



WHO FRAMEWORK CONVENTION
ON TOBACCO CONTROL

**Conference of the Parties to the
WHO Framework Convention
on Tobacco Control**

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Economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18 of the WHO Framework Convention on Tobacco Control)

Report by the working group

1. At its third session (Durban, South Africa, 17–22 November 2008), the Conference of the Parties (COP) decided¹ to establish a working group on economically sustainable alternatives to tobacco growing in relation to Articles 17 and 18 of the WHO Framework Convention on Tobacco Control (WHO FCTC). In line with that decision, the working group replaced the study group that had earlier been established by the COP in a decision² taken at its first session (Geneva, Switzerland, 6–17 February 2006), and which had continued to work following a decision³ taken by the COP at its second session (Bangkok, Thailand, 30 June – 6 July 2007).

2. The working group met twice between the third and fourth sessions of the COP: in New Delhi, India, on 16–18 September 2009, and in Accra, Ghana, on 21–23 April 2010. It submitted a progress report to the COP at its fourth session⁴ containing, inter alia, an outline of policy options and recommendations on economically sustainable alternatives to tobacco growing as agreed by the working group at its second meeting.

3. At its fourth session (Punta del Este, Uruguay, 15–20 November 2010), the COP requested the working group to continue its work and to submit a working report to the COP at its fifth session, that may include, inter alia, policy options and recommendations for implementation of economically

¹ See decision FCTC/COP3(16).

² See decision FCTC/COPI(17).

³ See decision FCTC/COP2(13).

⁴ Document FCTC/COP/4/9.

sustainable alternatives to tobacco growing.¹ Parties were also invited to confirm their intention to continue as members of the working group or their intention to join the working group.

4. Accordingly, the third meeting of the working group was held in Geneva, Switzerland, on 14–16 February 2012. The meeting was attended by Key Facilitators and Partners of the working group. Participants also included representatives of WHO, the International Labour Organization, the Food and Agriculture Organization of the United Nations, and the United Nations Environment Programme, as well as representatives of nongovernmental organizations accredited as observers to the COP and invited experts. The group discussed the draft policy options and recommendations presented by the Key Facilitators, including issues concerning standardization of terms and a methodological framework.

5. It was also agreed that the Key Facilitators would finalize the draft policy options and recommendations on the basis of the discussions that took place at the third meeting and in consultations with members of the working group, for submission to the COP, following consultation with the Parties. The draft of the policy options and recommendations is contained in the Annex to this document.²

6. The Parties are invited to note that progress has been made in each of the areas covered by paragraph (1) of decision FCTC/COP3(16), as described below.

- *Subparagraph (1)(a) on a standardized methodological framework.* Brazil, a member and Key Facilitator of the working group, introduced the methodological framework used by Brazil and the progress made on its implementation. The working group agreed that the proposed framework would require standardization through its application in other countries.
- *Subparagraph (1)(b) on standardized terminology, instruments and variables.* A list of terms has been developed and is included in the draft policy options and recommendations attached at Annex.
- *Subparagraph (1)(c) on promoting studies on the effects of tobacco growing.* Studies on the effects of tobacco growing are currently being carried out in several countries that are members of the working group.
- *Subparagraph (1)(d) on promoting exchanges of information and experiences between countries.* The working group continues to provide a platform for exchange of information and experience between Parties.
- *Subparagraph (1)(e) on assessing existing sources of information covering the status of tobacco growing, employment and the role of the tobacco industry.* Members of the working group did consider existing sources of information, including opportunities for research, experience, best practices and regulations. This was discussed by the working group.
- *Subparagraph (1)(f) on promoting synergies and cooperation with relevant intergovernmental and nongovernmental organizations.* Parties and intergovernmental

¹ See decision FCTC/COP4(9).

² Note by the Convention Secretariat: A summary by the Chair of the working group of comments received from Parties is contained in document FCTC/COP/5/INF.DOC/3.

organizations exchanged information on areas of possible cooperation. Several intergovernmental organizations with expertise in the area participated and contributed to the work of the group. Further work is needed on mechanisms for promoting synergies with relevant international organizations.

- *Subparagraph (1)(g) on elaboration of policy options and recommendations.* The draft policy options and recommendations were developed for submission to COP5.

7. In view of the progress made so far, the working group agreed to request the COP to extend its mandate. An extension would enable the working group to:

- continue to conduct further comparative research on a standardized methodological framework that could be used to assess economically sustainable alternative livelihoods; and
- complete the tasks outlined in decision FCTC/COP3(16) that established the working group.

ACTION BY THE CONFERENCE OF THE PARTIES

8. The Conference of the Parties is invited to review and, as appropriate, to adopt the proposed policy options and recommendations. The Conference is also invited to review and provide guidance on other work in progress as described in paragraph 7 and on the proposed extension of the mandate of the working group.

ANNEX

DRAFT POLICY OPTIONS AND RECOMMENDATIONS ON ECONOMICALLY SUSTAINABLE ALTERNATIVES TO TOBACCO GROWING (IN RELATION TO ARTICLES 17 AND 18 OF THE WHO FRAMEWORK CONVENTION ON TOBACCO CONTROL)**1. INTRODUCTION**

The WHO Framework Convention on Tobacco Control (WHO FCTC) enshrines a comprehensive range of multisectoral evidence-based measures that aim to reduce tobacco use and exposure to tobacco smoke. At the same time it also recognizes the need to promote economically viable alternatives to tobacco production as a way to prevent possible adverse social and economic impacts on populations whose livelihoods depend on tobacco production. This concern is reflected in several parts of the WHO FCTC, including its Preamble and paragraph 6 of Article 4 (*General obligations*), as well as in Article 17, which is dedicated specifically to this matter, and in paragraph 3 of Article 26 (*Financial resources*). Moreover, Article 18 expresses concern regarding the serious risks posed by tobacco growing to human health and to the environment.

The global challenge in tobacco growing and trends in the production and trade of tobacco leaves was comprehensively reviewed at the second meeting of the study group in 2008.¹

1.1 Overview of the global tobacco production chain

The global tobacco industry is a highly specialized oligopoly that depends exclusively on the cultivation of the tobacco crop (*Nicotiana tabacum* and to a much lower extent *Nicotiana rustica*). The value-added production chain of tobacco is composed of three sub-sectors.

1. The **tobacco farmers**, who produce an annual harvest of 7 099 623 tonnes of raw tobacco on a total of 3 980 215 hectares² in about 120 countries.³ The global crop value is estimated to be US\$ 8 billion at farm gate.⁴ Tobacco farmers are engaged in the preparation of farms, nursery establishment, planting, farm/crop management, harvesting, curing, sorting and leaf grading, and transportation from their homes to leaf buying centres. At each of these stages, farmers face challenges that vary from region to region. They also face challenges related to contracting, extension, support and marketing/payment systems that vary according to region.

2. The **primary processing** of the tobacco leaves, by which the raw tobacco is graded into different qualities. This is undertaken by specialized companies, called “first processors or “leaf

¹ Perucic AM. *Global overview of production and trade of tobacco leaves*. Background paper prepared by the WHO Tobacco Free Initiative for the second meeting of the study group on economically sustainable alternatives to tobacco growing, Mexico City, 17–19 June 2008.

² Data obtained from the Food and Agriculture Organization of the United Nations, *FAOSTAT*. Available from: <http://faostat.fao.org/site/567/default.aspx#ancor>.

³ Geist HJ et al. Tobacco growers at the crossroads: Towards a comparison of diversification and ecosystem impacts. *Land Use Policy*, 2009, 26:1066–1079.

⁴ Calculated as follows: 7 million tons of raw tobacco at US\$ 1150 per tonne of raw tobacco sales price of the farmer to the first processor.

companies”. Worldwide only a few companies¹ work in this sector. They have subsidiary companies in the tobacco growing countries, which act as an interface with the farmers. In several countries, independent national companies also work in this sector. Some cigarette manufacturers also possess specialist companies in tobacco growing countries that act as “first processors”. The business model is a vertical integration of the tobacco farmers. The first processors buy ready-cured tobacco leaves from the farmers under a contractual arrangement, delivering all necessary inputs and providing loans for cropping. By the mechanism of grading the supplied tobacco leaves the “first processors” fix the price at which each farmer is paid. By the subsequent transformation of the purchased tobacco leaves the global crop value reaches about US\$ 20 billion.²

3. The **tobacco products industry**, which comprises facilities that manufacture cigarettes, cigars, smokeless tobacco (i.e. chewing, plug/twist, and snuff tobacco), loose smoking tobacco (i.e. pipe and roll-your-own cigarette tobacco), reconstituted (sheet) tobacco, and other tobacco products such as bidis, and which market them under different brands. It is estimated that the global tobacco market reached a volume of about US\$ 378 billion in 2007. The global cigarette market is predominately shared by five companies that account for 84.2% of global sales.³ The most important specialized tobacco product is the bidi. India accounts for more than 85% of the world’s bidi production. Bidi tobacco occupied around 30% of the total area under tobacco cultivation and 33% of total tobacco production in the country in 2002. Roughly 4 million people earn their livelihood from bidi rolling.⁴ It is important, therefore, to recognize these people as tobacco workers in so far as applicability of the draft policy options and recommendations are concerned.

