

To: Honorable Prime Minister, Narendra Modi
From: Minister of Rural Development, Narendra Singh Tomar
Subject: Urban Air Quality Solution
Date: Nov 11th, 2017

Problem: The air quality in New Delhi has reached critical levels due to crop burning. It is politically unfavorable to regulate the act of crop burning. Alternatives to crop burning are not market favorable.

Recommendation: I recommend you accept the EU-India trade agreement that requires the end of crop burning. You should Require exporters of rice to allocate rice from non-crop burning producers.

Advantages: Environmental regulations in India competitively and efficiently trend upward. Air quality is improved and farmers receive trade windfall. Government approval ratings will go up.

Problem: Air quality this harvest season has reached critically dangerous levels. The Air Quality Index is between 700-1000. To put that into context the EPA considers anything above 300 to be harmful. This level of air pollution can have severe adverse health effects, such as cancer, exacerbated asthma and even organ damage. The current spike in pollution can be traced directly to rice farmers in the provinces surrounding New Delhi which include Punjab, Haryana and Uttar Pradesh, following the rice harvest that comes every winter. After the rice harvest, farmers have three weeks to clear the land of paddy straw and plant wheat, their winter harvest. A farmer has two options, either they can responsibly produce bio-pellets from the paddy straw, at a cost to them, or they can cheaply burn off the straw in the fields where it sits.

Although there are explicit regulations forbidding the burning of rice paddy straw, regulations are seen as urban elites imposing their will on rural farmers. Politically, these laws are extremely hard to enforce for local governments as they must appeal to the farming lobbies to maintain office. Regulations virtually go unnoticed and there are no consequences to disobeying any sort of crop burning sanction.

Even though farmers are aware of the environmental damage of crop burning, they are trapped in a game theory dilemma in that there is no distinct market advantage to producing bio-pellets instead of burning their crops. In the status quo, abiding by government regulations almost always puts businesses at a disadvantage so the rational business will always choose to burn their crop.

Problem (The Delaware Effect): India is a developing economy and as such in recent decades' politicians have put environmental regulations on the backburner in favor of strong economic growth. Local governments do not have the clout to regulate the farming lobby.

India's environmental regulation is trending downward which is known as the "Delaware Effect." The Delaware Effect is characterized by a "race to the bottom" mentality on regulation. Subnational governments (states) are competing with one another to see who can impose the least amount of regulation to be the most favorable to farmers. In this case, the governments of Punjab and Haryana are competing to provide the most suitable economic environments for their farmers in order to get reelected. Without any real regulation by state governments, North Indian farmers simply weigh the cheapest option, which turns out to be

harmful to the air quality. This line of logic is followed by most farmers and is why we experience an obscene jump in air pollution every year.

A possible, straightforward solution could be to directly regulate farmers from a federal level. You could justify bypassing state autonomy by claiming that although Punjab and Haryana have formal regulations against crop burning. This solution becomes a problem because there is no centralized mechanism for regulating the environment on a federal level. Doing so would require creating a costly bureaucracy but even with that you would be working antagonistically with state governments, creating inefficiency and political friction.

Problem II (Lack of Centralization): The second problem comes from the structure of the Indian government. As the prime minister you lead our federal legislative body. The problem is that environmental regulations are done on a state by state basis. This convolutes the ability for you, a federal legislator, to propose any sort of policy to fix the situation. The lack of centralization leads me as a policy maker to create a hands-off tactic.

A laissez-faire approach would be to let the states decide for themselves what kind of regulation they need. This is troublesome in that it means we do not take action and further the status quo. The federal government must find a way to change the rice market such that acting in an environmentally responsible would now be unprofitable and change the political situation such that enforcing environmental regulations would be political suicide. The lack of centralized power begs the question, “how do we get farmers to act against market incentives?” The solution is simple: we make it profitable to abide by the standards we set for crop burning.

Solution (The California Effect): The current environmental regulation norm in India looks like the “Delaware Effect” but it is possible to make states compete for positive environment regulation. This desired outcome is called the “California Effect.” Our goal is to encourage the right kind of competition so that there is a race to the top in terms of environmental regulation. We want a situation that will make farmers goods competitive abroad and stifle urban air pollution. In this scenario states will naturally compete to have the most progressive regulation. We will let the free market efficiently respond to exogenous factors and move in a positive direction.

This seems like a fairy tale in the current state of things. Trade and competition have made the notion of environmental regulation in farming almost impossible because anyone that produced goods environmentally friendly would be paying more money than its competitor and eventually lose money. However, there is a way to use natural market competition to make environmental regulation trend upward as opposed to a downward trend.

Solution II (Trade Agreement): An Indian Diplomat recently discussed a trade agreement with the European Union. I will make a recommendation based on the merits of a single aspect of that trade agreement. There is an article of the trade agreement that includes a conditional clause, which requires rice producers to cease all crop burning in exchange for tariff free trading in the unified European markets. The EU is a net importer of food and wishes to avoid a “Baptist-bootlegger” situation in which it holds the goods it imports to a different standard than the ones it produces itself. On paper, only the farmers that have drastically reduced or eradicated the practice of crop burning will be eligible to export to European Markets.

Recommendation: International diplomacy and trade falls under the jurisdiction of the federal government and so controlling export licenses and trade customs to the EU is well within our means and jurisdiction. I recommend that you only allow producers from states and or districts that have drastically reduced their percent of crop burning (90% by weight of paddy straw) be given the permission to trade in this newly created rice market. I recommend you accept this trade deal and convince your coalition government to do the same on the federal level. With the right framing you will win the support of Urban New Delhi and of the farming lobbies.

Advantages: These future trade conditions will create a competition among states of upward regulation. The state that takes the first step in cutting its crop burning will experience a windfall from selling to an untapped European market. The state with the stricter and progressive environmental regulations will sell more of their crops. If Punjab, for example, creates a ministry that can efficiently root out crop burning, Uttar Pradesh and Haryana will soon follow their lead and also implement the same ministries so they do not lose out on the lucrative markets.

The regulation race will effectively reverse the race to the bottom to “a race to the top.” India’s rice producers will see an even greater profit than before they began implementing environmentally friendly methods of getting rid of paddy straw because of the large European market. Urban Populations will immediately see the benefits of every year during the harvesting season. With support from urban and rural voters your governments approval rating will increase.

Federalism and Decentralization: Furthermore, the trade deal solution offers an advantage in its ability to maintain a decentralization of abilities. As opposed to wasting the time and energy of regulating each state and possibly running the risk of violating the constitution and the autonomy of the states, the federal government will act in such a way that is completely within its right that also encourages a positive change in regulation on a subnational level. The only action that the federal government will have to take is the ratification of an international trade deal. States will then decide among themselves whether or not they will begin to abide international environmental regulations and experience a trade windfall.

Citations:

Vogel, David. 1995. *Trading: Consumer and Environmental Regulation in a Global Economy*. (Harvard University Press). Chapter 1.

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