

# Tobacco-related issues in Kenya

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## Introduction

According to an authoritative source (B.A.T., 1990), a trader set up the first cigarette shop in Kenya at the Indian Ocean port city of Mombasa in 1907. In 1928, a factory was constructed at Jinja, Uganda as an import substitution concern to serve the East African region, in particular, Kenya, Uganda and the United Republic of Tanzania. It was not until 1956 that a modern cigarette factory was built in Nairobi to serve the needs of a rapidly expanding smoking clientele. Another independent cigarette factory was built in 1988 (Mastermind Tobacco (K) Limited, 1991). Today, cigarette smoking ranks first among leading substance usage, its frequency of use being followed by alcohol, bang, miraa (chat), volatile solvents and narcotics.

This paper provides information on the tobacco industry in Kenya that will enable policy-makers to make informed decisions on issues affecting the industry. To this end, the paper gives an overview of the industry supply, demand and trade status. It then examines the country's employment situation and regulatory framework. Some possible scenarios are advanced on the likely impact of tobacco control on employment before drawing certain conclusions and proposing recommendations for policy and research.

## Overview

In Kenya, tobacco is grown in small plots—some as small as a quarter of a hectare—by small-scale farmers who own, on the average, under two hectares of landholding. Cultivation extends into the Central, Eastern, Western and Nyanza Provinces, with a high concentration in Bungoma, Busia, Embu, Meru, Kirinyaga, Kitui, Kuria, Migori, Mt. Elgon, Murang'a, Sagana, Siaya, South Nyanza, Suba, and Teso Districts.

As can be seen from Table 1, the land area planted with tobacco increased between 1996 and 2000 from about 14 000 to 16 000 hectares.

**Table 1. Production statistics**

	<b>1996</b>	<b>2000</b>
Area planted (hectares)	13 943	15 768
Output of tobacco leaves (tonnes)	33 070	20 213
Tobacco sales (1995 Kenya shilling million)	1 672	872
Numbers of households	31 398	29 000
Household income (1995 KSh)	53 240	30 061
Total agricultural cultivation area ('000 Ha.)	6 302	6 769
Share of tobacco-growing land (%)	0.22	0.23

Sources: B.A.T., Tobacco Newsletter, various issues; MTK, Mastermind Newsletter, various issues; Ministry of Agriculture, Statistics on Food and Industrial Crops Production (November, 2001), pp.12-15 & 63-64

This could have been due to the duopolistic tobacco manufacturing companies, who vigorously campaigned and competed to entice their contracted farmers to expand their tobacco-growing area by offering them higher prices and subsidized inputs. The average area planted with tobacco increased from 0.4 to 0.5 hectares per farmer.

The total number of tobacco-farming households, however, dropped from about 31 000 to 29 000, possibly because of "major restructuring" in leaf growing<sup>1</sup>. The production of tobacco did as well, from around 33 000 to 20 000 tonnes due largely to weather vagaries, with the El Niño and La Niña weather pattern falling at the tail end of this period. This resulted in a drop in the average tobacco farmers earnings from 53 000 to 30 000 Kenya shillings per annum (equivalent to a reduction from US\$ 928 to \$US 394).

The share of all cultivated land consumed by tobacco growing has remained more or less constant at less than one quarter of 1%. It should be noted, however, that double count is possible due to the practice of sequentially planting another seasonal crop on the same land that would have been utilized previously during the same year for growing tobacco during the tobacco-growing season.

## Tobacco consumption

Table 2(a) gives the data on number of cigarettes and cigars consumed over the period 1991 to 1999. The prevalence rates are provided in Table 2(b).

**Table 2(a). Trends in cigarette and cigar consumption**

Year	Cigarettes & cigars consumed (million sticks)	Kenya's population (million)*	Per capita annual consumption (Sticks)	Index of per capita annual consumption (1991=100)
1991	7 059	22.9	308	100
1992	6 570	23.5	280	91
1993	7 001	24.2	289	94
1994	6 786	24.9	273	89
1995	4 320	25.6	169	55
1996	6 291	26.3	239	78
1997	5 662	27.1	209	68
1998	6 254	27.9	224	73
1999	4 799	28.7	164	53

\*Estimated using the 1989-1999 intercensal growth rate of 2.9% per annum.

Source: Republic of Kenya, Statistical Abstract, various issues; and Ministry of Health, Health Management Information Systems Report (April, 2001), p. 3.

<sup>1</sup> A hint of this is contained in British American Tobacco Kenya, *Annual Review 2000*, p. 8.

**Table 2(b). Smoking prevalence (% of group)**

	1986	1993	1995	1996
<b>Hospital workers</b>				
Regular smokers	54			
Occasional smokers	1			
<b>Youth</b>				
Rural		15		
Urban		10		
<b>Adult Men</b>			67	
Women			32	
<b>Primary school teachers</b>				
Men				50
Women				4

Sources: Kamanga, HHO, Odhiambo JA, Gicheha C. (March 2001) Kenya Country Profile; Tobacco Consumption among Primary School Teachers in Nairobi. *The East African Medical Journal*, Vol. 78, No. 3, pp. 119-123. WHO web site.

The per capita consumption of cigarettes in the last ten years or so has been fluctuating on a downward trend, dropping by almost 50% between 1991 and 1999. This could be due to the poor economy and the attendant loss of purchasing power. It could also be the result of the adverse publicity on smoking with the dissemination of information on its dangers. The extent of smoking, that is, smoking prevalence, seems to be over 50% among adults, an adult being defined as a person of 20 years or above.

An indication of the smoking pattern is given by smoking prevalence with respect to age and gender. Among the youth, prevalence rate is low in both rural and urban areas. It is worth noting, however, that the majority of adults who smoke an average of one cigarette or more per day in a year started smoking when they were between 15 and 24 years of age (Kwamanga, Odhiambo, Gicheha, 2001). Among women some 30% smoke cigarettes.

## **Tobacco: international trade**

Data on Kenya's international trade in tobacco and cigarettes for 2000 is given in Table 3. Overall, Kenya is a net exporter of tobacco and tobacco products, exporting around 2 168 million Kenya shillings (equivalent to US\$ 28.46 million) while importing less than a quarter of that, thus showing a favourable balance of trade of some 1 700 million Kenya shillings. It is a net importer of unprocessed tobacco (unstemmed or unstripped tobacco leaf), mostly from the Democratic Republic of the Congo and Uganda, but from Switzerland as well. Unprocessed and partly processed tobacco finds its way to the Democratic Republic of the Congo, France, Ireland, Japan and the United Kingdom, among others.

Kenya is a net exporter of cigarettes, the biggest markets being the Democratic Republic of the Congo, Ethiopia, the Netherlands, Somalia, South Africa, Sudan, Uganda and the United Republic of Tanzania. However, it also imports them from Belgium, Central and South America, Germany, India, South Africa, Switzerland, the United Arab Emirates and

Table 3. Exports, imports and balance of trade, 2000

	Exports (X)		Imports (M)			Balance of trade
	Weight (Tonnes)	Value (Kenya shillings) (Millions)	Top three destinations	Weight (Tonnes)	Value (Kenya shillings) (Millions)	X-M (Kenya shillings) (Millions)
Tobacco not stemmed or stripped	591.6	44.0	Dem. Repub. of the Congo, South Africa, Congo	4.2	307.7	-263.7
Tobacco partly or wholly stemmed/ stripped	4 745.7	538.4	Dem. Repub. of the Congo, France, Japan	13.9	3.8	534.6
Tobacco refuse	0.9	0.1	Comoros, n.a.	0.4	98.6	-98.5
Smoking Tobacco, snuff & homogenized or constituted tobacco	62.4	15.7	Dem. Repub. of the Congo, Comoros, United Republic of Tanzania	18.5	0.9	14.8
Cigarettes	2 826.1	1 552.7	Somalia, United Republic of Tanzania, Dem. Repub. of the Congo	41.4	53.0	1 499.7
Cigars, cheroots & cigarillos	n.a.	n.a.	n.a.	1.1	3.3	-3.3
Other manufactured tobacco	0.2	16.6	South Africa, Democratic Repub. of the Congo, n.a.	0.4	0.3	16.3
<b>TOTAL</b>	<b>8 226.8</b>	<b>2 167.5</b>		<b>79.9</b>	<b>467.6</b>	<b>1 699.9</b>
All domestic exports = 2 690 540 million Kenya shillings						
Tobacco and cigarettes export = 0.081% of all exports						

n.a. means not applicable

Source: Central Bureau of Statistics, *Direction of Trade Tables* (November, 2001)

the United Republic of Tanzania. Tobacco and tobacco products constitute less than one-tenth of 1% of the country's total exports. The only known trade restriction is an *ad valorem* import duty rate of 25% and a value-added tax (VAT) of 15%.

## Tobacco policy parameters

### Domestic subsidies

There is evidence of subsidization in leaf production. Tobacco companies, as a matter of course, give farmers "subsidized farm inputs, a credit package of unsecured interest-free loans in the form of farm inputs—free seedlings for afforestation as well as provision of wood fuel for tobacco-curing purposes and for domestic requirements" (MTK, 1998). Half of the fertilizer is provided "totally free of charge" (B.A.T., 1994).

### Taxation structure

In 1991, payment to tobacco farmers was done net of 6% of earnings. This farm-level taxation on leaf was discontinued in 1997 when it stood at an effective rate of 15%. Currently, the excise tax rate on locally manufactured cigarettes is 135% ex-factory. Table 4 shows excise taxes collected on tobacco and cigarettes between 1990 and 2000.

