

# THE WORLD BANK'S BAD BUSINESS WITH SEED AND FERTILIZER IN AFRICAN AGRICULTURE



## Acknowledgements

This brief was authored by Anuradha Mittal and Haley F. Kaplan with support from Alice Martin-Prével and Frédéric Mousseau. Ruth Nyambura from the African Biodiversity Network (ABN) made important contributions to the report.

**Editor:** Melissa Moore.

**Cover photo:** Market in Burkina Faso. © Juliette Martin-Prével.

**Back Cover photo:** Local market in Burkina Faso. © Juliette Martin-Prével.

**Publisher:** The Oakland Institute is an independent policy think tank bringing fresh ideas and bold action to the most pressing social, economic, and environmental issues.

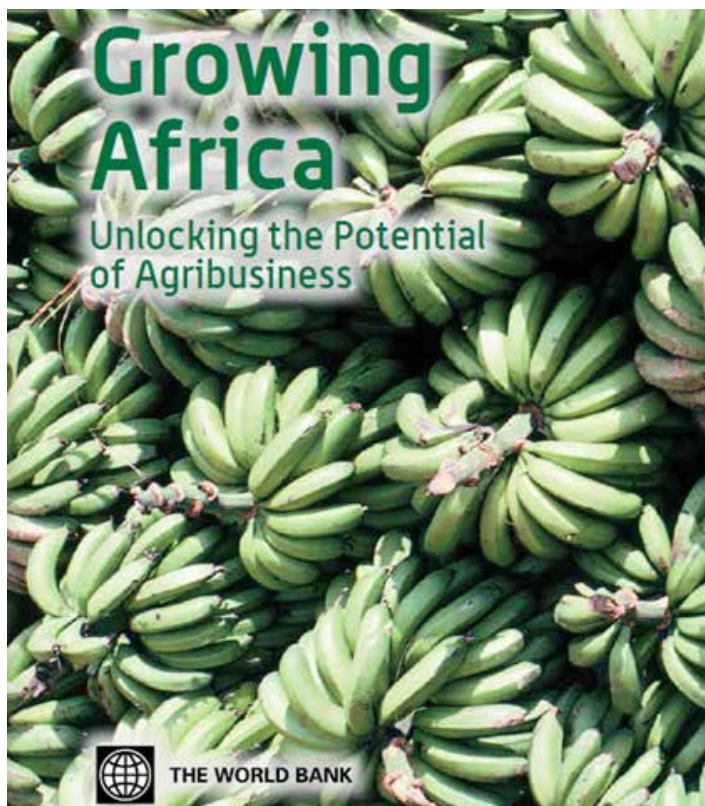
Copyright © 2014 by The Oakland Institute

The text may be used free of charge for the purposes of advocacy, campaigning, education, and research, provided that the source is acknowledged in full. The copyright holder requests that all such uses be registered with them for impact assessment purposes. For copying in any other circumstances, reuse in other publications, or translation or adaptation, permission must be secured.

For more information:  
info@oaklandinstitute.org  
The Oakland Institute  
PO Box 18978  
Oakland, CA 94619 USA  
www.oaklandinstitute.org

## The Seed and Fertilizer Trap

In its 2013 *Growing Africa* report, the World Bank argued “wider uptake and more intensive use of improved seed, fertilizer, and other inputs would go a long way to closing the African ‘agricultural performance deficit.’”<sup>1</sup> The report goes on to advocate policy and regulation reforms claiming, “policy and regulatory barriers, including import restrictions and rigid, lengthy processes for releasing new varieties are slowing the adoption of agricultural inputs.”<sup>2</sup> According to the World Bank, growth of the private sector is the best way to bring about agricultural development.<sup>3</sup> As such, the Bank’s Doing Business (DB) project “encourages countries to compete towards more efficient regulation,”<sup>4</sup> resulting in deregulation of the sector.<sup>5</sup>



2013 World Bank report on Agribusiness in Africa.

The same development perspective permeated the New Alliance for Food Security and Nutrition, formed by the G8 in 2012 to bring together corporations, countries, and donors who promote investment in African agriculture while encouraging opening markets to agribusiness corporations.<sup>6</sup> To help create the policy framework to accomplish their goal, the G8 asked the World Bank to develop new benchmarks for the agribusiness sector.<sup>7</sup> The Bank initiated the Benchmarking the Business of Agriculture (BBA) program in 2013.

