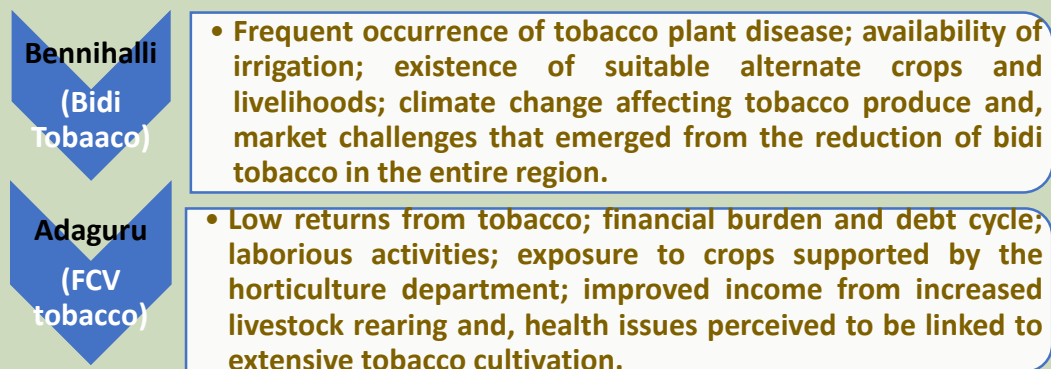
- The international studies reviewed in the study reveal the commonalities of tobacco farming across the countries. Tobacco is grown due to domestic and international demand, high returns with guaranteed prices supported directly or indirectly by the tobacco industry, institutional and political backing, and lack of similar marketing facilities for alternate crops.
- While the cases of targeted shifting supported by national and international agencies or voluntary shifting due to irrigation, demand for cash crops, organic farming, and health concerns have shown promising results with shifting over to equally remunerative alternate crops, there is a little progress in the entire farm community embracing alternate crops and livelihoods in respective regions.
- As an exception to this phenomenon, bidi tobacco growing region in southern part of India has witnessed significant decline in the area by about 4 times. But this has not reflected in the quantity of bidi tobacco produced. Paradoxically, the production of bidi tobacco despite a decline in area by more than four times, has reduced only to half the quantity produced earlier due to an increase in the productivity. The productivity of bidi tobacco, which was 517 kg/Ha in 1961 has increased by 134% amounting to 1223 kg/Ha in 2021-22.
- Although there are evidences to show that alternatives are profitable, tobacco cultivation has increased in countries, which have successful projects in diversification. The cultivation has increased in Bangladesh, Indonesia and is likely to remain in Sri Lanka and Kenya due to a very small scale intervention and, industry interference. The progress under Tobacco Free Initiatives promoted by Kenyan Health Ministry, UN and WHO in the year 2022 may throw light on its success and on the future of supply side control of tobacco in Kenya. The results need to be watched further.
- In India, the area under tobacco has been hovering around 4 lakh hectares with sustained production promoted by domestic and international demand, and the tobacco industry. The production in the country has been hovering around 800 million kg since 2010 indicating stability.
- NFHS-5 and GATS-2 indicate reduction in tobacco consumption in their latest surveys. Despite this decline, the area under tobacco has increased significantly in the state of Gujarat, which grows chewing and bidi tobacco. The area under tobacco, has increased by 220% from 63,800 hectares in 2003-04 to 2,04,790 hectares in 2024-25.

✚ Revelations from the farmer household survey;

