Sustainable Development Law & Policy

Volume 9 Issue 1 Fall 2008: Global Food & Agriculture

Article 7

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Recommended Citation

Bostic, Chris A. "Two Global Crises Bring Opportunity in International Tobacco Control." Sustainable Development Law & Policy, Fall 2008, 13-18, 67-68.

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Two Global Crises Bring Opportunity to International Tobacco Control

by Chris A. Bostic, M.S.F.S., J.D.*

INTRODUCTION

n many low-income countries, particularly those hardest hit by rising food prices, resources such as valuable land and L human labor are diverted into the production of a cash crop that society would be better off without, tobacco leaf. Ironically, many of these farmers are rendered poorer than their foodproducing neighbors in the process, owing to the oligopolistic nature of the tobacco leaf processing industry, including predatory credit and other practices.¹ As the world takes greater action to combat the devastating health effects of tobacco consumption, nations that largely depend on tobacco leaf for export earnings are anxiously looking for alternatives.² The nexus between this problem and the world food crisis is obvious. What is lacking is a coordinated, holistic approach. This paper will provide an overview of global tobacco leaf cultivation and efforts to promote a transition to other livelihoods for farmers, as well as suggest actions that may lead to greater cooperation toward solutions.

The health costs of tobacco consumption are well known, although few appreciate the magnitude. The World Health Organization ("WHO") estimates that tobacco killed 100 million people over the course of the 20th century.³ It predicts that one billion will die this century.⁴ Unlike last century's casualties, the majority of these deaths will be in lower income countries.⁵ Addiction to tobacco causes more than just deaths. Tobacco-related diseases cost families and governments untold billions in health care costs, lost wages, and lost productivity.⁶ Poor families that spend money on cigarettes must make up the difference somewhere else in the budget by reducing spending on food, housing, health care, or education.

In response to the coming catastrophe, the WHO Framework Convention on Tobacco Control ("FCTC") came into force in 2005.⁷ The treaty is focused on halting and reversing the alarming trends in tobacco consumption and its related death and disease.⁸ The FCTC includes several provisions focused on the developing world, including Article 17, which calls for cooperation in finding alternative livelihoods for persons involved in tobacco leaf cultivation.⁹ Article 17 has been a back-burner issue for the governing body of the treaty, but recently many have called for increased efforts to take advantage of opportunities in other vocations.¹⁰ The world food crisis has changed the equation for farmers and governments wishing to move away from tobacco cultivation.

THE FCTC AND ARTICLE 17

Negotiations for the Framework Convention on Tobacco Control began in 1999 under the leadership of then-WHO Director Gro Brundtland.¹¹ It was ground-breaking in two ways. First, it is the only treaty ever negotiated under the auspices of the World Health Organization.¹² Second, it is the world's first public health treaty.¹³ In contrast to many environmental treaties, which have been seen as a threat to the profit margins of private industries, the goals of the FCTC and those of the multinational tobacco industry are diametrically opposed; complete success for the treaty necessarily means the bankruptcy of the tobacco industry. Public health advocates often point to the tobacco industry as the "vector" of diseases caused by tobacco consumption, explicitly comparing them to mosquitoes or parasites.¹⁴

As a framework convention, the FCTC is meant as a starting point for further negotiations. Many of its articles are broad and few include definite obligations on parties. Still, six intergovernmental negotiating body sessions, along with innumerable national and regional meetings, were required to hammer out the final language, which was unanimously adopted by the World Health Assembly in May 2003.¹⁵ To date, the FCTC includes 168 national Parties, representing 83.5% of global population.¹⁶ The only two mega countries—those with over 100 million persons—not Party to the FCTC are Indonesia and the United States.

The issue of tobacco cultivation is not a traditional concern of the public health community. Owing to the relatively small percentage tobacco leaf contributes to the total value of retail tobacco products, raising the price of leaf is not vital to efforts to curb tobacco consumption. There was, therefore, little reason from a public health perspective to include Article 17, which addresses farmers' livelihoods rather than direct public health implications of tobacco use. Like all treaties, however, the FCTC is a political instrument. A number of WHO member states that depend to a great degree on export earnings from tobacco leaf were reluctant to support a treaty process that aimed, ultimately, to destroy this market by eliminating consumption. Article 17 was the compromise that brought these countries on board by providing for alternative economic activities. It is short enough to quote in its entirety.