A huge amount of taxes are generated along this value-added chain. In China, for example, the government’s tobacco activities generate about 7.4% of its total revenue.⁵ The farmers themselves earn very little for their crop in comparison with the final price obtained at the end of the value-added chain. One tonne of raw tobacco produced by a farmer and sold to the “first processor” increases in value 47.2 times⁶ along the production chain until the point at which smokers buy cigarettes.

1.1.1 Global production pattern of tobacco leaves

Asian countries account for 64.3% of world tobacco leaf production, North, Central and South America and the Caribbean for 23%, Africa for 7.6%, Europe and the member States of the Commonwealth of Independent States for about 5%, and Oceania for only 0.1%.⁷ China alone accounts for 43.9% of world tobacco leaf production, followed by Brazil (14%), India (8%), the United States of America (5%), Argentina (2.4%), Indonesia (2.1%), Turkey (2.1%), Greece (1.9%),

¹ Van Liemt G. *The world tobacco industry: trends and prospects*. Geneva, International Labour Office, 2002 (Sectoral Activities Programme working paper No. 179).

² Calculated as follows: US\$ 2993 per tonne processed tobacco leaves.

³ Tobacco companies. In: Shafey O et al. *The tobacco atlas*, 3rd ed. Atlanta, GA, American Cancer Society and World Lung Foundation, 2009:50–51. Available from: http://www.tobaccoatlas.org/downloads/maps/Chap14_TobaccoCompanies.pdf.

⁴ Gupta PC, Asma S, eds. *Bidi smoking and public health*. New Delhi, Ministry of Health and Family Welfare, 2008.

⁵ Liu T, Xiong B. *Tobacco economy and tobacco control* [in Chinese]. Beijing, Economic Science Press, 2004.

⁶ Quotient of value of total volume of the tobacco market divided by estimated value of raw tobacco at farm gate.

⁷ Food and Agriculture Organization: Preliminary 2009 data for selected countries and products.

Italy (1.8%) and Pakistan (1.7%).¹ Those 10 main growers produce close to 80% of the global total of tobacco leaves. For countries like China, India, Indonesia and Pakistan, most of the production is used for internal consumption but for the others a large proportion of the production is exported. Production of *Nicotiana rustica* for bidis in India is about 200 000 tonnes per year.¹ A relatively steady increase in global tobacco leaf production can be seen from 1970 to the mid-1990s (an increase of almost 50% between 1970 and 1998), a downward trend until 2003, and then a slow increase until 2011. This global production tends to outweigh the actual global consumption of tobacco leaves, indicating an oversupply of tobacco leaves in the global market. The cigarette industry is in the unique position of being able to control their supply through tobacco cultivation contracts. Steered overproduction is a method to keep tobacco leaf prices low at the farm gate to the disadvantage of the tobacco farmers.^{2,3,4,5,6}

1.1.2 Global tobacco products consumption pattern

Globally, the data are very clear in indicating that the tobacco epidemic has now expanded to, and become more focused on, the world's low- and middle-income countries, due largely to the expansion of the multinational tobacco industry's marketing efforts in eastern Europe, Asia, Africa, and Latin America.^{7,8} The future consumption of cigarettes and tobacco products is predicted to increase from 1.1 billion smokers in 2010 to about 1.6 billion smokers by the year 2025.⁹

1.1.3 Labour demand in the tobacco production chain

The tobacco production chain demands labour in two different sectors. The agricultural sector is composed of tobacco farmers and contractual or non-contractual workers employed by the farmers. The exact number of tobacco farmers is difficult to estimate due to a lack of reliable statistics for the tobacco sector. There is also controversy over how the work force should be counted. The tobacco industry favours "head counts". Another method uses the concept of "annual working units".¹⁰ Applying the latter method produces a lower number than the former, because the number of theoretically full employed persons is much lower than that produced by the head count method. Both

¹ Gupta PC, Asma S (Eds). *Bidi smoking and public health*. New Delhi, Ministry of Health and Family Welfare, 2008.

² Otañez M, Glantz SA. Social responsibility in tobacco production? Tobacco companies use of green supply chains to obscure the real costs of tobacco farming. *Tobacco Control*, 2011, 20:403–411.

³ Jones AS et al. Tobacco farmers and tobacco manufacturers: implications for tobacco control in tobacco-growing developing countries. *Journal of Public Health Policy*, 2008, 29:405–423.

⁴ Bialous SA. *Corporate practices undermining the implementation of economically sustainable alternatives to tobacco growing*. Study conducted for the second meeting of the study group on economically sustainable alternatives to tobacco growing, Mexico City, 17–19 June 2008.

⁵ *Cycle of poverty in tobacco farming: tobacco cultivation in Southeast Asia*. Bangkok, Southeast Asia Tobacco Control Alliance (SEATCA), 2008.

⁶ Otañez M et al. Global leaf companies control the tobacco market in Malawi. *Tobacco Control*, 2007, 16:261–269.

⁷ Shafey O et al. *The tobacco atlas*, 3rd ed. Atlanta, GA, American Cancer Society, 2009.

⁸ *WHO report on the global tobacco epidemic, 2008*. Geneva, World Health Organization, 2008.

⁹ Martin T. The tobacco epidemic: The global dangers we face from tobacco use. Available from: <http://quitsmoking.about.com/od/antismokingresources/a/tobaccoepidemic.htm>.

¹⁰ Defined as full-time employment with 1800 hours annually.

concepts have their rationale. Nearly 1.2 million workers¹ operate in the organized tobacco manufacturing industry worldwide for the processing of tobacco leaves and manufacturing of cigarettes. An additional 4 million people work in the unorganized sector, for example bidi rolling in India.² Jobs in the tobacco industry have been declining in recent decades owing to the mechanisation of cigarette production plants, in which technology supplants factory workers, and changes in tobacco demand, rather than as a result of national and international tobacco-control policies targeting consumption.³

1.2 Alternative crops and livelihoods

Tobacco is a cash crop that active industry intervention has made attractive to farmers. It is the largest non-food crop by monetary value in the world. Nevertheless, many countries, including the world's largest producers, are taking steps to find alternatives to tobacco growing. A number of economically sustainable alternatives to tobacco growing have been identified in studies in various regions of the world.⁴ These studies show the greater profitability of alternative crops and that farmers are willing to stop growing tobacco, provided that there are economic opportunities and that the necessary support is provided. The tobacco industry uses the existence of tobacco growing by farmers as an argument against all tobacco-control policies and implementation. There is evidence to suggest that tobacco farmers in the United States have sought to exert political influence to oppose tobacco-control measures.⁵

In order to find economically sustainable alternatives to tobacco growing, it is necessary to address not only income and crop profitability but all aspects of farmers' livelihoods. A framework for alternative livelihoods that goes beyond crop profitability to address the problem holistically could form a bridge between academic findings and policy decisions. The economically viable alternatives approach is considered to be a good approach to implementing Articles 17 and 18 of the WHO FCTC along with economically sustainable alternatives to tobacco growing or crop diversification.

1.3 Occupational risks for tobacco workers and growers

Several occupational risks related to tobacco growing are well known, including green tobacco sickness, pesticide intoxication, respiratory and dermatological disorders and cancers at certain sites.^{6,7,8}

¹ Zeballos EJ. *Food, drink and tobacco industry driving rural employment and development* (fact sheet). International Labour Organization, 2011. Available from: http://www.ilo.org/sector/Resources/publications/WCMS_160872/lang-en/index.htm.

² Gupta PC, Asma S (Eds). *Bidi smoking and public health*. New Delhi, Ministry of Health and Family Welfare, 2008.

³ Kenneth E. Warner KE. The economics of tobacco: myth and realities. *Tobacco Control*, 2000, 9:79–89.