**Table 4. Excise taxes and revenue (in real terms, base year 1995) 1990–2000**

Year	Tobacco excise revenue (Kenya shillings) (Millions)	Cigarette excise revenue (Kenya shillings) (Millions)	Total tobacco & cigarette taxes (Kenya shillings) (Millions)	Total Government current revenue (Kenya shillings) (Millions)	Share of tobacco & cigarette taxes (%)
1990		6 386	6 386	121 290	5.3
1991	41.8	4 485	4 526	140 092	3.2
1992	37.9	4 461	4 499	130 995	3.4
1993	1.3	4 285	4 286	131 358	3.3
1994	28.2	4 008	4 037	122 922	3.3
1995	33	4 221	4 254	142 843	3.0
1996	264.7	4 105	4 370	133 716	3.3
1997		3 851	3 851	136 273	2.8
1998		3 726	3 726	139 346	2.7
1999		3 629	3 629	134 306	2.7
2000		3 371	3 371	142 987	2.4

Source: Republic of Kenya, *Economic Survey and Statistical Abstract* (Nairobi: Government Printer), various issues.

The contribution of excise tax on tobacco and its products has continued to decline steadily from about 5% of Government revenue in 1990 to 2% in 2000. While this is due largely to the rising importance of other sources of Government revenue, such as the VAT, it is also reflects the declining per capita consumption of cigarettes by some 50%. (See previous section on consumption).

In order to curb tax evasion, reduce smuggled stock, curtail sale of non-duty paid export products in local markets and level the playing field for all actors, the Kenya Revenue Authority introduced excise stamps on all cigarette packets manufactured or legally imported

into Kenya after 14 May 2001<sup>2</sup>. Failure to comply with these measures results in the merchandise being destroyed and a 1.5 million Kenya shilling fine (equivalent to US\$ 19,093). The stamps represent about 1% of the tobacco revenue (B.A.T., 2001). This should have the effect of generally raising the average price of cigarettes and possibly reducing the prevalence of smoking.

## Tobacco industry employment

The tobacco industry encompasses a broad range of activities, the most obvious ones being agricultural, manufacturing and commerce. Table 5 shows the employment level at various stages in the production and distribution of tobacco from the primary agricultural sector, through the secondary to the tertiary sectors.

**Table 5. Tobacco industry employment, 2000**

<b>Production stage</b>	<b>Number of workers</b>
Tobacco farming	87 000
Leaf-buying & processing	1 100
Cigarette manufacturing	1 051
Cigarette distribution (wholesale & retail)	91 040
Total tobacco employment (number)	122 202
Total recorded employment in Kenya (number)	5 893 000
Total tobacco employment = 2.1% of total recorded employment	

*Sources:* BAT and MTK, various Newsletters and reports; and author's estimate at farm-level.

It is roughly estimated that a typical farmer engages two people to assist in the tending of tobacco, usually but not exclusively family labourers. Hence the 29 000 farmers end up creating employment for three people, including themselves. Tobacco companies employ extension officers and leaf buying agents. They also employ workers for manufacturing and packaging, in addition to appointing wholesalers for distribution of cigarettes. Retailing is undertaken by both the formal and informal sectors, the latter selling in both packets and by the stick. Total direct employment in the tobacco industry was, therefore, estimated at 122 202 in 2000. This comes to 2.1% of the total recorded employment in Kenya in that year.

Technology plays a crucial role in tobacco industry employment. The industry is quite vertically integrated and somewhat ambivalent in the area of employment creation. It is labour-intensive in its agricultural operations, highly capital-intensive in its manufacturing stage, but labour-consuming in its marketing and distribution. Employment stands at six people per hectare on the farms, but some 5.4 million Kenya shillings (US\$ 70,888) worth of capital (property, plant and equipment) is invested per employee (B.A.T., 2000).

## Tobacco control policies

Legislation was enacted in 1980 banning cigarette advertising on television, introducing health warnings on cigarette packets made in Kenya and prohibiting smoking on public transportation and in all public places.

<sup>2</sup> The Customs and Excise Act, Cap 472.

The Public Health Rules of 31 July 1984 (Warning on Cigarette Smoking) specified that no person may import or sell any cigarettes in Kenya unless a health warning in both English and Swahili is printed on the packet. The printed warning was specified as “Ministry of Health Warning: Cigarette Smoking is Harmful to Your Health.” The ban on cinema advertising was imposed in January 1990.

A tobacco control bill whose objective is to control the manufacture, advertisement, sale, promotion and use of tobacco products has been proposed. Examples are prohibiting the sale of individual cigarettes, a ban on advertising and prohibiting cigarette companies from sponsoring social, cultural, sports and economic activities.

Regarding tobacco product regulation, the Kenya Bureau of Standards prescribes nicotine levels of not more than 2.2 milligrams and allows tar levels of 10, 11-17, and 18-25 milligrams respectively per cigarette for low-, medium- and high-tar cigarettes. Internationally, such tar levels are rarely allowed to exceed 15 milligrams (*Daily Nation*, 2001).

## **Tobacco control regime's impact on employment**

### **Driving forces**

Effective tobacco control measures, such as price increases through higher tax rates or a comprehensive ban on advertising and promotion like that proposed in the tobacco control bill would lead to reduced cigarette consumption and could adversely affect tobacco-related employment in the short term.

At first sight, these outcomes may seem to create a conflict between the health perspective and the economic perspective. A common view is that, since smoking is damaging to human health, it should be eliminated through moral persuasion, rather than banned, which could raise the spectre of alcohol prohibition. The other perspective tries to avoid the harmful economic consequences of a policy measure.

## **Tobacco control policy and employment scenarios**

A key issue to emerge is whether the economic benefits of tobacco take precedence over those of health. Two critical variables are discernible: the probability that control will successfully diminish the tobacco market and the likelihood that the effect on the economy will be harmful. Likely scenarios are:

- If the probability of successfully controlling the tobacco market is low and the probability that the economic effect is harmful is also low, the outcome is likely to be business as usual and the status quo would be maintained. Employment levels would be maintained and augmented.
- If the probability of successfully controlling the tobacco market is low and the probability of harmful economic effects is high, then it is likely to be a business as usual scenario, with the employment situation unaffected, as above.
- If the probability of successfully controlling the tobacco market is high and that of harmful economic effects is also high, chances are that the industry would use considerable resources to advertise this scenario. It is worth noting that even if tobacco control measures are effective and the probability of harmful economic effect

is *not* high, it is in the best interest of the tobacco industry to falsely submit that tobacco control might hurt the economy.

- If the probability of successfully controlling the tobacco market is high and the probability of harmful economic effect is low, then immediate action taken on tobacco control would have the desirable outcome.

These four scenarios require quantification. First, effective tobacco control policies exist and can make a difference, which renders the first two scenarios implausible. To assess quantitatively the likelihood of the last two scenarios would require the use of a general equilibrium model, like input–output analysis, which would illuminate the full effect of a policy change. Kenya input–output (I–O) tables are available for 1967, 1971, 1976, 1981, and 1986. Unfortunately, these are quite dated. Moreover, none gives the tobacco industry a separate recognition, rather the industry is lumped with beverages. One would need an update of the I–O table and a re-estimation breaking down "beverages and tobacco" before rigorously translating gross output requirements into employment coefficients to determine the impact on employment of reduced spending on tobacco products.

## Conclusion

In Kenya, tobacco is grown in small-scale farms by some 29 000 farmers and takes up about 16 000 hectares in a wide variety of ecological zones. Three varieties are grown: Virginia Leaf flue-cured, Burley air-cured and Dark fired-cured tobacco. The tobacco companies subsidize fertilizer and other inputs to tobacco growing. The leaf is bought by two cigarette-manufacturing companies, which in 2000 paid out about 2.4 thousand million Kenya shillings to farmers. Kenya is a net exporter of tobacco and tobacco products, mainly to the countries in the Central, Eastern and Southern Africa region. Tobacco and tobacco products constitute less than one-tenth of 1% of Kenya's exports and contribute slightly over 2% to the Government's current revenue. An excise tax of 135% is in force and imports are charged 25% duty. The tobacco industry represents about 2% of Kenya's total employment.

Per capita cigarette consumption is declining, while smoking prevalence among adults is about 50%. Tobacco control is evident in bans on advertising in the electronic media (radio and television), restrictions on smoking in public places and mandatory warnings on cigarette packets that smoking is damaging to health. By using the probability of harmful economic effects and the probability that tobacco control is successful as logic axes, four plausible scenarios are created to generate probable effects on employment. There are many grey areas.

It is recommended that, as an aid to policy, research be undertaken to illuminate such questions as:

- Would policies that reduce the demand for tobacco, such as a decision to increase tobacco taxes, harm the economy by causing long-term losses in jobs, Government taxes and foreign exchange in Kenya?
- What are the relative influences of taxes, bans on advertising and sponsorships, tobacco control, prices and purchasing power on cigarette smoking and prevalence?
- What economic costs are imposed by active smokers on passive smokers?
- What are the viable alternatives for farmers if they were to move out of growing tobacco?
- How effective are measures to reduce tobacco supply through crop substitution?



- What is the incentive structure for farmers to grow other crops as part of their livelihoods?

## References

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5. \_\_\_\_\_ (December 1991) Vol. 2, p. 3.
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9. MTK (1998) Quarterly Newsletter, January 1:3.

# **Tobacco in Viet Nam: the industry, demand, control policies and employment**

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Generating employment and reducing poverty are among the Viet Nam Government's current top priorities. Because it is relatively profitable and easy to grow, the tobacco crop is considered important in contributing to the effort to diversify into cash crops to promote rural employment and reduce poverty. Cigarette production in State-owned enterprises also contributes significant revenues to the Government budget. In 2000 the Vietnamese Prime Minister signed a resolution on tobacco control, which contains various measures that affect the supply of tobacco products and reduce demand, although enforcement and implementation of most of the components has, to date, been quite weak.

The premise for expanding the tobacco-growing area and improving the quality of tobacco and cigarette production methods is to discourage smuggled imports of cigarettes. However, once that domestic capacity has been developed it will create a strong incentive for the country's tobacco industry to maintain and even expand its domestic and export markets for cigarette consumption so as to increase profits.