Article 17: Provision of support for economically viable alternative activities

Parties shall, in cooperation with each other and with competent international and regional intergovernmental

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organizations, promote, as appropriate, economically viable alternatives for tobacco workers, growers and, as the case may be, individual sellers.¹⁷

The framers of the FCTC also gave a nod to environmental concerns, particularly as they relate to tobacco cultivation:

Article 18: Protection of the environment and the health of persons

In carrying out their obligations under this Convention, the Parties agree to have due regard to the protection of the environment and the health of persons in relation to the environment in respect of tobacco cultivation and manufacture within their respective territories.¹⁸

The first Conference of the Parties ("COP") (the governing body of the FCTC) created an ad hoc study group ("Study Group") to address Articles 17 and 18.¹⁹ The Study Group, made up of interested FCTC States, has met twice and reported back to the COP.²⁰ While they are far from developing concrete solutions, the group has made a number of general recommendations, which will be further discussed below.

OVERVIEW OF GLOBAL TOBACCO LEAF CULTIVATION

As the absolute number of smokers in Europe and North America has leveled off and even fallen over the last four decades,²¹ the tobacco industry has increasingly looked to the

developing world as a largely untapped market.²² As tobacco sales have exploded in developing countries, increased manufacturing and commercial leaf cultivation have followed.²³ In spite of public health efforts to combat consumption, the global demand for tobacco leaf is expected to continue to rise for decades.²⁴ The United Nations Food and Agriculture Organization expects total

production to reach 7.1 million metric tons in 2010, a twenty percent increase over 1998.²⁵ Cultivation in developed countries continues a slow decline that began in the early 1980s; increased production is occurring entirely in developing countries, particularly China.²⁶

Tobacco can be grown in a variety of climates and soil types, and is grown in over 100 countries.²⁷ For most nations, it is a minor crop, accounting for less than one percent of total exports.²⁸ Two-thirds of the world total is grown in just four countries: China, Brazil, India, and the United States.²⁹ South American leaf production is dominated by Brazil, the world's number one exporter, which earned more than U.S. \$1 billion in 2003, the last year for which full figures are available.³⁰ Brazil's total production is dwarfed, however, by China, which produced more than 2.4 million metric tons in 2004, compared to Brazil's 928,000 metric tons.³¹

Africa has seen steady growth in tobacco cultivation since 1970, increasing by an average of 3.7% from $1970-2000.^{32}$

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Malawi and Zimbabwe dominate continental production, producing about half of Africa's total.³³ The two countries are major leaf exporters. Although most of the crop in China and India is destined for domestic consumption, Malawi and Zimbabwe³⁴ earn sixteen percent and sixty-three percent, respectively, of their total export revenue from tobacco leaf. They are seventh and third, respectively, in the world in total export value.³⁵ For obvious reasons, both countries were keenly interested in including language in the FCTC regarding the fate of tobacco farmers.

Farmers in poor countries turn to tobacco for a variety of reasons. It has a relatively high yield per unit of land, and is therefore attractive in areas where individual farms are very small. The market for leaf is perceived as stable, anticipating high returns over the long term. Cured tobacco is far less perishable than food, a major reason why countries with poor infrastructure and far from developed world markets tend to produce tobacco. Finally, support and loans (of both money and inputs) are often available from the tobacco industry, assistance that is not traditionally available for other crops.³⁶

The benefits of tobacco cultivation are often illusory, however. In many instances, farmers who switch to tobacco cultivation find themselves poorer as a result,³⁷ in monetary, health, educational as well as other terms, for several reasons. First, the initial investment is higher for tobacco than for many other crops. While economies of scale allow large-scale growers to

Farmers who switch to tobacco cultivation find themselves poorer as a result. make money, peasant farmers are rarely able to realize enough profits to make the investment worthwhile.³⁸

