

Towards tobacco free Karnataka

A resource booklet



Who is walking in the right direction?

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Cover page back

All epidemics have a means of contagion, a vector that spreads disease and death. For the tobacco epidemic, the vector is not a virus, bacterium or other microorganism – it is an industry and its business strategy

-World Health Organisation

Tobacco is the only legally available consumer product which kills people when it is used entirely as intended.

-The Oxford Medical Companion (1994)

FOREWORD

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Editor Note

Aims and structure of the articles

The presented key articles are a boon to all those interested in tobacco and health issues. It offers much: a historical, overview of how the area of tobacco free consortia evolved over the years; There is a description of tobacco and how it can impact health. A mix of research article, reviews and opinion articles an invaluable set of studies/readings. They provide examples of empirical research that has informed tobacco and public health implications in many ways. It invites readers to consider how, and which, way that might be useful, and combination of public health approaches might be helpful to make tobacco free environment.

Further, these set of articles continues to challenge those limitations by providing a resource which draws on experience from India and low- and middle-income countries. It gives a special place to the social sciences in tobacco and health implications, acknowledging how political science, economics and sociology, among others, provide critical insights. The articles' richness lies in their ability to inspire teachers and their students, thus extending and expanding the field of tobacco free efforts in future.

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Challenges in Shifting from Tobacco: Perceptions of Tobacco Growers from the Major Tobacco Growing States in India¹

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1 Introduction

Tobacco is an important cash crop grown in India in around 12 states in about 4 lakh hectares, which constitutes less than one percent of net sown area of the country. Andhra Pradesh, Bihar, Gujarat, Karnataka, Tamil Nadu, Telangana, Uttar Pradesh (UP) and West Bengal (WB) are the main tobacco producing states contributing to around 99% of the tobacco production in India. The issue of reducing tobacco cultivation came up to the forefront with India signing the Framework Convention on Tobacco Control (FCTC) in 2004. Since tobacco consumption is of addictive nature and causes adverse effects on the health of the consumers as well passive smokers it became a subject of this international public health treaty, which binds countries to implement tobacco control measures and reduce its consumption and production gradually over the years. Articles 17 and 18 of the FCTC specifically deal with the issues of providing alternative and viable livelihoods to tobacco-dependent workers and, the protection of environment and health of the persons due to tobacco cultivation and manufacturing. Article 17 specifies that “Parties shall, in cooperation with each other and with competent international and regional

Disclaimer- The statements made in this paper except those in introductory and conclusion parts represent solely the perceptions of tobacco farmers in selected tobacco growing states.

¹ This report is based on the findings of a study titled “Options for Diversification from Tobacco Farming, Bidi Rolling and Tendu Leaf Plucking in India -The Economic Feasibilities and Challenges” sponsored by IDRC, Canada, completed in 2014 by CMDR, Dharwad.

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intergovernmental organizations, promote, as appropriate, economically viable alternatives for tobacco workers, growers and, as the case may be, individual sellers”[WHO 2005]¹. The government of India also enacted the “Cigarettes and Other Products Act, 2003”, which bans smoking in public places, bans the sale of tobacco products near educational institutions and bans advertisement of tobacco products. In 2013, many states including Karnataka banned the production and sale of gutkha a chewing product popular in the country. Later in 2016, Karnataka also banned the sale of flavoured chewing tobacco sold in sachets.

The tobacco control measures and the ban on gutkha seem to have some effect on tobacco cultivation across the country although direct linkages are not established in this connection. Farmers in tobacco growing regions are in a state of confusion. Farmers are aware that there are some developments across the country to curb tobacco consumption and production. But, they do not know what steps the government may take in the future in this regard. They are neither prepared to give up tobacco nor ready to say ‘No’ to the government in case it wants to reduce tobacco cultivation. Farmers are also unaware of alternative crops, the returns they may bring in and the market for such crops. While some of them seem to be taking the stand of “Let’s Wait”, others say “Let’s Fight” when the time comes.

Shifting from the tobacco crop has been a tough task due to relatively higher returns from tobacco crop in comparison to other crops. Farmers like any other rational beings go by the economics of agricultural operations. Research studies do indicate the feasibility of alternative crops to tobacco for different agro-climatic zones. But, most of them have stayed at the demonstration level with no institutional efforts being made to try alternatives on a large scale.



Bidi tobacco crop



FCV tobacco crop

Farmers are the masters of their choices. They know what to grow and how to grow in terms of traditional crops that they are growing for generations. They inherit these skills from their forefathers. Although they are sceptical about the returns, farmers are open to experimenting with new crops. But, to accrue maximum benefits from an experiment with new crops, exchange and impart of technical know-how is a must. But, there are instances wherein in tobacco growers in some of the regions have voluntarily shifted to other crops successfully and continue to grow them. Availability of irrigation, hardships in cultivating tobacco and technical know-how and financial support from agencies like state horticulture and agriculture department, international agencies, NGOs and, the demonstration effect of neighbour's agricultural practices have been the influencing factors in promoting alternative crops.

2 Methodology

In the background of the discussions placed above, an attempt was made to know the views of tobacco growers in selected regions of major tobacco-growing states in India with reference to the availability of alternative crops, reasons for growing tobacco, farmers' willingness to shift to other crops, their demands, etc. We arranged focused group discussions in areas with a higher concentration of tobacco growers and we selected major states growing tobacco viz. Andhra Pradesh, Bihar, Gujarat, Karnataka Uttar Pradesh and West Bengal. Although a small checklist was administered to the group, it was more of an open discussion. State-wise perceptions of tobacco growers on tobacco crop and alternatives are discussed in the following section.

3 Results: Perceptions of Tobacco growers

3.1 Andhra Pradesh

Village level discussions held with tobacco growers in villages of Kurnool and Prakasam of Andhra Pradesh state revealed that water availability determines crop choice and, farmers with limited water resources have a greater dependency on tobacco. Tobacco is grown in rainfed conditions and farmers consider tobacco as a most viable and secure crop in low fertile soils and rain-fed conditions as there are higher risks and incidence of crop loss in other crops (e.g., red gram). However, farmers in some villages from black soil areas reported a reduction in the tobacco area. These farmers felt that tobacco cultivation depletes soil nutrients at a much faster rate than many other crops, thus rapidly decreasing the fertility of the soil. Tobacco farming is not the sole source of revenue to households. The fact that only one-third of the total cultivated area is under tobacco in the above region suggested that farmers have the experience of growing other crops and were aware of options for shifting to other crops. Villagers reported that the Tobacco Board, which acts as an important trigger being a source for informed market and assured linkages with financial institutions was the main factor contributing to tobacco cultivation. In addition, tobacco companies extended support to farmers in growing tobacco by providing inputs, credit and technical support and in such cases, the companies also declared rates in advance, which also motivated farmers to continue tobacco cultivation. Farmers said that since the department of agriculture had no role in FCV tobacco cultivation, this non-linkage may hinder the promotion of alternative crops. Among the various reasons cited by the farmers for cultivating tobacco, the profitability aspect was overwhelmingly dominant. It emerged from discussions in Kurnool and Prakasam districts that average annual income per household was higher for the tobacco growers than that of growers of other crops. As a result, farmers are tempted to go for tobacco cultivation. Another factor that stops farmers from shifting to other crops is an investment made on the barn. Farmers have to maximise its use in order to get returns on the investment made on the barn. Moreover, tobacco provides a guaranteed market and ready cash. Unlike other competing food crops, farmers said that the tobacco crop is non-perishable and can be easily stored.

There were also new entrants to tobacco cultivation in this region who are generally marginal farmers. These farmers do not feel the pinch of the high cost of tobacco cultivation since they put in all their household labour in the process. They get a high gross return. A large proportion of farmers engaged in FCV tobacco cultivation are tenant farmers. A small percentage of farmers are willing to give up cultivating tobacco, as they are vexed with repeated losses from growing tobacco. But, these farmers are not aware of any other economically beneficial crops that can replace tobacco. Farmers reported that around 5% of tobacco growers had already diversified crops in order to move out of tobacco cultivation. Farmers have been trying with alternate crops but, with little success. For instance, in Prakasam district farmers said that they had tried cotton between 1980 and 1990. But, turned back to tobacco in the 1990s due to failure of cotton. Farmers also had started growing Bengal gram since 1992 and the area under Bengal gram has grown substantially since then. Farmers with water resources are growing paddy, vegetables, etc. Mango orchards, guava, eucalyptus, sababul have emerged as important options to the farmers. While the paper industry has largely contributed to the expansion of eucalyptus and sababul plantation, the incentives and promotional activities of horticulture department have led to the expansion of area under mango, guava and amla (Indian gooseberry).