⁴ *Summary on possible alternative crops*. Paper presented at the third meeting of working group on economically sustainable alternatives to tobacco growing (in relation to Articles 17 & 18 of the WHO FCTC), Geneva, Switzerland, 14–16 February 2012.

⁵ Zhang P, Husten C. Impact of the tobacco price support program on tobacco control in the United States. *Tobacco Control*, 1998, 7:176–182.

⁶ Riza E, Baka A, Linos A. *Health risks related to tobacco growing*. Study conducted for the second meeting of the study group on economically sustainable alternatives to tobacco growing, Mexico City, 17–19 June 2008.

⁷ Schmitt NM et al. Health risks in tobacco farm workers – a review of the literature. *Journal of Public Health*, 2007, 15:255–264.

⁸ Arcury TA, Quandt SA. Health and social impacts of tobacco production. *Journal of Agromedicine*, 2006, 11:71–81.

Green tobacco sickness,¹ the disease most specifically related to tobacco growing, results from dermal absorption of nicotine, which is exacerbated during the handling of wet leaves, but which is preventable by the use of personal preventive equipment. Nonetheless, lack of knowledge, limited access to resources, the pursuit of lower production costs and climatic conditions restrict the use of personal preventive equipment. Furthermore, it is often women and children that are the most exposed to the health risks: they are often employed because of the labour-intensive nature of the crop, the small size of farms and the fine skill required for certain tasks. The existing literature does not address the use of children and women of reproductive age in tobacco growing, and cohort studies of the long-term impacts on these groups are needed. In the production of bidis, exposure to and inhalation of tobacco dust during manufacturing leads to respiratory problems. This is particularly so for women and children. In addition, bidi rolling requires the rollers to sit for long hours in a particular posture, which leads to musculoskeletal problems.

1.4 Impact on employment and social disruption

Two issues in particular exacerbate social disruption and the poverty caused by tobacco farming: bonded labour and child labour. Although contractual arrangements trap farmers in a vicious circle of debt, leaving them with few opportunities and little time for healthy practices, the tobacco industry has taken no responsibility for the resulting poverty or child labour. Children as young as five years of age are used in tobacco farming, contravening basic human rights and labour conventions.² An overview of the social disruption caused by tobacco growing was given at the second meeting of the study group on economically sustainable alternatives to tobacco growing in Mexico City in 2008.³

The social disruption caused by tobacco growing must be addressed from a development perspective, taking into consideration poverty, unfair contracts, and child and bonded labour. Child labour and bonded labour should be tackled from the point of view of human rights, as these practices contravene basic rights established in international law.

1.5 Environmental impact⁴

Some 90% of tobacco is grown in tropical dry forest and woodland areas – areas in developing countries that have high population densities and that are experiencing high biodiversity loss. Tobacco, like any other mono-crop, depletes soil nutrients at a much faster rate than other crops.⁵ One of the reasons for high uptake of soil nutrients in tobacco growing is the practice of topping the plants to stimulate leaf growth to ensure higher nicotine content. Forest degradation, deforestation due to curing, and deforestation due to clearance for more land (also compensating for lost nutrient levels),

¹ Pereira Vasconcelos de Oliveira P, et al. First reported outbreak of green tobacco sickness in Brazil. *Cadernos de Saúde Pública*, 2010, 26:2263–2269.

² The International Labour Organization conventions on child labour are available from: <http://www.ilo.org/ipec/facts/ILOconventionsonchildlabour/lang--en/index.htm>; information on international conventions on child labour is available from: <http://www.un.org/en/globalissues/briefingpapers/childlabour/intlconvs.shtml>.

³ Otañez M. *Social disruption caused by tobacco growing*. Study conducted for the second meeting of the study group on economically sustainable alternatives to tobacco growing, Mexico City, 17–19 June 2008.

⁴ This section is based on the corresponding section of a document that was submitted to the Conference of the Parties at its third session (Durban, South Africa, 17–22 November 2008): FCTC/COP/3/11, *Study group on economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18 of the Convention)*: page 4, paragraph 17.

⁵ Goodland JA, Watson C, Ledec G. *Environmental management in tropical agriculture*. Boulder, CO, Westview Press, 1984.

are three major types of vegetation change associated with biodiversity losses.¹ Although the global share of agricultural land used for tobacco growing is less than 1%, its impact on global deforestation is 2–4%.² Research suggests that tobacco growing may be up to 10 times more aggressive than the sum of all other factors in regard to deforestation.³ The cost of mitigating the socioecological losses is borne almost exclusively by farmers. Tobacco growing also leads to soil erosion. It is a high input-oriented crop and the per-acre requirement of pesticides and fertilizers is very high under certain conditions.⁴ Tobacco ranks among the 10 crops with the highest fertilization rates.⁵ The extensive use of chemicals also leads to the pollution of ground^{6,7} and surface water.⁸ There is evidence from internal industry documents that the tobacco industry internationally has fought hard to retain the right to use certain pesticides and has sought to influence regulatory processes in some countries.⁹ It is therefore necessary to include in tobacco-control initiatives the development and implementation of appropriate technology and sustainable tobacco farming systems through the introduction of good agricultural practices, in order to reduce the environmental impact of tobacco growing, and to contribute to efforts to mitigate the effects of climate change.

1.6 Corporate practices undermining the implementation of sustainable alternatives to tobacco growing

The economic contribution of tobacco growing to local and national economies, employment figures and the national balance of trade is usually mentioned by the tobacco industry. It suggests that effective implementation of sustainable alternatives to tobacco growing as well as measures under the WHO FCTC for reducing demand would somehow suddenly extinguish these economic benefits:¹⁰ all growers would become unemployed, with catastrophic effects on local economies where alternative employment might be difficult to find. In reality, in countries with effective tobacco-control policies,

¹ Yanda PZ. Impact of small scale tobacco growing on the spatial and temporal distribution of Miombo woodlands in Western Tanzania. *Journal of Ecology and the Natural Environment*, 2010, 2:10–16.

² Geist H. Global assessment of deforestation related to tobacco farming. *Tobacco Control*, 1999, 8:18–28.

³ Geist H. How tobacco farming contributes to tropical deforestation. In: Abedian et al., eds. *The economics of tobacco control – towards an optimal policy mix*. Cape Town, University of Cape Town, 1998:232–244. The book was a product of the international conference *The Economics of Tobacco Control: Towards an Optimal Policy Mix*, Cape Town, South Africa, 18–20 February 1998.

⁴ *Fertilizer use by crop*. Rome, Food and Agriculture Organization of the United Nations, 1999.

⁵ *Fertilizer use by crop*. Rome, Food and Agriculture Organization of the United Nations, 2006.

⁶ Griza FT et al. Avaliação da contaminação por organofosforados em águas superficiais no município de Rondonia – Rio Grande do Sul. *Química Nova*, 2008, 31:1631–1635.

⁷ Kaiser, D. et al. *Water contamination by nitrate and pesticide in a small watershed under tobacco cultivation*. Paper presented at the 19th World Congress of Soil Science, Soil Solutions for a Changing World, 1–6 August 2010, Brisbane, Australia.

⁸ Gonçalves C et al. Qualidade da água numa microbacia hidrográfica de cabeceira situada em região produtora de fumo. *Revista Brasileira de Engenharia Agrícola e Ambiental*, 2005, 9:391–399.

⁹ McDaniel PA, Solomon G, Malone RE. The tobacco industry and pesticide regulations: case studies from tobacco industry archives. *Environmental Health Perspectives*, 2005, 113:1659–1665. Available from: <http://www.ehponline.org/members/2005/7452/7452.pdf>.

¹⁰ This was the case of the large mobilization against the proposal to prohibit cigarette additives (contained in the *Partial guidelines for implementation of Articles 9 and 10 of the WHO FCTC*) during the fourth session of the Conference of the Parties in November 2010. The tobacco industry disseminated the myth that this measure would prohibit the use of burley tobacco in the manufacture of cigarettes and other similar tobacco products.

annual consumption usually decreases by fractions of percentage points, thus allowing time for growers to diversify into other areas gradually and in combination with implementation of government adjustment programmes. Mechanization of tobacco growing and competition in international trade generally bear much more responsibility for decreasing employment.¹ Therefore Parties shall act to protect their implementation of the provisions of Articles 17 and 18 of the WHO FCTC against interference by the tobacco industry in accordance with Article 5.3 of the Convention and its guidelines.