The authors estimate current employment in Viet Nam's tobacco industry at 133 000 workers. About 100 000 tobacco workers are involved in cultivating tobacco, with only 10 000 working in cigarette production and 23 000 in distribution. Stricter enforcement of Viet Nam's tobacco control legislation would lead to reduced employment compared to current levels, but if delays in implementing legislation continue, tobacco cultivation and cigarette production will expand and future employment losses will be even greater. However, there are feasible alternatives to tobacco cultivation and cigarette production to meet the need for employment creation, poverty reduction and contributions to the State budget without promoting the supply side of the tobacco industry.

## **Overview of tobacco situation**

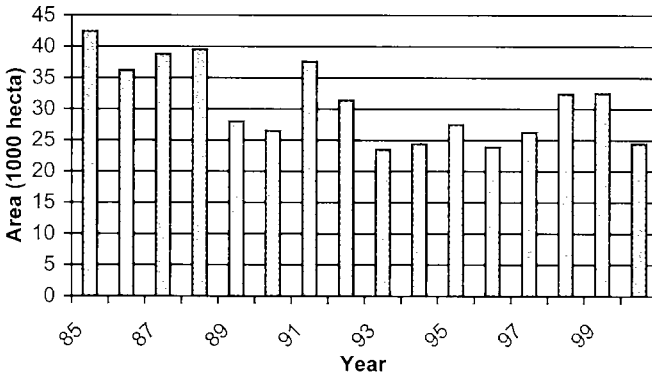
### **Tobacco leaf production**

#### ***Area and output***

Viet Nam has a tropical climate, which is very conducive to tobacco cultivation, though output is unstable. The type of tobacco grown in Viet Nam is not suitable for the higher quality cigarettes now being demanded by Vietnamese consumers. Many of the older tobacco species used in these blends such as Virginia, Burley and Oriental, which have been cultivated in Viet Nam for many years, have lost their pure flavours through cross-pollination. Because of this cross-pollination and poor cultivation techniques, these species also tend to

produce low yields of relatively low quality and cannot be exported or used domestically to produce high-quality cigarettes.

**Figure 1. Tobacco cultivation area**

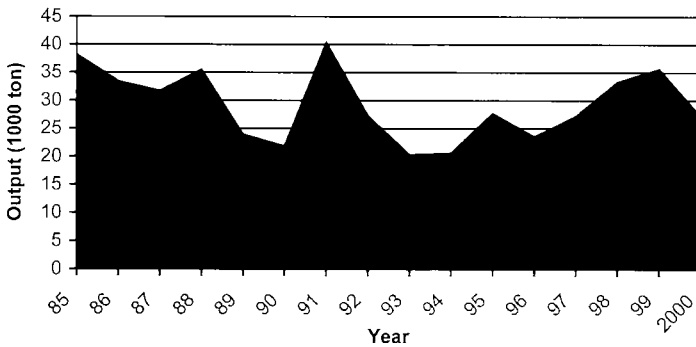


Source: GSO, Statistical Yearbook 1990-2000

The total area devoted to tobacco cultivation has fluctuated greatly over the past 15 years (Figure 1) with peaks in 1988, 1991, 1995 and 1999. The area planted in 1998 and 1999 was over 32 000 hectares, but in 2000 it dropped dramatically to only 24 400 hectares, a near 30% decline in one year. The drop is primarily attributed to the illegal import of cheap Chinese tobacco leaf, which makes it hard for domestically produced tobacco leaf to compete. The price of Chinese tobacco leaf in 2000 was only one-third to three-fourths the price of domestically cultivated tobacco leaf. (Ministry of Trade, 2002.)

The variation in the area planted with tobacco is reflected in similar fluctuations in tobacco output (Figure 2). Over the past 15 years, tobacco output has varied in the range of 20 000 to 40 000 tonnes per year, supplying 70–75% of the domestic demand for tobacco for cigarette production, the rest being supplied by imports. The quality of most tobacco leaf produced domestically is low and does not meet the standards required to produce international brand cigarettes such as Marlboro and 555.

**Figure 2. Output of tobacco cultivation**



Source: GSO, Statistical Yearbook 1990-2000

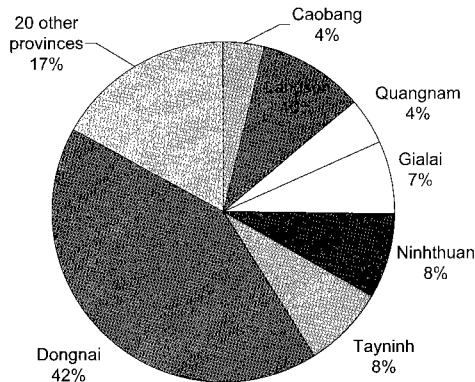
Output remains unstable for several reasons. First, most tobacco-growing regions have developed spontaneously, without a well-conceived plan. Thus, farmers are uncertain of the returns on their investment in tobacco. Second, the infrastructure needed for tobacco cultivation and processing is still underdeveloped. For example, in the north, where tobacco must be flue-cured, drying ovens are in short supply. Third, due to a shortage of investment capital and technical expertise, cultivation technology and methods remain backward. Finally, in order to meet the demand for higher-quality tobacco leaf, tobacco farmers need to plant improved strains of tobacco leaf, which are not commonly available.

Tobacco production also varies greatly by region (Figure 3). There are a total of 28 provinces cultivating tobacco leaf, both for use in the tobacco industry and for direct consumption (e.g. water pipe tobacco and self-rolled cigarettes). The area planted with tobacco in the south accounts for 80% of the total. This area is concentrated in Dong Nai, Ninh Thuan, Tay Ninh, Gia Lai, Quang Nam and Phu Yen provinces in the South, while in the North tobacco cultivation is concentrated in Lang Son, Cao Bang, and Bac Giang provinces.

Output in the South is over twice as high as in the North, primarily due to the much greater land area planted with tobacco. Yields are highest in Dong Thap, Ninh Thuan, TPHCM, Binh Dinh, and Da Nang. Dong Nai has the largest production primarily because it has the largest area planted with tobacco, but yields are not high.

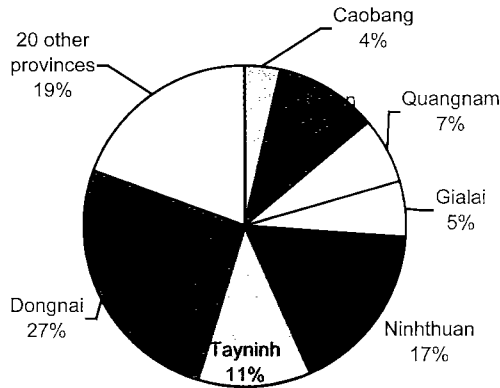
The decline in the area planted with tobacco seen between 1999 and 2000 (estimated figures) is not concentrated in one region, but throughout the country. Of the 27 provinces with some tobacco cultivation, only three provinces showed slight increases in planted area, and eight maintained the cultivation area between 1999 and 2000. Declines in planted area were seen in the remaining 16 provinces.

**Figure 3a. Tobacco cultivation area by province**



Source: GSO, Statistical Yearbook 2000

**Figure 3b. Tobacco leaf output by province**



Source: GSO, Statistical Yearbook 2000

### ***Development of tobacco cultivation by the cigarette industry***

In the past, inattention to domestic tobacco cultivation by the State-run cigarette companies led to unstable output and poor quality. In recent years, however, greater interest has been paid to domestic tobacco cultivation.

In 1999, the tobacco industry required some 45 000 tonnes of tobacco leaf for the manufacture of cigarettes with domestic production supplying 78% (Ministry of Industry). In 1998, Vinataba company supported local farmers to grow tobacco on a cultivation area of about 11 000 to 12 000 hectares (about 34 to 37% of the total national tobacco cultivation area). The Southern Cigarette Material Company owned by Vinataba presently helps farmers plant tobacco in 14 south-central and south-eastern provinces.

Both Vinataba, the primary State corporation producing tobacco products, and international tobacco companies have made efforts to expand area planted with tobacco and to improve the quality and yields of this tobacco. The Tobacco Research Institute, run by the Viet Nam National Tobacco Corporation, has worked to improve the quality and productivity of tobacco since 1987, but these efforts are still modest. Recently, the tobacco industry has established a plan to gradually increase domestic tobacco leaf production to 80 000 tonnes by the year 2010 through increased production area and improved yields. Vinataba is in charge of implementing this plan. The other cigarette companies purchase their tobacco inputs from the domestic and import market.

In the 1990s, R.J. Reynolds invested funds in the DaNang Cigarette Company to produce several of its cigarette brands and to improve tobacco cultivation in the central region, especially in Quang Nam province (1 000 hectares in 1998). By 2000, this joint venture no longer produced cigarettes, but continued to operate in the area of support for domestic tobacco leaf cultivation to supply the domestic and export markets. A joint venture between Vinataba and British American Tobacco (BAT) has just obtained the license to increase domestic tobacco cultivation and improve quality to fill in the gap currently being supplied by imports.

## **Cigarette production**

The production of cigarettes comprises three main stages: processing the tobacco leaves, rolling cigarettes and packaging. Of these three stages, processing is of primary importance because it determines the quality of the product and is vital in achieving hygiene and safety standards. The quality of cigarettes is affected by the amount of tar in the particular type of tobacco leaf used, the age of the leaf at time of harvest, the adequacy of curing and storage, which prevents mildew. Quality can also be related to the manufacturing process and materials, including whether or not there are filters, adequate packaging, the standard number of cigarettes per package, fancy aluminium foil in the pack and other factors.

### ***Tobacco leaf processing***

The households that cultivate tobacco leaf primarily do the curing of tobacco in Viet Nam. Yellow tobacco is flue-cured in ovens at high temperatures over a period of a week. In the central and southern parts of the country both coal and wood are used to cure yellow tobacco. Brown tobacco, also grown in the central and southern parts of the country is usually sun-dried. The Southern tobacco processing facility belonging to Vinataba has a capacity of 7 000 tonnes of tobacco processed per year for domestic production and export, although the equipment is old and much processing must be done by hand.