3.2 Bihar

Tobacco, wheat, paddy and maize are the main crops grown in the selected villages from Muzaffarpur, Vaishali and Samastipur districts in Bihar. Farmers' group in all the villages were not happy with the idea of shifting to crops other than tobacco as farmers in some of the villages who had shifted to other crops had reverted back to tobacco. And in one of the villages, farmers were not happy with wheat and mustard that they were growing as the returns had been lower for these crops. Overall, all the village groups (100%) with whom discussions were held disagreed on shifting. So it is unlikely that the farmers from these villages may shift to tobacco in the near future. The villages where tobacco is grown also have large irrigated areas. Farmers' groups from the villages, which have 100% irrigation are also not interested to give up tobacco. Due to frequent flood, some of the villages cannot cultivate alternate crops.

3.3 Gujarat

In Gujarat out of 22 villages covered under the study, the extent of irrigation varied from 20-60% of total agricultural land the average being 34%. Overall, out of 22 farmers' group meetings held at the village level, the willingness to shift came from only 9%. But, there was a positive response from farmers' groups in all the villages to reduce the land under tobacco. And in 17 villages (77%) farmers reported that a few had shifted voluntarily from tobacco to other crops. The number of households having shifted ranged from 6 to 70 households, overall their share being less than 5% of total households in respective villages.

Discussions with a group of tobacco growers in Valvod village in Borsad taluk of Anand were held during the time when Gujarat government had put a ban on Gutkha in 2012. The news had reached them through the newspaper, radio/TV and internet. Farmers said that the benefit from tobacco production was much more than the benefit from other crops and its market was easy to achieve. Moreover, they said that while other crops were often destroyed by animals such as Nilgai, pigs, etc., no special precautions were needed for tobacco. Therefore most of the farmers of this area preferred to grow tobacco than other crops. And, it is a known fact that despite the gutkha ban, the area under tobacco has drastically increased in Gujarat. And the increase in area under tobacco was more than 50% in 2014.

But farmers in other districts like Anand expressed their willingness to give up tobacco cultivation if suitable incentives and support were provided by the government. The shortage of labour and low price of raw tobacco prevailing then, which was also not in proportion to the rise in the cost of its cultivation were the reasons behind their willingness to shift from tobacco. Farmers were in favour of shifting to sugarcane crop provided government supports the establishment of sugar mills. In the past tobacco farmers in these areas tried to cultivate sugarcane extensively because sugar mills were functional in this region. But, later due to the closure of sugar mills in some areas, farmers replaced sugarcane with tobacco cultivation. Farmers opine that they can revive sugarcane cultivation if the defunct sugarcane factories are revived. Farmers of Anand district are almost educated and know about the bad effects of tobacco on human health. They are ready to switch over to other crops in future. Many farmers who were growing

crops such as millets, paddy, maize, jowar, etc. had to return back to tobacco due to failure of other crops and their lower prices many times.

Many farmers sell their tobacco through Anand farm production market committee and some direct contact traders for selling tobacco. There is a good rate for tobacco and the processed tobacco is generally sold immediately. Farmers said that they are growing tobacco since their ancestral time and get very good returns from this crop. They are ready to grow (almost 50% of them) other crops if returns are assured to them, but they anticipate a huge loss in other crops.

3.4 Karnataka

In Karnataka, out of 42 village level group discussions on shifting from tobacco cultivation, willingness to shift came from only 36% of the groups. But, if the responses are broken according to the type of tobacco and region, then it was found that 71% of the village groups expressed their willingness to shift in bidi tobacco region as against only 29% of the groups willing to shift in FCV tobacco region. Average irrigation varied from 5% to 75% in the sample villages the average being 34%. Farmers' groups even in villages with 90% irrigation in Hasan district and 75% irrigation in Mysore district (both FCV tobacco growing villages) were not willing to give up tobacco.

FGD with Bidi Growers, Akkol, Belgaum district, Karnataka



Source: CMDR, Dharwad

In bidi tobacco region of Hukkeri and Gokak taluks, farmers were growing baby corn, vegetables, soybean, jowar, etc., and were happy with these crops. They were willing to give up tobacco. In Chikkodi taluk, there were both categories of groups. Those who were having irrigation were growing sugarcane and vegetables and were ready to give up tobacco cultivation. Around 50% of farmers in this taluk were ready to reduce land under tobacco or gradually shift but were not ready to give up completely and immediately. Those who have irrigation have already reduced their land under tobacco. Tobacco is a short period crop, therefore farmers feel that they can raise two/three crops including tobacco in a year.

In a similar group discussion with Akkol area of Nippani tract in Chikkodi taluk of Belgaum district in Karnataka, farmers were very proud of the variety of tobacco they grow. Overall the farmers of bidi tobacco growing region in Karnataka feel that the bidi tobacco grown in this region, particularly Akkol village is world class because of its soil and cannot be grown elsewhere in the world. It has flavour, taste and burning quality. It is used as a blend of cigarette making and exported to other countries. They wanted the government to retain this variety and encourage the cultivation for export purpose. Another unique feature of the soil in this region is that it enables the growth of leaves and the plant, but not the fruit for e.g. the plants of soybean, groundnut develops well, but do not yield soy and ground nuts in expected quantity. Bidi tobacco plant grows well and yields leave of good quality and large size. Therefore they wish bidi tobacco from this area should be continued to grow as an exceptional case and can be used for other purposes such as drugs, fertilisers, seed oil, paints, protein, etc. They are aware of the alternative uses of tobacco and emphasize that the government should enhance its research in this area.

When we posed a question to farmers why they cannot shift to paddy, sugarcane, fruits, vegetables, plantations, etc, which had shown to yield higher returns (as per the results of the empirical study carried out before organizing the group discussion), farmers gave the following reasons; Firstly, the returns from crops such as vegetables, fruits and plantation crops are uncertain and for the later two crops there was gestation period during which farmers had to sustain without yield. Secondly, crops like paddy and sugarcane including vegetables and plantation crops require irrigation and those who had irrigation had already shifted to paddy. Whereas farmers without irrigation grow tobacco along with food crops, which is planted in August and harvested at the end of January. Moreover,

farmers felt that sugarcane if grown continuously will reduce soil fertility and the yield may reduce to a quarter. Because of this farmer indulged in shift farming by growing other crops for a year in between sugarcane plantations. Power was also a major problem in rural areas and it was difficult for farmers to follow irrigation. They are ready to pay the electric bill and do not want an interruption in power supply, which is usually regular at night. It should be noted that those who have irrigation are comparatively well off. Thirdly, the problem of transport in connecting the fields to the village is a major problem in this region. The members of the association said that although the government had sanctioned road, some farmers were not cooperating as the road will pass through their field taking away a large portion of the land. Another reason is that the farmers know that the government would give them meagre amount as compensation for giving their land for the roads. So connecting road in fields is a major problem in this region. Therefore farmers are not interested in growing sugarcane and banana as it would be difficult to transport them to the vehicles, whereas tobacco leaves can be put in big bags and unloaded by carrying it on bicycle or overhead. Fifthly, bidi tobacco is marketed in the village. Traders collect the produce from the doorstep and therefore farmers do not have major transport cost and tensions of sale. They prefer such kind of local market to be facilitated if the government pushes farmers to grow other crops. Lastly, an important demand of the farmers, which is important for policy decision regarding reduction of tobacco production and control is their demand to meet or compensate for the amount equivalent to average returns per acre/ha (taking the average returns for the past three years from tobacco) to all the farmers who shift from bidi tobacco to other crops in case of crop failure or low returns at least in the first three experimental years. This is because they feel that minimum prices may not help farmers if the yield per acre/hectare from alternative crops is low. And if the inputs costs are higher, Minimum Support Price (MSP) would not help them. Therefore they want assurance of minimum return per acre/hectare, which amounts to compensation in terms area cultivated by the farmers. And over the years they hope the government would facilitate improved roads and marketing system for other crops in the region. They are chaotic about the market for other crops as they anticipate huge supply all of a sudden if, all farmers shift to other crops in tobacco growing regions.

Similar are the challenges expressed by tobacco growers in FCV (cigarette) tobacco growing region of Karnataka. Farmers have been trying ginger, turmeric, floriculture, sericulture and other alternative vocations such as goat rearing, etc. Although the returns are higher and the cost of cultivation is lesser than the costs for tobacco, farmers said that the market for these crops was volatile and farmers lacked technical know-how, investment capacity and guidance for alternative vocations and crops. For e.g. ginger, which fetches good returns for one or two years falls down suddenly. In 2013, ginger farmers could not even get the minimum price. They could not get labourers or were unable to harvest the crop and the crop was just left on the field to perish. And the alternatives grown by some of the farmers were fetching good prices as the quantity supplied was less. Farmers felt that if all the farmers start growing alternative crops the prices may come down due to excess supply, which they say is rare in tobacco, wherein even the excess crop grown over and above the authorised amount gains good price. Farmers said that those who tried floriculture and calf rearing had to suffer a huge loss due to lack of technical support. They said that banks give loans if the farmers have land but without proper guidelines and training. One of the farmers who tried sericulture with drip irrigation also faced losses as the climate was not suitable for the growth of silkworms within the cocoons. In such cases, farmers are helpless and do not know the technical solutions. Tobacco growers feel that all the programmes of the government (Departments of Agriculture/Horticulture/Animal Husbandry) lie on papers and fail to reach the farmers in need, unlike Tobacco Board, which reaches out to tobacco growers. Therefore tobacco growers are not interested in taking the risk. Moreover, ginger, turmeric and paddy, which yield higher returns than FCV tobacco, require irrigation.

