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Ahead of the Curve: Promoting Land Tenure Security in Sub-Saharan Africa to Protect the Environment

Andrew R. Falk*

I. INTRODUCTION

Since 2006, the Sub-Saharan African economy has grown as fast as almost any economy in the world.¹ At the same time, hundreds of millions of people still live in extreme poverty.² One important reason for this disparity is that the economy is largely based on agriculture, which requires access to land. Far too many people lack such access.³ Thus, the absence of secure land tenure has contributed greatly to the institutionalization of

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¹ Katie Simmons, *Sub-Saharan Africa Makes Progress Against Poverty but Has Long Way to Go*, PEW RES. CTR. (Sept. 24, 2015), <http://www.pewresearch.org/fact-tank/2015/09/24/sub-saharan-africa-makes-progress-against-poverty-but-has-long-way-to-go/>; Marco Pani, *Resilient Growth in Sub-Saharan Africa, Despite Strong Headwinds*, INT'L MONETARY FUND (Apr. 28, 2015), <http://www.imf.org/external/pubs/ft/survey/so/2015/car042815a.htm>.

² See Simmons, *supra* note 1 (“Today, the percentage of people living on less than \$1.25 a day in Sub-Saharan Africa (41 [percent]) is more than twice as high as any other region (such as Southern Asia, with 17 [percent]).”).

³ See Daniel Ayalew Ali, Klaus Deininger & Markus Goldstein, *Environmental and Gender Impacts of Land Tenure Regularization in Africa: Pilot Evidence from Rwanda*, 110 J. DEV. ECON. 262, 267 (2014), <https://openknowledge.worldbank.org/bitstream/handle/10986/3527/WPS5765.pdf?sequence=1> (describing Rwanda’s high population density, the dependence of 85 percent of its population on agriculture to survive, and the “environmental challenges” caused by farmers who had to “push into marginal lands, clear forests, and cultivate steep hillsides without proper soil and water conservation”).

poverty.⁴ For the millions of people without access to land, landlessness is synonymous with poverty.⁵

Another incongruity is less obvious but nearly as important—for all of Africa’s natural resources and biological diversity,⁶ its environment is threatened by deforestation,⁷ desertification,⁸ soil degradation,⁹ erosion,¹⁰

⁴ See Food and Agriculture Organization of the United Nations, *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security*, FAO, at v (2012), <http://www.fao.org/docrep/016/i2801e/i2801e.pdf> [hereinafter FAO, Voluntary Guidelines] (“[p]eople can be condemned to a life of hunger and poverty if they lose their tenure rights to their homes, land, fisheries and forests”); Food and Agriculture Organization of the United Nations, *Land Tenure and Rural Development*, FAO, at 1 (2002), <ftp://ftp.fao.org/docrep/fao/005/y4307E/y4307E00.pdf> [hereinafter FAO, Land Tenure] (“Land tenure problems are often an important contributor to food insecurity, to restricted livelihood opportunities, and therefore to poverty.”); see also Philomena Kebec, *REDD+: Climate Justice or a New Face of Manifest Destiny? Lessons Drawn from the Indigenous Struggle to Resist Colonization of Ojibwe Forests in the Nineteenth and Twentieth Centuries*, 41 WM. MITCHELL L. REV. 552, 556 (2015), <http://open.mitchellhamline.edu/cgi/viewcontent.cgi?article=2886&context=wmlr> (citing Olivier De Schutter, U.N. Special Rapporteur on the right to food, who argues that land cannot be treated the same as other commodities in agricultural economies, landlessness causes poverty).

⁵ See Kebec, *supra* note 4, at 556.

⁶ See Joseph Opio-Odongo, *Africa Environment Outlook 3: Summary for Policy Makers*, UNEP, at 10 (2013), <http://www.unep.org/pdf/aeo3.pdf> (depicting Africa’s biodiversity hotspots, listing traditional medicinal cures, and noting that “fruits, vegetables, honey, spices, oils, bush meat, fish, edible worms [yum!] and mushrooms [can be found] found in Africa’s ecosystems [that] contribute to food and nutrition security on the continent,” and that in Zimbabwe alone 50 types of mushrooms, 25 kinds of fruit, and 50 vegetable species are harvested from the wild).

⁷ See Theodore Panayotou, *Environmental Degradation at Different Stages of Economic Development*, in *BEYOND RIO: THE ENVIRONMENTAL CRISIS AND SUSTAINABLE LIVELIHOODS IN THE THIRD WORLD 20* (Iftikhar Ahmed & Jacobus A. Doeleman eds., 1995) (observing that forests are “particularly vulnerable” as developing countries begin to industrialize “when the rural sector is heavily taxed to generate a surplus for industrial growth and while a protected industry generates very few jobs for the induced ‘surplus’ rural labor.”).