2. PURPOSE, SCOPE AND APPLICABILITY

2.1 The purpose of these recommendations is to provide Parties with a general working framework within which they may adopt the comprehensive policies and effective measures required to fulfil their obligations under Articles 17 and 18 of the WHO FCTC.

2.2 The recommendations aim to guide Parties in implementing policies that promote the establishment of innovative mechanisms for the development of sustainable alternative livelihoods for tobacco growers.

2.3 Parties are recommended to build up development programmes connected with the promotion of food security and feasible markets that cover all aspects of the alternatives to tobacco growing, including economic viability and environmental protection. Government agencies, particularly those with a strong influence in rural areas, have an important role to play in supporting the diversification of livelihoods in tobacco growing regions, through an array of policies and measures, including the provision of training for tobacco workers and growers and their families. International institutions and farmer organizations should also play an important role in the development and implementation of policy (see Principle 2 in *Guiding principles*).

2.4 Policies and programmes for shifting to alternative livelihoods may be planned in a time-bound and phased manner. Simultaneously, rehabilitation programmes for growers and workers should be developed and information in this regard shared with relevant stakeholders. The costs of adjusting supply as demand diminishes will be stretched out over decades. Thus, the transition costs will also be spread over a long period. Countries should orient educational programmes, information and data gathering and information systems in order to prevent any attempt to misinform farmers and the population as a whole. The implementation of these policy options should promote the development of sustainable alternative livelihoods for tobacco growers and workers. Tobacco growing countries should fix realistic goals and targets depending on their prevailing condition and capacity to implement strategies to provide alternative livelihood for growers and workers.

2.5 While the measures recommended here should be applied by Parties as broadly as necessary, Parties are strongly encouraged to implement measures beyond those recommended when adapting them to their specific circumstances, in order to achieve the objectives of Articles 17 and 18 of the WHO FCTC.

¹ *Tobacco industry interference with tobacco control*. Geneva, World Health Organization, 2008.

3. GUIDING PRINCIPLES

Principle 1: Livelihood diversification is the attempt to find new ways to raise incomes, reduce health and environmental risks and overcome social disruptions with alternative crops or economic activities for tobacco growers and workers.

Principle 2: Tobacco growers and workers should be involved in policy development and implementation, in line with Article 5.3 of the WHO FCTC and its guidelines.

Principle 3: Policies and programmes to promote economically sustainable alternative livelihoods should be based on best practices.

Policies to promote economically sustainable alternative livelihoods should be comprehensive, multisectoral, and coherent with the objective of the WHO FCTC, which means taking into account not just the short-term economic viability of the tobacco leaf business, but also long-term forecasts of leaf demand and the many hidden and external costs of tobacco. Governments should avoid measures that encourage new entries into tobacco growing or which discourage existing growers from seeking alternatives. Where appropriate, funding mechanisms should include special foundations for promoting alternative crops, education, communication and/or training. Efforts should also be made to integrate such policies into existing government schemes. Parties shall act to protect all potential funding mechanisms against interference by the tobacco industry in accordance with Article 5.3 of the WHO FCTC and its guidelines.

Principle 4: The promotion of economically sustainable alternative livelihoods should be carried out within a holistic framework that encompasses all aspects of the livelihoods of tobacco growers and workers (including the health, economic, social, environmental and food security aspects).

Every tobacco grower has the right to be duly informed about the risks that tobacco growing poses to his or her health and to the environment and about how to prevent them (see also section 4.2). Adequate human, material and financial resources are required to establish and sustain the promotion of alternative livelihoods at local, municipal, national/federal, regional and international levels. To ensure sustainability of the programme, existing funding sources should be used and other potential sources explored, in accordance with Article 26 of the WHO FCTC. In this way, national efforts should also be made to create incentives for shifting to alternate livelihoods and to remove incentives for tobacco growing.

Principle 5: Policies promoting economically sustainable alternative livelihoods should be protected from commercial and other vested interests of the tobacco industry including leaf companies in accordance with Article 5.3 of the WHO FCTC and its guidelines.

There is a fundamental and irreconcilable conflict between the interests of the tobacco industry and public health. The tobacco industry produces and promotes a product that has been proven scientifically to be addictive, to cause disease and death, and to give rise to a variety of social ills, including increased poverty. Therefore, Parties should protect the formulation and implementation of public health policies for tobacco control from the tobacco industry to the greatest extent possible. The tobacco industry should be held responsible for the health and environmental harms related to tobacco growing and all activities connected with tobacco growing and the supply chain, and for ensuring respect for human rights for those working in connection with tobacco growing and the supply chain.

Principle 6: Partnership and collaboration should be pursued in the implementation of these policy options and recommendations, including in the provision of technical and financial assistance.

International collaboration, mutual support, cost-effective technology transfer and sharing of information, knowledge and relevant technical capacity are vitally important for strengthening the capacity of Parties to meet their obligations under Articles 17 and 18 of the WHO FCTC and to successfully counter the socioeconomic and environmental consequences of tobacco production at all levels. The obligation to cooperate in the development of effective measures, procedures and guidelines for implementation of the Convention, to cooperate with international and regional organizations and to use bilateral and multilateral funding mechanisms, derives from Articles 4.3, 5.4, 5.5, 20, 21 and 22 of the Convention.

4. IDENTIFYING AND DEVELOPING EFFECTIVE STRATEGIES FOR ALTERNATIVE CROPS AND LIVELIHOODS

Promoting alternative livelihoods is a complex socioeconomic issue rather than a simple technical issue. The economic feasibility of alternative crops is often the key to inducing small tobacco farmers to switch away from tobacco production. However, since tobacco also generates substantial revenue for governments, especially local governments, the political will to control tobacco production may be inadequate in some cases even if a cash crop can produce higher profit than tobacco for farmers. In order to fully implement Articles 17 and 18 of the WHO FCTC, a systematic approach must be used to establish new value-added chains for tobacco farmer communities that also provide incentives and beneficial effects to society as a whole.

4.1 Promoting research

Research to identify and develop effective strategies for alternative crops and livelihoods should contribute to a better understanding of the livelihoods of tobacco growers while taking into account wider socioeconomic conditions, with the aim of identifying new value-added chains.

Research should include a feasibility study covering the following aspects:

(a) Identification of the profile and main features of the tobacco sector and the demand for diversification. This should include a complete survey of all tobacco growing activities in each country, including: number of tobacco farmers, size of holdings and number of tobacco farmers per size class, amount of tobacco production per holding and size class, age and gender distribution of the tobacco farmers, education level of the tobacco farmers, the tobacco variety produced, the number of tobacco workers employed by the tobacco farms, and the number of working days for family members and tobacco workers.

(b) Demand forecast studies on food crops from the point of view of food security. For each country, where appropriate, a forecast should be undertaken of future food requirements, and the potential impact of food crops, vegetables, fruits or any other alternative crop from the point of view of food security, along with a price forecast for food commodities. Studies of land-use patterns should be carried out in tobacco growing areas, to find out if land used for food grains has been transformed into tobacco growing land or vice versa.

(c) Economics of raw tobacco production. Up-to-date studies of tobacco economics for each region and variety should be undertaken, along with a study of tobacco prices at farm gate level for

each country and each variety. Research should also focus on the economics of shifting to alternative land uses, including factors for tobacco growing or not growing as the case may be.

(d) Environmental impact studies. Each country should undertake environmental impact assessments of tobacco activities to determine the levels of deforestation, forest degradation, water pollution, soil erosion and infertility levels, climate change effects, impact on wildlife and other ecological effects. The impacts should be linked to the fertilizers and agro-chemicals being used on tobacco and non-tobacco farms, to identify key sources of concern that policies need to address.

(e) Standard information set for alternatives. For each identified alternative, a set of standard information should be obtained, including information on agricultural requirements, yield, value-added chain, standards, market, prices, international trade and other economic factors. For each identified alternative, where appropriate, a full feasibility study should be prepared. Internationally recognized experts may be invited to provide the required policy inputs on specific alternatives.

(f) Priority list. Based on the information obtained from steps (a)–(d), a priority list for each country can be established of those alternatives that may be considered for field trials.

(g) Field trials. Field trials can be used to establish the economic viability of alternative crops. They should be conducted in the field with tobacco farmers and not on an experimental basis in the agricultural fields of research institutes or universities. Studies on alternative crops need to be taken up simultaneously in the major four to five tobacco growing regions for a period of at least two years (preferably three years) before any conclusion regarding crop shifting can be drawn. The field trials should follow a standardized approach and methodology. Training of trainers may be required to ensure that they progress smoothly. The involvement of relevant organizations, including nongovernmental organizations, is essential. Information and support centres (see section 4.8), where appropriate, should also be operative by this stage and included in planning, training, and delivering services, including the evaluation of the field trials.