Using BBA to evaluate the agricultural sector is supposed to “help policy makers strengthen agribusiness globally, enabling the farm sector to participate more fully in the market.”<sup>8</sup> The

BBA project sets out to accomplish this by evaluating policies and regulations on six core topics to determine the ease of doing agribusiness in a country,<sup>9</sup> two of which are related to seed and fertilizer.<sup>10</sup>

For both seed and fertilizer, the World Bank has created—and now removed from its website<sup>11</sup>—a list of indicators aimed at decreasing regulations while simultaneously creating an open market with more private investors.<sup>12</sup> The World Bank’s underlying calculation is that more private investment will stimulate the market and reduce input costs, which will help incorporate smallholder farmers into the global economy,<sup>13</sup> increase production, and eventually help raise the standard of living in rural communities.<sup>14</sup>

The BBA and DB are used by the Bank to increase the use of agricultural inputs—improved seeds and chemical fertilizers and pesticides—among farmers by decreasing regulation and opening the input market in Africa.<sup>15</sup> However, in its promotion of “improved” seed varieties, the World Bank ignores heavy intellectual property rights (IPR) restrictions that accompany these varieties to the great disadvantage of farmers. These restrictions include the criminalization of saving, selling, and exchanging traditional seed varieties.

The Bank’s promotion of fertilizers primarily comprises chemical fertilizers.<sup>16</sup> It overlooks natural and renewable forms of fertilizers used by farmers around the world<sup>17</sup> as well as the costs of increased reliance on chemical inputs, including production costs for the farmers, government budgets, people’s health, and the environment.

## Privatizing Seeds

The BBA’s *Snapshot Background Note on Access to Seed* states, “the adoption of improved varieties is a prerequisite for increasing agricultural productivity and enhancing profitability of farmers, especially for small holders seeking to commercialize their production.”<sup>18</sup> The Bank holds government regulation of seed production and the seed industry, along with restrictions on the private sector, responsible for adversely impacting farmers’ access to quality and improved seeds and for the presence of an informal seed sector.<sup>19</sup>

The informal sector includes traditional methods—practiced over millennia—of using, saving, improving, and trading open pollinated seeds, which have ensured a secure seed supply for the farmers in the developing world.<sup>20</sup> However, the Bank holds such practices responsible for limiting productivity and views them as an impediment to the use of corporate controlled improved seeds.<sup>21</sup> The World Bank’s linear thinking also overlooks the potential problems caused by the deregulation of seed markets including the volatility of



Rice harvest in Burkina Faso. © Juliette Martin-Prével.

prices, contamination by genetically modified crops, or the spread of ineffective or unsustainable varieties.

The sub-indicators for the six core topics outlined by the BBA form the basis for policy recommendations around deregulation of the seed market and promotion of corporate business in the sector. The Bank explains “outdated and incoherent seed laws and changes in policy make it difficult for the private sector to thrive.”<sup>22</sup> The sub-indicators include the production of new varieties, the registration process for new seeds, and plant variety protection (PVP) laws.<sup>23</sup> These indicators pertain to policy changes that would create a favorable environment for agribusiness—not necessarily policies that benefit family farmers. For example, research and production of new, improved seeds require a registration system, while the traditional methods of gathering, saving, and trading seeds do not.<sup>24</sup> Additionally, the certification or registration process only applies to commercially produced seeds, excluding the trade of traditional, non-PVP seeds,<sup>25</sup> which are classified under the informal sector.<sup>26</sup> The World Bank’s goal of merging the formal and informal sector,<sup>27</sup> combined with the registration of PVP seeds, would ultimately replace traditional, low-cost agricultural methods with inputs purchased from the global market.

