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China's New Road for Tobacco Control: Tobacco Crop Substitution

Since China ratified the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) in 2005, it has been the world's leading nation in both tobacco production and consumption (<http://bit.ly/2NrQDuS>). Tobacco use is one of the leading risk factors for premature mortality and disability from non-communicable diseases. To increase food security, China recently enacted and enforced a policy of reducing tobacco acreage. China sets a quota for tobacco leaf production to ensure revenue to the state; consequently, the policy is a stimulus for crop substitution. By planting food and vegetables crops, enterprising farmers are earning higher incomes than are possible from tobacco farming.¹

In adopting the strategies recommended by the FCTC, The State Council approved an Interministry Coordination Steering Committee for FCTC implementation composed of eight government agencies, including the State Tobacco Monopoly Administration. China's tobacco industry is owned by the state, which regulates and controls its production. In 2009, data from the State Tobacco Monopoly Administration showed that China's tobacco industry produced 2.3 trillion cigarettes, a 40% increase from 2000.² In 2015, the Chinese tobacco industry generated more than 1.1 trillion yuan (US\$170

billion) in commercial profits and consumption taxes. In 2014, the industry's contribution accounted for nearly 7% of the state's total revenues.³

China's top leadership recognizes the problem of the nation's food security; therefore, the State Tobacco Monopoly Administration issued the Farmland Redline Policy on the reduction of tobacco acreage nationwide.⁴

NEW ENERGY FOR THE FCTC STRATEGY

As China transitions to a developed country and world economic power, new and greater efforts for tobacco control have gained momentum. The "Health China 2030 Program," which was published in 2016 by the Communist Party Central Committee and the State Council, mandates that the adult smoking rate be reduced to 20% by 2030, using comprehensive tobacco control strategies set forth by the FCTC.

In 2013, the Party School of the Central Committee of the Communist Party of China issued a report on tobacco control strategies, state development, and government responsibility. The far-reaching influence of the Party School has been recognized as a tipping point in tobacco control.⁵ Recent legislation includes banning tobacco advertisements and increasing the

taxation and retail price of cigarettes. Importantly, the Party's Central Committee and the State Council issued a notice requiring leading officials at all levels to (1) ban smoking in public places as well as public funds for tobacco products, and (2) set an example by quitting smoking or not smoking in public. Notices on the banning and control of smoking were issued to the Ministry of Education and the People's Liberation Army. Smoking at public places and workplaces declined. Cigarette sales declined 5.6% from 2015 to 2016.⁶

TOBACCO CROP SUBSTITUTION

In China, food security, economic development, public health, and the ability of farmers to earn a greater income planting food crops than from growing tobacco are the forces driving crop substitution. Farmers in China typically have little land: cultivated land per capita is less than 0.23 acres, and a family may

own 0.15 to 1.15 acres (<http://bit.ly/2uxdg5q>). The foremost tobacco crop substitution project was piloted in Yuxi, Yunnan, under the auspices of the Yuxi Municipality Bureau of Agriculture in collaboration with the Fielding School of Public Health of the University of California, Los Angeles.

The core of this three-year demonstration, with the assistance of the local Bureau of Agriculture, was to train farmers in market research and to turn farmers' cooperatives—which were social in nature—into business enterprises. The project recruited three sites with 458 families. Participation was voluntary. In the new cooperative model, the farmers drew up their own charter and bylaws and learned essential skills such as accounting, seed selection, use of less-toxic pesticides, market channels, storage, distribution, and sales. Working with agriculture specialists, the farmers identified the most suitable food crops to cultivate and the cooperative facilitated the bulk purchase of seeds, pesticides, and materials, thereby lowering costs for the individual farmer.

The project saw the farmers running an enterprise that gave them a higher income than attainable from tobacco farming.¹ This positive outcome has

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influenced the farmers in neighboring counties and beyond. In 2010, the annual income of the participating farmers in the pilot sites was 21% to 110% greater than for farmers who cultivated tobacco.¹ Researchers from Chengdu and Shanghai also suggested that, compared with other cash crops such as fruit, sugar, oilseeds, and livestock, tobacco has the lowest economic return. Since 2015, successful examples of tobacco crop substitution have been reported from tobacco-producing provinces such as Shandong and Sichuan.

FOOD SECURITY

China's new generation of leaders consider food security to be one of the most urgent issues for sustaining economic and social development. In 2013, the government implemented a strict farmland protection policy known as the Farmland Redline Policy. This policy mandates that by 2020, China must have retained 1.865 billion mu (120 million hectares) of farmland.⁷ The policy strongly supports tobacco control through tobacco crop substitution. The Provincial Tobacco Monopoly Administrations established strategies and regulations to control tobacco acreage and tobacco production in 11 tobacco-producing

provinces, including Yunnan, Sichuan, Henan, and Shandong. These regulatory measures include establishing a responsibility system for meeting tobacco acreage restrictions and targeting reductions in tobacco production (with top officials of each agency held accountable), destroying surplus seedlings, prohibiting the excavation of new areas for tobacco planting, and strengthening collaboration between farmers and local agencies at all levels.

DISCUSSION AND CONCLUSION

In 2017, the WHO and the United Nations Development Program launched a report entitled "The Bill China Cannot Afford: Health, Economic and Social Costs of China's Tobacco Epidemic."³ This report recommended that a comprehensive national smoke-free law should be adopted immediately and tobacco taxes should be raised significantly.² We believe that tobacco crop substitution is also one of the most cost-effective measures to reduce the supply of tobacco and thus of cigarette smoking.

China is the first country in the world to have a national policy on tobacco crop substitution. This policy has resulted in the reduction of tobacco acreage

nationwide, thereby reducing the supply of tobacco. The alliance between public health and agriculture has ushered in a new era of tobacco control for China. The critical lesson from the Yuxi pilot project is that farmers, many of whom are semiliterate, could learn the knowledge and skills necessary to operate a commercial-industrial entity that gives them a higher income than tobacco farming allows. Training farmers in skills for crop substitution and ensuring them higher earnings than are attainable through growing tobacco, coupled with political will, are the essential ingredients for broad-based crop substitution.

When the FCTC was ratified, crop substitution pertained mostly to economic analysis and was yet to be proven an effective strategy. Tobacco crop substitution's time has come. We urge the FCTC to add it to its set of effective strategies for tobacco control. In light of the need for global food security to feed a growing population, phasing out tobacco crops to expand food crops is a win-win strategy. **AJPH**

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Both authors contributed equally to this editorial.

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