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Short Communication Open Access

The Politics behind Global Food Security

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The politics behind food production has never been as newsworthy, and as a result, as polarized as it is today. It seems that the world can be divided into two opposing ideologies, with little room for any sharing of values in between. The food sovereigntists desire that their food be produced in a traditional fashion without modern farming practices such as factory farms, chemical inputs or biotechnology, including the use of genetically modified (GM) crops. The other faction represents those who are in favor of agricultural biotechnology to ensure that crops are both high yielding and low in cost.

Unfortunately for the world's poor, the battle that results from these two opposing ideologies can have serious consequences. Food security of the rural poor in developing countries, for example, can be seriously compromised as a result of global food politics. The expected increase in world population and changes to crop production as a result of climate change will place our food system under greater pressure than it is even today.

In spite of the rhetoric of groups who oppose GMO's, transgenic crops could have great potential to help the world's poor. For example, crops have been developed which are resistant to drought, salt and excessive temperatures. Many transgenic crops used today are pest or herbicide resistant, making it easier for farmers to be productive. Crops that are higher yielding are also under development. Biofortified crops, with increased bioavailable vitamins and minerals, could feed the worlds malnourished, which in fact includes 40% of the earth's population. Transgenic plants which contain bioactive compounds that can reduce the risk of chronic diseases are currently under production. Designer oil seed crops expressing omega -3 fatty acids and tomatoes expressing anthocyanin's are but two examples of the next generation of biotech crops that possess additional health benefits.

Some of the dissent toward new crops developed through biotechnology stems from a response to the 'Green Revolution' of the mid to late 20th Century. As the world population mushroomed toward 6 billion, it became evident that food security would not be possible under the rate of crop production held at that time. With the help of Norman Borlaug, new higher yielding wheat and rice varieties were developed (using conventional plant breeding methods) that prevented the mass starvation threatening highly populated countries such as India and China at that time. These new high yielding varieties also required more agricultural inputs, such as water, pesticides and chemical fertilizers. While the result of these inputs came at a cost both for farmers and the environment, the Green Revolution not only provided famine relief to China and India, but actually improved the livelihoods of their citizens and the economic prosperity of these countries. Unfortunately, the controversy over the adaptation of modern agricultural techniques versus economic success has spilled out to the continent of sub-Saharan Africa, which was left out of the Green Revolution and which faces many daunting challenges with respect to agricultural production.

The Global North, having reached its goal of increased agricultural production, ceased to make investments in agricultural development for African countries a priority. Today, more than 50% of Africans live below the $1 a day poverty line than they did 20 years ago and one third of sub-Saharan Africans are malnourished. Desertification as a result of climate change and a doubling of population within the next twenty years will place sub-Saharan agriculture under even greater pressure.

Since Africa was left out of the Green Revolution, it was also left out of the Gene Revolution, referring to the use of modern transgenic biotechnology to reduce agricultural input while increasing crop yield. The Gene Revolution is also a source of controversy, and this stems from differences in the North American versus European regulatory framework for genetically modified organisms. While North Americans employ regulations based upon 'Substantial Equivalence,' Europeans use the 'Precautionary Principle,' which provides a bottleneck for the allowance of GMOs into the marketplace. The fact that many African nations share a colonial history with Europe has created a significant obstacle for their ability to access transgenic crops in general. Commonalities in culture and regulatory structure between Africa and Europe has blocked the use of modern biotechnology from those who could benefit from it the most.

The situation has been exasperated even further through the influence of non-government organizations (NGOs) and cultural brokers on public opinion in industrialized countries. Common conspiracy theories revolve around the safety of GMOs and the control of multinational corporations over our food supply in general. The situation has become so out of hand that demands of legislative GMO food labeling and the following actions by fast food chains such as Chipotle of removing GMOs from their ingredients have taken the controversy front and center. These actions suggest an overall lack of confidence of the consumer over what they are eating. While food labeling itself may imply to some that something is wrong with transgenic crops, enforcing a lack of labeling for others suggests that there may be something to hide. Ultimately, low consumer confidence can negatively impact international crop trade, the global food system, and food security. It is clear that people define their identities and lifestyle by the foods they eat, and since biotechnology is still an abstract concept for many, public opinion surrounding GMOs is still forming. The fact that all food production systems are interdependent with respect to each other must be also recognized. As the battle rages on, some are calling for coexistence. Approaches to crop production diversify and more economic opportunities are solidified for those who farm organic, conventional and/or GMO's. That this new diversity in our production methods does not harm the world's poor will be a factor to keep in mind.