A second barrier to profitability is the inherent power imbalance between tobacco farmers and transnational tobacco leaf buying companies.³⁹ A typical scenario plays out as follows: farmers enter into contracts with the

companies whereby they receive up-front loans, seed, fertilizers, pesticides, advice, assistance, and a guaranteed buyer. Farmers must promise to sell the entire crop to the company, at a price determined by the buyer. Sometimes payment for a partial crop will be withheld until the entire crop is delivered. Since the farmer has no control over the price paid for a crop, and no option to choose another buyer, in many cases the earnings do not equal what is owed under the contract. The farmer is able to put off the debt by signing a similar contract for the following year. Since these are legal contracts, and the farmer's only collateral is usually the farm itself, the leaf buyers can now use the domestic legal system to force the farmer to continue growing tobacco. This is known as "debt bondage."⁴⁰

The third drawback to tobacco cultivation is its relatively high reliance on labor. In order to make ends meet, farmers often require the full-time work of the entire family, including children. Precluded from attaining an education, the children will be unable to break out of the cycle of poverty.⁴¹ In addition to concerns about poverty cycles, tobacco cultivation brings on a host of health concerns that are unrelated to smoking or other forms of consumption. Field workers often suffer an ailment known as green tobacco sickness, which occurs when nicotine is absorbed through workers' skin during leaf handling. Symptoms include nausea and other gastro-intestinal maladies, weakness, headaches, dizziness, difficulty breathing, and increases in blood pressure and heart rates.⁴² Tobacco is also highly dependent on fertilizers and pesticides, including a number of organophosphate insecticides that have been shown to be highly toxic to humans.⁴³

In addition to the human costs, there is an environmental cost to tobacco cultivation. First, runoff from heavy use of chemical fertilizers and pesticides pollutes waterways and drinking water.⁴⁴ Second, one of the reasons fertilizers are so necessary is that the tobacco plant leaches nutrients from the soil at a rate higher than most other plants, reducing the fertility of the soil for years to come.⁴⁵ Finally,

tobacco cultivation is a major contributor to deforestation when wood is used as fuel to cure tobacco leaves. A researcher in 1999 estimated that 200,000 hectares of forests are cut down per year as a result of tobacco farming, and that this accounts for nearly five percent of all deforestation in tobacco-growing developing countries.⁴⁶ As tobacco cultivation has expanded in the first ten years of the new millennium, this figure has surely gone up.

Finally, one must consider the opportunity costs of growing tobacco instead of food crops. In addition to the millions of hectares devoted to tobacco, an estimated eleven to twelve million farmers are largely dependent on the crop, with perhaps an additional twenty million somewhat dependent.⁴⁷ One researcher has estimated that if the land and resources devoted to tobacco were switched to food crops, an additional 10-20 million people could be fed.⁴⁸ This figure may seem pale in comparison to the world's hungry, but one must consider that few farmers are profiting from tobacco and that leaf is the first step in a product stream that causes massive harm to society as a whole. Such obvious "win-win" trade-offs are rare.

THE FCTC STUDY GROUP

At its first meeting after the FCTC came into force, the Conference of the Parties established an ad hoc study group to address Parties' issues arising under Articles 17 and 18. The study group has four objectives:

- summarizing the uptake of existing economically viable alternatives for tobacco workers, growers, and, as the case may be, individual sellers;
- recommending to the Conference of the Parties mechanisms to assess the impact over time of the tobacco companies practices;

- (3) reporting on initiatives that are being taken at national level in accordance with Article 17; and
- (4) recommending cost-effective diversification initiatives.⁴⁹

Tobacco plant leaches

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reducing fertility.

In addition, the COP mandated that the study group work closely with international organizations in related fields, such as the UN Food and Agriculture Organization ("FAO") and the World Bank.⁵⁰ The study group is comprised of interested Parties. As an ad hoc group, membership is not fixed, and a greater number of Parties attended the second session than the

first. Nongovernmental organizations with relevant expertise have also been invited to both official meetings.