⁸ United Nations Convention to Combat Desertification, *Addressing Desertification, Land Degradation and Drought in Africa*, UNCCD, <http://www.unccd.int/en/regional-access/Africa/Pages/alltext.aspx> (last visited July 10, 2016) (“For many African countries, fighting land degradation and desertification and mitigating the effects of drought are prerequisites for economic growth and social progress. Increasing sustainable

water shortages,¹¹ and species extinction.¹² Once again, land tenure insecurity plays an important role, and a heightened awareness and implementation of secure tenure would allow communities to take great strides in protecting Africa's environment.¹³

Alleviating poverty and protecting the natural environment are interconnected and critical elements for sustainable development in Sub-Saharan Africa.¹⁴ This paper explores how secure land tenure addresses both elements, with a particular focus on the latter, exploring the ways that secure land tenure can sustainably protect the natural environment in Sub-

land management and building resilience to drought in Africa can have profound positive impacts that reach from the local to the global level.”); *see generally* Kenta Ikazaki, *Desertification and a New Countermeasure in the Sahel, West Africa*, 61 SOIL SCI. AND PLANT NUTRITION 372, 372-383 (2015).

⁹ Keijiro Otsuka & Frank Place, *Land Tenure and Agricultural Intensification in Sub-Saharan Africa*, in THE OXFORD HANDBOOK OF AFRICA AND ECONOMICS: VOL. II, POLICIES AND PRACTICES 289, 292 (Celestin Monga & Justin Yifu Lin eds., 2015) [hereinafter Otsuka & Place, *Land Tenure*] (recognizing that soil degradation will occur “until secure individualized land rights institutions are established to induce investment in land improvement.”); Opio-Odongo, *supra* note 6, at 23 (stating that 500,000 square kilometers of land have been degraded since 1950, and that 60 percent of the population in Burkina Faso, Ethiopia, Lesotho, and Mali live on degraded land).

¹⁰ Opio-Odongo, *supra* note 6, at 23 (citing studies indicating that African soil losses are between two and forty percent, the worst in the world).

¹¹ *Id.* at 19. Although Africa has many river basins and extensive supplies of groundwater, and although portions of the continent receive heavy rainfall, its water supplies are distributed unevenly across the continent and water scarcity is expected to increase from 47 percent in 2000 to 65 percent in 2025. Moreover, much of SSA lacks safe drinking water; indeed, almost one-third of the 884 million people worldwide who have no access to safe drinking water live in sub-Saharan Africa. *Id.* at 20.

¹² *Id.* at 10-11.

¹³ Seth W. Norton, *Property Rights, the Environment, and Economic Well-Being*, in WHO OWNS THE ENVIRONMENT? 51 (Peter J. Hill & Roger E. Meinert eds., 1998) (finding that “environmental quality and economic growth rates are greater in regimes where property rights are well defined than in regimes where property rights are poorly defined.”).

¹⁴ Emeka Polycarp Amechi, *Poverty, Socio-Political Factors and Degradation of the Environment in Sub-Saharan Africa: The Need for a Holistic Approach to the Protection of the Environment and Realisation of the Right to Environment*, 5/2 LAW ENV'T & DEV. J. 107, 111 (2009).

Saharan Africa.¹⁵ To do so, Part I introduces the concepts of land tenure, tenure security, tenure reform, and the types of land tenure. Part II identifies two problems flowing from insecure tenure in SSA—poverty and environmental degradation. Part III discusses the benefits of tenure security generally, including how it helps alleviate poverty. Part IV narrows the focus and explores how tenure security helps protect the environment. Finally, Part V proposes specific policies that promote tenure security and, by extension, a reduction in poverty and protection of the Sub-Saharan environment.

II. THE CONCEPTS OF LAND TENURE, TENURE SECURITY, AND TENURE REFORM

Communities have long recognized some form of land tenure by using both written law and oral traditions.¹⁶ Land rights first emerged as society transitioned to “sedentary agriculture to encourage investment . . . in the form of land clearing or establishment of perennials.”¹⁷ According to the International Fund for Agricultural Development (IFAD),

Land tenure refers to rules and norms and institutions that govern how, when and where people access land or are excluded from such access. Land tenure security refers to enforceable claims on land, with the level of enforcement ranging from national laws to local village rules, which again are supported by national

¹⁵ FAO, Land Tenure, *supra* note 4, at 3 (recognizing that environmental sustainability is both affected by and has an impact on land tenure).