Stemming, re-tying, and other stages of tobacco fibre processing are normally done in factories. There are two companies specializing in tobacco-leaf processing, Nam Materials owned by Vinataba and a factory owned by Da Nang Tobacco Company, Ltd., which combined, process about 14 000 tonnes per year with a view to serving both domestic demand and exports.

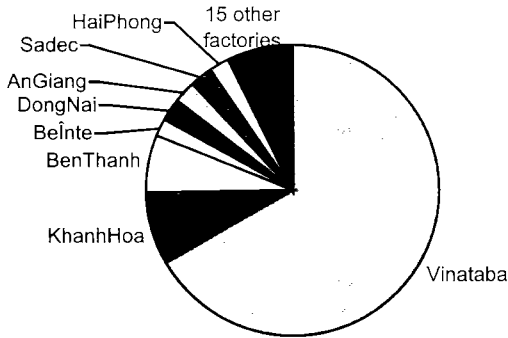
The Government has recently approved a production line to process 24 000 tonnes of tobacco leaf per year to replace the current 7 000-tonne capacity production line at the Southern Material Company to supply domestic demand. Seven of the domestic cigarette factories also have processing equipment for leaf processing, which are relatively complete, including Thang Long, Thanh Hoa, Khanh Hoa, Dong Nai, Saigon, Vinh Hoi, and Ben Tre. Two factories, Bac Son and Cuu Long, have incomplete systems. The 19 remaining facilities have very primitive or obsolete leaf-processing equipment and facilities that are cramped and damp rendering them unqualified to meet quality or hygiene and safety standards for consumers. In the future it is likely that companies without proper processing facilities will start to purchase production materials from the specialized tobacco-processing companies, thus increasing the demand for their output and improving the quality of their own cigarettes.

### ***Manufacture of cigarettes***

The total capacity of the tobacco industry in Viet Nam is about 3 thousand million packs per year, of which filter cigarettes account for 2.2 thousand million packs. This total capacity is fixed and Government tobacco control regulations do not allow it to be increased. Actual production in 2000 was reported by the industry as 2.6 thousand million packs per year. There are 28 factories currently involved in cigarette production. Figure 4 shows the structure of production. In 1999 Vinataba accounted for 64% of production and 60% of industry revenues with its five factories. There are twelve enterprises managed by the provinces or districts, two joint ventures with foreign companies, six enterprises under local Communist party control, two companies under other ministries and one joint stock

enterprise. There is one new factory in the Central region, which had not yet begun production by 2000.

**Figure 4. Cigarette production by factories**

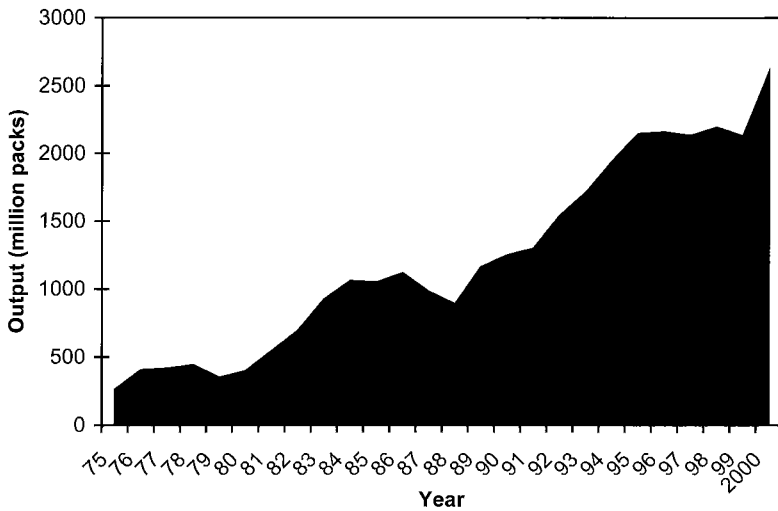


Source: Ministry of Industry

Most production is located in the southern and central provinces, closer to the source of domestic raw materials. While all companies are ostensibly State-owned, many of them rely on private capital to finance their activities in the form of renting equipment from private individuals, or sub-contracting packaging of their products to private or household enterprises. There is currently one equitized company and several of the others have plans to be equitized (i.e. converted from a State-owned enterprise to a stock company). By the end of the first half of 1999, seven of the twenty-eight companies producing cigarettes reported losses. Six of these had reported suffering losses in 1997 and 1998 as well.

Several Vietnamese tobacco companies have obtained foreign investment. Officially there are two joint ventures: Danang Tobacco Company Ltd. has signed a joint venture with R.J. Reynolds to produce Salem, More and Camel brands and Vinas Indonesia has a joint venture with Can Tho Cigarette factory to produce the Golden Eagles, Rave and 234 brands. In 2000, the foreign partner of the DaNang joint venture sold its brands to Japan Tobacco and they have stopped production of manufactured cigarettes though they continue to provide technical assistance to cultivation and to process tobacco leaf. Three of the Vinataba factories have production agreements with foreign companies: Saigon cigarette factory has received investments from BAT to produce 555, Thang Long cigarette factory has investments with Rothmans to produce Dunhill and Vinh Hoi cigarette factory has a joint venture with Phillip Morris to produce Marlboro cigarettes. In addition, some domestic tobacco factories make foreign brand cigarettes under license of the foreign brand name holder and usually use foreign equipment such as Craven A and Everest. In 1999 there were 245 brands produced locally.

Figure 5. Cigarette production



Source: GSO, Statistical Yearbook 2000

Despite an unstable output of domestic leaf tobacco over the past few years, cigarette production in Viet Nam is on the rise (Figure 5). Output has increased from 1 164 million packs in 1989 to 2 129 million packs in 1999. This is an average increase of 6% per year, which is much faster than population growth at only 1.7%. In 1989, 18 packs of cigarettes were produced per capita, while in 1999 this figure rose to 28. Note that the output figure for 2000 shows a sudden increase in production. In 2000 the Government began implementing a policy of using stamps on domestically produced tobacco products to more easily catch smuggled cigarettes in the market. This policy also forced the industry to report more accurately their production levels, whereas in the past many of them probably underreported output to avoid making contributions to the national budget.

Expansion in production has not been uniform across the industry. Between 1997 and 1998, output in four of Vinataba's factories, Ben Tre Cigarette factory, Khanh Hoa Cigarette enterprise, and Vinasa declined. Production in Vinataba's Vinh Hoi Cigarette factory increased as did production in all the remaining local and other cigarette production facilities. The Government and Ministry of Industry have become more lax in their control of imports of equipment and materials, thus encouraging domestic cigarette producers to improve production technology and expand raw material growing areas. In the short run they have given permission to import raw materials needed to improve cigarette quality to satisfy domestic demand for high-quality cigarettes at a reasonable price.

All Vietnamese cigarette companies have cigarette rolling machines, but of differing quality and vintage. Currently, in the entire industry there are 103 filtered cigarette-rolling machines and 57 for unfiltered cigarettes. Most of the machines were used previously in other countries before being imported for use in Viet Nam. There is one mechanical company under Vinataba, which is involved in installation, repair, maintenance and production of machinery for cigarette production.



Until now, the Vietnamese tobacco industry's declared strategy has been to produce to satisfy domestic demand and increase production only to substitute for smuggled imports. With a cap on total domestic capacity for cigarette production, the potential for increasing profits lies primarily in increasing quality, consumer appeal and value added rather than expanding output beyond the 3 thousand million-pack limits.

### **Paper and packaging**

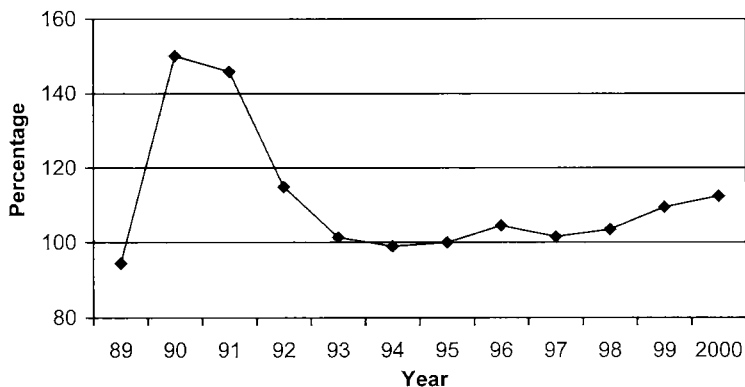
Until 1993, all cigarette paper, foil, plastic packaging, chemical aromas, and other packaging for high-quality cigarettes were imported. Currently Viet Nam produces some materials domestically including filters, packs, and gold paper, foil and tear strips. However, imported packaging materials still account for a large share of all materials. Materials are imported from China, Germany, Hong Kong Special Administrative Region of China and the United Kingdom. The value of these materials imported increased between 1997 and 1998.

In the larger cigarette factories, modern equipment is used to package cigarettes in cardboard boxes. The smaller facilities use more labour-intensive methods for packaging cigarettes, which adversely affect productivity and quality, but lead to greater employment.

### **Consumption**

Tobacco consumption in Viet Nam consists of both manufactured cigarettes and cruder forms such as water pipe tobacco and self-rolled cigars. In recent years as consumer incomes have risen, demand for foreign-style, higher-quality cigarettes has also increased. This trend has been accelerated by the introduction of foreign-produced cigarettes, both domestically produced and illegally imported, and the intensive advertising campaigns waged by the transnational tobacco corporations. Taste preferences have shifted from the flavours found in domestic cigarettes to those found in English or American blends.