FGD with members of State Level Federation of Tobacco Growers Association in

Karnataka

[Mysore district]



Source: CMDR, Dharwad

3.5 Uttar Pradesh

Village level discussions were held in 7 villages of UP. Except for farmers' group in Vijedepur of Etah district all other groups (86%) indicated their difficulty and unwillingness to shift from tobacco cultivation. In Vijedepur, those who were growing vegetables were happy with the returns. But, farmers in Nagla Raghi and Nakduru (Kasganj district), Bhisari, Mistani and Mahamedipur (Farrukhabad district) and Junaidpur (Etah district) had reverted back to tobacco as there were no good returns from wheat and mustard. Percentage of irrigation varies from 50- 100% in these villages. But, farmers' groups felt that irrigation potential was not utilised fully and efficiently. Since many villages had 100% irrigation there was scope for multiple crops. Farmers in these villages were growing tobacco, paddy, maize, mustard, wheat, bajra and vegetables. Agriculture is the major source of livelihood of rural people in Uttar Pradesh. This is true also in tobacco growing districts of the state. In the western region of the state, cultivation of tobacco has emerged as one of the prime agricultural crops in certain districts of the region. In these districts, like elsewhere in the state, the size of farmland has gradually become smaller over the year. As a result, the farmland has been reduced mostly to marginal and small size. In this situation, farmers are bound to cultivate those crops, which provide them relatively higher net income. Village level discussions with farmers in Etah, Farukhabad and Kasganj districts revealed that tobacco growers earned an average net income of Rs.30,000 per acre, which was much higher as compared to Rs.10,000 average net income gained from the cultivation of wheat and Rs.16,000 net income gained from the

cultivation of mustard per acre for that reference year. Sugar cane cultivation, which is also one of the main crops, provided an average income of Rs. 50,000 per acre. However, sugarcane is the whole year crop. In this situation, tobacco growers felt that they earn much more income from tobacco in comparison with the cultivation of other crops. There is easy and assured loan availability by the contractors and wholesalers located in Kayamganj tobacco market of Farrukhabad district while tobacco growers face many difficulties if they desire to get loans from banks and other institutional sources. On account of both of these factors (higher net income from tobacco cultivation and easy availability of loan from non-institutional sources) tobacco farmers are generally not inclined to shifting to the cultivation of other crops. Discussions with some farmers who had left tobacco cultivation in the past revealed that they had reverted back to tobacco cultivation because of the relative profitability of tobacco cultivation and easy availability of loan. In this context, farmers feel that shifting is possible only if the returns per acre from sugarcane and mustard are increased through research and extension services. Tobacco farmers are also required to be made aware of obtaining and using the Kisan Credit Card (KCC) in order to offset the easy availability of loans from non-institutional sources to tobacco cultivation.

3.6 West Bengal

Village level discussions in West Bengal were held in Dashagram and Ekmukha villages, which fall under the jurisdiction of the Chilkirhat panchayat in Cooch Behar district in the north of WB. This region falls under the Dinhata region, which is the oldest tobacco-growing region in the state. The rural folk here mostly belong to the Islamic following. They have been engaged in tobacco cultivation for generations, and this has been handed down to them by their ancestors. The type of tobacco grown in this region is mostly chewing tobacco or khaini. Cultivators remain engaged in the field round the year. The crops grown in this region include wheat, paddy, jute, mustard, potato and tobacco. Tobacco cultivation takes place during the winter months that is October through December along with potato. During the months of summer and monsoon, it is predominantly rice and jute. Cultivators are of the opinion that wheat and jute cultivation have not been good for the land as the soil suffers deterioration in quality when these crops are grown. They complained particularly about the steep rise in the prices of inputs

– fertilizers and insecticides – as a result of which farmers were finding it increasingly challenging to engage in the cultivation of potatoes, paddy, wheat and jute. The cost of cultivation has gone up so much that cultivators were often able to just break even. Under the circumstances, they felt that the cultivation of tobacco, at least over a portion of their land offers them with a dependable and steady source of income.

The cultivators of tobacco were aware of the health hazards connected with tobacco cultivation, particularly breathing problems when tobacco leaves were hung up for drying. In fact, the scent of the tobacco leaves is so strong even when they are ripe that only those who are used to growing tobacco can manage to carry on the work during the time of harvest. Some of the farmers alleged that while tobacco has its harmful effects, a more harmful crop which is being harvested in the region, is opium. They feel that the government should contemplate measures to restrict the cultivation of opium before it gets busy with finding alternatives to tobacco cultivation. Some tobacco growers have shifted to the cultivation of paddy and potato and even explained their aversion to tobacco cultivation because they are aware of the health hazards associated with tobacco cultivation, particularly as a cause for cancer. In certain cases, the income derived from the cultivation of crops like paddy and potato was supplemented by self-owned businesses like tailoring and pan-shops. There is also subsidiary/supplementary income derived from livestock maintenance, which also aids domestic consumption in the form of milk and eggs. For the younger generations, profitable livelihood options alongside agriculture included self-employed businesses like tailoring, business in hardware, etc.

Farmers were feeling frustrated as agriculture seemed to have become increasingly challenging, which is why there were many cases of migration, particularly on the part of younger generations. Many houses were found to be locked. Members had migrated to other cities. Children are used as labour on land and aid performance of domestic chores, which is a disincentive to education. There are local madrasas but they are often empty. Most families also found it difficult to afford private tuition for their children. Tobacco growers use family labour for cultivation as skilled labour is required for tobacco cultivation. There is also lesser availability of hired labour. Tobacco has crept in as a major alternative because of the differences in the cost of cultivation. For instance, potato required approximately Rs 10000 for a plot of 0.3 acres of land, while for the same piece of land under tobacco, the investment made was maybe Rs.5000 approximately, which is

more manageable for the average cultivator. The soil in the region is good for jute, but there was a dearth of market. Therefore farmers feel that the government should boost the demand for jute by interventions like a ban on plastic bags, export promotion, enhanced tax subsidies to jute industries, etc., as jute products are costlier. Farmers said that if the land is left fallow between January and March, it will elevate the quality of the soil and promise a better yield for jute which could be cultivated between March and June, and the yield could be between 3 to 4 quintals per 0.3 acres of land, but then it must also fetch a price of Rs. 4000/- per quintal for the whole endeavour on the part of the cultivator to be attractive and feasible. Otherwise, the cultivator will have no option but to grow tobacco. Although there were some jobs offered by the Forest Department and employment opportunities available in nearby towns like Cooch Behar and Dinhata, by and large, there was a dearth of industries in the region. Shifting from tobacco appeared to be a difficult task as there was a general dearth of employment opportunities in the region as no industries are being set up. Therefore, there is large scale migration from this region.

4 Discussion and conclusions

The focussed group discussions with farmers and their representatives in six main tobacco-growing states viz. Andhra Pradesh, Bihar, Gujarat, Karnataka, Uttar Pradesh and West Bengal reveals that there are different kinds of barriers or challenges in shifting from tobacco.

There are **institutional barriers** that include the differential treatment in lending loans for other crops, preferential treatment for tobacco growers by government organisations through the provision of inputs at lower costs, easy credit and marketing channels. **Natural barriers** include climate, soil conditions, lack of irrigation and lack of technical knowledge base/experience for alternative crops. **Economic barriers** are the most important from the point of farmers who are carried away by the gross returns they get from the sale of tobacco. In consideration of the revenue they receive from tobacco, farmers forget or do not mind about the labour that they have put in, the hardships and are not worried about the implications of health hazards of tobacco cultivation, which are not convincing to them. Other economic factors that prevent any effort on the part of the

government to reduce tobacco cultivation is the consideration of huge employment that the tobacco industry supports covering bidi rollers, tendu pluckers, workers in the processing industry, cultivation, retailers, etc. In addition, the politics of power and industry lobby play a major role against taking positive measures to control tobacco production.

According to farmers any intervention to reduce tobacco should be done in phases and applied to all kinds of tobacco in the country. They suggested that the quotas be fixed for each farmer as in the case of FCV tobacco and this quota can gradually be reduced over the years. If tobacco is banned suddenly, they feel it could lead to disaster with many farmers' suicides and lead to agitations across the country.