¹⁶ Johannes M. Renger, *Institutional, Communal, and Individual Ownership or Possession of Arable Land in Ancient Mesopotamia from the End of the Fourth to the End of the First Millennium B.C.*, 71 CHI.-KENT. L. REV. 269, 269 (1995) (noting that “we are able to observe land tenure systems in varying degrees of accurateness from the end of the fourth millennium B.C. until Late Achaemenid times towards the end of the first millennium B.C.”; the written nature of these records is discussed throughout Renger’s article); Peter Ho & Max Spoor, *Whose Land? The Political Economy of Land Titling in Transitional Economies*, 23 LAND USE POL’Y 580, 581 (2006) (observing the “unwritten and fluid features” of the historic customary tenure rules).

¹⁷ Ali, Deininger & Goldstein, *supra* note 3, at 264.

regulatory frameworks. It refers to people's recognized ability to control and manage land—using it and disposing of its products as well as engaging in such transactions as the transferring or leasing of land.¹⁸

Land tenure security is defined by many factors, such as how long a land right lasts, whether a right to land will be protected from those who threaten it, and how much control an owner has over her land.¹⁹ More simply, tenure “defines *property* and what a person or group can do with it—their *property rights*.”²⁰

Four types of land tenure are common: private tenure, where land is owned by an individual or corporation; customary or communal tenure, where land is owned in common by a group of individuals, such as a village or a tribe; state tenure, where land is government owned or the property rights are assigned to some government authority; and open access, where specific rights are not assigned to anyone, and no one can be excluded from using the land.²¹

Of the four types of land tenure, customary tenure is the least well known. Through customary tenure systems, many Sub-Saharan communities²² have some form of land tenure, which is rarely recognized or

¹⁸ International Fund for Agricultural Development, *Improving Access to Land & Tenure Security*, at 27 (2008),

<http://www.cpahq.org/cpahq/cpadocs/Land%20Access%20Rural%20Communities.pdf> (internal citation omitted) [hereinafter IFAD, *Improving Access*]; see also World Resources Institute, *World Resources 2005: The Wealth of the Poor—Managing Ecosystems to Fight Poverty*, WORLD RESOURCES SERIES, at 57 (2005), http://pdf.wri.org/wrr05_lores.pdf [hereinafter World Resources] (noting that “secure tenure” is the “certainty that a person’s rights to continuous use of land or resources will be recognized and protected against challenges from individuals or the state”).

¹⁹ See IFAD, *Improving Access*, *supra* note 18, at 27.

²⁰ World Resources, *supra* note 18, at 56.

²¹ *Id.* at 59; FAO, *Land Tenure*, *supra* note 4, at 8.

²² Approximately 90 percent of the land in Sub-Saharan Africa, other than national parks and private land, is administered under customary tenure. In *Sub-Saharan Africa, Time to Legally Recognize Customary Land Rights*, USAID (2013), <http://www.usaidlandtenure.net/commentary/2013/08/in-sub-saharan-africa-time-to->

protected by the government.²³ Deeply rooted in indigenous culture, customary tenure usually provides security through extralegal or informal community frameworks.²⁴ For example, lifetime land tenure security in Senegal, Chad, and Mauritania is guaranteed and informally regulated through rules of inheritance determined by Sharia law.²⁵ More than 50 percent of the peri-urban African population live in areas with informal systems of land tenure, with highly insecure land rights.²⁶ These forms of customary land tenure do not usually involve any form of legal titling or registration, as most titled properties are in urban cities, which make up less than one percent of Sub-Saharan Africa's land area.²⁷ At the same time, some communal tenure systems include strong household or individual rights to use a resource or plot of land, and some community tenure systems

legally-recognize-customary-land-rights); Rebecca Tapscott, *Maximizing Achievements in Human Rights Development: Arguments for a Rights-Based Approach to Land Tenure Reform*, XXVII PRAXIS FLETCHER J. OF HUM. SEC. 26, 30 (2012).

²³ Roy Prosterman & Tim Hanstad, *Land Reform in the Twenty-First Century: New Challenges, New Responses*, 4 SEATTLE J. FOR SOC. JUST. 763, 765–66 (May 2006) (hereinafter Prosterman, *Land Reform*) (discussing plight of the poor who hold rights recognized by customary law but are not protected by the nation's formal laws); Liz Alden Wily, *'The Law is to Blame': The Vulnerable Status of Common Law Property Rights in Sub-Saharan Africa*, 42 DEV. & CHANGE 733, 733 (2011) ("national land laws have generally . . . den[ied] that customary rights amount to real property rights, deserving of protection"); World Resources, *supra* note 18, at 60-61 (recognizing the continuing importance of community tenure systems at the local level versus national politics and institutions and the uneasy balance of power between them); *see also* Kebec, *supra* note 4, at 556 (discussing indigenous peoples' customary title in Central and South America).