**Figure 6. Real price of cigarettes**



Source: General Statistical Office

### **Prices**

The price of a pack of cigarettes varies greatly by brand. In 2001 the prices ranged from about 1 000 Vietnamese Dong (about SUS .07) per pack for products of smaller

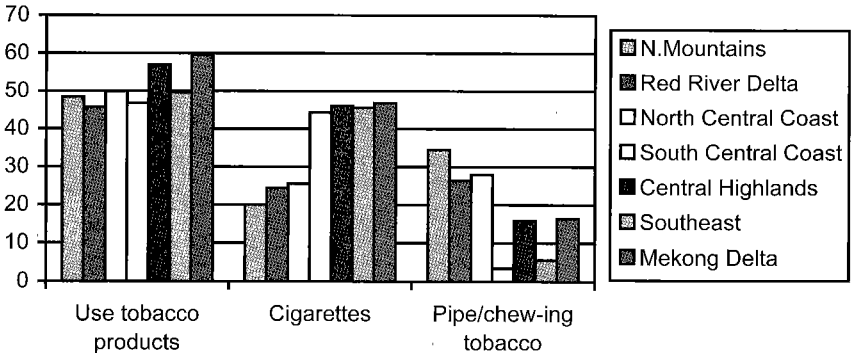
factories up to 12 000 Vietnamese Dong (\$US .80) per pack of domestically produced 555. Smuggled imports of 555 or Marlboro can fetch slightly higher prices because consumers consider them to be of higher quality or more refined. For comparison, a kilogram of rice costs about 2 500 Vietnamese Dong and minimum wages are about 6 000 Vietnamese Dong per day.

The price of cigarettes in general declined during the early 1990s and increased slightly toward the end of the 1990s (Figure 6). Since 1995, real cigarette prices have increased 12% compared to 17% for the general price level in Viet Nam as measured by the consumer price index over the same period of time. Thus the relative price of cigarettes has declined compared to other goods in the economy, which creates incentives for increased consumption.

**Consumption**

Data from the 1998 Living Standards Survey show that approximately 12 million men and approximately 900 000 women in Viet Nam smoke. Average consumption of male and female smokers respectively was 11.3 and 10.7 cigarettes per day. This yields an estimate of consumption at approximately 1.83 thousand million packs of cigarettes or a value of 5.8 million Vietnamese Dong in 1998. In 1993 consumption was estimated at 2.14 thousand million packs. This suggests a decline in consumption of 3% per year or a total number of packs of 310 million between 1993 and 1998. However, it is puzzling that consumption in 1992 was greater than production by almost 430 million packs, while in 1998, consumption was less than production by 365 million packs yet estimates of smuggling are still around 200 to 300 million packs. The National Health Survey 2001–2002 provides more up-to-date estimates of tobacco consumption for a larger sample than the Living Standards Survey, which will hopefully clear up this discrepancy.

**Figure 7. Male smoking rates by region (%)**



Source: Vietnam Living Standard Survey 1997-1998

The types of tobacco products the population consumes have been changing over time with a stronger decline in manufactured cigarette production than other forms of tobacco consumption. In 1993, the Living Standards Survey showed that 44% of men smoked manufactured cigarettes, 21% used only other forms of tobacco and 2% used both cigarettes and other forms of tobacco. By 1998, the proportion smoking cigarettes had decreased to

36% while the proportion using other forms of tobacco declined to 18% and the proportion using both increased to 4%.

There are clear regional differences in consumption patterns (Figure 7). In the north, only 46% of smokers smoke cigarettes while 63% use other forms of tobacco (pipe, chewing, self-rolled). In the south, 82% smoke manufactured cigarettes while only 22% use other forms of tobacco. If one considers the Vinataba brand with a price of 6000 Vietnamese Dong as the low end of higher-quality cigarettes then in 1998 higher quality brands represented only 12.5% of consumption. This varied greatly from 2.3% in the North Central Coast to 33% in the Southeast.

If we examine smoking patterns across income groups we also find distinct differences. Among the poorest 20% of the population only 46% of smokers smoke manufactured cigarettes and this share increases steadily with income groups up to the richest 20%, where 88% of smokers smoke cigarettes. The share smoking expensive brands also increases gradually from 2% to 66% as income increases.

Even if the prevalence of smoking does not increase or actually declines, the demand for manufactured cigarettes, especially for higher-quality brands may increase as income rises and people switch from non-manufactured tobacco products to cigarettes, and switch from lower-quality brands to the higher-quality ones.

National consumption of cigarettes is positively affected by population growth, income growth, low prices and easy accessibility through widespread distribution networks, all four conditions of which are currently relevant. National consumption will be negatively affected by aspects of the National Tobacco Control programme, which attempt to lower demand through health warnings on packaging, health education and programmes to assist in quitting, limited sales to minors, severely limited advertising and increased taxes on cigarettes. Strong enforcement of the policy will be required to counteract the conditions, which are encouraging consumption of cigarettes.

## **Trade**

### ***Imports and exports of materials***

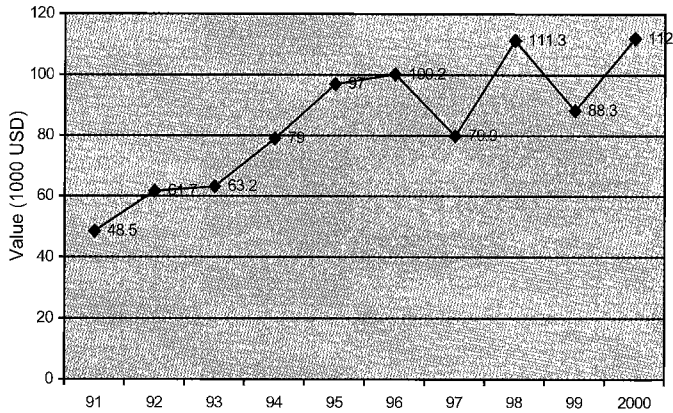
Viet Nam is currently both an importer and exporter of tobacco leaves, and primarily an importer of various other inputs into the tobacco industry such as special papers and aromas added to tobacco to make cigarettes.

High-quality cigarette brands with filters tend to be produced using tobacco grown and processed abroad. Several types of cigarettes are produced with imported tobacco leaves processed domestically. The lower-quality cigarettes rely primarily on domestic supply of tobacco leaf or illegal imports of tobacco from China. Recent efforts to increase use of domestic raw materials to replace imported materials for the production of high-quality and foreign-brand cigarettes have not yet yielded results and demand for these products continues to grow so Viet Nam still relies primarily on imports for production materials in these products.

The value of official imports has fluctuated greatly from year to year as seen in Figure 8, but there has been a general rising trend in the value of tobacco materials (including both raw tobacco and other inputs to cigarette production) imported over the past decade.

Officially, some 10 000 tonnes or 25–30% of tobacco leaf used in annual production of cigarettes in Viet Nam comes from imports. The main sources of imported material are China, Singapore, Malaysia, and the United Kingdom. The value of tobacco and other cigarette production materials imported officially in the year 1998 was estimated at US\$ 111 million, which was less than 1% of the value of all imports, but equivalent to 34% of the total reported revenues of the tobacco industry in 1998.

**Figure 8. Import Tobacco Materials**



Source: Ministry of Trade; GSO, Statistical Yearbook 1994-2000

Illegal import of leaf tobacco for production comes primarily from China and Cambodia. In the first half of 1999, loss of other markets put pressure on China to export to Viet Nam. It is estimated that 10 000 tonnes of tobacco leaf were imported from China in this year (this figure is not included in total demand for tobacco leaf of 45 000 tonnes). This led to a surplus of the more expensive domestically produced tobacco leaf. Inability to sell domestic tobacco leaf in the market may be one of the reasons for the big drop in estimated area and output of the domestic tobacco leaf production in 2000. The problem of illegal imports of tobacco leaf is thus hampering the development of domestic tobacco cultivation and limiting income of farmers who grow tobacco in Viet Nam. To alleviate this problem, the Government has put in place a plan to increase domestic production of tobacco leaf and improve its quality as mentioned above and to increase vigilance of the border controls for smuggling.

Two companies involved in tobacco-leaf processing, Da Nang Tobacco Company and Vinataba's Southern Materials Company now export tobacco leaf. In 1999 the value of their exports was about US\$ 4 million. However, the value of imports cigarette production contributes is 31 times the value of tobacco leaf exported.

### **Imports and exports of cigarettes**

It is illegal to import manufactured cigarettes into Viet Nam although international travellers are allowed to bring in one carton in their luggage as they enter the country. Nevertheless, there is a high demand for smuggled cigarettes as some brands are perceived to be of better quality and other smuggled brands are cheaper than similar quality domestically produced brands. The Government has estimated that illegal cigarette imports amount to some 200 to 300 million packs per year or a value of US\$ 66.7 million (Labour newspaper,

10 April 1999 pg. 1) The Government is very concerned about the lost employment and lost Government budget revenues resulting from smuggling of cigarettes.

Local production of foreign brands under license was set up ostensibly to substitute for imports and possibly with the hope that some output would eventually be exported. In 1998 Viet Nam's cigarette exports were negligible. Many companies have plans for exports, but it is not clear whether they have managed to export their products or not. Vinasa is currently producing cigarettes for export 18 million packs. Nghe An factory had a plan for 2000 to export 14.7 million packs. By 2010, the Vietnamese tobacco industry plans to have exports of one million packs per year of international quality, only a miniscule share of total output.

### ***Cigarette distribution***

Currently, the cigarette manufacturers' agents primarily organize the wholesale distribution network for cigarettes. In 1997 there were 1 000 large and small wholesale agents distributing cigarettes in the domestic market. From 85–90% of these distributors were household private enterprises and some were agents for from five to six different cigarette manufacturers. Frequent newspaper articles point out the problem of distributors selling fake and smuggled cigarettes<sup>1</sup>. Some distributors work at a wholesale level and a large share of their revenues comes from tobacco.