In its promotion of “improved” seed varieties, the World Bank ignores heavy intellectual property rights (IPR) restrictions that accompany these varieties to the great disadvantage of farmers—who are, ironically, the original breeders of improved seed varieties. PVP laws, especially those based

on the 1991 Act of the International Union for the Protection of Plant Varieties (UPOV91) and the BBA seed indicators guidelines, are pushing for severe restrictions, including the criminalization of saving, selling, and exchanging farmers’ traditional seed varieties.<sup>28</sup>

The typical UPOV criterion for plant variety protection includes the distinctiveness, uniformity, stability, and novelty (DUSN) criteria, which is good for the seed/pesticide industry but extremely dangerous for African farmers who depend on seed diversity for productivity rather than uniformity.

The World Bank claims that IPRs increase food security by stimulating the development of “improved varieties.” However, in practice this is not the case. Africa’s family farmers are the most important agricultural innovators, especially in plant breeding—locally, community-bred seeds account for 90% of smallholder farmers’ seed needs, while formal sector (both public and private) seed breeders remain largely insignificant.<sup>29</sup> In African countries with PVP regimes in place, such as Kenya, there is more emphasis on developing varieties for the European cut flower market versus food crops that underpin the country’s food security.<sup>30</sup> Only one seed variety out of the 136 applications filed and tested since 1997 has been for a food crop, while more than half were for roses and the rest were other cash crops like sugarcane.<sup>31</sup>

The World Bank seed indicators and PVP laws tend to restrict African farmers’ right to share, use, and save seeds from their

harvests by extending the breeder's monopoly to the farmers' crop. Under UPOV, the breeder not only has the power over the right to produce or sell seeds, but also "the power to specify how this production or sale should occur."<sup>32</sup> More broadly, PVP and patents violate farmers' rights,<sup>33</sup> which include their ability to conserve, develop, use, and control seeds while benefiting from local biodiversity and rural communities' knowledge systems and technologies. These rights are not protected by the IPRs, despite being the foundation of sustainable agriculture and national food sovereignty. The importance of farmer innovation in global food security and wellbeing is not acknowledged under these structures.

The World Bank's intent to pry open the African seed market is obvious. One BBA sub-indicator evaluates the "restrictions and obstacles (legally or in practice) for private companies importing and exporting seed."<sup>34</sup> Reforms based on this sub-indicator would make it easier for private companies to import seeds—disregarding the harsh consequences for smallholder farmers. In 2010, the East African Community (EAC) Common Market Protocol passed legislation allowing open regional trade.<sup>35</sup> Now, the Investment Climate team of the International Finance Corporation (IFC) is working with the EAC to standardize the certification and testing process with the hope of increasing the number of private investors.<sup>36</sup> The seed certification process does not apply to locally produced seeds because it tests for purity and other characteristics that apply only to hybrid or improved seeds, shutting out local, community-bred seed producers.<sup>37</sup> The seed certifications that were standardized in the EAC were primarily for export crops grown using improved seeds, contributing to Africa's dependence on importing both seeds and food.<sup>38</sup> The Bank claims promoting open seed trade in Africa will increase farmers' access to improved seeds and inputs,<sup>39</sup> but fails to acknowledge the repercussions of an increase in the supply of imported seeds for export crops.

## Opening Chemical Fertilizer Markets in Africa

According to the World Bank, "no region of the world has been able to expand agricultural growth rates, and thus tackle hunger, without increasing fertilizer use . . . the adoption of fertilizer use would enable farmers to increase yields and generate marketable surplus and thus move out of subsistence agriculture toward commercial agriculture and into the main stream of market economy."<sup>40</sup> The Bank's references to fertilizers are mainly to chemical fertilizers,<sup>41</sup> overlooking natural and renewable forms of fertilizers used by farmers around the world.<sup>42</sup> The Bank does not indicate the duration or the amount of growth that would result from the use of chemical fertilizers and fails to mention the economic, health, and environmental impacts related to its use.