(h) Development of a business plan. Once the field trials have been successfully concluded and the farmers convinced about the alternative, a business plan should be developed including the transformation of the raw products into value-added products (the value-added chain).

All information derived from steps (a)–(g) will require standardization of methodology and approach, for example a standardized questionnaire, and should also be made available in an international database (see section 6.5). Efforts should be made to transform research into action. This should include undertaking further research to bridge knowledge gaps, improve and develop new applications and market studies, and in this way to improve the market opportunities for alternative crops in favour of the tobacco farmers. This can be a task, where appropriate, undertaken by the information and support centres.

Adequate resources should be made available in tobacco growing countries for research and the translation of research into action. The funds may be raised through various sources including tobacco taxation. Services and policies in tobacco growing areas should be strengthened.

Expected results

1. Information on the current situation and trends in the tobacco production and economic chain worldwide, based on a standardized questionnaire, including the number of people

involved in all activities, type of labour, and tobacco growers' livelihoods, among other relevant information.

2. Update of the environmental impact of tobacco growing by region in each country.
3. Updated forecast of the demands for crops in relation to food security by country.
4. Comprehensive database of the economics of raw tobacco production by region and variety, based on a standardized methodology.
5. Economically viable alternatives to tobacco identified along with data related to their respective economic chains.
6. Priority list of alternatives for the field trials and alternatives to tobacco defined for each country, supported by research results obtained by research institutes or universities, based on a standardized methodology.
7. Business plan developed regarding the value-added chain of each identified alternative to tobacco by country.

4.2 Developing educational and training programmes for workers and growers

It is essential to understand the composition of the target groups in terms of gender, age, ethnicity and education level, when developing educational programmes. Research should be conducted in the affected countries. Before shaping any educational programme, two main points should be taken into account.

1. Training of trainers is the best means of providing the skills needed in relation to alternative crops for tobacco farmers. The purpose of "cascade training" is to pass knowledge and skills to colleagues who work at different levels (e.g. the district or local level). In order to teach a trainer how to train well, a "learning by doing" approach is best. Moreover, interaction is invaluable for effective training.
2. Agricultural practices for the growing of economically viable alternative crops should be incorporated into agricultural school teaching in tobacco growing regions and in training programmes of relevant ministries.

Education programmes should include the dissemination of information on the harmful effects of tobacco growing, as much for consumers as for producers and their employees. Information should also be provided regarding the options available for alternative crops, vocations and livelihoods, technical support, net gains, as well as the health, social, and economic benefits. Programmes should be established to strengthen farmer cooperatives that support the shift to alternative crops and livelihoods, especially through the involvement of nongovernmental organizations. It is strongly recommended that post-evaluations be conducted in respect of farmers who have successfully shifted to other crops, including related sectors, and that such information be made available.

4.3 Removing obstacles to diversification or the shift to alternatives to tobacco farming

Parties should mitigate or remove the obstacles that impede farmers from leaving tobacco farming, and which include tobacco-related debts, bonded labour, and/or child labour. Parties should facilitate

the creation of institutions to help in this regard and to provide the necessary options to farmers. There are three main obstacles:

1. Limited financial resources to maintain regional activities in states and municipalities. This barrier should be overcome by implementation of a long-term financial framework (see section 6.4).
2. Tobacco industry lobbying in legislatures. In every country there is a network of tobacco farmers with a high annual production of raw tobacco that is connected to the managers of the tobacco producer cooperatives and the managers/owners of the tobacco industry, including the leaf companies. These actors may have influence over the national agricultural administration and/or ministries that are responsible for tobacco production and policies.
3. The socioeconomic situation of tobacco farmers. The main economic activity of the vast majority of tobacco farmers is the cultivation of crops. Animal husbandry as an additional main income is not widespread. Most tobacco farmers have very limited land property or have access to arable land only through renting or share cropping. Therefore they need a crop with high profitability. Most tobacco farmers lack funds for investing in their farms to make other crops viable. In addition many tobacco farmers also receive loans from the first processors in concluding a supply contract for raw tobacco delivery. Such loans are strong incentives for the farmer to cultivate tobacco. Most tobacco growers are trapped by the tobacco industry in a vicious circle of debt. It is difficult to break that circle and it must be acknowledged as being one of the challenges to be overcome, mainly with the support of governmental programmes/policies.

Reasons why farmers rely on tobacco cultivation include the following:

- delivery contracts are established between tobacco farmers and first processors that give “security” to tobacco raw leaf sales;
- first processors offer loans and other incentives for the cultivation of tobacco;
- the tobacco industry creates a zone of comfort by ensuring a market and supplies;
- many agricultural communities are completely dependent on tobacco production and in many cases there is at the local level a symbiotic relationship between politicians, managers and the tobacco industry, which may explain, at times, lack of sufficient political will to develop alternatives at the local level;
- the belief among tobacco farmers that gross income from the tobacco crop is higher than for any other crop;
- beliefs and cultural habits and perceived uncertainties about alternative income opportunities;
- uncertainties about market opportunities for alternative crops;
- lack of resources to invest in alternative crops;

- in regions where irrigation is inadequate, tobacco is grown because of its drought resistance; under these agricultural conditions the net profit of tobacco is believed to be more than for any other crop;
- farmers are conservative in changing established practices;
- in some regions tobacco cultivation is executed by succeeding generations, along with the transmission of cultural habits; and/or
- adverse soil and climate conditions in some regions.

The optimal alternative crop for tobacco farmers should have the following characteristics: comparatively higher gross income; low investments; short cycle from planting to harvest; well-established infrastructure (e.g. warehouse); and existence of a ready market.

4.4 Curtailing policies that promote and support tobacco farming

Parties should ensure that there is coherence among the policies of different ministries/ departments, in accordance with the WHO FCTC, so that there is synergy in their activities. Intersectoral coordination is required to ensure that the sectors involved in tobacco growing support efforts being made with regard to crop diversification and alternative livelihoods.

Parties should identify and curtail subsidies and support mechanisms that promote tobacco production. Channels should be created for redirecting the funds into diversification and rural development activities, including alternative livelihoods. If support systems exist to promote the tobacco crop, they must be weaned off in a phased manner, for example by placing a ceiling on land under tobacco cultivation, removing minimum support price, controlling tobacco leaf prices, ending any technological support, and/or stopping tendu leaf auctions. In general, government policies for promoting production, improving quality and ensuring remunerative prices for tobacco growers must be discontinued in a phased manner with defined timelines. Bodies promoting tobacco may be dismantled or their mandate changed in a time-bound manner (see section 6.3). Policies of public financing and incentives for tobacco growing should be discontinued.

4.5 Identifying and regulating tobacco industry strategies that promote tobacco farming and the manufacture of tobacco products

Parties should develop policies that protect tobacco farmers from the practices of the tobacco industry, such as price fixing that is disadvantageous to farmers and violations of labour rights (Parties should investigate instances of the tobacco industry providing output-linked credit to farmers, contract farming and other malpractices carried out under the guise of “corporate social responsibility” activities).

Parties should, using appropriate instruments, create regulatory mechanisms for the control and inspection of industry activities concerning labour relations and worker health. Parties should develop policies and programmes for tobacco growers and workers to take care of health concerns, infrastructure needs, technical support and marketing links for alternative crops and livelihoods, so as to counter such activities on the part of the tobacco industry. Such activities on the part of tobacco industry may also be regulated. The tobacco industry should be liable for the health and environmental harms related to tobacco growing, all activities connected with tobacco growing and the supply chain, and be held responsible for ensuring respect for human rights in the supply chain.

Moreover, support to smallholders in their bargaining with first processors should be provided by governmental organizations during negotiations on tobacco prices, quality, final cost and quantity of the offered supply, as well as the total amount of loans provided.

Parties should identify and regulate practices of the tobacco industry that lead to environmental degradation. They should develop policies to promote farmers' autonomy such as regulating the tobacco economic chain, especially in relation to the trading of tobacco, and applying corporate social responsibility rules in relation to farmers. It is important, therefore, to conduct awareness raising programmes for local partners and farmers on the benefits of alternative livelihood(s) in the short, medium and long term.