²⁴ Kebec, *supra* note 4, at 556; World Resources, *supra* note 18, at 59-60.

²⁵ Liz Alden Wily, *Customary Land Tenure in the Modern World - Rights to Resources in Crisis: Reviewing the Fate of Customary Tenure in Africa - Brief #1 of 5*, at 2 (Nov. 2011),

<https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/7713/customary%20land%20tenure%20in%20the%20modern%20world.pdf?sequence=1>.

²⁶ *Land Policies for Growth and Poverty Reduction*, THE WORLD BANK, at xxv (2003), <http://info.worldbank.org/etools/docs/library/34919/landpoliciesexecsummary.pdf>.

²⁷ Wily, *supra* note 23, at 2.

can be as secure as titled private property.²⁸ Outsiders often confuse “communal tenure” with “open access” and opine that communal tenure property will be subject to the tragedy of the commons—the theory that natural resources held in common will be overused.²⁹ This tragedy of the commons theory is particularly applicable to open access tenure, where no one is excluded from using the available resources.³⁰ It is less applicable, however, to communal tenure where the community usually excludes outsiders and enforces limits to prevent overuse and increase the net product for its own benefit.³¹

“Tenure reform” differs from “land reform” in that, whereas land reform often involves redistribution of land from the state or wealthy landowners to the poor, tenure reform adjusts the rights to possess and use land.³² Tenure reform often works to strengthen tenure rights by making such rights legally enforceable.³³

III. TWO FRUITS OF INSECURE TENURE: POVERTY AND ENVIRONMENTAL DEGRADATION

Like a burgeoning tree without firm roots, economic growth without land tenure security precludes sustainable development in Sub-Saharan Africa, creating particular consequences for both the social and the natural environment.³⁴ An in-depth understanding of how insecure land tenure

²⁸ World Resources, *supra* note 18, at 59; *see also* Kebec, *supra* note 4, at 556 (2015) (discussing the “complex system of allocating resources fairly among bands and family groups” amongst the Ojibwe in North America).

²⁹ World Resources, *supra* note 18, at 60.

³⁰ *Id.*

³¹ Scott J. Shackelford, *Neither Magic Bullet Nor Lost Cause: Land Titling and the Wealth of Nations*, 21 N.Y.U. ENVTL L.J. 272, 299 (2014); *see also* World Resources, *supra* note 18, at 60, identifying eight “principles for successful communal management of natural resources.”

³² World Resources, *supra* note 18, at 57.

³³ *Id.* at 58.

³⁴ *See* IFAD, *Improving Access*, *supra* note 18, at 4 (listing pressures that “threaten the land and tenure security – and hence the food security and livelihoods – of millions of

devastates both the environment and those who depend on its bounty provides the requisite contextual framework in which to implement policies designed to inspire and promote land tenure security.

A. Tenure Insecurity in an Agricultural Economy Institutionalizes Poverty

It is not difficult to understand that “secure access to productive land is critical to the millions of poor people living in rural areas and depending on agriculture, livestock or forests for their livelihood.”³⁵ Without reliable access to land and its produce, the poor are more susceptible to hunger and poverty; insecure access to land precludes their ability to invest in productive agricultural activities or to sustainably manage their resources, thus reducing their prospects for better livelihoods.³⁶ More peripherally, but just as importantly, insecure land tenure makes the poor’s participation in democratic government and equitable relations with the rest of their society much more challenging.³⁷ Specifically, insecure land tenure and the consequent lack of property rights prevent the collection of taxes by the government and undermine the reciprocal exchange of tax revenue and resultant social services.³⁸ Consequently, many citizens are excluded from

poor rural people whose access to land was not previously under threat. This in turn raises the risks of environmental degradation and social conflict”).

³⁵ *Id.*; Elisabeth Wickeri, *Land is Life, Land is Power: Landlessness, Exclusion, and Deprivation in Nepal*, 34 *FORDHAM INT’L L. J.* 930, 998, 1014-16 (2011).

³⁶ FAO, *Land Tenure*, *supra* note 4, at 5-6; IFAD, *Improving Access*, *supra* note 18, at 5-6, 13.

³⁷ IFAD, *Improving Access*, *supra* note 18, at 1.