According to the representatives of the tobacco growers associations, any alternative crop suggested or tried in their farms should give returns equivalent to tobacco consistently at least for three years. And they demanded setting up of Commodity Boards for alternative crops to facilitate cultivation and marketing of such crops. And such Commodity Boards they said should be headed by growers and not an IAS officer. They wished marketing support on the lines of facilities extended to farmers in China. They suggested that the job of looking into socio-economic conditions of farmers and developing rehabilitation package and alternative vocations and crops suitable to each region should be entrusted to universities or NGOs. The most important point that came out was to organize state level or national meetings of the representatives of all the tobacco growers associations in tobacco growing states with Ministries of Labour, Finance, Commerce, Agriculture & Farmers Welfare, and Industry. But, that should not conflict with the interest of the lakhs of farmers and their dependents. The policy to reduce tobacco production should be gradual. If the government bans tobacco without providing any alternatives, representatives fear that there would be 'Sangram' (protest/ revolt) and they said farmers would certainly oppose government decision. However, they said that they would join hands if, the government wants to bring in a policy for public health purpose and discusses its plans with them in this connection.

Review of relevant studies indicates major constraints in diversification to be—lack of policy framework and strategy for implementation, conflicting mandates of relevant ministries that pose a challenge to tobacco control, poor dissemination of technology, lack of economic information on potential crops and activities, bias towards research on

tobacco crop and extension facilities, limited experiments on crop substitution, lack of understanding of farmers' perceptions on crop diversification, lack of infrastructure for alternative crops, and huge financial resources required for creating livelihood opportunities, and, financial resources for providing compensation to facilitate shifting. However, cost-benefit analysis for tobacco and other crops presented in research studies (Panchamukhi 20002; Dinesh Kumar et al., 20103; Rao and Nancharaiah 20124; VHAI 20105; CTRI 20106; Prabhakara et al 20187) indicates the feasibility of growing alternate crops that can result in earnings almost equivalent to earnings from tobacco, subject to some changes in cultivation practices such as mixed cropping, application of irrigation, high yielding varieties, etc. Exogenous factors have to play a major role in promoting these crops, as farmers themselves do not wish to switch from growing tobacco. Therefore institutional role is essential and inevitable in promoting alternative crops. Progressive farmers in tobacco growing states have experimented with alternate crops and are successful in getting huge profits and sustaining them. Such best practices need to be popularized and replicated in other regions to showcase the benefits of shifting to alternate crops.

To induce farmers to shift to other crops, measures suggested by farmers include; i) Marketing mechanism to other crops on similar lines of tobacco; ii) Enhanced loan for other crops; iii) Motivation and sensitization of farmers by providing subsidised inputs, improved access to credit, extending weather-based insurance, transfer of technology, proper implementation of MSP; iv) Strengthening the supply chain for alternative crops through the agriculture department and cooperatives to minimise the gap between farmers and consumers.

Acknowledgement

The researchers thank IDRC, Canada for funding a major study titled "Options for Diversification from Tobacco Farming, Bidi Rolling and Tendu Leaf Plucking in India -The Economic Feasibilities and Challenges" and, the present report draws mainly from this study. We thank all the farmers and their representatives who actively participated and shared their views on diversification in focused group discussion and meetings organised in different states under the above study.

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Tobacco- a social perspective

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Enough has been said about the deadly effects of tobacco on an individual's health, and little is to be gained by reiterating them. Everyone knows that tobacco causes a host of health issues, even those citing their chain-smoking elderly neighbour who still enjoys the best of health. They know, or suspect at least, that the consequences of such life-long dedication are forthcoming in some form; it's just a matter of when. The evidence is overwhelming, and there is scant need to debate the point. Let us, instead, examine the effects of diligent tobacco use on one's family. There are many folds. Aside from the obvious risks of exposure to secondary smoke, there are financial and emotional implications that are worth bringing up.

A question worth asking— is there a worse human being than one exposing his child to tobacco fumes at home? It can be argued there are few acts more heinous than causing wilful harm to an innocent infant whose well-being is supposed to be one's exclusive domain. Yet, how many otherwise reasonable human beings think nothing of committing such a deed. The deadly smoke that hangs in the air for days has at least seventy chemicals known to be carcinogenic to the human body, in addition to having detrimental effects on the cardiovascular system and lungs. Children's growing bodies are especially sensitive to these toxins. Often, it isn't a lack of knowledge but callous disregard for others that result in such behaviour.

Another aspect worth discussing is the financial burden on the family as well as society in general. The money spent on tobacco-related health issues has been well documented. The Ministry of Health and Family Welfare has estimated that loss to society as a result of sickness and death due to tobacco usage is to the tune of over a thousand crore rupees annually. Tobacco-related diseases tend to occur at an age when there are a lot of responsibilities on a person's shoulders. Often, it might strike down a family's only breadwinner, creating destitute orphans. Hence there is some merit to the argument that the revenue of a tobacco company ought to be counted as a loss to society.

Also, a smoker spends up to a few thousand rupees a month on cigarettes. Besides the necessities of life, that money could be better spent on much more meaningful things, such

as a treat for the child, a meal, an outing, or even a vacation. Such a course of action could not only help bond with the family but also save the person's life. Need there even be a discussion on the effects of death and disease on the family? A failing heart, clogged lungs, an amputated limb, and a disfigured face do not contribute to a fulfilling life and a happy family. These cause irreversible psychological scarring and social stigma. And these are mostly avoidable. All it requires is a bit of self-control and fortitude. To conclude, tobacco is a curse to the family and society. The sooner we eliminate it, the better for us as a species.

Environmental, ecological and economic impact of tobacco

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1 Introduction

Tobacco is neither human friendly nor environment friendly. In fact it is the chief avoidable cause of premature death and illness in humans and destruction of environment. According to WHO estimation, over 10 million people die of tobacco related diseases every year all over the world. The impact of human tragedy on family in particular and environment in general is unimaginable. The ecological and economic impact is unfathomable and mind boggling. It is high time the public and politician woke up to this problem burning society like wild fire. Ecology is the scientific study of interactions of organisms with one another and with the physical and chemical environment (plants, animals and microbes) in conjunction with the nonliving components of their environment (things like air, water and mineral soil), interacting as a system. Tobacco is detrimental to both ecology and environment.

2 Ecological and environmental impact

Tobacco products harm the environment in ways that go beyond air pollution and cigarette litter. The process of growing tobacco, manufacturing tobacco products and delivering them to retailers causes severe and irreversible damage to the environment. "From start to finish, the tobacco life cycle is an overwhelmingly polluting and damaging process," states a 2017 World Health Organization report, 'Tobacco and its environmental impact: an overview' says that 'It is not just about the lives of smokers and those around them, or even those involved in tobacco production. What is now at stake is the fate of an entire planet. This is a very serious thing every sane person should think seriously. The report highlights many harmful effects tobacco has on the environment-including deforestation, water contamination and climate change - in five main stages.

2.1 Growing and curing

Tobacco growing and curing (the drying of the tobacco leaf) are both direct causes of deforestation, because forests are cleared for tobacco plantations and wood is burned to cure tobacco. The curing 1 kg of tobacco for cigarette needs 5.6 kg of air dried wood curing of 1 tons of tobacco means 118 trees sacrificed! 76.2% cigarette tobacco is cured by cutting indigenous fruit and neem trees making the birds homeless and the planet loses the best producer of O₂. Apart from this 7000 billion tons of papers are used every year for wrapping cigarettes. The wood is used to make paper. Plus disposal of tobacco related waste pollute the land and water. Tobacco needs thrice the amount of fertilizers as compared to food crops. The methane produced by fertilizers is the cause of global warming. It takes 20-40 years to grow a tree before it is sacrificed within 20 minutes for curing tobacco! One hectare of tobacco grown needs 2.18 hectares of forest wood! The tobacco causes twice the amount of land erosion as compared to food crops. Deforestation is a cause of climate change, soil erosion, reduced soil fertility and disrupted water cycles. A previous investigation into the production, promotion and use of tobacco in developing countries estimated that for every 300 cigarettes produced (about 1.5 cartons), one tree is used just to cure the tobacco leaf.