Some retailers specialize in selling cigarettes, but most tobacco product retailers also sell many other product lines so that tobacco accounts for a small share of their sales revenues. Because of the addictive properties of tobacco, the product's sales tend to be quite regular and hence attractive to distributors because it provides stable income. In 1999, a new regulation was promulgated to attempt to put some order into cigarette sales to limit sales of smuggled and fake items. However, the market is still not closely supervised and estimates of the total number of people involved in cigarette distribution is unknown. Profits from the sale of one pack of cigarettes vary from about 0.5% to 20% depending on the brand and location. Better quality cigarettes and foreign (smuggled) cigarettes yield higher profits to distributors so there are incentives to sell those brands.

### ***Advertising and marketing***

Since 1995, Viet Nam has prohibited cigarette advertising in almost any form including television, radio, newspaper, magazines, billboards, and signs and sports events. The National Tobacco Control Policy passed in 2000 has further banned any direct or indirect forms of advertising of cigarettes that had not been explicitly laid out in the 1995 regulation. Among all tobacco control measures, this policy has been most strictly enforced. Nevertheless, the market control force is unable to keep up with the large number of cafes and restaurants that continue to display tobacco posters, ashtrays and other items printed with tobacco industry logos. Domestic cigarette manufacturers are very supportive of these strict advertisement prohibitions as they find it difficult to compete with foreign brands.

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<sup>1</sup> Distributors of cigarettes in HCMC. *Labour Newspaper*, 19 January 2000, p. 3 & A look at 4 months of tobacco smuggling control. *Labour Newspaper*, 25 September 1999.

## **Tobacco control policy in Viet Nam**

In 2000, the Vietnamese Government passed a comprehensive tobacco control policy. The policy includes components that were already being implemented such as advertising bans, but also included policies that will be implemented in the near future. Policies can be divided into those that attempt to reduce demand for tobacco products, and those that reduce supply.

### ***Policies to reduce demand for tobacco products***

#### *Health education (information, education and communication)*

An information, education and communication strategy for reducing the demand for tobacco products is currently being developed. This strategy should ensure that the whole population is provided with relevant and reliable information about tobacco as related to health hazards, financial consequences, legal aspects and social norms. Information, education and communication activities, the cultural village and family movement at the community level will be promoted, especially among the youth via education activities at school. Medical professionals will be adequately trained and instructed to provide all patients and their relatives with relevant information about health hazards and the ill effects of tobacco smoke on health as well as methods for smoking cessation.

#### *Strict control over advertising, sales promotion and sponsorship of different types*

All forms of both direct and indirect tobacco product advertising, including the use of brands of tobacco products, trademarks and logos on non-tobacco products and services have been banned since 2000. The organization of marketing activities is strictly prohibited, including the use of the marketing staff system for sales promotion and printing of trademarks or labels on vehicles. The Trade Law, which prohibits commercially initiated free distribution of cigarettes and similar marketing methods of tobacco products to children under 16 will be strictly enforced. Domestic organizations are banned from receiving sponsorship from tobacco companies for cultural, art and sport events for tobacco advertising purposes.

#### *Health warnings*

Health warnings have been required for many years on cigarettes sold in Viet Nam. However, only recently was it required that the warnings be written in Vietnamese. The current tobacco control policy passed in 2000 makes it obligatory that health warnings be visibly and clearly printed on all packs of tobacco products. The health warnings must be impressive, highly visible and carry a strong, brief message. In the near future, warnings will be required to show the hazardous contents (especially nicotine and tar) on every pack of cigarettes.

## *Taxes and prices of tobacco products*

Because tobacco is a type of harmful good whose consumption must be discouraged, taxes are to be imposed on tobacco products at a high level. The Vietnamese Committee on Smoking and Health in collaboration with the Economics Institute is currently researching an appropriate price and tax level for cigarettes to recommend to the Government.

### *Smoking cessation support*

Smoking cessation methods will be encouraged, organized and supported, and new methods appropriate to the Vietnamese context will be explored. Training for health staff on different suitable and cost-effective methods of smoking cessation for every target group will be provided. The role of every individual, family, community and society in encouraging smokers to give up smoking will be promoted.

### *Smoke-free areas*

Since 1989, the Law on Protection of the People's Health has banned smoking at meetings, offices, health facilities, schools, kindergartens, cinemas, theatres, on public transport means and other crowded places. People are to be encouraged not to smoke at social festivities, weddings and funerals.

## ***Policies to reduce supply of tobacco products***

### *Strict control over tobacco production*

The Government will maintain its monopoly on cigarette production. Only public enterprises and licensed joint ventures operating under conditions meeting Government regulations are allowed to produce tobacco products. Enterprises are not allowed to expand their investment or make new investments to exceed the present level of total cigarette production capacity (currently at 3 thousand million packs per year). New projects on cooperation, production or joint ventures with foreign countries in producing cigarettes are no longer allowed and no additional foreign brand cigarettes are to be produced. However BAT has recently been approved in a joint venture to promote domestic cultivation of higher-quality tobacco to substitute for imported tobacco leaves. Vietnamese standards of tobacco quality must be met. The nicotine and tar levels in Vietnamese cigarettes must be gradually reduced to those now applied in developed countries. Strict controls will be done on the printing of cigarette trademarks and packages to prevent the production of fake cigarettes or fake cigarette brands. Workers in the tobacco industry must be guaranteed a hygienic work environment according to regulations.

### *Control of cigarette trading*

Tobacco is a type of goods for which trading is limited in accordance with the regulation of the Government decree 11/1999/ND-CP of 3 March 1999. The Government will control the circulation and consumption of cigarettes on the market, gradually controlling a monopoly in wholesale trade and strictly controlling the tobacco product retail trade. Sale of tobacco products to people under age 18 is banned. Strict measures to prevent and address the production and consumption of fake tobacco products and faked cigarette brands are to be implemented.

### *Banning tobacco importation*

The Government will maintain its policy to ban the importation and circulation of foreign cigarettes in the market of Viet Nam according to the 278/CT Instruction by the Prime Minister dated 3 August 1990.

### *Controlling smuggling of tobacco products*

Inspections will be intensified and violations strictly addressed, including confiscating smuggled cigarettes, vehicles and other equipment used to smuggle cigarettes, fining and even incarcerating smugglers. A movement in which the whole population is engaged in preventing smuggling, transporting, sales and consumption of smuggled cigarettes will be developed. Rewards will be given to promote the movement to prevent smuggling and sales of smuggled cigarettes. Economic solutions will be strengthened to create jobs with sustainable income for people living on border areas so that they volunteer not to get involved in transporting and lending a hand to cigarette smuggling through the borders.

### *Enforcement of the tobacco control policy*

The tobacco control policy involves many different components and agencies. Some elements of the policy are being strictly enforced such as bans on advertising of cigarettes and bans on importation of cigarettes through legal importation channels. However, many other components are only now being launched (for example, Information, Education, Communication (IEC), health warnings on labels and smoking cessation assistance) and others are poorly enforced (smoke-free areas and smuggling prevention).

## **Tobacco industry employment: review of literature**

There is little written on employment in the tobacco industry in Viet Nam. Some reports from the Ministry of Industry include the truism that the tobacco and cigarette industry can create employment and contribute to the national budget. Several news articles discuss the smuggling issue. One article discussed employment opportunities at BAT.

## **Tobacco industry employment in the realm of national employment**

### **Estimates of tobacco-related employment**

Little is currently known about the employment generated by the tobacco industry or its potential to generate employment and income in agriculture, industry or sales. This section will make rough estimates of tobacco-related employment.

### ***Agriculture***

#### **Labour**

There are no official statistics on the number of households or workers involved in tobacco cultivation or their distribution across regions. The 1999 Tobacco Industry Report from the Ministry of Industry estimates that 150 000 people work in tobacco cultivation or simple post-harvest processing. This amounts to less than half a percent of the total rural agricultural labour force. One can calculate this in terms of equivalent full-time workers by



multiplying by the percent of a 40-hour work week worked by the rural labour force on average (73.28%) to get 109 920 full-time equivalent jobs. This figure is underestimates total agricultural employment since it includes only larger-scale tobacco farmers supplying the cigarette industry.

The Viet Nam Living Standards Survey (VLSS) allows us an alternative method for calculating total full-time equivalent jobs in tobacco cultivation, including also the smaller-scale farmers and those only growing pipe tobacco. The calculation basically estimates the share of land planted in tobacco out of all cultivated land for households cultivating tobacco and multiplies it by the total hours worked in cultivation in the past 12 months for those households then multiplies by the sampling weights to get a population figure. The VLSS showed that 2.42% of all households were involved in tobacco cultivation (some 400 000 households). Of these households, 75% used less than 25% of their agricultural land for tobacco production. No households used more than two-thirds of their agricultural land for tobacco production. On average a household involved in tobacco cultivation is estimated to work 662.4 hours per year. If we assume a full-time working year is 50 weeks times 40 hours per week (2 000 hours), we would estimate 136 000 full-time equivalent workers in tobacco cultivation. This suggests that many households supplement their incomes with tobacco cultivation, but it is rarely the main source of income as will be seen in the next section on incomes.

If information can be obtained on labour norms per hectare or labour norms per tonne of output, a third estimation method would be to multiply these labour norm coefficients by the total area planted with tobacco or the total output of tobacco leaf. So far these figures have not been found for Viet Nam. In any case, with dramatic fluctuations in area and output over time, employment in tobacco cultivation is unlikely to be very stable. It is likely as an area expands or declines, the number of households and household labour involved will increase or decrease proportionally since tobacco is not traditionally planted on plantations.

The regional distribution of agricultural employment in the tobacco industry is likely to be proportional to the distribution of land area or output or somewhere in the middle. Thus, a majority of agricultural employment in tobacco growing would be in the south, concentrated especially in the provinces of Dong Nai, Tay Ninh, Ninh Thuan, Gia Lai and Quang Nam in the south and Lang Son and Cao Bang in the north.