4.6 Mainstreaming alternative crops/livelihood options into government schemes

Mainstreaming alternative crop and livelihood options should be part of the wider agenda of governments and must be incorporated into multi-year planning in line with rural development policies and food security requirements. It is important to build mechanisms for promoting the effective participation of state and municipal governments, given their relevance to activities directly related to farmers. Governments should guarantee comprehensive and long-term governmental action in this regard, in line with Article 5 of the WHO FCTC.

4.7 Establishing mechanisms within the existing system to support alternative livelihoods

A successful shift from tobacco growing to alternatives requires the alternatives to be economically viable, as well as the provision of technical and financial assistance, capacity building, and market and social support. The transition period should not be overlooked when considering these requirements. Public policies, including intersectoral approaches, are required in order to take full advantage of existing resources and opportunities. Farmers and workers should be involved in decision-making and must therefore be given adequate channels to voice their needs and concerns (see Principle 2 in *Guiding principles*).

The following measures can be used to promote the shift to alternative livelihoods among tobacco farmers.

- **Rural credit** (investment and defrayment of costs) – with an emphasis on credit for investment and with a grace period and terms consistent with the diversification or conversion programmes. Emphasis must be placed on credit programmes that enable value aggregation by the farmers themselves, by means of cooperative, associative or family agro-industries.
- **Food acquisition programmes** – which should allow purchase for institutional markets (such as schools, hospitals and prisons), besides enabling purchases for simultaneous distribution and for the formation of buffer stocks.
- **Family farming price assurance** – as a way of securing income, and associated with family farming agrarian insurance.
- **Technical assistance and rural extension** – which should be comprehensive and qualified, and integrate state organizations, nongovernmental organizations and the farmers who are able to disseminate experience and knowledge.

- **Agrarian reform and credit** – taking into account the fact that many tobacco growers are partners and leaseholders, or owners of very small land areas.
- **Promotion activities** – which should be steered by a tobacco-alternative crops board, like the tobacco, coffee or tea boards that exist in some countries.

4.8 Setting up information and support centres for alternative livelihoods

The need for alternative livelihoods for tobacco farmers differs among countries. The knowledge required for the cultivation, transformation, processing and marketing of food crops grown as alternatives to tobacco in the context of diversification for food security will usually be available in the countries concerned. The implementation of already cultivated and known cash crops in these countries should also not present major problems. However, the implementation of other alternatives, such as the production of biofuel or new alternative cash crops, will require the establishment of information and support centres to provide cultivation and production expertise, technical assistance, market intelligence, and new varieties and breeds. The information and support centres should also act as background and reference laboratories. Care must be taken that the promotion of alternative crops does not lead farmers into the growing of Genetically Modified Organisms (GMOs). Where appropriate, the information and support centres should be established as non-profit organizations, such as foundations, and should be supported with adequate financing. They should, where appropriate, also conduct research or manage research projects with a view to bridging knowledge gaps, improving and developing new applications, and carrying out market studies, thereby improving market opportunities in favour of the farmers. The newly generated knowledge should be shared in the public domain and on a royalty-free basis within the tobacco farmer communities that are interested in alternatives. Another important task would be training of trainers in order to disseminate cultivation, production and marketing expertise as widely and effectively as possible. As diversification of tobacco cultivation is a long-term task, the financial support of the information and support centres undertaking this work should be ensured for at least 10 years if proper working conditions are to be created.

4.9 Ensuring the participation of civil society

The formulation, implementation and assessment of diversification programmes must involve the effective participation of family farming organizations and other civil society organizations. Nongovernmental organizations are likely to play an important role in the dissemination of information. They can raise awareness regarding the possibilities of crop shifting. They can also help farmers gain access to institutional and technical support and facilitate the creation of self-help groups and cooperatives, and disseminate the concept of agro-ecology among farmers.

5. MONITORING AND EVALUATION

Tobacco growing entails a number of irreversible costs to farmers, which not only seriously damage their living standards but also their long-term prospects. Health risks, working conditions, contractual arrangements, the use of children in tobacco growing, and the environmental effects of tobacco growing have negative impacts on human capital and land, the two crucial assets in rural livelihoods.

Monitoring is a continuous follow-up to ensure that the activities are implemented as planned. The purpose of monitoring is to provide concurrent feedback on the implementation of an intervention, which in this case is finding economically sustainable alternatives to tobacco growing.

5.1 Alternative livelihoods model

For a complex task, such as finding alternative livelihoods to tobacco growing, a good scientific basis is a fundamental requirement. A key factor is the feasibility of any economically viable alternative crop or activity for the farmer. In order to collect a good data set in this regard, a standardized method for data collection and processing should be used. Parties should allocate financial resources to the development of a comparative analytical template to assess alternatives of diversification and crop shifting systems of tobacco growers, on a time scale. Brazil has developed, applied and made available to other parties a standard methodology with the aim of identifying alternatives livelihoods for tobacco growers.¹

Legislative measures, policies and programmes should be developed that ensure that children from tobacco growing regions are not present during nor participate in tobacco production. An appropriate legal framework and penalties should be established for individuals and companies that engage or encourage children in these activities. Further efforts should also be made to eliminate the exploitation of tobacco workers and growers, in particular children and women.

Proposed actions:

1. Undertake up-to-date studies of the tobacco economics for each region and variety.
2. Undertake up-to-date economic studies of alternative livelihoods.
3. Carry out modelling for each region. A methodological framework has been proposed and is currently being tested in Brazil.
4. Undertake a study of labour markets in tobacco growing countries.

The Convention Secretariat should facilitate the necessary coordination of these studies.

Expected results: A better insight into how farmers will decide on diversification alternatives. The recommendations should be used for policy implementation.

5.2 Market information

The conversion of an agricultural sector is complicated by the fact that agricultural markets are extremely vulnerable. As tobacco cultivation is concentrated in specific regions, local food markets could be endangered by switching too many tobacco farmers to the same alternative crop. In evaluating alternative crops, market information, especially for crops with limited applications, must be collected and assessed.

Proposed actions:

1. For each country, monitoring and evaluation of food requirements and the impact of alternative food crops, vegetables, fruits or any other alternative crop from the point of view of food security should be performed.

¹ *Methodological guidelines for the analysis of tobacco growers livelihoods diversification* (February 2012). Available from: http://www.inca.gov.br/tabagismo/publicacoes/methodological_guidelines_brazil.pdf.

2. An evaluation of price trends for food commodities should be undertaken.
3. Monitoring and evaluation system of food commodities and market demands for alternative crops – which are not necessarily required for food security – should also be performed.

Expected results: Information gained regarding which alternatives should take priority for support. Information about off-farm activities collected and made available.

5.3 Region-specific conditions

Good Agricultural Practices (GAP)¹ apply available knowledge to environmental, economic and social sustainability for on-farm production and post-production processes, resulting in safe and healthy food and non-food agricultural products. Many farmers in developed and developing countries already apply GAP through sustainable agricultural methods such as integrated pest management, integrated nutrient management and conservation agriculture. These methods are applied in a range of farming systems and scales of production units, including as a contribution to food security, facilitated by supportive government policies and programmes.

Tobacco growing, as is the case with other crops, should adhere to the concept of GAP, which is recognized or, where applicable, legally binding in Parties in relation to all the operations in cropping systems, including soil management, pest management, water management, as well as the use and application of agrochemicals and fertilizers and the use of mechanization.

5.4 Environmental audit

A standardized approach should be developed by Parties for conducting audits of the environmental impact of tobacco growing, which should ensure that the quality of the audits is the same in all countries. Once such a standardized method is established, the environmental audit should be carried out in all countries concerned. For identified alternatives, environmental assessments should be conducted to ensure that alternative livelihoods for tobacco farmers do not have a greater environmental impact than tobacco crops.

Proposed actions: Policies and educational programmes in this regard should be developed and integrated into tobacco-control initiatives. Therefore, ministries entrusted with the protection of the environment should also be involved. Information and support centres should be located in regions where tobacco is grown, enabling farmers to learn about the effects of tobacco on the environment as well as on their health and economic status. Reforestation initiatives should be established to rehabilitate affected regions. All results of environmental audits on tobacco and identified alternatives should be made available through an international database (see section 6.5).

Establish laws and standards regarding pesticides and fertilizers

Parties should control by law: deforestation, water and soil contamination and the amount of pesticide residues in or on tobacco crops and fertilizers. They should establish standards for workers handling

¹ *Good agricultural practices – a working concept*. Rome, Food and Agriculture Organization of the United Nations, 2004 (FAO GAP Working Paper, No.5). Available from: <http://www.fao.org/prods/gap/Docs/PDF/5-GAPworkingConceptPaperEXTERNAL.pdf>.

pesticides and fertilizers. They should also measure the environmental changes that can be attributed to tobacco farming, check the effectiveness of mitigation measures, and ensure that applicable regulatory standards and requirements are being met.