The study group is not well-funded and has undertaken little original research, instead focusing on meta-analyses of other research in order to draw conclusions and make recommendations. Issue areas examined include economics, labor, health, social and environmental impacts, alternative crops,

non-crop alternative livelihoods, national policy frameworks, and tobacco industry corporate practices.⁵¹

The study group is tasked with reporting on its progress to each meeting of the Conference of the Parties, and produced a document in preparation for the third COP, held in Durban, South Africa in November 2008. In that document the group comes to a number of specific conclusions, recommendations, and observations:

- 48. The pursuit of alternative livelihoods to tobacco growing must be addressed from a development perspective, as it involves health, social, environmental and economic aspects beyond substitution of one economic activity for another. Despite advances in terms of national experiences, further work remains to be done.
- 49. Standardized, regularly collected data are needed on employment, health and environmental and social issues, and independent studies should be conducted, especially in less developed countries, that provide credible evidence.
- 50. Intersectoral approaches are needed to address alternative livelihoods, and public policies are required to ensure, for example, research and development, technical assistance and market access.
- 51. At all levels, undue influence of the industry must be avoided in policy decisions by careful monitoring.
- 52. The group agreed that a holistic framework is required that addresses all aspects of the livelihood of tobacco growers. Such a framework was discussed at the meeting, and it was agreed that a

similar approach should be used to evaluate experiences with alternative livelihoods and to provide a basis for implementing Articles 17 and 18 of the Framework Convention.

- 53. To this end, the group identified the following objectives, which the Conference of the Parties might consider when expanding the group's mandate: (1) adjust the suggested framework to address alternative livelihoods to tobacco growing; (2) standardize the terminology, instruments and variables in line with the standards and practices of the specialized international agencies; (3) identify mechanisms and areas of cooperation with international organizations with expertise in the matter; and (4) elaborate policy options and recommendations for implementation of Articles 17 and 18 of the Framework Convention.
- 54. The group agreed that a successful shift from tobacco growing to economically sustainable alternatives requires public policies that give priority to profitability, technical and financial assistance, capacity-building and market and social support, especially during the transition from one economic activity to another, and that ensure the involvement of farmers in decision-making.
- 55. An international database of information, research, experiences, best practices and regulations should be established, covering the status of tobacco growing, employment and the role of the tobacco industry. A baseline database should be established initially.
- 56. While progress has been made in finding economically sustainable alternatives to tobacco growing, further studies are needed, particularly on the health, social and environmental impacts of tobacco growing in developing countries and countries with economies in transition. Further monitoring is needed, and information should be made available to farmers and to the public.
- 57. States and international organizations should take a multisectoral approach in addressing the issue of alternative livelihoods, incorporating them into poverty reduction strategies and programmes. The World Food Programme and relevant development agencies should consider alternative livelihoods for tobacco crops as an opportunity. The involvement of farmers in all stages of decision-making should be encouraged.
- 58. Better understanding is needed of the role of the tobacco industry in tobacco production and its influence on the identification of sustainable alternatives. In accordance with Article 5.3 of the Convention, governments should protect their policies for alternative livelihoods for tobacco farmers from the vested interests of the tobacco industry,

affiliates and front groups, as defined in the Framework Convention.

59. The group considered that the Convention Secretariat should support Parties in raising and accessing funds for implementation of Articles 17 and 18 of the Framework Convention.⁵²

The global food crisis, and its nexus with the goals of FCTC Article 17, is specifically mentioned in the study group's report, but only in passing.⁵³ The group's main contribution to a shift away from tobacco cultivation is in the gathering of evidence and data. It is simply not mandated or designed to react quickly to developments in international economics. By asking for specific expansions in its mandate—particularly in expanding cooperation with other international actors—the group is giving the COP the opportunity to accelerate the process. It remains to be seen whether the COP, which has so far seen Article 17 as a side issue, will rise to the challenge.

Funding Streams and Practical Obstacles

The study group's final recommendation, while simple, is arguably the most important. Many of the other recommendations for action will require funding, including further research, expanding infrastructure, technical assistance, monitoring, and market support. Over the life of the FCTC, Parties have been reticent to assign a meaningful percentage of the budget to alternative livelihoods work. This reflects a common, and quite correct, attitude among tobacco control professionals that demand-based interventions are the priority. Even on the supply side, it is tobacco smuggling that receives the lion's share of attention.