The BBA indicators assess fertilizer laws and regulations, which are only necessary for chemical fertilizers. Other practices of fertilizing the soil, including crop rotation and multi-cropping,<sup>43</sup> do not require regulations because they are a byproduct of traditional farming methods. Additionally, the indicators around taxes and fertilizer imports reflect the Bank's belief "that such levies on agricultural inputs are a detriment to agricultural development."<sup>44</sup>

Many of the countries evaluated by the World Bank are dependent on importing fertilizer as well as other agrochemical inputs. Indicators used by the Bank in its rankings examine the ease, cost, time, and obstacles in the

### Box 1: Impact of Mineral Fertilizers in Tropical Agriculture

The Bank's promotion of the fertilizer business does not take into account the true costs of fertilizer use in Africa. A 2013 report by the Association for Agriculture and Ecology (AGRECOL)<sup>45</sup> reviewed data from several peer-reviewed studies on the economic, agronomic, and ecological dimensions of chemical fertilizer use across six countries in sub-Saharan Africa.<sup>47</sup> Its key findings included the following:

For three of the countries analyzed, Malawi, Ghana, and Burkina Faso, fertilizer subsidies were provided by the government, often facilitated by funding from institutions such as the World Bank, and account for 40 to 70% of the total agricultural budget. This leaves very little funding for agricultural research, extension services, rural infrastructure development, and climate change adaptation. In short, there is hardly any funding for the real solutions to the problem of hunger in Africa.

Although mineral fertilizers increase yields in the short-term, they also do medium- to long-term severe damage to soil fertility and the climate. Over the last few decades, focus on health of the topsoil while ignoring belowground soil and diversity has generated a crisis of soil health across sub-Saharan Africa. Currently, much of the soil is dead, as it lacks biomass.

The AGRECOL report also questions the economic sustainability and viability of mineral fertilizers in Africa, considering that the price of fertilizer has risen significantly faster than the price of food. The usual problems of poor infrastructure, farmers getting a raw deal from opportunistic middlemen, little to no social support from the government, and diminishing soil fertility despite an increase in fertilizer use over the years clearly challenge the development paradigm that the World Bank indicators are keen on pushing in Africa.

import process as well as access, connection, and reliance on agro-dealers to provide the point of contact between local farmers and the private sector.<sup>45</sup> Similar to the indicators for seeds, the fertilizer indicators promote an open market while encouraging policies that would enhance the use of chemical fertilizers—a threat to the traditional farming methods and food security of rural populations and the environment in which they live.

## Monopoly Shift

According to the World Bank, governments' monopoly on the seed industry is creating a shortage of improved seeds,<sup>48</sup> while “the vested interests of government agencies responsible for certifying, producing, and distributing improved varieties and seed are hard to overcome.”<sup>49</sup> To overcome this challenge, the Bank recommends open markets for seed and fertilizer, which would increase private investment and hypothetically bring more seed varieties to the market, thereby reducing costs.

However, there are several problems with this approach. For instance, it ignores the growing corporate oligopoly within the global seed market. Currently more than 50% of all seeds come from three companies—Monsanto, Pioneer (DuPont), and Syngenta—and more than 73% of the seeds in the industry are from the top 10 companies.<sup>50</sup> Opening markets further entrenches corporate control of the seed sector and reduces the ability of local farmers to save and use their own seeds. The World Bank itself acknowledges the economic opportunity afforded to multinational corporations: “Building input markets in Africa also represents a major agribusiness opportunity, with potential markets in the billions of dollars.”<sup>51</sup> Furthermore, it elaborates how Pioneer (DuPont) “recognizes that it has just scratched the surface in terms of meeting Africa’s seed and food needs and realizing its own commercial potential,”<sup>52</sup> and thus has a team working on “how best to exploit sustainable opportunities in Africa.”<sup>53</sup>

The expansion of the use of improved seeds deepens corporate oligopoly in the seed sector. Crucially, the seeds must be imported into countries and bought by farmers, making them dependent on multinational corporations. With policy changes including deregulation, there are no safeguards to protect farmers against highly volatile seed prices, leaving them at the mercy of the market.<sup>54</sup> Increased fertilizer use and other input costs negatively impact smallholder farmers the most, while multinational corporations reap the profits.<sup>55</sup>