Most employment related to tobacco growing would be created for unskilled agricultural labour in households. Nevertheless, there would also be an obvious need for technical assistance from trained agricultural extension workers. A 1995 R.J. Reynolds study estimated that for every 15 to 25 hectares, one technical worker would be required. Given the area planted in tobacco in 1999 and 2000, one would need to have from 975 to 1 625 agricultural extension workers. However, given that the current agricultural extension system is understaffed, and an agricultural extension worker would work on more than one crop at a time, it is unlikely that the number is as high as this estimate.

Major inputs into cultivation of tobacco include fertilizer and pesticides. Some of these are imported, while others are domestically produced. For example, in a study done of tobacco growing in Da Nang, for every hectare of tobacco planted in 1995, the value of pesticides and fertilizer used was 4.3 million Vietnamese Dong (US\$ 280)<sup>2</sup>. It is not clear what share of these chemicals is domestically produced or how much labour was used to

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<sup>2</sup> Da Nang Tobacco Factory. Plan for production of tobacco during the main growing season 1995-1996.

produce this amount. However, if the land were not utilized to produce tobacco, it would probably be used to plant some other crop, which would also require pesticides and fertilizer. Therefore, it is unlikely that changes in the area planted in tobacco would have a significant impact on employment in agricultural chemical industries in Viet Nam.

## **Incomes**

R.J. Reynolds conducted a study to examine the costs of production of different types of tobacco on land in Quang Nam province. Average profits were around 21 to 31% of revenues. If data is taken on revenues from the VLSS and multiplied by the share of revenues as profit, a rough profit and profit per hectare estimate can be calculated. In 1997–1998 income earned from tobacco for households cultivating tobacco was 222 000 Vietnamese Dong (some US\$ 15), which accounted for an average of only 3% of agricultural income of tobacco-growing households. On average per hectare, the profits calculated from the VLSS would be 3.6 million VND. An R.J. Reynolds study on expanding tobacco-growing area in Quang Nam compared estimates of profits from alternative crops. They showed that tobacco was the most profitable compared to corn, peanuts, rice and manioc. It is likely that the study overestimates profits from tobacco as this study was written to encourage farmers to plant tobacco. Other crops besides tobacco and the crops mentioned in that study could be planted on this same land and it is unclear what their profits would be. The profit estimates are also likely to be different for growing conditions in other provinces.

## **Processing**

Tobacco processing has several stages. The first stage, curing of tobacco, in most cases is done directly by households or groups of households involved in tobacco cultivation. A research mission to Soc Son district tobacco planting households estimated that 20 working days are needed for tobacco curing per hectare planted, including the time spent gathering fuel. If this amount of time is the same throughout the country, with a total area of 32 500 hectares planted in 1999 and 24 400 hectares planted in 2000, one could estimate the total number of full-time equivalent workers would be 1 876 to 2 738.

The major input into curing of tobacco is fuel, primarily coal or firewood. For every hectare of tobacco output, 5.25 tonnes of coal and 21 cubic metres of firewood are needed. The gathering of fuel wood was included in the estimate of labour requirements for processing. The production of coal for tobacco curing would therefore require from 920 to 1 220 workers in 1999 or 2000 respectively. A 1999 newspaper article on southern coal markets noted that because the Southern Materials Company used firewood, the southern coal markets were suffering, suggesting the importance of tobacco curing as a market for the coal industry.

In addition, for curing of tobacco, ovens would have to be built. This would take a workforce for the initial construction, and later for maintenance or rebuilding. It is not clear how much labour would be required for this.

No information was available on the number of workers in Vinataba's Southern and Northern materials companies. In most cigarette factories, employment in processing is combined with employment in cigarette manufacturing.

## **Manufacturing**

In 1999, there were approximately 10 000 regular and seasonal workers in cigarette production and packaging. The largest concentration of cigarette manufacturing workers is in the Southeast accounting for 44% of which HCMC contributes close to 80%. The Red River Delta contributes another 18%, the North Central Coast 15% and the South Central Coast and Mekong Delta each about 10%.

While no precise figures are available, industry reports suggest that the smaller factories producing lower quality cigarettes are more labour intensive than the larger factories, especially in the packaging phase of production. Rough estimates from these reports show output per worker on average of about 214 000 packs per worker. This varies considerably. The Saigon cigarette factory produces generally higher-quality cigarettes, with productivity of 477 000 packs per worker and Nghe An produces generally low-quality products, with productivity at only 32 000 packs per worker. In 1999, 17 of the 28 factories had 200 or fewer workers. Only three factories, all owned by Vinataba, had more than 1 000 workers.

The Ministry of Industry has plans to consolidate these companies into two or three National Corporations with a view to gaining better control over this industry so as to guarantee better quality and reduce tax evasion. The decision to restructure the industry was made prior to the tobacco control policy decision although the policy of a State monopoly on cigarette production is included in the overall policy.

In the restructuring plan some factories may close down because the quality of their output is poor and they are suffering losses. Several of the enterprises for which cigarettes are only one of their many products will be asked to move into other product lines and to stop cigarette manufacturing. By 2000, DaNang cigarette factory had basically ceased producing cigarettes and is now concentrating on expanding growing area and processing raw materials. The industry restructuring will have some impact on local labour markets. This is especially so as most of the factories to be closed down are in areas where labour markets are weak and absorption of the workers into the local economy will be difficult even though the share of all workers in the industry to be affected is low.

In general, workers' income in cigarette factories is high relative to the average worker income in the same localities. Some of the larger local factories have technical staff who are paid skilled worker salaries and have high productivity, but the smaller facilities tend to use only unskilled labour and sign seasonal contracts while paying wages in a lump sum, not linking wages to quality of output.

Working conditions in the larger factories are fine and little occupational illness was found after health checks. However, working conditions in the smaller factories are poor with much tobacco dust, little air circulation, and lack of light and protective clothing.

## **Trade and distribution**

Currently, illegal imports of cigarettes are a major source of income for many poor people, especially during the flood season in the Mekong Delta when people are unable to cultivate the land, waterways are wider making borders more porous and enforcement weaker. No estimates are available on the total labour involved in illegal imports but with illegal imports of around 200 million packs per year, it is likely that a large number of people are involved, many of them poor.

Reports from the Ministry of Industry estimate that there are approximately 1 000 households and small companies involved in wholesale distribution of cigarettes. With estimated profits of about 3% of total value of cigarettes sold, we can estimate retail employment by taking total value of domestic output times 3% profits and dividing by the average income of a State worker per year. This gives us approximately 23 000 full-time equivalent workers in retail cigarette sales. Note, however, that few retailers specialize in selling cigarettes. In most cases, sales of cigarettes account for only a small share of the merchandise sold by retailers.

### ***Enforcement of tobacco control policy***

The implementation of the tobacco control policy in Viet Nam will potentially create some employment in IEC against tobacco, tobacco cessation counselling and market and smuggling control work. Poor enforcement will lead to eventually greater employment in the health sector to deal with the health consequences in the long term. Estimating employment in these areas is difficult.

### **The tobacco industry in relation to the national picture**

In section (a) above, estimates of total full-time equivalent employment in the tobacco industry ranged from 148 000 to 176 000. The largest share is taken up by agricultural employment ranging from 74–78%. This is followed by retail sales at approximately 13–16%. Cigarette manufacturing accounts for 6–7% of total employment related to the tobacco industry.

Tobacco-related employment accounts for only about 0.5% of national labour in cultivation, 0.3% of manufacturing employment, 1–2% of total employment in coal production and about 1% in retail sales. Households account for 90–92% of tobacco-related employment, with less than 10% in State-owned enterprises.

Regional employment for agriculture is assumed to be proportional to land area, for distribution it is assumed proportional to consumption of cigarettes and for manufacturing it is based on location of factories. Other minor employment is difficult to estimate across regions, but accounts for less than 10% of all employment. The Southeast accounts for half of all tobacco-related employment. The Northern mountains account for close to 20%, primarily agricultural employment. The South Central Coast has about 10% of all tobacco-related employment.

The total value of industrial output contributed by the tobacco industry in 1999 was 5%. Tobacco is almost exclusively State produced, accounting for close to 8% of the value of State-owned sector manufacturing output. Output of centrally managed factories accounted for 58% of the total.

The area planted in tobacco in Viet Nam is relatively small. In 1999, tobacco accounted for only 3.7% of annual industrial crop land, but only 0.26% of total agricultural land area.

### **Trends in tobacco industry employment**

If employment in cultivation of tobacco is proportional to area planted in tobacco, then the tobacco industry employs a widely fluctuating amount of agricultural labour from

year to year. In 2000 a strong decline was seen in land area and output of tobacco and probably a strong decline in the number of households involved in tobacco cultivation. Whether this trend will continue is hard to say. Dumping of Chinese tobacco leaf is the main reason given for this strong decline in tobacco cultivation. National plans for increasing the area planted and yields as well as for improving the quality of tobacco leaf produced domestically combined with the recent signing of a joint venture between BAT and Vinataba for tobacco cultivation are likely to increase employment in tobacco cultivation in the near future. They are also likely to increase the value of output produced by farmers while reducing dependence on imported tobacco leaf.

As mentioned above, about 10 000 tonnes of tobacco leaf are currently officially imported as inputs to the cigarette industry every year and perhaps another 10 000 tonnes are imported illegally. If the increase in agricultural employment in tobacco cultivation is proportional to output and if domestic output completely replaces imports (20 000 tonnes per year) we could expect to see an increase in agricultural employment of 80 000 full-time equivalent farm jobs.

With an expected increase in tobacco cultivation it is likely that domestic processing of tobacco leaf will also increase. Already, the Da Nang Tobacco Company has switched from the manufacture of cigarettes to domestic cultivation and processing of domestic and imported tobacco leaf. They supply both domestic cigarette manufacturers and the export market.