³⁸ Paula Ximena Meijia & Vincent Castel, *Could Oil Shine like Diamonds? How Botswana Avoided the Resource Curse and Its Implications for a New Libya*, *AFR. DEV. BANK* 3(Oct. 2012), <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Could%20Oil%20Shine%20like%20Diamonds%20-%20How%20Botswana%20Avoided%20the%20Resource%20Curse%20and%20its%20Implications%20for%20a%20New%20Libya.pdf>.

state revenue creation, which then terminates the social contract between the state and such citizens.³⁹

Instead of protecting property rights and securing land tenure for those in poverty, the governments of developing countries often exclude the poor—either intentionally, due to corruption or prejudice, or unintentionally, due to bureaucracy, instability, or ineptitude.⁴⁰ As resources in the world become more valuable, Africa has drawn considerable attention from investors who often seek (and gain) approval from governments to rent or purchase land.⁴¹ While much of Africa’s arable land is claimed by communities through customary land tenure, land rights are often either not recognized or ignored by the state.⁴² It is thus common for the state to seize this land and lease or sell it to an international corporation or foreign government, leaving the customary tenure holders who previously lived or

³⁹ *Id.*

⁴⁰ See Tapscott, *supra* note 22, at 36 (Tapscott explains that the governments of developing countries are disinclined to help marginalized peoples who “typically have different political, religious, or social interests; they are marginalized for a reason.” Tapscott further warns that “in resource-poor economies, governments might be wary of giving any additional rights to citizens that could be politically or financially costly in the future.”).

⁴¹ Rachel Knight, *Statutory Recognition of Customary Land Rights in Africa: An Investigation into Best Practices for Lawmaking and Implementation*, FAO, at ix (2010) (“scarcity is being exacerbated by wealthy nations and private investors who are increasingly seeking to acquire large tracts of land in Africa for agro-industrial enterprises and forestry and mineral exploitation.”).

⁴² *Id.* (observing that “rural communities often have little power to contest such grants” because they “operate under customary law and have no formal legal title to their lands or documentation of their claims.”). Nevertheless, the governmental perspective is not always so nefarious: the challenge of what to do with land under customary tenure is a tricky one. As two scholars observed, “any national government that has embarked on the path of economic development is confronted with the question of what position informal institutions, such as customary and informal land use arrangements, should be accorded relative to the formal, statutory institutional framework. In land registration the question is whether to disregard or recognize land claims that predate the statutory legal system. Due to its unwritten and fluid features, customary tenure is generally seen as irreconcilable with a modernized economy that needs registered plots with clearly established ownership for efficient land market transactions.” Ho & Spoor, *supra* note 16, at 581.

relied upon the land for their survival with no remedy and few options.⁴³ As a result, urban populations are booming but certainly not blooming—“the majority of urban dwellers in sub-Saharan Africa live under slum conditions, without durable housing or legal rights to their land or businesses.”⁴⁴

Meanwhile, the rural poor often have limited access to land for pasturing animals, growing food, and gathering medicinal plants⁴⁵ and forest products. These “landed poor” remain poor because they have little land and because their right to the land is insecure.⁴⁶ The property of the rural poor is largely undocumented, “making it highly vulnerable to land grabbing and expropriation with poor compensation.”⁴⁷ For these poor, formalizing a legal right to property is frequently both unaffordable and overwhelmingly difficult, especially in countries with broken and corrupt governments.⁴⁸ As a result, “extralegal” or informal systems remain prevalent in Sub-Saharan

⁴³ Smita Narula, *The Global Land Rush: Markets, Rights, and the Politics of Food*, 49 STAN. J. INT’L L. 101, 103-05 (2013) (discussing a land deal between Ethiopia and Saudi Arabia. The Ethiopian government claimed no one lived on or used the land, but an investigation showed that villagers were forcibly removed from the land and that they only learned about the deal when bulldozers showed up to clear the area. The villagers were reportedly told, when they asked why they had to move off their ancestral land, that “you don’t have any land, only government has land.”).

⁴⁴ Stephanie Hanson, *Urbanization in Sub-Saharan Africa*, COUNS. ON FOREIGN REL. (Oct. 1, 2007) <http://www.cfr.org/africa-sub-saharan/urbanization-sub-saharan-africa/p14327>.

⁴⁵ Opio-Odongo, *supra* note 6, at 10 (finding that 80 percent of Africa’s rural population depends upon the continent’s biodiversity as a source for its traditional medicines).

⁴⁶ World Resources, *supra* note 18, at 56.

⁴⁷ *How Africa Can Transform Land Tenure, Revolutionize Agriculture, and End Poverty*, THE WORLD BANK, <http://www.worldbank.org/en/news/press-release/2013/07/22/how-africa-can-transform-land-tenure-revolutionize-agriculture-end-poverty>.