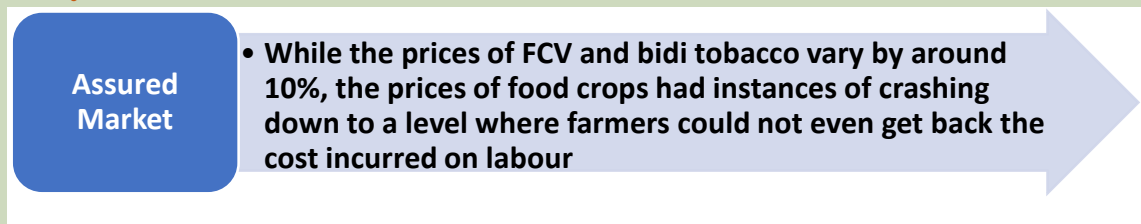
- ✚ Farmers grow tobacco as it is a rainfed crop, profitable and has assured market.
- ✚ The per acre returns for sugarcane, black gram and green gram were higher than the returns from bidi tobacco.
- ✚ In the case of FCV tobacco, the returns were higher for areca nut, ginger, yam and banana.
- ✚ The average land holding was found to be higher in tobacco growing villages (around 3 acres).
- ✚ The ownership of bore wells is higher in non –tobacco villages, indicating the availability of irrigation to alternate crops and dairy activity a possible reason facilitating shifting.
- ✚ Livestock holding is slightly higher in non- tobacco villages indicating scope for alternative livelihoods.
- ✚ Diversification is found to be higher among non-tobacco households. Tobacco households largely depend on tobacco cultivation for their earnings, while non- tobacco households reported additional earnings from labour, dairy, poultry farming, sale of organic manure, etc.
- ✚ In the bidi tobacco region, tobacco growing village has higher household income compared to the income in non–tobacco village.
- ✚ In southern Karnataka, which is a better developed region compared to the north, both tobacco (FCV) and non-tobacco households have higher average income than those in the north, indicating the influence of factors other than tobacco cultivation on household income.
- ✚ But among the villages in southern Karnataka, the non-tobacco village receiving a higher average household income compared to tobacco growing village is a major revelation from the field, which answers adherence of the farmers to shifting from tobacco in the study village. Farmers go by earnings. The farmers in Adaguru are able to sustain shifting from highly promoted FCV tobacco because, their earnings are better than the earnings of tobacco growers in the neighbouring village.
- ✚ In both, bidi and FCV tobacco growing regions, the quantum of average loan taken by farmers is higher in tobacco growing villages indicating availability of easy loan to tobacco cultivation.
- ✚ On an average less than one-third (28.9%) of the current tobacco growers in the neighbouring tobacco growing villages are willing to give up tobacco cultivation. The willingness to shift was expressed by 23.6% farmers in bidi village, and by 31.6% in FCV village.
- ✚ No significant differences were observed between tobacco and non-tobacco farm households with respect to the reporting of illness or the consumption of alcohol and tobacco. Since the non-tobacco villages had previously engaged in tobacco cultivation, these similarities are likely to reflect shared historical, social, and behavioural patterns, resulting in negligible differences between the two groups.

In north-western Karnataka, the villages near the Maharashtra border of bidi tobacco region have seen vast expansion of sugarcane, vegetables, black gram, soybean, green gram, maize, etc. In southern Karnataka, farmers have shifted to ginger, yam, floriculture, coffee, areca nut and coconut, agro-forestry and mixed cropping **with vegetables. Dairy has also been flourishing in these diversified villages. And all these cases of shifting are voluntary and have emerged over the years in response to natural factors, particularly irrigation both surface and ground water available due to sufficient rainfall. The focus group discussions (FGDs) with farmers revealed these underlying or motivating factors behind the shift.**

✚ Why did farmers shift to alternatives?



✚ Why do tobacco farmers want to continue tobacco cultivation?



✚ Willingness to Shift from tobacco cultivation

-
- *Less than one-third (28.9%) of the current tobacco growers in the neighbouring tobacco villages (control group) are willing to give up tobacco cultivation.*
 - *While economic incentives can motivate some farmers to shift, a majority remain reluctant, emphasizing the need for more comprehensive support on large scale and, awareness programmes to encourage crop diversification.*
 - *And the willingness to shift is conditional requiring cash compensation against the cost of barn, supply of inputs, credit facility, irrigation, technical support and regulated market for other crops.*
-

✚ Empirical Understandings on Shifting from Tobacco

This small study reveals that sustaining the shift from tobacco is a difficult task due to multiplicity of factors. The key insights drawn from the study are highlighted below.

- ✚ The motivation for shifting has to be internal coming from within the community and natural factors.
- ✚ The shift was gradual in Bennihalli in bidi tobacco region, while it was induced/ instantaneous in Adaguru village in FCV tobacco region.
- ✚ The shift from tobacco on a large scale is a common phenomenon (the degree of shift varies between the villages) in the neighbouring villages of Bennihalli in the bidi tobacco region. But it is confined to Adaguru in FCV tobacco region indicating limited scope for diversification for cigarette tobacco.
- ✚ Although the entire village gave up tobacco in the initial years of herd shifting, there are pull backs in between as tobacco farmers, particularly of FCV tobacco are tempted to grow tobacco in the following year whenever the prices of tobacco are exorbitantly high, particularly in the preceding year.
- ✚ And, the sustenance of alternate crops to tobacco is always at stake and may flutter due to the demonstration effect when the neighbouring villages growing tobacco exhibit higher returns.
- ✚ Farmers who hold licenses (reports from the field) but do not grow FCV tobacco, enable farmers of neighbouring villages to sell the tobacco crop in their name (on their license) by taking a commission.
- ✚ Tobacco industry interference in FCV tobacco cultivation through various incentives may distract farmers. Large farmers are persuaded by the tobacco industry to grow tobacco through counselling, arranging study tours, providing technical guidance, offering subsidies, etc.
- ✚ The mandatory clause of the Tobacco Board requiring annual renewal of licences for growing FCV tobacco, along with a fine of Rs. 1,000 for non-renewal (breaking registration) and a penalty of Rs. 5,000 for auctioning less than 25% of the declared quantity, creates confusion and places undue pressure on farmers. These provisions effectively compel farmers to continue tobacco cultivation, limiting their flexibility to reduce production or shift to alternative crops. The registration of FCV tobacco growers for selected years in Karnataka is furnished below.