3 Problems are plenty

The smoke generated from burning tobacco, called secondhand smoke or environmental tobacco smoke, contains more than 7,000 toxic chemicals that pollute both indoor and outdoor environments and can be toxic even after the tobacco product is put out. Third hand smoke, which can affect air quality and become more toxic over time, is the residue from secondhand smoke that gathers in dust and on objects and surfaces in indoor environments. These objects can end up in landfills and waste, becoming a further pollution risk to the environment. Curing of 1 kg of tobacco for cigarette needs 5.6 to 8 kgs of air dried wood. Curing of 1 tons of tobacco needs 118 trees sacrificed. What is more distressing is 76.2% cigarette tobacco is cured by cutting indigenous fruit and neem trees. Just imagine, it takes 20-40 years to grow a tree before it is sacrificed within 20 minutes for curing tobacco! Not only the ecologist but every sane person must be disturbed to know that one hectare of tobacco grown needs 2.18 hectares of forest wood. Tobacco industry uses 7000 tons of paper to wrap the cigarette. The wood is necessary to produce paper. The tobacco causes twice the amount of land erosion as compared to food crop. The tobacco needs thrice the amount of fertilizers as compared to food crops. Almost 40% of land used for tobacco cultivation is irrigated land where one can reap 3-4 food crops instead. The cost of irrigation is about Rs. 36,000 per hectare. More than irrigation the large amount of even subsoil water is

drained by tobacco. The consequences of depletion of forest and the trees are terrifying especially when everywhere there is scarcity of rains. Though it is called as a “cash crop” in fact it is a ‘crash or crush crop’ as it crashes the health of human being and has crushing impact on environment, ecology and economy.

3.1 Coastal land and water pollution

Cigarette butts, plastic filters and other remnants of smoked cigarettes can pollute soil, beaches and waterways. Studies have also shown that cigarette waste is harmful to wildlife too. A study of the effects of roadside waste on soil found that patterns of hydrocarbon levels in the soil were similar to those of littered cigarette butts. This indicates that the chemicals in the soil had seeped out of cigarette butts. Some hydrocarbons are carcinogenic. Cigarette butts cause pollution by being carried, as runoff, to drains and from there to rivers, beaches and oceans. Preliminary studies show that organic compounds (such as nicotine, pesticide residues and metal) seep from cigarette butts into aquatic ecosystems, becoming acutely toxic to fish and microorganisms. In one laboratory study, the chemicals that leached from a single cigarette butt (soaked for 24 hours in a liter of water) released enough toxins to kill 50 percent of the saltwater and freshwater fish exposed to it for 96 hours!. Another laboratory study found that cigarette butts can be a point source for heavy metal contamination in water, which may harm local organisms.

3.2 Growing and manufacturing tobacco products

Research has found that tobacco cultivation contributes significantly to deforestation and degradation of the environment, particularly in the developing world. In 2015, alone 1,312,796 pounds of toxic chemicals were reported disposed of, or otherwise released, from tobacco facilities. Some of the chemicals released are monitored by the Environmental Protection Agency’s Toxic Release Inventory database because they are considered hazardous to a person’s health and to the environment. The top chemicals released were nicotine, salts, ammonia, sulfuric acid and nitrate compounds.

3.3 Litter

Since the 1980s, cigarette butts have consistently comprised 30 to 40 percent of all items collected in annual international coastal and urban cleanups. When counting roadway litter on a per-item basis, cigarettes and cigarette butts comprise nearly 38 percent of all collected litter, making them the most prominently littered item on U.S. roadways. In addition to roadway litter, cigarette butts are also the most commonly littered item collected at five of six non-roadway sites: retail areas, storm drains, loading docks, construction sites and recreational areas. Data from the Ocean Conservancy shows that 1,030,640 cigarette butts were removed from U.S. beaches and inland

waterways as part of the annual International Coastal Cleanup (ICC) in 2016. This represents about 24 percent of the total debris of items collected and, by far, the most prevalent item found. In addition to cigarettes and cigarette filters, 12,089 cigarette lighters, 58,672 cigar tips and 33,865 tobacco packages or wrappers were removed from U.S. waterways during the ICC in 2015. Although 86 percent of smokers consider cigarette butts to be litter, three-quarters of smokers report disposing of them on the ground or out of a car window. Studies estimate that smokers litter as many as 65 percent of their cigarette butts. Cigarette filters are made from cellulose acetate, a plastic which, though technically biodegradable, only degrades under severe biological circumstances, such as when filters collect in sewage. In practice, cigarette butts tossed on streets and beaches do not biodegrade. Even under optimal conditions, it can take at least nine months for a cigarette butt to degrade. The sun may break cigarette butts down, but only into smaller pieces of waste which dilute into water and/or soil. Growing concerns over the impact of tobacco waste on the environment, as well as the substantial costs of cleanup, have prompted states, municipalities and institutions to enact a variety of policy actions. For example, 312 municipalities have prohibited smoking on their beaches, while 1,497 prohibited smoking in parks as of July 2017.

3.4 Economic impact

The tobacco industry which is made to appear as a good source of revenue by the successive governments is in fact responsible for more financial burden. While tobacco industry contributes 5% of the Indian total budget revenue, the cost of treating just three diseases, like cancer, heart attack and chronic obstructive lung disease was estimated to be Rs.27,761 crores in 1999. Today it is much more. 25% of health expenditure in USA is on tobacco related diseases and it stands at staggering 6.5 billion dollars/year. The financial burden on government in treating tobacco related diseases in India is not known. A smoker smoking 20 cigarettes a day spends Rs. 10,950/year. That means for 30 years of smoking he spends Rs.3, 28, 5000 which otherwise could have been used to build a house or educate the children and get them married. The actual amount of losses in property due to fire tragedies caused by the smoker carelessly throwing the cigarette or beedie is incalculable. Economic impact of disease and death due to tobacco is unimagined.

3.5 Human tragedy

Tobacco industry is responsible for 8,00,000 deaths as against 60,000 deaths due to 4 wheeler industry annually, in India Tobacco a prime killer in prime of life, kills more than 8,00,000 people every year in India, where as death toll due to road accidents is around 60,000 per year. While the media promptly projects the various accidents all over, the people dying every day goes unnoticed and not reported. Hence the people do not realize the death and suffering. National sample survey of WHO(1993-94) showed that tobacco had resulted in 42 lakh heart disease, 37 lakh chronic

obstructive lung disease(COPD) and 1,54,000.of cancers. In fact 25% of all fatal heart attacks are due to tobacco consumption. Over 20,000 people undergo amputation (cutting limbs) annually. More than the medical expenditure, for treatment & cost of artificial limb, it is the crippled man with no job being burden on the hapless family is unbearable. About 50% of cancers in man and 25% of all cancers in women are directly due to tobacco. It is estimated that 60% of all the lung diseases like bronchitis, emphysema are due to smoking. The paralysis (stroke) is 3 times more common in smokers than in non-smokers. The paralyzed man is like a living dead or a vegetable neither useful to his family nor the society. The human tragedy and the consequences in the family of the dead or paralyzed or crippled with amputation are incalculable.

3.6 Heart & tobacco

The heart is the most wonderful pump in the world. It starts beating in the mother's womb when the foetus is just 6 weeks old and continues to work without rest till our dying day. Every minute it pumps about 2-5 litres of blood into the blood vessels (tubes carrying blood to the nook and corner of the body) which when stretched in line extends upto 60,000 miles. Every day the heart pumps 2500-5000 gallons of blood. The fuel required to pump 5000 gallons of liquid is equal to the fuel required by Queen Elizabeth's ship to sail from London to New York and back. Like any other muscle the heart depends on a constant supply of oxygen to sustain activity. So its fitness in turn depends on or is linked with the lungs. Such a powerful heart can be diseased by tobacco. Not only the heart but even the blood vessels carrying blood develop multiple blocks leading to gangrene of limbs, stroke and heart attack.

3.7 The harmful effects of Tobacco

Tobacco contains over 4000 chemicals; about 40 of them are cancerous. But most dangerous substances are three: (i) NICOTINE – a highly addictive toxic substance, which diffuses very quickly into the blood stream providing a quick fix to the smoker. One cigarette contains 1 mg of Nicotine and when taken as injection intravenously is fatal. But when a person is smoking he hardly takes 15% of Nicotine in that cigarette but still each cigarette reduces the life span of the smoker by 10 minutes. Nicotine causes spasm (or narrowing) of the coronary arteries (blood vessels supplying blood to the heart). It also increases the heart rate and causes blocks in the coronaries leading to heart attack and death. (ii) Carbon Monoxide (CO) - is the 2nd most dangerous substance in tobacco which damages both heart and lungs. When CO is absorbed into the blood stream it binds to Hemoglobin, reduces oxygen, causes heart and arterial disease. (iii) TAR - is solid irritant that coats the lungs, blocks the airways causes emphysema and lung cancer.

3.8 Smoking and Cardiovascular disease (CVD)

In the western developed countries death rate has come down by > 28% by public awareness and bringing down the rate of smoking. It is well known that Nicotine and Carbon monoxide are the main culprits. Death rate for all CVD for smokers is 2-3 times that of non-smoker and 35-40% of the deaths occur before the age of retirement (Royal college of Physicians, 1983), that means the person dies in the prime of life before fulfilling his domestic duties. Smoking is associated with both aspects of atherosclerosis (a) promotes development of lesions thus creating sites susceptible to blockage. (b) promotes the occurrence of triggering events that lead to blockage (US, Department of health and Human Services 1989).