Imported improved seeds necessitate the use of other agro-inputs, such as fertilizer and pesticides, to ensure successful production.<sup>56</sup> The seeds did not co-evolve with the local environment and can lead to farms that lack biodiversity, making pesticides essential to protect crops against pests.<sup>57</sup> This dependence links back to the economic control of the seed companies and the oligopoly within agribusiness as a whole—the top seed company Monsanto is also the fourth-largest pesticide producer in the world.<sup>58</sup> Therefore, when farmers use improved seeds they will also spend more money on pesticides—produced by the same seed company—in order to reap productive yields. The shift from traditional and informal methods of seed production in Africa to “productive” and “modern methods” benefits Western corporations, while increasing Africa’s agriculture dependent on these firms.<sup>59</sup>

## Far-Reaching Consequences

Changing policies to open the agro-input market under the influence of the World Bank’s DB and BBA indicators carries many other ramifications, including health, environmental, and food security concerns.

Improved seeds are manufactured for a particular characteristic, thus all of the seeds within a given batch are identical.<sup>60</sup> Changes in policies promoted under the BBA project, such as the merging of the formal and informal sector,<sup>61</sup> increases small farmers’ reliance on these seeds instead of traditionally saved, traded, and bio-diverse seeds.<sup>62</sup> The loss of biodiversity increases the crop’s vulnerability to weather shifts, pests, and diseases.<sup>63</sup> In contrast, using open pollination, a traditional method of gathering and trading seeds,<sup>64</sup> preserves the biodiversity and allows for the harvest of seeds most naturally fit to survive a natural disaster, disease, or pest. The potential for crops grown from homogeneous seed to be destroyed due to one of these events is higher, and thus jeopardizes the farmer’s livelihood and the country’s food security.

Most agribusinesses resort to monocropping with a focus on export crops and do not produce crops that can be eaten directly, risking farmers’ food security.<sup>65</sup> Reduced regulations and taxes on imports<sup>66</sup> decrease the prices of imported food and crop prices, thus increasing the price volatility of domestically produced food—often decreasing the crop’s value and reducing farmers’ profits from harvests. At the same time, the DB ranking of the “ease of getting credit”<sup>67</sup> might increase the chances of farmers taking out loans to purchase expensive agro-inputs. With growing dependency on agro-inputs, farmers may have to spend all their profit or take out a loan in order to buy the necessary inputs for the following year, thus creating a vicious cycle of debt and dependency.



Farmers look for insects while others measure plants in a West African integrated production and pest management program (IPPM) rice field school in Kodith, Senegal. Farmers learn how to maximize production and minimize pesticide use. © FAO/Olivier Asselin

The World Bank's policy recommendations and rankings are based on a development paradigm that promotes large-scale industrial agriculture and benefits corporations. The purported solutions to hunger and poverty it offers fit within this discourse. Traditional methods based on decades of knowledge and experience have been dismissed, even though they are often more effective and sustainable ways to increase yields, production, and incomes.<sup>68</sup>

The World Bank needs to stop the BBA indicators, DB ranking system, and its promotion of policies that benefit the economic interests of agribusinesses through the opening of seed and fertilizer markets given the threat they constitute for family farmers. There are no two ways about this—the indicators for seeds and fertilizer serve a small group of agribusiness companies and will eliminate the little protection that exists for the livelihoods of African farmers. The World Bank has never been held accountable for its liberalization policies in Africa despite a track record of hurting small farmers, and it is deeply concerning that the Bank now has an even bigger opportunity to destroy what is left of Africa's food sovereignty.