Year	Area registered hectares)	Area planted (hectares)	Growers registered	Crop size fixed by Tobacco Board (mll.kg)	Quantity marketed (mll.kg)
2001-02	29852	47699	18751	38.04	57.68
2011-12	80300	104393	42178	101.62	104.29
2021-22	69804	71877	41438	97.0	68.14
2022-23	72216	60782	40207	100.0	59.98
2023-24	70699	63404	39611	100.0	88.86
2024-25	87442	69049	40503	100.0	81.90

Source: Annual Reports, Tobacco Board

The above data shows long-term structural changes in FCV tobacco cultivation in India during 2001-02 to 2011-12. There was a sharp increase in area registered, planted and, number of registered growers. Quantity marketed also nearly doubled, indicating strong growth and consolidation of FCV tobacco cultivation during this period. After 2011-12, although the crop size fixed by the Tobacco Board remains broadly stable around 97–100 million kg, the area planted and quantity marketed show noticeable fluctuations. Despite a fixed or capped crop size, the quantity actually marketed varies substantially (dropping sharply in 2021–22 and 2022–23, then recovering in 2023–24), pointing to inefficiencies, compliance challenges, or yield variability. In recent years, the area registered increases sharply, but this does not translate proportionately into higher marketed output, reinforcing the growing disconnect between licensing, cultivation decisions, and final market arrivals. Overall, the data highlight a transition from rapid expansion to a phase marked by regulatory rigidity, farmer persistence in tobacco cultivation, and unstable marketed output, raising questions about the effectiveness of current control mechanisms in aligning production with policy objectives.

- ✚ Despite the success in shifting so far, farmers in Adaguru village (FCV tobacco region) are sceptical about mass tobacco reduction. They opine that tobacco will remain as a major crop in their region for the reasons mentioned above unless the government bans it.

Overcoming all the odds, it is spectacular that Adaguru, a small village amid a FCV tobacco growing region has shown that horticulture and subsidiary farm activities can be profitable and sustainable with a planned approach, institutional support from horticulture and agriculture departments and, bound together by the unity of the farmers. The shift is voluntary, influenced by health reasons, availability of irrigation, farmers' disillusionment with differential pricing of tobacco due to the grading system, labour problems, comparative higher returns from ginger, areca nut, yam, etc., and gainful dairy farming.

Equally, Bennihalli village in bidi tobacco region has silently moved away from bidi tobacco cultivation and farmers have made their living from sugarcane supported by ground water irrigation with sugar factories located around supporting timely purchase of sugarcane.

✚ Recommendations

- 1. Inputs and technical support for alternate crops:** Tie up with agricultural research institutions and universities and private sector for research on improved varieties, supply of seeds and exchange of technology for the region specific alternate crops in tobacco region can boost diversification on a large scale.
- 2. Rethinking on alternate uses of tobacco:** Since the alternate crops are not universally accepted by tobacco growers, government can consider alternate uses of tobacco including the manufacture of drugs, fertilisers, pesticides, etc. Although there is a high export demand for nicotine extracts for the manufacture of e-cigarettes and nicotine pouches, it cannot be an ethically sound solution as it would be shifting the burden to other countries. Its use for Nicotine Replacement Therapy (NRT) can also be promoted.
- 3. Market support and guidance:** The alternative crops have been equally remunerative to tobacco, but they are very few and identical to the region. The large scale shifting to

identical alternatives in any tobacco region by an entire community of farmers may lead to excess production/mass dumping and affect farmers' income. This has happened so in the case of ginger in FCV tobacco region, and sugarcane in bidi tobacco region in Karnataka. Tobacco on the other hand is regulated and cannot be grown in all types of soil. So, its limited production fetches good returns due to domestic and international market. The competitive prices offered in recent years is inducing farmers to grow tobacco. Therefore, the implications of large scale shifting to alternate crops needs to be studied in the background of demand and supply factors. The institutional backup in terms of price guarantee and market support is essential for alternate crops at least in the initial years.