Recently, evidence shows linking of passive smoking to CVD. One may ask what is passive smoking? Smoking has (a) Main stream - that is inhaled and exhaled by smoker. (b) Side stream – smoke from the burning tip of the cigarette. 85% of tobacco smoke in the room is from side stream and this smoke contains higher portion of toxic gases. Passive smoking is breathing other people's tobacco smoke from side stream and is a cause of health hazard in innocent non smokers (US dept. of Health & Human Services,1986).

KEY POINTS:

- Tobacco is neither human friendly nor environment friendly. So it is neither humanity nor sanity to smoke.
- Smoking can kill you by many ways – by heart attack or stroke or cancer or gangrene.
- Smoking not only kills the smoker but also the people around him.
- Smoking destroys the family, society, ecology, economy of the country.
- Stop the hands that make the cigarette and also the hands that light the cigarette.
- Smoker can be described as fool at one end and fire at the other end who kills himself and destroys the entire environment

4 Conclusion

The best way to protect the environment from the effects of tobacco is to SAY NO TO TOBACCO by encouraging smokers to quit and to promote prevention through tobacco control policies, high-impact marketing campaigns and quit-smoking services. Supports efforts to expand tobacco control policies, runs the most successful youth tobacco prevention campaign in the country and help thousands of people with quit-smoking tools. So that we save the environment of this beautiful planet for our children.

Preventing Tobacco Use among Young People

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1 Introduction

India is the second largest tobacco consumer, and third largest tobacco producer, in the world. Tobacco contributes a major share to health and economic burden in the country. Use of tobacco products in any form is unsafe, irrespective of whether it is smoked, smokeless, or electronic. According to the Global Youth Tobacco Survey conducted in 2009, 14.6% of adolescents (age 13-15 years) currently used any tobacco product in India. Nearly all long-term smokers (9/10) begin before the age of 19 years.

2 Factors effecting the initiation, prevalence

Adolescents are different from adults not only in their level of development but also in their needs for pleasure and satiety. Adolescence is thus a vulnerable period for initiation of drug use. Risk factors associated with youth smoking include low socioeconomic status, mental illness, low parental education, living in a single parent household, influence of peer pressure and exposure to positive images of smoking in the media. Pro cigarette ads, being offered by a tobacco company representative, easy access to cigarettes are some of the reasons for initiation and continuation of smoking. "Smoking makes me attractive and I will have more friends" are the common perceptions. If one or both parents smoke, kids have at least twice the risk of becoming regular smokers by high school graduation. Smokeless tobacco is a particular challenge for young people as there is social sanction of its use in many cultures, children and youth have role models at home who use smokeless tobacco. Thus this habit starts very young.

3 Prevention of tobacco use in adolescents

Approaches to prevention can be classified as individual interventions, family-based interventions, interventions at the school level and community based interventions.

3.1 Prevention at individual and family

It is understood that tobacco use is not the only risk-taking behaviour in which many adolescents engage. It occurs in a web of social engagement that fosters many types of adolescent experimentation, including problem behaviours. Because of this social context, youth smoking or smokeless tobacco use arises from some of the same family, peer, and community influences that are also important to sexual risk taking, crime and violence, and the initiation of harmful alcohol and illicit substance use. Multiple factors within an individual are responsible for initiation of tobacco use. Vulnerable adolescents include those who are novelty seeking, easily succumb to peer influence, have high levels of excitability or anxiety. Parents or schools should help adolescents in identifying the deficiencies in life skills. Also, helping them to improve these skills like self-esteem and self-image, alternate ways to channelize their energy, stress management techniques, values clarification, decision making skills, and goal setting plays a major role in prevention of tobacco use and problematic adolescent behaviour.

3.2 Prevention at school level

Adolescents spend most of their time in school and college, hence interventions based out of schools and colleges become an important aspect of prevention. Strong school anti-smoking policies are associated with decreased rates of youth smoking. Most children are unaware of the harmful consequences of tobacco use. Programs to be conducted in schools which provides information about the health risks and negative consequences of tobacco, most often in a manner intended to arouse concern or fear. Schools and parents need to train their children in recognising and emphasises the social environment (peer behaviour or attitudes, familial, and cultural contexts) as a critical factor in tobacco use. So, focus should be on building skills needed to recognise and resist negative influences, including recognition of advertising tactics and peer influences, communication and decision-making skills, and assertiveness. School teachers need to be trained in developing and enforcement of tobacco free policies, to make sure prevention programmes are implemented in a setting with broad policy support. Finally, peer-based interventions, in

which older students were trained to become positive role models for middle and primary school students.

3.3 Prevention at community level

This includes the involvement of families, schools, community organisations, religious organizations, businesses, the media, social service and health agencies, government, and law enforcement, with intervention strategies generally focused on making changes in both the environment and individual behaviour. Although community interventions take a variety of shapes, common elements among them include a shared emphasis on altering the social environment or social context in which tobacco products are obtained or consumed, and a shared goal of creating a social environment that is supportive of non-smoking or cessation. Some of the components of community interventions, such as mass media campaigns and youth access restrictions, are also implemented as standalone interventions, as described below. Community interventions likely need to be combined with stronger advocacy, taxation, media interventions, and policy formation and implementation.

In India, The Cigarette and Other Tobacco Products Act (COTPA) 2003 prohibits advertisement and regulates the tobacco products. According to this act, any form of advertisement (visual, voice etc.,) is prohibited and smoking in public places is banned. Smoking in public places imposes fine of Rs. 200. Selling or permitting sale of tobacco products below the age of 18 years and 100 yards radius of any educational institution is prohibited. Violation of this act will lead to imprisonment and fine according to Juvenile Justice Act (JJ act). COTPA act also regulates trade and commerce, production and supply, packaging of tobacco products. Direct restrictions on smoking in public facilities and outdoor spaces, in worksites, in hospitals, in restaurants and bars, in hotels and on airline flights appear to be effective in reducing non-smokers' exposure to environmental tobacco smoke, and work site bans also influence the intensity of smoking among workers. Such bans may also have a positive impact on quit rates. Some econometric studies of teenage and young adult smoking behaviour found evidence that clean indoor air laws may reduce teenage cigarette consumption.

Although the reasons why such laws may be effective in reducing youth smoking are unknown, one could speculate that they simply reduce the opportunities available for smoking. Alternatively, or perhaps in conjunction with these reduced opportunities, clean indoor air laws may be a useful vehicle for creating a cultural norm that suggests smoking is socially unacceptable. Research groups found that cigarette advertising bans are helpful. A study found that a complete ban could reduce tobacco consumption by approximately 6%, an amount that may seem small but could still have an important public health impact. Despite these laws, youth get access through social sources such as family, friends, or even strangers for their cigarettes or through illegal sources. Media based health promotion efforts have the potential to reach large segments of the population, especially those who are less educated, and to lower barriers to participation in health-related programmes.

3.4 Marketing strategies by tobacco industry vs anti-tobacco campaigns

Tobacco industry's use of surrogate and indirect advertising methods, include the use of internet-based marketing, violations of legal provisions regarding advertising (achieved mainly through a lack of enforcement capacity), and use of legal proceedings to delay introduction of new control policies. A study suggested that more adolescents were offered free cigarettes by tobacco companies once the regulations came into force. Evidence from India and elsewhere indicates that prohibition of tobacco advertising has led to tobacco companies forming contractual agreements regarding brand display with the film industry, and evidence that images of tobacco use in Bollywood movies increased post-implementation of the COTPA.. On the other hand, several countries started anti-tobacco advertising campaigns to counter the tobacco industry. These ads can be characterised as youth oriented—high energy, aggressive, fast paced, but the flip side is also that they could turn 'angry, sarcastic, and irreverent'.

3.5 Tobacco taxation

While generating revenue, tobacco taxation is also a policy that creates an economic disincentive to use tobacco. Theoretically, increasing the price of cigarettes through taxation could reduce adolescent cigarette consumption through three mechanisms: some adolescents would quit smoking; some would reduce the amount that they smoke; and some would not start smoking in the first place. Teenagers could indeed be more

responsive than adults to changes in cigarette prices. An 10% increase in the price of cigarettes will reduce the number of cigarettes demanded by 4%. Increase in cigarette price directly reduces youth smoking and then again indirectly reduces it through its impact on peer smoking. First, the fraction of disposable income a young smoker spends on cigarettes is likely to exceed that spent by an adult smoker. Second, compared to adults, youths are more likely to be oriented toward the present than the future. In India, in line with the current Five-Year Plan, the current Government has increased taxes on cigarettes, and announced plans for further strengthening of anti-tobacco legislation following a period of review. Unfortunately, these measures are not applicable to bidi smoking and use of smokeless tobacco.