⁴⁸ This article follows the custom of other authors in the literature and uses the terms “formalization” and “land titling” interchangeably. *See, e.g.*, Shackelford, *supra* note 31, at 275 n.16.

Africa, causing Africans to miss economic opportunity, the benefits of formalization, or an appreciation of assets.⁴⁹

Thus, the absence of tenure security leaves many Sub-Saharan Africans without an opportunity to harness resources to sustainably alleviate poverty. This same tenure insecurity greatly impairs their ability to protect the natural environment.⁵⁰ It is increasingly understood that “long-term, secure rights to land set the stage for environmental stewardship and sustainable farming practices.”⁵¹

B. Tenure Insecurity Precludes Incentives and Opportunities for Environmental Protection

It is well recognized that for all the riches of Africa’s natural resources⁵² and its relative abundance of arable land,⁵³ the continent’s natural environment is increasingly threatened by a number of dangers. These threats include poverty; rapid population growth; soil degradation, deforestation, and desertification; a global land “rush” for property; weak and corrupt governance; a land “productivity gap”; and insecure community land tenure.⁵⁴ Three of these threats—population growth, the global land rush, and insecure community tenure—are discussed in this section due to their close connection with land tenure security.

⁴⁹ *Land Tenure, Property Rights, and Economic Growth in Rural Areas*, USAID, at 2, http://www.usaidlandtenure.net/sites/default/files/USAID_Land_Tenure_Economic_Growth_Issue_Brief-061214.pdf.

⁵⁰ Prosterman, *Land Reform*, *supra* note 23, at 772.

⁵¹ *Id.*

⁵² Opio-Odongo, *supra* note 6, at 10.

⁵³ Ali, Deininger & Goldstein, *supra* note 3, at 262; *see also* Opio-Odongo, *supra* note 6, at 22 (recognizing that Africa’s supply of arable land has the capacity to produce sufficient food for the majority of the continent’s population).

⁵⁴ *See, e.g.*, Ali, Deininger & Goldstein, *supra* note 3, at 262; Dustin Miller & Eyob Tekalign Tolina, *Land to the Tiller Redux: Unlocking Ethiopia’s Land Potential*, 13 *DRAKE J. AGRIC. L.* 347, 350 (2008); Knight, *supra* note 41, at v, ix; Akin L. Mabogunje, *The Environmental Challenges in Sub-Saharan Africa*, 37 *ENV’T* 4, 5-8 (May 1995).

1. Sub-Saharan Africa's Rapid Population Growth

Sub-Saharan Africa's population has skyrocketed from 228 million people in 1960 to over 1 billion people in 2015.⁵⁵ At the end of the colonial period, social services expanded rapidly, particularly in the areas of education and health care.⁵⁶ Due to these improvements, Sub-Saharan Africa's infant mortality has dropped significantly, leading to a surge in population growth.⁵⁷ While Sub-Saharan Africa's population growth could negatively impact the environment, most of the sub-continent still has a relatively low population density.⁵⁸ Some of the best agricultural land is largely unsettled, while the areas that are less suitable for agriculture are more densely populated.⁵⁹ Even in relatively densely populated areas, environmental damage most commonly occurs where three circumstances are met: (1) the population is greater than 500 people per square kilometer; (2) the area itself is physically or biologically vulnerable; and (3) the socioeconomic conditions impede the implementation of conservation measures.⁶⁰ Thus, Sub-Saharan Africa's rapid population growth becomes much more of an environmental concern in conjunction with other environmental threats, such as the degradation of soil fertility due to the intensification of agriculture without replenishment of nutrients.⁶¹

⁵⁵ *Sub-Saharan Africa Data*, THE WORLD BANK, <http://data.worldbank.org/region/SSA> (last visited October 6, 2016).

⁵⁶ Mabogunje, *supra* note 54, at 6.

⁵⁷ *Id.*

⁵⁸ *Id.* at 8.

⁵⁹ *Id.* at 31.

⁶⁰ *Id.* at 32.

⁶¹ See Keijiro Otsuka & Frank Place, *Evolutionary Changes in Land Tenure and Agricultural Intensification in Sub-Saharan Africa* 1 (2013) [hereinafter Otsuka & Place, *Evolutionary Changes*], <http://www.grips.ac.jp/r-center/wp-content/uploads/13-22.pdf>.