Village tree nursery in Batibo, Cameroon. "Fertilizer trees" are sold to farmers for soil fertility replenishment (2-year improved fallows that increase crop yields two- to threefold). © Roger Leakey

## ENDNOTES

- 1 Byerlee, D., A. Garcia, A. Giertz, V. Palmade, and T. Gurcanlar. *Growing Africa: Unlocking the Potential of Agribusiness*. World Bank, 2013. [http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/03/12/000425962\\_20130312103050/Rendered/PDF/756630v10REPLAofricaopub03011013w eb.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/03/12/000425962_20130312103050/Rendered/PDF/756630v10REPLAofricaopub03011013w eb.pdf) (accessed June 12, 2014).
- 2 *Ibid.*
- 3 World Bank Data. *Private Sector*. <http://data.worldbank.org/about/world-development-indicators-data/private-sector> (accessed June 4, 2014).
- 4 Doing Business. *About Doing Business*. <http://www.doingbusiness.org/about-us> (accessed June 3, 2014).
- 5 Martin-Prével, A. *Willful Blindness: How World Bank's Country Rankings Impoverish Smallholder Farmers*. Oakland Institute, 2014. [http://ourlandourbusiness.org/wp-content/uploads/2014/03/Brief\\_Eng\\_Final.pdf](http://ourlandourbusiness.org/wp-content/uploads/2014/03/Brief_Eng_Final.pdf) (accessed June 3, 2014).
- 6 McKeon, N. *The New Alliance for Food Security and Nutrition: a Coup for Corporate Capital?* Transnational Institute and Terra Nuova, May 2014. [http://www.tni.org/sites/www.tni.org/files/download/the\\_new\\_alliance.pdf](http://www.tni.org/sites/www.tni.org/files/download/the_new_alliance.pdf) (accessed June 8, 2014); ACF, CCFD-Terre Solidaire, and Oxfam France. *La Faim: un Business comme un Autre*. September 2014. <http://www.actioncontrelafaim.org/fr/content/la-faim-un-business-comme-un-autre> (accessed September 17, 2014).
- 7 Benchmarking the Business of Agriculture. *About Us*. <http://bba.worldbank.org/about-us> (accessed June 3, 2014).
- 8 Benchmarking the Business of Agriculture. *Project Overview*. <http://bba.worldbank.org/project-overview> (accessed June 3, 2014).
- 9 Benchmarking the Business of Agriculture. *Methodology*. <http://bba.worldbank.org/methodology> (accessed June 3, 2014); Benchmarking the Business of Agriculture. *Snapshot—Access to Fertilizers*. 2014. <http://bba.worldbank.org/~media/GIAWB/AgriBusiness/Documents/Snapshot-WBBBA-Fertilizer.pdf> (accessed June 3, 2014); Benchmarking the Business of Agriculture. *Snapshot Background Note on Access to Seed*. *Op. Cit.*
- 10 Benchmarking the Business of Agriculture. *Methodology*. *Op. Cit.*
- 11 Our Land Our Business. “Significant changes were made on the World Bank website following the launch of the Our Land Our Business campaign.” July 3, 2014. <http://ourlandourbusiness.org/campaign-updates> (accessed August 25, 2014).
- 12 Benchmarking the Business of Agriculture. *Snapshot—Access to Fertilizers*. *Op. Cit.*; Benchmarking the Business of Agriculture. *Snapshot Background Note on Access to Seed*. *Op. Cit.*; Byerlee, D., A. Garcia, A. Giertz, V. Palmade, and T. Gurcanlar. *Growing Africa*. *Op. Cit.*
- 13 Benchmarking the Business of Agriculture. *Project Overview*. *Op. Cit.*
- 14 World Bank Data. *Private Sector*. <http://data.worldbank.org/about/world-development-indicators-data/private-sector> (accessed June 4, 2014).
- 15 Benchmarking the Business of Agriculture. *Snapshot Background Note on Access to Seed*. 2014. <http://bba.worldbank.org/~media/GIAWB/AgriBusiness/Documents/Snapshot-WBBBA-Seeds.pdf> (accessed June 3, 2014).
- 16 *Ibid.*
- 17 *Ibid*; Yapa, L. “Improved seeds and constructed scarcity.” in Peet, R. and M. Watts *Liberation Ecologies: Environment, Development, and Social Movements* (1996): 69-85.
- 18 *Ibid.*
- 19 *Ibid.*
- 20 Mittal, A. and M. Moore. *Voices From Africa: African Farmers and Environmentalists Speak Out Against A New Green Revolution In Africa*. Oakland Institute, 2009.
- 21 Benchmarking the Business of Agriculture. *Snapshot Background Note on Access to Seed*. *Op. Cit.*
- 22 *Ibid.*
- 23 *Ibid.*
- 24 Mittal, A. and M. Moore. *Voices From Africa*. *Op. Cit.*