Develop environmental regulations that protect and conserve the environment from tobacco farming activities

Parties should either develop new environmental regulations or amend existing ones to protect the environment from deforestation, forest degradation, soil erosion, water pollution, tobacco waste disposal, wetlands reclamation and other general forms of environmental deterioration. Parties should regulate the seasons of the year in which tobacco farming is allowed to avoid tobacco monocropping, to protect other agricultural resources and ensure environmental conservation and food security. Zones in which tobacco is grown should also be mapped, restricted in terms of size and approved by relevant government authorities to protect fragile ecosystems from destruction. The regulations should ensure that opening up new individual farms is prohibited unless environmental impact assessment licenses/approvals have been obtained from national competent environmental authorities. The existing farms should also undergo periodic environmental monitoring and auditing to minimize negative impacts on the natural and human environments. Levels of compliance and penalties (in the form of fines, cancellation of licenses, environmental restoration orders, suspension of farming for a certain period, etc.) on various environmental offences based on the international “polluter pays” principle should be legislated. The regulations should also apply to the cultivation of tobacco for family/traditional consumption without processing. The role of the tobacco industry should be monitored and its responsibility established. Economic or social disruption to small farmers should be avoided.

5.5 Health impact

Better reporting of the known health risks related to tobacco farming is needed. To monitor the health impacts of tobacco growing and manufacturing, the following actions may be performed by all countries:

1. Compilation of a list of diseases and data on disease patterns related to tobacco growing.
2. Establishment of a notification requirement by health authorities for all diseases presented in the list.
3. Processing of the notifications in a database, with the statistics made publicly available.
4. Recognition of green tobacco sickness as an occupational disease.¹

These actions are required for effective work in rural areas by public health systems, and to improve the recognition of agrarian work-related diseases. Initiatives in this area should include programmes for family health and for training community health workers.

¹ Occupational Safety and health Convention 1981 (No. 155) and List of Occupational Diseases Recommendation 2002 (No.194); Update 2012. Available from: International Labour Organization. *Safety and health at work* (<http://www.ilo.org/global/topics/safety-and-health-at-work/lang--en/index.htm>).

Proposed action: The data generated should be compiled, collated and shared with all the relevant stakeholders, including farmers. It will be necessary to expand and upgrade health activities with the families of tobacco farmers, paying attention to the harm suffered by families, including green tobacco sickness and the consequences of pesticide use. Such actions should include effective education, communication and public awareness programmes on the occupational risks related to tobacco growing. These actions require a comprehensive multisectoral approach. Effective awareness programmes should be developed for bidi rollers to make them aware of the harmful effects of their work and the exploitation of such workers by middlemen (such as payment of low wages).

Expected results: Reliable data obtained on the health impacts of tobacco growing and manufacturing. Enhancement of public awareness on occupational health risks related to tobacco growing.

5.6 Key indicators

Evaluation assesses the progress of the intervention as a whole, checking its effectiveness. Parties should monitor and evaluate all strategies and activities with regard to alternative crops and livelihoods using the list of proposed key indicators presented in Appendix 1. This list is not exhaustive and Parties may add/delete one or more indicators in accordance with the conditions prevalent in their countries. Reporting of progress using these indicators should be done through the reporting system of the Convention. The indicators include health, occupational risks, environmental and social aspects. Further studies are needed on the effects on health, environment and social structures in developing regions and countries and in countries with economies in transition.

6. INTERNATIONAL COOPERATION

Parties to the WHO FCTC have already undertaken a number of important commitments with respect to international cooperation, including those found in Article 4 (*Guiding principles*), Article 5 (*General obligations*), Article 19 (*Liability*), Article 20 (*Research, surveillance and exchange of information*), Article 21 (*Reporting and exchange of information*), Article 22 (*Cooperation in the scientific, technical, and legal fields and provision of related expertise*), and Article 26 (*Financial resources*).

In the context of the commitments contained in the WHO FCTC and of these policy options and recommendations, international cooperation should include the aspects described below.

6.1 Promotion of opportunities for economically sustainable livelihoods and development of markets

Parties should promote economically sustainable alternative livelihoods at national and international level, particularly in regions in which tobacco is grown. They should take into account existing practices, local resources and climatic conditions when formulating policies and plans for economically sustainable alternative livelihoods.

Parties should also make efforts to establish relationships with actors in domestic, regional and global markets, with a view to understanding the relevant supply and demand considerations, including the market requirements for alternative crops. Any alternative crop should be in harmony with efforts to ensure sustainable management of natural resources.

6.2 Developing opportunities to counter seasonal trade in alternative crops

Parties should share research and expertise in new technologies to promote economically sustainable alternative crops with the objective of countering seasonal trade. This would help to improve the access of alternative crops to export markets.

6.3 Reducing tobacco production and/or promotion

Parties may consider, in cooperation with relevant national, regional and international organizations, not investing in tobacco production and/or the promotion of tobacco production. Parties may also gradually try to reduce the area under tobacco, reduce incentives for tobacco production and take steps to redefine the role of the institutions or boards formed for the promotion of tobacco and tobacco products. The effectiveness of efforts to gradually reduce the supply of tobacco and tobacco products, thereby reducing environmental degradation, depends not only on the initiatives undertaken by individual Parties but also on coordination and collaboration among Parties at the international level, so that efforts made to reduce tobacco production by one Party are not neutralized by another increasing production.

Such international cooperation would facilitate implementation of alternatives to tobacco growing and would also promote global efforts to ensure higher production of agricultural commodities and therefore enhance food security.

Limiting the area of land under tobacco could be an important aspect of tobacco control. Tobacco-control measures, and especially efforts to shift to economically viable alternative livelihoods, could be expected to lead to the promotion of measures that limit tobacco cultivation.

Proposed actions:

1. Tobacco growing countries should not encourage and not provide any incentives for increasing the acreage of land used for cultivating tobacco.
2. Tobacco growing countries may decide to freeze the total acreage under tobacco by delimiting specific tobacco growing areas, as a first step, and thereafter taking suitable measures to reduce these areas.

Expected result: No further increase of land area used for tobacco cultivation.

6.4 Assistance and cooperation in capacity building

Parties should cooperate, with each other and/or through competent international organizations, in providing training and technical and financial assistance, and should cooperate in scientific, technical and technological matters, including the transfer of expertise or appropriate technology in the field of economically alternative livelihoods, such as crop production and market intelligence. It is important that international organizations with specific expertise participate in capacity building for economically sustainable alternative livelihoods, especially agencies that have recognized expertise in this area such as the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development and the International Labour Organization. Parties need to request support from competent international organizations.

Parties are encouraged to enter into bilateral, multilateral or any other agreements or arrangements in order to promote training, technical assistance and cooperation in scientific, technical and technological matters, taking into account the needs of developing country Parties and Parties with economies in transition. Financial resources are an essential part of such cooperation. Governments collect nearly US\$ 133 billion in tobacco excise tax revenues each year, but spend less than US\$ 1 billion in total on tobacco control.¹

Proposed action:

Parties should implement the measures proposed in Article 26 of the WHO FCTC (*Financial resources*).

6.5 International information exchange

Parties should, in cooperation with relevant international organizations and secretariats, establish and implement an information exchange system on sustainable alternative livelihoods and global tobacco leaf demand. This information exchange would draw on official information made available by Parties and international organizations and should be coordinated by the Convention Secretariat. This should lead to the creation of a database or similar resource on available best practices in different countries, so that these experiences may be used by other countries. Parties should use the WHO FCTC reporting instrument to report on implementation of Articles 17 and 18 of the Convention within the framework of the already established reporting cycle. Information contained in Parties' reports is made available for further research in the WHO FCTC implementation database.²

6.6 International cooperation and the role of the Convention Secretariat

The Convention Secretariat facilitates collaboration between Parties and intergovernmental and nongovernmental organizations, and should ensure that it does so in regard to the effective implementation of Articles 17 and 18. The Secretariat should invite international organizations with specific expertise in this area to participate in the activities of the working group or other future intergovernmental mechanisms established by the Conference of the Parties, especially agencies that have recognized expertise in this area, such as FAO. The Secretariat should also work with such networks and institutions, in different geographic settings and in cooperation with FAO and other international organizations that are engaged in research on alternative crops, at global, regional and subregional levels. The Convention Secretariat should coordinate information exchange, which would draw on official information made available by Parties and international organizations. In order to bring synergy to such activities and efforts, the Secretariat should actively engage interested Parties and institutions and networks in order to facilitate a systematic and comprehensive approach to implementation of Articles 17 and 18.