4. **'Protecting farmers' freedom of choice for cultivation-** Tobacco farmers and the industry have been arguing that there are no equally remunerative crops to tobacco. To check the reality of these arguments, government can initiate the following steps;
 - i) **Firstly**, leaving the cultivation of tobacco on its own like any other crop without the intervention of Tobacco Board, NIRCA or industry. Let the farmers decide and grow crops based on market needs.
 - ii) **Second** option is to extend research and development also to other crops in tobacco growing region under the purview CTRI renamed as ICAR-NIRCA without any discrimination. Currently, in addition to tobacco, only turmeric, ashwagandha, chilly and castor are brought under its promotional activities.
 - iii) **Thirdly**, Tobacco Board should also promote alternate crops. Tobacco Board extends extension facilities only to FCV tobacco. The Board should provide seeds, seedlings, materials, technical guidance, marketing, facilitate guaranteed bank loan, etc., also to alternate crops. Since Tobacco Board is set up under the Act of the Parliament, an amendment to the Act may be necessary to diversify its activities beyond tobacco.
 - iv) **Fourthly**, farmers' behaviour in non-tobacco village and its neighbouring village indicates that farmers are guided mainly by the price of the crop. If ginger price is higher in the previous year, there is mass production of ginger in the following year. Facilities like irrigation (bore wells, drip irrigation, farm ponds), supply of quality seeds, subsidies on fertiliser purchase may promote diversification to many other crops.
5. **The discrepancies in state-wise data** on area and production of tobacco, particularly FCV tobacco reported in this study need to be validated and the errors reported should be rectified. This is crucial for understanding and examining the pattern of regional agricultural diversification, impact of interventions, and for future directives.
6. **Promoting value additions of alternate crops, and FPOs:** The extension activities must guide farmers on value addition to the product. Facilitating value additions to improve marketability and, supply chain linkages to facilitate the smooth movement of produce from farmers to consumers through Farmer Producer Organisation (FPOs) as revealed in study village (Adaguru) can enhance the income of the farmers and ensure sustainability.
7. **Future studies:** Since the comparison of villages executed in this study is between those, which grew tobacco earlier, with those that continue to grow now, the differences may not be ascertainable. Both have benefitted earlier from tobacco cultivation. The farmers

in Adaguru, which has been hailed successful for mass shifting, confessed that they have made better life from the earnings gained from tobacco cultivation earlier. So, future studies may consider comparing socio-economic and health status of the farm households in villages in the same region that have never grown tobacco with those in villages that grow tobacco.

8. Overcoming tobacco industry influence in diversification: The influence of tobacco industry in FCV tobacco cultivation is observed by the farmers throughout crop production stage. The farmers who have shifted reported being constantly persuaded by the representatives of tobacco industry. While this may be righteous on the part of tobacco industry, which is interested in its business, it undermines the tobacco control efforts and pauses the possibilities of mass shifting unless targeted large scale effective institutional intervention is framed, executed and followed-up.



FCV tobacco at auction market



FCV tobacco



Bidi Tobacco



Sun dried Bidi Tobacco

Towards Alternatives to Tobacco



About CMDR

Centre for Multi-Disciplinary Development Research (CMDR), Dharwad is an autonomous social science research institute recognised and financially supported by



the Indian Council of Social Science Research (ICSSR), Ministry of Education, Government of India, and the State Department of Higher Education, Government of Karnataka. It was registered in 1980 under the Society's Registration Act.

The main objective of CMDR is to undertake and promote social science research with a focus on a multidisciplinary approach and focus on socio- economic problems and cultural themes of Indian society and Karnataka including training and capacity building. The thrust areas are socio-economic development, water resources, decentralisation and panchayat raj, Indian knowledge system, education, health, tobacco and alcohol related issues, agriculture, etc. CMDR is also a recognised centre guiding doctoral students and, currently students from three universities are pursuing their Ph.D. at CMDR. Apart from basic, empirical and, action research, CMDR conducts research methodology and orientation courses for students and researchers, faculty development programmes, and, training for local government members. CMDR has emerged as an active 'think tank' in north Karnataka.

CMDR has expertise in conducting tobacco-related research mostly policy-oriented and both empirical and action research. CMDR has carried out studies on tobacco issues with the sponsorship from ICSSR, Ministry of Education, Govt. of India, IDRC/RITC, Canada, American Cancer Society, WHO, SANDEE Nepal, Bloomberg Initiatives, and CTFK, USA.

CMDR has been into research on tobacco-related issues for the past two decades focusing on alternate crops, and livelihoods of tobacco growers as well bidi rollers and tendu pluckers across states in India, subsidies to tobacco cultivation, enactment of tobacco control Acts, indoor air quality/environmental tobacco smoke, and advocacy. CMDR has a network of ICSSR institutes across India to collaborate, support and conduct empirical research and academic activities in different states of the country.

Stay Connected: director@cmdr.ac.in, registrar@cmdr.ac.in

Centre for Multi-disciplinary Development Research (CMDR)

Dr. B. R. Ambedkar Nagar, Near Yalakki Shettar colony

Dharwad-580 004 (Karnataka)

Tel: 0836-2460453, CMDR Website: <https://cmdr.ac.in>

CMDR YouTube: <https://www.youtube.com/@cmdrdharwad4239/videos>

CMDR Facebook: <https://www.facebook.com/people/Cmdr-Dharwad-Karnataka>