3.6 Technology based interventions

An important emerging trend is the use of technology-based systems to communicate messages about tobacco to teens. Adolescents represent a perfect audience for using emerging technology based anti-smoking strategies. The development and expansion of technology-based systems presents a unique opportunity to take advantage of technology that most adolescents are comfortable with and to adapt anti-smoking messages to individual needs and circumstances. A recent initiative by the Government of India, the m-Cessation programme, delivered through the National Health Portal has successfully helped tobacco users in India to quit tobacco by motivating and supporting registered participants through mobile text messages.

Quit lines: Studies found that quit lines are cost-effective and found that counselling nearly doubled a smoker's odds of quitting and maintaining cessation status for one year. Quitline started recently in India by government (1800 11 2356) is showing a positive signal towards effectiveness. NIMHANS has been running the Quitline for Southern India since September 2018.

3.7 Treatment for adolescents

Almost all the attention on tobacco cessation has focused on adult. It is particularly important to target adolescents who are just at the transition point before or after habitual smoking or the use of smokeless tobacco begins. As of now according to standard guidelines nicotine replacement therapies are the only medication options available.

There is a need for further research in adolescent treatment options. Finally, it is important to invest in the research of all the approaches described above.

From a practical perspective, these different policy views are not mutually exclusive. Both can be implemented simultaneously and should be considered as complementary rather than competing strategies. From a public health perspective, we are appropriately concerned that the prevalence of youth smoking remains high despite the amount of resources already devoted to this problem and the wide array of interventions that have been tried. Yet, it is possible that without these interventions, rates of both experimental and habitual smoking among youth would be even higher.

It is believed that previous calls for tobacco control efforts that are “youth centred” remain relevant and critically important as we move into the 21st century. It is important to devote resources in expanding, improving, and evaluating tobacco prevention and control activities among youth.

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School children and tobacco

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1 Introduction

There is high prevalence of tobacco consumption (14 percent) among school children (Khubchandani *et al.*, 2017). There is ample evidence that indicates the negative consequence of youth tobacco use for later social, emotional and behavioral well-being (Maters *et al.*, 2007). Academic literature often concludes that providing health education regarding the adverse impact of tobacco is solution to the problem (Goyal and Bhagawati, 2016). However, solution to the problem of tobacco addiction among school going children is not simple and straight forward as it is made out to be. Obviously, giving health information on adverse impact of tobacco is very crucial but only focusing on that is like tossing the problem under the carpet (Zhao, 2018) and not addressing the root cause of it. Tobacco addiction among school going children is only the tip of the iceberg of a much larger problem. We are assuming that providing information to these young adults will keep them away from tobacco intake. By doing so we are over-looking these adolescent's need for novelty and curiosity (Portnoy *et al.*, 2014), we are turning a blind eye to the pressure these children have to fit into the friend's circle who smoke (Urrutia-pereira *et al.*, 2017; Xi *et al.*, 2013) and we are also discounting the impact of a parent's habit of tobacco addiction (Xi *et al.*, 2013) that can have influence on a child's psyche.

2 Context of safe school and the review of literature

Let us imagine a child's mind? Largely, they are innocent, trusting and impressionable. Though, these are positive qualities, it can act to school children's disadvantage because they can be easily influenced by what is seemingly attractive but harmful in real. As part of growing up a child is put through many experiences and in which parents, teachers and peers play a key role. School going children get stressed either from the pressure to academically perform or fit into their friends circle (TS *et al.*, 2017). Unfortunately, our schools do not equip children with life skills that we need for facing the stressors of life.

Children have limited life's experience to guide them through these struggles either at family or their schools. The myriad physiological and emotional changes that happen during adolescence make them vulnerable and clueless. This is also a time when they are trying to assert independence (Onrust *et al.*, 2016) and taking on new and sometimes risky decisions which to them might seem like a progression towards adulthood. There is evidence that suggests that tobacco intake might help smokers relieve stress (Choi, Ota and Watanuki, 2015). Having emotional anchorage during this period that keeps them grounded to be responsible for their action is crucial. The channel of communication between parents and the child forms the basis of such emotional anchorage and if that is missing then the child is left to his resources (Carver *et al.*, 2017). They fall back on peers for confiding their issues and also find peers to be allies in satisfying curiosity. Again, the inhibition that adolescents have in sharing their curiosity with adults, parent, relative or teacher, is the fear of being judged or reprimanded. Hence, when they want to experiment smoking then it is often not supervised. To make matters worse, children have easy access to products made from tobacco near school. Many children, specifically male adolescents, start using tobacco because it is considered to be attractive for proving machismo and gain popularity (Khubchandani *et al.*, 2017).

3 Public health approach

Any sustainable attempt to address the root cause of tobacco addition among school children needs to be approached at the individual, family, friends and teacher level. A multi-pronged public health preventive intervention is required in order to address the root cause of the problem. This intervention needs to adopt public health approach at all levels as follows:

At the individual level: a standardized physical and emotional health module should guide the child by encouraging them to be physically active through sports or other exercise regimen. The emotional well-being is equally important where they need to incorporate pranayama and meditation into their life-style. Further, a notional correction module should orient children towards life management, for example, how mind works and practical tips of breath management should be shared as a modality of managing mind. Making use of innovative and entertaining medium of art can be used to sensitize

children against the pitfalls of taking short cuts in life. Again, embedding health promotion within the module against tobacco and technology addiction can be useful. Unless we address a generic approach to complete emotional well-being it is difficult to address the problem of tobacco addiction in an effective manner.

At the family level: parents should be made partners in this intervention where separate work group module can be developed for them to assist them in ensuring effective communication with children. For example, the need to develop a friendly bond with children so that the channel of communication is open needs to be emphasized. Similarly, parents need to avoid using judgment when children share some sensitive details about their life.

At the peer level: an innovative and creative exercise that establishes bonding between friends has to be given importance. Developing subtle values of intimacy such as trustworthiness and being responsible have to be emphasized greatly. The thin line between healthy and unhealthy needs need to be elaborated with examples. Only when these children are genuine and truthful to self and with their friends then there won't be unnecessary pressure on them to be someone else which they are not.

At the teacher level: they can be the agent of change and communication between the child, peers and parents. Hence, a module that encourages and empowers them to be nourishing mentors can be inculcated in order to address the problem of tobacco addiction.

4 Conclusion

In conclusion, only when we work at all the levels then can we ensure that our children are growing up in an environment that helps them thrive and flourish. By putting many boundaries and restrictions we are creating an atmosphere where children feel threatened to confide. They feel repressed to express themselves and feel the need to hide tobacco addiction from their dear ones and when it goes out of control is when others realize the extent of problem. Let us all pledge to end tobacco addiction among school going children by creating healthy and happy children who feel free to express themselves in varied form of creative manner.

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Economic implications of Tobacco

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"Health, and not economic arguments are the reason for controlling tobacco, but economic arguments are raised as an obstacle to tobacco control policies,"

*-Former WHO Director-General Dr Gro Harlem Brundtland
(WHO).*

India is the world's third largest tobacco producing country after China and Brazil and produced more than 10% of the world's raw tobacco during 2003-04, but ranked only ninth globally as an exporter of tobacco and tobacco products (Sonaliya,2004). It has diversified cultural practices of tobacco, sheltering both smokeless and smoking forms. The tobacco consumption pattern reflects heavy use of non- cigarette tobacco, primarily in the form of bidis, chewing tobacco and paan preparations. Bidis account for as much as 85% of total smoked tobacco. With a rise in disposable incomes, per capita consumption of cigarettes is expected to increase (Galvão-Moreira & da Cruz 2017;Ekpu & Brown 2015). While the gritty tobacco industry trails to the bountiful revenue it offers to the country, the counter is worth the growl at the population level. The leading causes of death from smoking are cardiovascular diseases, chronic obstructive pulmonary disease, and lung cancer. About one-half of deaths due to tobacco consumption occur in people aged 35 to 69, the period of life when individuals are most economically productive (WHO). Health care costs from tobacco use impose burdens on annual health budgets, especially in poor countries like India. By one estimate, India spent approximately Rs 300 billion (US\$ 6.2 billion) in 2002-03 on the treatment of tobacco-related illnesses. This would amount to roughly one-fourth of all health spending in the country. Tobacco-related health spending tends to amount to 6-15% of overall health spending in developing countries. Another study using nationally representative health care expenditure data found that the direct cost of treating four major tobacco-related diseases (respiratory, tuberculosis, cardiovascular, and neoplasms) in India

amounted to Rs 54 billion (US\$ 1.2 billion) in 2004, or 4.7% of India's national health care expenditure that year (Lancet, 2017).