¹ WHO global report on the tobacco epidemic, 2011: warning about the dangers of tobacco. Geneva, World Health Organization, 2011. Available from: http://whqlibdoc.who.int/publications/2011/9789240687813_eng.pdf. The estimates were based on data from 51 countries with available tobacco excise revenue data for 2009; expenditure on tobacco control for several of these countries was estimated from figures reported between 2007 and 2010, adjusting for inflation.

² The database is available from: <http://apps.who.int/fctc/reporting/database/>.

APPENDIX 1

LIST OF KEY INDICATORS

	Input	Process	Output	Impact
1.	Policies formulated for promoting research to identify and develop effective strategies for alternative crops and livelihoods and to study the impact of tobacco cultivation on the environment.	Increase of allocated resources for research on alternatives to tobacco growing.	Number of countries implementing policies that address alternative livelihoods for tobacco farmers and employees in the tobacco sector.	Amount of tobacco acreage shifted to alternative crops.
2.	Policies formulated for curtailing subsidies and support mechanisms that promote tobacco.	Number of research studies/projects under way for finding alternative crops and livelihoods and assessing the impact of tobacco cultivation on the environment.	Number of economically sustainable crops and livelihoods identified and business plans for an alternative crop developed Revenue of farmers before and after shifting to alternatives.	Number of tobacco growers and workers shifted to alternative crops and livelihoods. Number of tobacco workers employed by tobacco farms and manufacturers.
3.	Policies formulated for the protection of tobacco growers and workers from the practices of the tobacco industry.	Number of financial institutions/bodies identified for promoting loans to tobacco growers and workers for switching to alternative crops and livelihoods.	Number of tobacco growers and workers rehabilitated in alternative crops and livelihoods. Number of tobacco farmers and workers receiving loans from institutions/banks for switching to alternative crops and livelihoods.	Increase of gross income for tobacco farmers and workers.
4.	Policies for diversification of tobacco growing areas and regulations related to facilitating, promoting and financing alternatives to tobacco.	Increase of financial resources for alternatives for tobacco. A forecast of future requirements of food commodities.	Increase of diversified areas in tobacco growing regions.	Creation and strengthening of markets to food crops, diversification of local economy, increasing food security, autonomy, and access to policies that address sustainable rural development.

	Input	Process	Output	Impact
5.	Human and financial resources allocated to promoting research on environmental aspects of alternative crops and livelihoods.	Environmental audits.	Number of countries with legislation controlling deforestation, water and soil contamination and the amount of pesticide residues in or on tobacco crops and the contamination of the tobacco crops and fertilizers by heavy metals.	Reducing the loss due to forest degradation and deforestation, and improvement of the conditions of natural resources and the environment.
6.	Policies for promoting special programmes on occupational risks of tobacco growing and manufacturing.	Studies on occupational risks especially for diagnosis and monitoring of green tobacco sickness for workers and tobacco farmers.	Number of countries having a special programme for health workers to manage green tobacco sickness. Number of cases diagnosed as green tobacco sickness by country.	Increasing well-being, health, access to services and resources for tobacco workers and farmers.
7.	Human and financial resources allocated to developing educational and training programmes and setting up information and support centres for tobacco growers and workers.	Number of information and support centres set up on national level.	Educational and training material developed for tobacco growers and workers.	Number of tobacco growers and workers educated and trained (increased level of awareness and knowledge).
8.	Policies formulated for involving effective participation of civil society organizations/ nongovernmental organizations.	Number of civil society organizations/nongovernmental organizations involved.	Number of projects on alternative livelihoods, with the involvement of civil society organizations/ nongovernmental organizations.	Diversification of livelihoods by setting up of new value-added production chains for tobacco workers and growers.
9.	Policies for creation and strengthening of partnership on diversification of livelihoods at the international level.	Collaboration, coordination and provision of technical and financial assistance at the international level and identification of a nodal agency for effecting intersectoral coordination and international cooperation.	Number of international projects and international support and information centres established for biofuel and alternative cash crops.	Sustainable livelihood alternatives for greater communities of tobacco workers and farmers.

APPENDIX 2

PROPOSED LIST OF STANDARDIZED TERMS IN RELATION TO ECONOMICALLY SUSTAINABLE ALTERNATIVES TO TOBACCO GROWING

- **Cropping systems:**¹ Describes how a producer grows crops. Cropping systems include: crop rotation, multiple cropping, mixed-cropping, strip-intercropping and related agronomic practices.
- **Diversification:**² Diversification, in the context of this paper, is intended to give a wider choice in the production of crops or other activities so as to expand production and related activities.
- **Economically sustainable alternatives:** Aim to meet human needs while preserving the environment so that these needs are met not only in the present, but also for generations to come.
- **Environmental audit:**³ A process to verify the effectiveness of the environmental management programme, ensure that environmental objectives and targets are being met, and evaluate how the environmental management system should be modified and expanded in the context of future business expansion, new environmental legislation, and emerging environmental issues.
- **Environmental impact assessment:**³ A procedure for evaluating the likely impact of a proposed activity on the environment.
- **Environmental monitoring:** Site-specific continuous assessments on changes to environmental quality.
- **Environmental restoration:** Deliberate attempt to speed recovery of damaged ecological areas.
- **First processor or leaf company:** Buys the raw tobacco from the farmers for a first transformation of the tobacco leaves, which grades the raw tobacco into different qualities.
- **Food security:**⁴ The availability of food and people's access to it.
- **Good Agricultural Practices:**⁵ Practices that ensure that agricultural products are of high quality, safe and produced in an environmentally and socially responsible way.

¹ Adapted from: *Sustainable dryland cropping in relation to soil productivity* (FAO soils bulletin 72). Rome, Food and Agriculture Organization of the United Nations, 1995: chapter 1.

² Adapted from: Hazra CR. Crop diversification in India. In: Papademetriou MK, Dent FJ, eds. *Crop diversification in the Asia-Pacific region*. Bangkok, Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific, 2001.

³ Source: United Nations Environment Programme.

⁴ *Trade reforms and food security*. Rome, Food and Agriculture Organization of the United Nations, 2003.

⁵ World Programme for the Census of Agriculture (WCA 2010), FAO Statistics Division, 2005.

- **Green tobacco sickness (GTS):** Nicotine poisoning that results from the absorption of nicotine through the skin from contact with tobacco plants during cultivation and harvesting. Nicotine is a water and lipid-soluble alkaloid that dissolves in any water on the leaves of the green tobacco plant.¹
- **Human capital:** The stock of competencies, knowledge and personality attributes embodied in the ability to perform labour so as to produce economic value; the attributes gained by a person through education and experience.
- **Impact on environment:**² Any effect caused by a proposed activity on the environment including on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures, or the interaction among these factors; it also includes effects on cultural heritage or socioeconomic conditions resulting from alterations to those factors.
- **Individual capacities/capabilities:** Refers to the capacities/capabilities of individuals to set and achieve their own development objectives over time.
- **Intersectoral approach:** Works across different sectors – social, economic and institutional.
- **Livelihoods:** Refers to the process in which rural families build a diversified portfolio of activities and abilities of social support in order to survive and improve living conditions.
- **Productive systems:** A system that transforms inputs into an output. Inputs into a production system include human resources, land, equipment, buildings and technology. Outputs include the goods and services that are provided for customers and clients.
- **Tobacco crop:** Cultivation of *Nicotiana tabacum* and *Nicotinia rustica* for sale either under a contractual arrangement or a quota system.
- **Tobacco industry:**³ Tobacco manufacturers, wholesale distributors and importers of tobacco products.
- **Tobacco products:**³ Products entirely or partly made of the leaf tobacco as raw material, and which are manufactured to be used for smoking, sucking, chewing or snuffing.
- **Tobacco worker:** A person working in tobacco farms, in tobacco processing or tobacco or bidi manufacturing with or without a contractual arrangement based on the labour laws of the country in which he or she is employed.

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¹ Arcury TA, Quandt SA. Health and social impacts of tobacco production; *Journal of Agromedicine*, 2006, 11:71–81.

² Source: United Nations Environment Programme.

³ Definition taken from the WHO FCTC.