Agricultural Innovation and Infrastructure: The Critical Connection That Can Provide A Global Stimulus and Thwart Terrorism

By

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Almost 175 years ago America suffered through a severe economic crisis known as the Panic of 1837. Hundreds of banks in New York failed and the economic downturn spread throughout the states. But in the end, the one person who many have done as much to stimulate the economy and end this severe recession and whose name is recalled to this day, was a young blacksmith from Middlebury, Vermont.

Forced out of work by this economic collapse, he picked up his tools and began a journey that would help change the face of America (particularly my home state of Iowa) and spur a huge economic development that would eventually impact the world.

That young man was named John Deere. His journey would take him from his failed business near Burlington, Vermont, across the Great Lakes to a small town in western Illinois where he would set up a new shop.

It was there in 1837, that he developed the steel plow, an agricultural innovation which would transform farming and lead to what could be called the first American agricultural revolution, with increased food production that helped lift America out of its economic doldrums.

It maybe difficult to imagine, but at that time pioneers were giving up on being able to farm the rich soil of Iowa and were leaving the state. The extreme difficulty in breaking up the thick prairie sod made planting almost impossible. Wooden plows could not do the job. John Deere's steel plow reversed all of this almost overnight. By 1846, less than a decade later, Iowa had become so populated and agriculturally productive that it was granted statehood and accepted into the Union.

This historic odyssey, however, was only possible because of the vision and daring of a political leader more than two decades earlier who, despite intense criticism from Washington (including from Thomas Jefferson), committed himself to two huge infrastructure projects to confront another severe post-war economic depression. In the immediate aftermath of the War of 1812, New York Governor DeWitt Clinton led the fight for the construction of the Erie Canal, and (significantly for this story), the Champlain Canal which connected it to Lake Champlain and Vermont. It was this new water route – this new transportation infrastructure – that allowed John Deere to travel to the frontier.

The lesson for the present-day global crisis is that this connection between infrastructure and agricultural innovation remains critical to helping lift people out of extreme poverty and hunger, confronting terrorism and revitalizing the global and American economy. This has been demonstrated time and again in the past.

Increased agricultural production in the Midwest in the 1840's and 50's begat the massive railroad expansion which fueled the agricultural and cattle ranching boom period of the post civil war. World Food Prize founder and Nobel Peace Prize laureate Dr. Norman E. Borlaug told me how his family produced butter on this family farm in northeast Iowa and then took it to a coop miles away from which it was shipped to Chicago.

And this critical linkage of agriculture and infrastructure was once again seen decades later when Henry Wallace developed hybrid corn and it flowed to farmers down the farm to market rural road network that criss-crosses Iowa.

New roads almost always dramatically uplift the communities they serve, and those farm-to-market roads that lace the American Middle West helped lift those states out of the Depression of the 1930's and brought on a second American agricultural revolution after World War II which impacted the world. The extension services at Land Grant Colleges such as Iowa State University were now able to spread information about the latest agricultural innovations. Agribusiness companies began to develop and research flourished at places like the University of Minnesota where Norman Borlaug got his Ph.D. in Plant Pathology.

This connection between improved infrastructure, particularly rural roads, and enhanced prosperity was apparent to Dr. Borlaug from his earliest days growing up on an Iowa farm through his development of high yielding wheat in Mexico, his transferring it to India and Pakistan (to prevent famine and save millions of lives), and, most recently, his efforts to bring the Green Revolution to Africa.

The common denominator, as Dr. Borlaug sees it, is that in every instance it has been rural roads which facilitate the flow of new agricultural technology to farmers while, at the same time, ensuring that they have a reliable way of getting crops to market.

Whether its in Iowa or India, these roads are the avenues down which the extension workers from research centers and agricultural universities can travel to bring the latest innovations (the modern equivalent of John Deere's plow and Borlaug's "miracle wheat") to villages and hamlets where the poorest people often live. And it is the same roads that allow mothers to get sick children to medical care (thus lowering the child mortality rate), and permit children (especially girls) to stay in school longer because they can easily travel to adjacent villages where high schools are located.

Borlaug's achievements 65 years ago began the single greatest period in food production and hunger reduction in all human history. While thousands and thousands of people around the world have contributed to this achievement, it has its origins in Middle America thanks to the roads that were built, the land grant colleges that were established and the agricultural innovations of pioneers like John Deere and Henry Wallace.

This connection of infrastructure and agriculture technology may also have a special meaning for President Obama's recent commitment to confronting terrorism in Afghanistan.

I saw firsthand the amazing impact that rural roads and new seeds could have in dealing with insurgencies where I served as a development advisor during the Vietnam War. Upgraded rural roads brought the new miracle IR-8 rice to farmers in the Mekong Delta. The change was dramatic as life improved rapidly and the appeal for young people to become insurgents evaporated.

However, villages without improved roads seemed never to adopt this new technology and remained insecure. Inhabitants there remained more disposed to follow the urging of terrorists, the same phenomenon that President Obama described in his Strasbourg Town Hall meeting.

Three decades later, I used this same formula of **roads and rice** to undermine and eventually help destroy the genocidal Khmer Rouge in Cambodia. When we started our road building campaign in 1990, there were still 25,000 Khmer Rouge in control of most of the Cambodian countryside. Ten years of fighting by 200,000 Vietnamese troops had not eliminated them, and Vietnamese forces withdrew as part of the UN agreement. That is when we started building roads and bringing in new seeds. Nine years later, as I concluded my assignment as Ambassador, the last Khmer Rouge surrendered.

The potential for similar impact in Afghanistan and other remote areas where terrorism breeds while also reducing hunger around the world is palpable. When I described this phenomenon in September at a meeting in the State Department Secretary of Defense Robert Gates, he said that "all of my commanders in Afghanistan tell me the same thing – 'where the road ends, the insurgency begins'." Secretary of State Hillary Clinton repeated that same phrase at the World Food Prize event last June following my discussion with her.

Secretary of Agriculture Tom Vilsack and Ambassador Richard Holbrooke, the Presidential Envoy for Afghanistan and Pakistan, have both emphasized the critical role they see agriculture playing in Afghanistan.

Amazing research by international agribusinesses, agricultural universities and international research centers will produce seeds that can feed the three billion additional people who will inhabit our planet in the next 50 years. The question is, will they get to the people who need them most?

As President Obama and his administration develop their plans to revitalize the American economy and deal with a potential global agricultural crisis, using a revitalized U.S. Agency for International Development to carry out a strategically placed road building and infrastructure strategy (with maximum participation by U.S. companies) would provide a way to ensure that these seeds reach the poor villages where they are desperately needed. Such an infrastructure strategy would be one of the most effective ways of stimulating the U.S. and global economy, reducing hunger, combating terrorism, and enhancing the standing and reputation of the United States around the world.

The stunning impact of that combination of agriculture and infrastructure that brought the steel plow to Iowa can still be seen almost 200 years later. John Deere, the man and the company, is the one name synonymous with economic and agricultural development in Iowa from the time the first Land Office opened in 1836, until the present. And Governor Clinton's contribution is likewise remembered by having the river city of Clinton, Iowa named for him.

It would be a magnificent achievement if what DeWitt Clinton and John Deere did almost 200 years ago could be the inspiration that led to another agricultural revolution, one that helped end hunger on our planet, thwarted terrorism and alleviated our current economic crisis.