2. The Global “Land Rush” and State Concessions

Another significant threat to Sub-Saharan African environmental sustainability, which is directly related to land tenure security, is state appropriation of land—particularly land held by customary tenure—and the award of the land to foreign investors for purposes of mineral extraction and large-scale commercial farming.⁶² Over the last decade, attempts to purchase or lease agricultural lands in developing countries, such as those in Africa, have grown exponentially.⁶³ One study documents the yearly growth of such agreements to have jumped from an average of about a four million hectares worth of growth in 2008 to more than 56 million hectares before the end of 2009, with the rates unlikely to slow.⁶⁴ Another study indicated that about 60 million hectares of farmland were acquired in 2009—an area about the size of Arizona and New Mexico combined.⁶⁵ In 2010, the going rate for such land acquisitions was approximately four dollars per acre per year.⁶⁶ Such appropriations are often made without the consent or even knowledge of those most affected by the change—the residents who lived on the land.⁶⁷

⁶² Kidane Mengisteab, *Environmental Degradation in the Greater Horn of Africa: Some Impacts and Future Implications*, THIRD WORLD RESURGENCE, <http://www.twn.my/title2/resurgence/2011/251-252/cover02.htm> (last visited April 25, 2016); Ailey Kaiser Hughes, *Threats to Land Tenure in Rural Liberia*, WORLD RES. INST. 3 (Feb. 2013).

⁶³ Narula, *supra* note 43, at 105 (2013); Opio-Odongo, *supra* note 6, at 22 (estimating that Africa supplies 70 percent of the land leased or purchased by foreign entities to produce agricultural crops).

⁶⁴ KLAUS DEININGER & DEREK BYERLEE, RISING GLOBAL INTEREST IN FARMLAND: CAN IT YIELD SUSTAINABLE AND EQUITABLE BENEFITS? xiv, 14 (The World Bank 2011).

⁶⁵ Narula, *supra* note 43, at 106 & 106 n.35, 36.

⁶⁶ *Id.* at 105.

⁶⁷ Hughes, *supra* note 62, at 4; *see also* World Resources, *supra* note 18, at 57 (noting that “Government agencies, corporations, large landowners, poor farmers, indigenous peoples, and different ethnic or cultural groups frequently make overlapping and conflicting claims on the same set of natural resources. Unfortunately, unless the tenure

Such appropriations cause environmental damages both directly and indirectly. Appropriations cause direct environmental problems because large tracts of land are cleared, leading to deforestation and a decline in vegetative cover, with soil erosion, desiccation, and desertification following soon after.⁶⁸ Less immediately, pollutants are emitted into the air, water, and soil.⁶⁹ Appropriations indirectly cause environmental problems by taking land away from smallholder farmers who previously used the land to raise their livestock, grow their crops, and harvest natural resources such as coffee, cocoa, and rubber.⁷⁰ These small farmers are thus required to more intensively farm their remaining land, leading to overuse and soil degradation.⁷¹

3. Insecure Customary Land Tenure

As serious as the global land rush is, even this threat to the environment of Sub-Saharan Africa is eclipsed by insecure customary land tenure. The amount of land under customary land tenure and the limitations of such systems, specifically its inability to withstand governmental actions to seize and sell the property, are readily apparent.⁷² Unfortunately, customary land tenure has further limitations. Whereas individuals with secure property rights may use their land as collateral, individuals with customary tenure

rights of the poor are secure, they usually lose out in these conflicts over competing claims”).

⁶⁸ Joachim von Braun & Ruth Meinzen-Dick (2009), “*Land Grabbing*” by *Foreign Investors in Developing Countries: Risks and Opportunities*, IFPRI 3-4 (Apr. 2009), http://www.landcoalition.org/sites/default/files/documents/resources/ifpri_land_grabbing_apr_09-2.pdf.

⁶⁹ Joseph Fargione, Jason Hill, David Tilman, Stephen Polasky & Peter Hawthorne, *Land Clearing and Biofuel Carbon Debt*, 319 *SCI* 1235, 1235–37, (2008), doi:10.1126/science.1152747.

⁷⁰ For guidelines on dealing with concessions (or “large-scale transactions”), see FAO, *Voluntary Guidelines*, *supra* note 4, at 21-23.

⁷¹ Mengisteab, *supra* note 62; Hughes, *supra* note 62, at 3-5.