The real value of tobacco industry output increased at an annual rate of 6.8% from 1995 to 2000, however growth has not been steady. From 1997 to 1998, the value of tobacco output grew by 10%, but from 1998 to 1999 it dropped by 2%, then from 1999 to 2000 increased by 16%. Employment in cigarette manufacturing is unlikely to grow significantly for several reasons. There is a Government-imposed cap on overall capacity in the industry of 3 thousand million packs per year. Industry is now producing 2.6 thousand million packs a year. The product mix is moving towards higher-quality products as the national income increases. Higher-quality products require more capital-intensive production methods, so hand-rolling and hand packaging are likely to decline, leading to declines in employment. Current and planned exports of manufactured cigarettes are quite low.

## **Tobacco control policies and industry employment**

### **Input-output analysis to evaluate tobacco control impact on employment**

The impact of tobacco control policies on employment can be evaluated qualitatively based on the structure of the country's or region's tobacco economy. Whether a country or region is a tobacco-leaf producer, a cigarette manufacturer or both significantly determines how tobacco control policies affect national or regional employment. Viet Nam currently produces much of the tobacco leaf and most of the cigarettes consumed locally although it imports a significant amount of tobacco leaf, and about one-tenth of all manufactured cigarettes consumed are smuggled into Viet Nam. Exports of tobacco leaf and cigarettes are negligible. In this situation, reductions in tobacco consumption through the tobacco control policy are likely to have an important impact on employment through structural adjustment and losses in tobacco-related jobs in agriculture, manufacturing and distribution, although declines in consumption will also have an impact on imports. Whether the impact is positive

or negative depends on the number of jobs lost and gained as a result of consumers switching their spending from tobacco products to other goods and services.

Cigarette consumption in Viet Nam may continue to grow as a result of rising personal disposable income, which may increase the number of people who smoke and affect the types of tobacco products they consume (loose versus manufactured cigarettes, lower quality versus higher quality cigarettes). Considering this consumption growth trend, tobacco control policies may not reduce tobacco consumption, and therefore may not negatively impact jobs associated with the tobacco industry, at least in the short-term. Instead, tobacco control policies may only slow the growth of tobacco-related employment.

**Projections of policy scenarios and impact on employment**

In order to fully address policy-makers’ concerns about the impact of tobacco control on employment, it is necessary to go beyond qualitative analysis and conduct quantitative analysis. This will show the direction and magnitude of the impact of tobacco control policies on employment. In addition, such an analysis could identify changes in employment distribution across sectors or geographical regions, and indicate the magnitude of such an effect. Nearly all quantitative studies conducted to date use the input–output analysis framework.

Input–output allows for the examining of relationships within an economy, both between businesses and between businesses and final consumers. The analysis captures all monetary market transactions for consumption in a given time period. The resulting mathematical formulae allow scrutiny of the effect of a change in one or several economic activities on an entire economy.

**Figure 9. Employment Effect Matrix**

	Tobacco cultivation	Cigarette production	Cigarette whole & retail sale	Smugler	Health worker	Market controller
Tobacco leaf import ban	↑	—	—	↑	—	↑
Cigarette import ban	—	↑	—	↑	—	↑
Advertising, promoting ban	—	↓	↓	—	↓	↑
Education, smoking area	—	↓	↓	—	↓	—
Limit production capacity	↓	↓	↓	↑	↓	↑
Technical improvement	↓	↓	—	—	—	—
Cigarette production monopoly	—	↓	↓	—	—	—

The core of the analysis is the construction and manipulation of input–output tables. These tables describe the flow of goods and services in the economy in matrix form. There are three different matrices in a standard input–output model: an inter-industry transaction

matrix, a direct requirement matrix and a total requirement matrix. Unfortunately, for Viet Nam, it was not possible to obtain detailed input–output tables so this input–output analysis could not be done. It is hoped in the future that input–output analysis of the tobacco industry will be possible.

As a quantitative analysis is not possible, we will rely on a qualitative analysis of the potential impacts on employment of stricter enforcement and more widespread implementation of the National Tobacco Control policy's various components.

### ***Reduction of demand***

The National Tobacco Control Policy has concrete goals for reducing tobacco use during the 2000 to 2010 period. The plan is to reduce the proportion of male smokers from 50% to 20%, of female smokers down to less than 2% and reduce the proportion of young smokers (15-24 years of age) from 26% down to 7%. These planned reductions are in line with trends in reduction in tobacco use between 1992–1993 and 1997–98 as observed in the two Living Standards Surveys. Given current smoking rates, the share of cigarettes in tobacco products and the quantity of cigarettes currently consumed, the plan to reduce the amount of tobacco smokers would lead to a decline in total demand for cigarettes of some 1 thousand million packs per year by 2010.

The policies designed to reduce demand for tobacco products mentioned above will lead to both decreased smuggling and domestic production and therefore declines in employment in tobacco growing and cigarette manufacturing. At the same time, these policies may have other impacts on employment. Strengthening IEC about the health impacts of tobacco products and providing assistance for smoking cessation will require increased employment in health counselling. The ban on cigarette advertising, smoke-free areas and health warning labels will necessitate an expansion in market police to monitor compliance. Increasing the price of cigarette products through monopoly production, price floors or taxes while reducing the amount of cigarettes demanded because of higher cost, may also lead to greater smuggling as the relative price of smuggled products is likely to decline. The anti-smuggling police force would have to be augmented to deal with the growing pressure for smuggling.

Quantitatively, if the targeted decline in demand for cigarette products is observed without considering changes in consumer preferences away from loose tobacco towards manufactured cigarettes, or from lower-quality to higher-quality cigarettes, a decline in employment proportional to that in total demand for cigarettes could be considered. Thus, one could expect a drop in employment in the range of 90 000–108 000 workers in tobacco-related production and distribution. If there is a switch from loose tobacco to manufactured cigarettes, the decline will not be as dramatic since some smokers will quit while others will switch to cigarettes. As smokers switch to higher-quality brands, it is likely that some employment will be lost in cigarette manufacturing as higher quality brands tend to use more capital intensive production methods. Also, if quality of domestically cultivated tobacco leaf does not increase, as people switch to higher quality brands, the need for imports of materials will increase, and employment of Vietnamese tobacco farmers may decline.

One should also consider greater demand for other products as expenditures on cigarette products decline, consumers will use their resources to buy other products, which will have an impact on employment in other industries. At this time, no information is

available to understand what consumers will buy with their savings from a drop in tobacco consumption.

Of course, it is not yet known whether the goals will be achieved, but it is useful to have a quantitative goal to assess the ease or difficulty of achieving it and the costs involved, especially in terms of employment.

### ***Reduction in supply of tobacco products***

The Government policy on supply of tobacco products currently restricts the expansion of the industry in Viet Nam. As the industry is close to its production capacity now, only minimal employment creation can be expected in cigarette manufacturing if demand increased. In fact, as quality increases requiring less labour-intensive production methods, it is likely that employment will decline as consumption shifts to higher-quality products. However, there is currently great potential for increasing employment and incomes in the cultivation of higher-quality tobacco products to reduce imports of materials for cigarette production. Currently, 20–25% of materials are imported. If this were reduced to 0.0%, approximately 37 000–45 000 jobs could be created in tobacco cultivation. With higher-quality tobacco leaf it is possible that profits could also be higher.

The control of the cigarette trade will hopefully reduce consumption of cigarettes by young people, thus reducing the future demand by addicted smokers since the earlier a person starts smoking the harder it is to quit the habit. Production of fake products could also be reduced, which wouldn't necessarily reduce employment, just shift it from fake companies to official companies.

The ban on cigarette imports is already in effect but the control of tobacco product smuggling is still weak. As explained above, about 10% of cigarette consumption is accounted for by smuggled imports. If these two policies can better enforce the ban on imports, local production will fill the domestic demand for cigarettes, which will create more employment.

## **Conclusion**

### **Summary of main results of situation analysis**

Production of tobacco in Viet Nam is not stable due to outside influences, especially the import of tobacco leaf from China. Output on average each year is from 20–40 000 tonnes, concentrated mainly in the southern provinces. The Vinataba and Da Nang Tobacco company are paying attention to the development of specialized tobacco-growing areas with high-quality leaf. Agricultural labour in the tobacco industry is slightly over 100 000 people.

Production of cigarettes increased approximately 6% per year during the period 1989–1999, about four times faster than the rate of growth of population. The trend towards improving technology and merging companies into a State monopoly will reduce labour in cigarette production. Labour in cigarette production is currently about 10 000 workers.

Tobacco leaf imports account for 25–30% of total material needs for domestic cigarette production in Viet Nam. The main sources of tobacco are Cambodia, China and Singapore.



In the system of cigarette distribution, 85–90% are household enterprises. The most common mode of operation is to sell a diversity of goods, including cigarettes. Labour in sales of cigarettes usually is not just dependent on sales of cigarettes, but a wide range of other goods as well. The total full-time equivalent labour in distribution is 23 000 people.

### **Policy recommendations:**

Agricultural labour involved in tobacco cultivation has a high level of flexibility with low opportunity costs of moving out of tobacco cultivation. Nevertheless, efforts should be made to find alternative crops to tobacco to ensure that farmers do not develop a vested interest in continuing tobacco cultivation, putting pressure on the Government to be more lax in enforcement of tobacco control policies.

A State monopoly and cap on cigarette production is a good policy direction for production restructuring. It can lead to savings in capital investments, improvements in quality, better management of production and distribution and higher prices of cigarettes, although it will also reduce employment.

Counselling activities for smoking cessation, IEC on harm to health from smoking will create employment for health workers and public health workers, but will reduce employment in cigarette production as smoking prevalence declines.

Bans on advertising and creating smoke-free areas will reduce consumption and therefore employment in cigarette production.

Reorganization of the tobacco sales system may help the Government to better regulate smuggling and sales of tobacco products to minors, thus reducing future tobacco consumption.

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