There is also a perception among many that tobacco farmers, as a part of the tobacco industry, are part of the problem and should be left out of any solution. FCTC Article 5.3 specifically calls for such a policy: "In setting and implementing their public health policies with respect to tobacco control, Parties shall act to protect these policies from commercial and other vested interests of the tobacco industry in accordance with national law."⁵⁴

The perception that farmers should be included as members of the tobacco industry contradicts the FCTC itself, however, which defines the tobacco industry as "tobacco manufacturers, wholesale distributors and importers of tobacco products."⁵⁵

Finally, the needs of tobacco farmers receive short shrift due to the compartmentalization of problems. The phenomenon is not limited to tobacco control or public health, but is universal and very natural. Tobacco control focuses on a problem that simply doesn't include the plight of farmers. The focus of public health when it comes to tobacco was summarized very clearly in the chapeau of the FCTC:

The objective of this Convention and its protocols is to protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke by providing a framework for tobacco control measures to be implemented by the Parties at the national, regional and international levels in order to reduce continually and substantially the prevalence of tobacco use and exposure to tobacco smoke.⁵⁶

Without a doubt, most public health professionals working in the tobacco control field, on a personal level, are also sympathetic to the plight of tobacco farmers. They simply do not wish to see time and resources diverted from the core issues of tobacco control.

This discrimination against core WHO funding for Article 17 issues is mirrored by private funding sources. In January of 2007, billionaire and New York City Mayor Michael Bloomberg announced a major funding initiative to aid global tobacco control efforts.⁵⁷ With additional financial support from the Bill and Melinda Gates Foundation, this now amounts to hundreds of millions of dollars a year, a massive increase over the sparse funds allocated by WHO and donor countries in the past.⁵⁸ Public health professionals in low and middle income countries who wish to be considered for a grant under the initiative are directed to an explanatory web page, which includes the following information: "What kind of projects will NOT be funded? The grants program is NOT designed to fund education programs (schoolbased or otherwise) nor is it designed to fund agricultural or crop-substitution programs."⁵⁹

However, there are reasons to differentiate between farmers and the rest of the tobacco industry. First, the FCTC explicitly carves farmers and farm workers out for special treatment.⁶⁰ The FCTC is a legally-binding instrument. When considering any one aspect, Parties must take into account all of its obligations. This does not necessarily mean that farmers must receive attention and funding equal to more mainstream tobacco control strategies, but it would be antithetical to the spirit of the main document to treat them as partners in one aspect but lump them in with tobacco manufacturers in another.

Second, farmers are in some respects natural allies of the tobacco control movement, since they are often victims of the tobacco industry, albeit in a different form than consumers and those exposed to secondhand smoke. Large tobacco farmer unions, which are controlled by international leaf buyer companies, have attempted to influence the ad hoc study group's work. However, a number of smaller unions and cooperatives have joined forces with public health groups to support the study group.

There are few in the public health community who would argue to shift existing tobacco control resources in order to pay for programs to aid farmers to move away from tobacco. It is therefore unlikely that either public or private entities will decide upon such a diversion. Clearly, if progress is to be made on this issue, either new money must be found, or an existing funding stream for a related issue must be diverted.

Strong evidence already exists that funding crop diversity, substitution, and alternative livelihoods would not be wasted.⁶¹ In the United States, the state of Maryland has successfully reduced tobacco cultivation by eighty-six percent in a decade through a voluntary buyout program.⁶² Tobacco is a traditional crop in Maryland and, for most of its roughly four hundred year history, has been its leading commercial agricultural product.

Funding for the buyout came via the Master Settlement Agreement, a landmark legal settlement between most U.S. states and the tobacco industry, compensating governments for public health expenditures. The State's plan included three steps:

- 1. The tobacco buyout—Farmers voluntarily entered into a contract with the State to cease tobacco farming permanently while continuing to use the land for agriculture for ten years. In exchange, farmers received compensation for ten years based on earlier tobacco yields.
- 2. Infrastructure/agricultural development—The State funded development of alternative industries, such as vegetables, flowers, etc.
- 3. Agricultural land preservation—The State offered further incentives for farmers to place former tobacco lands in agricultural preservation.⁶³

To be sure, not many developing countries will have the financial means to adopt the Maryland strategy wholesale. But other experiments are underway and showing signs of success. According to studies presented at the second meeting of the FCTC ad hoc study group on alternative livelihoods:

- In Mexico, a reconversion project run by the Government aims to seize the opportunity opened by current international food prices to promote cultivation of vegetables, fruits and grains.
- In Kenya, bamboo was found to grow well under agroclimatic conditions similar to those for tobacco; this crop was selected on the basis of potential demand, its multiple uses, and the low investment and labor costs required.
- In India, the net returns from cropping systems were found to be higher than from tobacco monoculture.
- In Bangladesh, viable crop combinations were identified on the basis of food requirements, cash earnings, and improving soil health, as well as increasing livestock-keeping.
- In Pakistan, the State is involved in research on economically viable alternative crop cycles, particularly in the case of hybrid spring maize and hybrid sunflowers.⁶⁴

Brazil is also experimenting with a model promoting alternative livelihoods beyond crop substitution that focuses on five types of capital: natural, human, physical or infrastructure, financial, and social.⁶⁵ Much research remains to be done, and there will be no one solution that fits every country, or even every region in a single country.

CONCLUSION

From one perspective, the need to promote a global transition away from tobacco leaf cultivation is not urgent. The WHO and the World Bank expect a dramatic increase in the number of smokers worldwide from approximately 1.1 billion today to 1.6 billion in 2025.⁶⁶ Demand for tobacco leaf will therefore actually go up, not down, for the foreseeable future, offering a potential livelihood for farmers for decades.

The purpose of Article 17, however, is to help farmers transition away from tobacco cultivation before the market forces them out. There is presently a unique opportunity to take advantage of increased global demand and prices for food. Several changes are required to fully realize this opportunity. First, the compartmentalization of problems must be solved, meaning greater cooperation among disparate but interested parties. The ad hoc study group has been admirable in reaching out to other groups, such as FAO, the UN Ad Hoc Interagency Task Force on Tobacco Control, the International Labour Union, the World Bank, and others. What is needed is an umbrella group, comprised of experts from each group, focused on bringing various resources together to face the issue. Perhaps this could be a UN task force on alternative livelihoods for tobacco farmers. Such a group could coordinate research and allocate funds for pilot projects.

Second, funding streams must be found. The most obvious place to start is with tobacco industry profits. In 2005, revenues for Altria alone were nearly \$98 billion.⁶⁷ Article 6 of the FCTC calls for Parties to implement excise taxes on tobacco products in order to raise the price and therefore reduce demand.⁶⁸ A side benefit, of course, is greater government revenue. A relatively small earmark would provide large sums to help farmers through infrastructure development, crop experimentation, and debt relief, among others.

Another source is development funding, both public bilateral and private. As we have seen, transitioning farmers away from tobacco cultivation cuts across a number of issues, including food, environment, labor, and social justice. Presently, each funding mechanism seems to view the problem as outside its mandate. Private foundations should consider an overarching group, similar to the UN group called for above, to address how to best use existing funds to target tobacco farmers. Donor nations must reevaluate priorities.

As populations rise and environmental degradation reduces the amount of arable land on the planet, humanity can ill-afford to spend land and labor on growing a crop that causes a social ill. The need for new alternatives is obvious and the opportunity and funds exist. All that is needed is the will of the international community. The FCTC ad hoc study group on alternative livelihoods has produced an excellent set of recommendations for the Conference of the Parties. However, the message needs to be heard beyond the mandate of a single treaty mechanism.

Endnotes: Two Global Crises Bring Opportunity in International Tobacco Control

¹ Raegan Payne, *The Current Global Food Crisis and World Hunger*, CELSIAS, Aug. 19, 2008, *available at* http://www.celsias.com/article/current-global-food-crisis-and-world-hunger/ (last visited Oct. 21, 2008).

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 ⁶ Id.

⁷ See WHO Framework Convention on Tobacco Control [FCTC], May 21, 2003, WHO Doc. A56/VR/4, 2302 U.N.T.S. 166 (2003) entered into force Feb. 27, 2005, available at http://www.who.int/entity/tobacco/framework/WHO_FCTC_english.pdf (last visited Oct. 23, 2008) [hereinafter FCTC].
 ⁸ Id.

⁹ Id.