It is worth to examine of the evidence from an economic perspective, as it could lead to the stalking costs at a personal level as a result of 'rational addiction' or the social costs that curtails the human productivity and damage to the environment (Gupta et al 2004). The economic insights are embedded with the difficulties involved in working out the costs per se. This is usually sum total of private, direct costs from the National Accounts Statistics (NAS) of India plus social, external costs, such as the costs of fire hazard and littering, comprising various proportions of tangible and intangible costs (including the trickiest question of valuing human life and its longevity), avoidable and unavoidable costs, real, monetary and nonmonetary, physical and psychological costs (John & Moore,2011). This struggle is worth the mention here, as the profound scientific stories are spelt out with alarming metrics with a tinker.

To sum, the economic purview mandates an alternative source of income for the farmers who are dependent on the tobacco crop. While we the multisector stakeholders must become the whistleblowers in a collaborative mode, representing from several administrative departments involved at the governmental level, diverse civil society groups needed at the community level and varied technical expertise required from multiple professional groups, to a host of bilateral and international partners to engage, the design and delivery of core issues and concerns of tobacco in our country.

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Setting up The Context for Tobacco Control

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1 Introduction

It is a customary for many organisations including the ones in health care to observe World No Tobacco Day (WNTD) by organising an event such as a rally, seminar or medical camps. Some of the partners of Consortium for Tobacco Free Karnataka (CFTFK) were part of this custom. A review and reflection after 2001 WNTD programme by a network partners of (CFTFK) led to the birth of CFTFK in the same year. The reflection pointed out the need for sustained efforts considering the magnitude of the tobacco menace. Key focus during the informal phase of CFTFK (2001-2018) was on awareness on harmful effects to tobacco use across various sections of the society and advocacy for formulating legislative measures. Considering the prevailing challenges, the need for registration was felt couple of years ago, however registration of CFTFK took place on 13th March 2019 after analysing the pros and cons of the process. Considering the complexity of the issue it was decided to form CFTFK as an alliance of professional institutions, civil society organisation and individuals, it is a common platform for them to discuss and debate the issues related to tobacco control and evolve collective strategic actions. The need for a comprehensive approach was agreed upon and the objectives were framed accordingly to address, awareness, policy advocacy, research and action. It was decided invite membership of both institutions and individuals.

2 Magnitude of tobacco menace

Often when the harmful effects of tobacco were shared across various social groups, one common response is that the government simply cannot ban it. I wish the solution is as simple as that. If such a ban is proposed it must be agreed by all the over 125 countries that are cultivating tobacco currently and all 195 countries that are consuming tobacco. Thanks

to Dr. Gro Harlem Brundtland former Director General of the World Health Organisation (WHO) who recognised that tobacco is a global menace hence called for a global action for tobacco and initiated the process of the first ever public health treaty known as the ‘Framework Convention on Tobacco Control (FCTC) in 1999. Till today 198 countries have signed, 9 countries were neither signed nor parties, 7 countries have signed but are not parties yet.ⁱ The total global tobacco production in 2018 is 8.2 million tons.ⁱⁱ India’s contribution is over 800 million kgs.ⁱⁱⁱ About the global tobacco consumption trend, over 1 billion smoke and 300 million use smokeless forms of tobacco. India’s contribution to tobacco consumption is about 275 million.^{iv} India is the second largest consumer of tobacco and 3rd largest producer of tobacco.^v Every 6 seconds one person dies due to tobacco related causes in India.^{vi} The current global death toll is crossing 7 million and India’s contribution to it is about 1 million.^{vii} Besides death, the burden of tobacco related disease is high. Non communicable diseases in India attribute for more than 60% of all deaths.^{viii}

“Tobacco is the only legally available consumer product which kills people when it is used entirely as intended.” The Oxford Medical Companion (1994)

3 The core issues in tobacco control

Tobacco industry’s interference with tobacco control

Tobacco trade is among the top 5 global trades which is controlled by a well-established Tobacco Industry (TI) with huge money power to influence political decision making.^{ix} The global tobacco market size was valued at USD 604.35 billion in 2015^x. The size of the Indian tobacco industry is USD 11 billion^{xi}. With such a huge money power it is not difficult for the TI to thwart the efforts that aims to destabilise its business agenda. Some of the ways it interferes are as follows; 1) Discrediting scientific evidence; 2) Funding social program to create a positive social image for itself; 3) Initiates legal battles against legal measures of the government to curb tobacco use and; 4) Uses groups such as farmers, retailers and bidi workers to highlight their livelihood issue to subvert the public health initiatives by the government^{xii}. Hence TI watch must be an important part of public health action to expose the TI. WHO compared TI to a vector, “All epidemics have a means of contagion, a vector that spreads disease and death. For the tobacco epidemic, the vector is not a virus, bacterium or other microorganism – it is an industry and its business strategy”^{xiii}.

4 Social Acceptance and Legal Sanctions sustains the tobacco trade

Social Acceptance coupled with Legal Sanction is what empowers the TI to capitalise furtherance of its business. Both paves way for creating and sustaining demand for the tobacco products.^{xiv} Tobacco use is so common across the globe, and it is considered normal for both the consumer and the people around them. Society underestimates the addictive nature and the harmful effects of both active and passive smoking and other forms of tobacco consumption.^{xv} Compared to alcohol, tobacco is more harmful, where the sale of alcohol is regulated by licence and only a licence holder can sell alcohol^{xvi}. Whereas tobacco can be sold by any one anywhere with certain riders as specified in COTPA. Tobacco trade is legal. *“It is mind-boggling that a product as destructive to the human body as the cigarette remains almost completely unregulated to protect health and safety”* (Matthew L. Myers, President, Campaign for Tobacco-Free Kids). All concerned individuals and institutions and movements about the tobacco menace focus on destabilising tobacco use in society. Tobacco advocacy groups must advocate for tobacco sales must be brought under retailer license.^{xvii} There is need for collective voice of the masses for formulating laws towards this and to resist the efforts of tobacco industry to subvert it.

5 Alternate livelihood options for farmers and other tobacco workers

The lion’s share of the tobacco money is enjoyed by the TI. The tobacco trade is lucrative for the TI because the trades offers high returns for less investment. It gets the raw material cheap and markets it across all consumer products outlets without much expenditure for marketing. In fact, highest paid per kg of tobacco to a farmer is INR 150. The industry produces 1000 cigarettes in 1.2kg of tobacco and sells it to about INR 10,000.^{xviii} A similar equation goes with bidis and other forms of tobacco. The farmers, bidi workers, tendu leave collectors, and other subsidiary worker get a meagre portion and it is a matter of livelihood for them. The TI provides livelihood options for about 6 million farmers and 20 million labourers in 13 states in India.^{xix} Exploring and sustaining alternative livelihood options for bidi worker, other tobacco industry workers and tendu leave collectors will be a challenge whereas shifting to alternate crops may not be as challenging as livelihood. Again, all professional bodies and civil society organisations must work with the government in identifying and promoting alternative livelihood options for the tobacco workers. Similar support given to tobacco crop must be given to other crops. The Central Tobacco Research

Institute is exploring support to farmers in this direction. It has already identified a better economically viable crop, some of them are more ruminative and some less when compared to the tobacco crop.

6 Building a strong political will for tobacco control

Besides providing livelihood options the tobacco industry contributes about INR 34,000 cores annually to national exchequer through tax annually^{xx}. The TI further funds all political parties to influence the political decision making to its favour.^{xxi} Using its sheer money power, the TI sustains well the balance between the demand and supply of tobacco. Some of the key challenges to implementing the existing tobacco control laws are lack of political will. ^{xxii} Large social mobilization is the key to There is a need for mobilising a countervailing power through health care and education sector professionals and other civil society organisations towards pressurising the government to resist the TI influence and initiate appropriate action for curbing the tobacco menace., mostly importantly common man's outrage in defence of public health.

7 Conclusion

The WHO's global progress report on FCTC implementation in 2018 captures article 8, 11 and 12 as top three in implementation which are enforcement of protection of exposure to second-hand smoke, packaging and labelling and education, communication and training. Lowest three in implementation are articles 18,19 and 17 which are Protection of the environment and the health of persons and liability and Provision of support for economically viable alternative activities.^{xxiii} Ultimately all cultivated tobacco will find its way into the market. Demand and supply reduction measures go hand in hand. Legislative measures to curb the tobacco menace have been severely challenged by social apathy and lack of political support due to TI interface. There is a need for mobilizing a countervailing power, a collective voice of all stakeholders concerned about the tobacco menace precipitated by TI. CFTFK is a platform created for such mobilisation. You may be an individual, or an institution concerned about the tobacco menace, become one of members of CFTFK to be part of the emerging countervailing power.

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