- 25 De Schutter, O. *The Right to Food*. United Nations, 2009. <http://www.farmersrights.org/pdf/RighttoFood-No942473.pdf> (accessed June 10, 2014).
- 26 Benchmarking the Business of Agriculture. *Snapshot Background Note on Access to Seed*. *Op. Cit.*
- 27 *Ibid.*
- 28 The African Centre for Biosafety. *Harmonisation of Africa's Seeds Laws: A Recipe for Disaster*. November 2012. <http://www.acbio.org.za/images/stories/dmdocuments/Harmonisation-of-seed-laws-in-Africa.pdf> (accessed July 29, 2014).
- 29 Scoones, I. and J. Thompson. “The politics of seed in Africa's green revolution: Alternative narratives and competing pathways.” *IDS Bulletin* 42.4 (2011): 1-23.
- 30 El-Saghir, H., J. Mwijukye, and G. Issahaque. *Plant Varieties, Biodiversity and Developing Countries*. [http://www.turin-ip.com/course-documents/documents-2007/archive/2007-edition/papers/papers-2003/El-SaghirMwijukyelsahaque-1/at\\_download/file](http://www.turin-ip.com/course-documents/documents-2007/archive/2007-edition/papers/papers-2003/El-SaghirMwijukyelsahaque-1/at_download/file) (accessed July 27, 2014).
- 31 *Ibid.*
- 32 *Harmonisation of Africa's Seeds Laws: A Recipe for Disaster*. *Op. Cit.*; “AFSA Strongly Condemns Sleight of Hand Moves By ARIPO to Join UPOV 1991, Bypass National Laws and Outlaws Farmers Rights.” *Press Release*, Alliance for Food Sovereignty in Africa. November 2012. <http://www.acbio.org.za/index.php/media/64-media-releases/456-afsa-strongly-condemns-sleight-of-hand-moves-by-aripo-to-join-upov-1991-bypass-national-laws-and-outlaw-farmers-rights> (accessed July 29, 2014).
- 33 “AFSA Strongly Condemns Sleight of Hand Moves By ARIPO to Join UPOV 1991.” *Op. Cit.*
- 34 Benchmarking the Business of Agriculture. *Snapshot Background Note on Access to Seed*. *Op. Cit.*
- 35 Begazo, T. *Opening Seed Markets in the East African Community*. Investment Climate, World Bank Group. [http://www.wbginvestmentclimate.org/advisory-services/investment-generation/agribusiness/upload/WBG\\_IC\\_Ag\\_EAC\\_Project-Brief.pdf](http://www.wbginvestmentclimate.org/advisory-services/investment-generation/agribusiness/upload/WBG_IC_Ag_EAC_Project-Brief.pdf) (accessed June 3, 2014).
- 36 *Ibid.*
- 37 West Bred. *Certified Seed—Investing Today in a Better Tomorrow*. <https://www.westbred.com/growerresources/pages/seed.aspx> (accessed June 10, 2014).
- 38 Begazo, T. *Opening Seed Markets in the East African Community*. *Op. Cit.*
- 39 *Growing Africa*. *Op. Cit.*
- 40 Benchmarking the Business of Agriculture. *Snapshot—Access to Fertilizers*. *Op. Cit.*
- 41 *Ibid.*
- 42 *Ibid*; Yapa, L. “Improved seeds and constructed scarcity.” *Op. Cit.*
- 43 *Ibid*; IFDC. *Agro-Dealer Development Projects Increase Farmers' Access to Inputs*. [http://www.ifdc.org/About/IFDC\\_Articles/Agro-Dealer\\_Development\\_Projects\\_Increase\\_Farmers](http://www.ifdc.org/About/IFDC_Articles/Agro-Dealer_Development_Projects_Increase_Farmers) (accessed June 5, 2014).
- 44 Benchmarking the Business of Agriculture. *Snapshot—Access to Fertilizers*. *Op. Cit.*
- 45 *Ibid*; IFDC. *Agro-Dealer Development Projects Increase Farmers' Access to Inputs*. *Op. Cit.*
- 46 Kotschi, J. *A Soiled Reputation. Adverse Impacts of Mineral Fertilizers in Tropical Agriculture*. Association for Agriculture and Ecology. 2013. <http://www.boell.de/en/content/soiled-reputation-adverse-impacts-mineral-fertilizers-tropical-agriculture> (accessed August 5, 2014).
- 47 Groundswell International. “Smallholders Access to Fertilizers in Africa A Critical Rejoinder.” <http://www.groundswellinternational.org/sustainable-development/ghana/smallholders-access-to-fertilizers-in-africa-a-critical-rejoinder> (accessed July 27, 2014).
- 48 Phone conversation between World Bank officials and Our Land Our Business campaign members. June 4, 2014.
- 49 Byerlee, D., Garcia, A., Giertz, A., Palmade, V., and Gurcanlar, T. *Growing Africa*. *Op. Cit.*
- 50 ETC Group. *Who Will Control the Green Economy?* <http://www.etcgroup.org/content/who-will-control-green-economy-o> (accessed June 12, 2014).
- 51 Byerlee, D., A. Garcia, A. Giertz, V. Palmade, and T. Gurcanlar. *Growing Africa*. *Op. Cit.*