¹⁰ Press Release, WHO, More Efforts Needed to Defeat the Tobacco Scourge, Sept. 26, 2008, *available at* http://www.wpro.who.int/media_centre/press_ releases/pr_20080926_tobacco.htm (last visited Nov. 13, 2008).

 12 See id. at v.

¹³ Framework Convention Alliance, What is the Framework Convention on Tobacco Control?, http://fctc.org/index.php?option=com_content&view= article&id=8&Itemid=5 (last visited Oct. 22, 2008). The International Code of Marketing of Breast-milk Substitutes, which served in some ways as a model for the drafters of the FCTC, is a resolution adopted in 1981 by the World Health Assembly and as such does not constitute a treaty.

¹⁴ See Alyssa Woo, Health versus Trade: The Future of the WHO's Framework Convention on Tobacco Control, 35 VAND. J. TRANSNAT'L L. 1731, 1734-35 (2002).

¹⁵ WHO Framework Convention on Tobacco Control, Full list of Signatories and Parties, http://www.who.int/fctc/signatories_parties/en/index.html (last visited Nov. 2, 2008).

¹⁶ Id.

¹⁹ Conference of the Parties to the WHO FCTC, 1st Session, Geneva, Switz., Feb. 6-17, 2006, *List of decisions for document A/FCTC/COP/1/DIV/8*, at FCTC/COP(17), Doc. A/FCTC/COP/1/DIV/8 (Mar. 23, 2006) *available at* http://www.who.int/gb/fctc/PDF/cop1/FCTC_COP1_DIV8-en.pdf (last visited Nov. 2, 2008) [hereinafter *List of decisions*].

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²¹ Food and Agriculture Organization of the UN [FAO], *Projections of Tobacco Production, Consumption and Trade to the Year 2010*, § 3.3 (2003), *available at* ftp://ftp.fao.org/docrep/fao/006/y4956e/y4956e00.pdf (last visited Nov. 2, 2008) [hereinafter *Tobacco Production*].

- ²² Id.
- ²³ Id.
 ²⁴ Id.

 26 Id.

²⁷ JUDITH MACKAY, ET AL., THE TOBACCO ATLAS 44-48 (2d ed. 2006).

²⁸ KATHARINE M. ESSON & STEPHEN R. LEEDER, WHO, *MDG and Tobacco Control: An Opportunity for Global Partnership* 40 (2004) *available at* http://www.who.int/tobacco/publications/mdg_final_for_web.pdf (last visited

Nov. 2, 2008). ²⁹ *See* Mackay, *supra* note 27.

- ³⁰ Id.
- ³¹ Id.
- ³² Tobacco Production, supra note 21, at 18.
- ³³ Id.

³⁴ Figures are not yet available to clarify how the current political and economic upheaval in Zimbabwe will affect the tobacco leaf market there.

Endnotes: Two Global Crises Bring Opportunity in International Tobacco Control *continued on page 67*

¹¹ See FCTC, supra note 7, at Annex 2.

¹⁷ See FCTC, supra note 7, at 16.

¹⁸ Id.

²⁵ *Id*.

ENDNOTES: TWO GLOBAL CRISES BRING OPPORTUNITY IN INTERNATIONAL TOBACCO CONTROL continued from page 18

³⁵ Esson & Leeder, *supra* note 28, at 41.

³⁶ Id.

³⁷ CAMPAIGN FOR TOBACCO-FREE KIDS, GOLDEN LEAF, BARREN HARVEST: THE COSTS OF TOBACCO FARMING (2001), *available at* http://tobaccofreekids.org/ campaign/global/FCTCreport1.pdf (last visited Nov. 2, 2008) [hereinafter GOLDEN LEAF].

³⁸ See FCTC, supra note 7. See also John C. Keyser, The Costs of Profitability of Tobacco Compared to Other Crops in Zimbabwe (Health, Nutrition, and Population of the World Bank, Tobacco Control Paper No. 1, 2002), available at http://www1.worldbank.org/tobacco/publications.asp (follow "Keyser, John" hyperlink) (last visited Nov. 2, 2008).

³⁹ See Keyser, supra note 38.

⁴⁰ Id.

⁴¹ World Health Organization, Tobacco and Poverty: A Vicious Circle (2004), *available at* http://www.who.int/tobacco/resources/publications/en/poster_ public_en.pdf (last visited Nov. 2, 2008).