- 52 *Ibid.*
- 53 *Ibid.*
- 54 “World Fertilizer Prices Surge 200% in 2007.” *Mongabay*. <http://news.mongabay.com/2008/0220-fertilizers.html> (accessed June 12, 2014).
- 55 Wiki Invest. *Rising Fertilizer Prices*. [http://www.wikinvest.com/wiki/Rising\\_Fertilizer\\_Prices](http://www.wikinvest.com/wiki/Rising_Fertilizer_Prices) (accessed June 12, 2014).
- 56 Benchmarking the Business of Agriculture. *Snapshot—Access to Fertilizers*. *Op. Cit.*
- 57 Yapa, L. “Improved seeds and constructed scarcity.” *Op. Cit.*
- 58 ETC Group. *Who Will Control the Green Economy?* *Op. Cit.*
- 59 McKeon, N. *The New Alliance for Food Security and Nutrition*. *Op. Cit.*
- 60 Agriculture Network. *Glossary for the Whole Series*. <http://www.agriculturesnetwork.org/resources/learning/dictionary/#i> (accessed June 5, 2014).
- 61 Benchmarking the Business of Agriculture. *Snapshot Background Note on Access to Seed*. *Op. Cit.*
- 62 Mittal, A. and M. Moore. *Voices From Africa*. *Op. Cit.*
- 63 Yapa, L. “Improved seeds and constructed scarcity.” *Op. Cit.*
- 64 Mittal, A. and M. Moore. *Voices From Africa*. *Op. Cit.*
- 65 Martin-Prével, A. *Willful Blindness*. *Op. Cit.*; Begazo, T. *Opening Seed Markets in the East African Community*. Investment Climate. *Op. Cit.*
- 66 Benchmarking the Business of Agriculture. *Snapshot Background Note on Access to Seed*. *Op. Cit.*; Benchmarking the Business of Agriculture. *Snapshot—Access to Fertilizers*. *Op. Cit.*
- 67 Doing Business. *Getting Credit Methodology*. <http://www.doingbusiness.org/methodology/getting-credit> (accessed June 18, 2014).
- 68 Yapa, L. “Improved seeds and constructed scarcity.” *Op. Cit.*