⁴² Thomas A. Acury et al., *High Levels of Transdermal Nicotine Exposure Produce Green Tobacco Sickness in Latino Farm Workers*, 5 NICOTINE & TOBACCO RES. 315-21 (2003). ⁴³ Caroline Cox, *Chlorpyrifos Factsheet, Part 2: Human Exposure*, J. PESTICIDE REFORM, Spring 1995, *available at* http://www.pesticide.org/chlorpyrifos.pdf (last visited Oct. 27, 2008); Caroline Cox, *1,3-Dichloropropene*, J. Pesticide Reform, Spring 1992, at 33, *available at* http://www.pesticide.org/dichloro propene.pdf (last visited Nov. 2, 2008).

⁴⁴ David Biello, Fertilizer Runoff Overwhelms Streams and Rivers, Creating Vast Dead Zones, SCIENTIFIC AMERICAN, Mar. 14, 2008, http://www.sciam.com/ article.cfm?id=fertilizer-runoff-overwhelms-streams (last visited Nov. 2, 2008).
⁴⁵ See Acury et al., supra note 42, at 8 (citing Helmut Geist, Soil Mining and Societal Responses, in COPING WITH CHANGING ENVIRONMENTS (Lohnert Band & Helmut Geist eds., 1999).

⁴⁶ Helmut Geist, *Global Assessment of Deforestation Related to Tobacco Farming*, 8 TOBACCO CONTROL 18-28 (1999).

⁴⁷ See GOLDEN LEAF, supra note 37.

⁴⁸ BurningBrain.org, Article 17 – FCTC Submission, http://www.burning brain.org/tobacco/brazilsubmission.htm (last visited Nov. 2, 2008).

⁴⁹ See List of decisions, supra note 19.

⁵⁰ Second Meeting, *supra* note 20.

⁵¹ See id.

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⁵² Conference of the Parties to the WHO FCTC, 3d Session, Durban, S. Afr., Nov. 17-22, 2008, *Provisional Agenda Item 4.8: Study Group on Economically Sustainable Alternative to Tobacco Growing*, FCTC/COP/3/11 (Sept. 4, 2008), *available at* http://www.who.int/gb/fctc/PDF/cop3/FCTC_COP3_11-en.pdf (last visited Oct. 15, 2008) [hereinafter *Study Group*].

⁵³ Id. at 5.

⁵⁴ FCTC, *supra* note 7, at 7.

⁵⁵ Id. at 4.

⁵⁶ Id.

⁵⁷ See John Hopkins School of Public Health, The Bloomberg Initiative, http://www.jhsph.edu/global_tobacco/bloomberg_initiative/index.html (last visited Nov. 2, 2008) [hereinafter Bloomberg Initiative].

⁵⁸ Conference of the Parties to the WHO FCTC, 2d Session, *Consideration of a Budget and Program of Work for the Conference of Parties for the Financial Period 2008-2009*, Doc. A/FCTC/COP/2/13 Add.1 (June 27, 2007) *available at* http://www.who.int/gb/fctc/PDF/cop2/FCTC_COP2_13Add1-en.pdf (last visited Nov. 2, 2008).

⁵⁹ Bloomberg Initiative, *supra* note 57.

⁶⁰ FCTC, *supra* note 7.

⁶¹ See, e.g., Golden LEAF Foundation Website, http://www.goldenleaf.org/ (last visited Nov. 2, 2008). North Carolina's Golden LAEF Foundation has allocated hundreds of millions of dollars for research and development of North Carolina's biotechnology industry and viable crop substitutes for tobacco farmers.

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⁶⁵ *Id.* at 6.

⁶⁶ The World Bank, *Global Trends in Tobacco Use, in* Curbing the Epidemic: Governments and the Economics of Tobacco Control (1999).

⁶⁷ ALTRIA GROUP, INC., 2006 ANNUAL REPORT 3 (2007), *available at* http://www. altria.com/download/pdf/investors_AltriaGroupInc_2006_AnnualRpt.pdf (last visited Nov. 2, 2008).

⁶⁸ See FCTC, supra note 7.