⁷² See *supra* notes 22, 23 & 67 and accompanying text.

have no economic assets, and thus no collateral upon which they can rely to obtain credit to invest in equipment and improvements.⁷³

Furthermore, while traditional communities have inherent strengths that lead to environmental protections, they also have certain weaknesses that cause environmental sustainability to break down.⁷⁴ Uncultivated land in customary tenure systems, such as forests and pastures, is often in effect open access, even where the land may be informally managed by village leaders or by other traditional arrangements.⁷⁵ Such open access has been found to be a major cause of deforestation and disappearance of communal grazing land.⁷⁶ Even where individuals in customary communities could theoretically obtain deeds, it is often too complicated and requires too much time and expensive for the individuals to obtain the deeds.⁷⁷ Thus, while customary tenure systems may have some value, in most current applications they are much more likely to fall short when it comes to either helping the poor or protecting the environment. With recognition of the negative precipitants of insecure tenure security and the shortcomings of customary tenure systems, this paper now turns to the benefits of secure land tenure.

⁷³ Mabogunje, *supra* note 54, at 32.

⁷⁴ FAO, Land Tenure, *supra* note 4, at 24 (“Insecure land tenure is linked to poor land use which in turn leads to environmental degradation”).

⁷⁵ Otsuka & Place, Evolutionary Changes, *supra* note 61, at 2-3; FAO, Land Tenure, *supra* note 4, at 24. “The notion of unsustainable use of common property resources received considerable publicity through the ‘tragedy of the commons’ described by Hardin. This analysis of over-exploitation has been faulted because it was based on the unrestrained ability to use open-access property systems rather than the community-controlled access of common property resources. However, at times common property tenure systems have been transformed into open access systems, for example, when a communal system becomes too weak to prevent the communal grazing lands from being used by people from outside the community.” *Id.*

⁷⁶ Otsuka & Place, Evolutionary Changes, *supra* note 61, at 2-3; FAO, Land Tenure, *supra* note 4, at 24.

⁷⁷ Hughes, *supra* note 62, at 3.

IV. TENURE SECURITY'S BENEFITS FOR THE POOR

Secure land tenure has many identifiable benefits, from increasing land protection to decreasing the flight of the rural poor to constantly expanding city slums. This section describes eight general benefits of secure land tenure.

First, land tenure security leads to an increase in agricultural production.⁷⁸ Where a farmer knows his tenure is secure, he is much more willing to spend time and money to practice all the techniques required to raise a productive crop: buying good quality seeds, planting carefully, cultivating the crops, removing weeds and pests, fertilizing the soil, protecting the crops from pests, watering the fields as necessary, and taking all the other little steps necessary to achieve a maximum yield.⁷⁹ A farmer with secure tenure will also think toward the future and be willing to invest in his land.⁸⁰ For example, he could plant coffee, rubber, or fruit trees that will not yield a harvest for a number of years but will, when mature, produce a greater return than if the farmer had only thought about short-term returns.⁸¹ These efforts will put the farmer in the best position to harvest a much larger crop than one who has made no such efforts.⁸²

Second, a farmer with secure land tenure is much more likely to improve and maintain his property, whereas one who may lose the fruit of his labors at any time has no such incentive.⁸³ Since at least the time of William

⁷⁸ World Resources, *supra* note 18, at 59.

⁷⁹ See Prosterman, Land Reform, *supra* note 23, at 769.

⁸⁰ Frank Place & Keijiro Otsuka, *Land Tenure Systems and Their Impacts on Agricultural Investments and Productivity in Uganda*, 38 J. OF DEV. STUD. 107-09, 121, 125 (2002).

⁸¹ World Resources, *supra* note 18, at 59; FAO, Voluntary Guidelines, *supra* note 4, at 20.

⁸² See Shackelford, *supra* note 31, at 278 (observing that “the incentives created by private property rights are, assuming perfect enforcement, critical to enticing individuals to maximize the benefit of their land”).

⁸³ World Resources, *supra* note 18, at 57; Jonathan H. Adler, *Free & Green: A New Approach to Environmental Protection*, 24 HARV. J. L. & PUB. POL'Y 653, 673 (2001)

Blackstone, the law has recognized that enforcing property rights incentivizes owners “to make socially desirable investments in improving assets.”⁸⁴ Thus, property owners, including farmers, with secure land tenure consider what valuable improvements can and should be made to the land, “view[ing] maintenance expenditures and the like as investments in existing assets.”⁸⁵ A farmer with established land rights on agricultural land is more likely to consider longer-term improvements such as manuring, rotating crop, conserving soil, and planting trees.⁸⁶ In particular, a farmer secure in his tenure may add wells and irrigation pipes or trenches to transport water to the fields, drainage ditches or tile to remove excess rainfall, trees to serve as windbreaks, and swales and terraces to prevent erosion.⁸⁷

Third, land tenure security leads to the practice of sustainable agriculture.⁸⁸ A farmer employing slash-and-burn techniques—where the

(observing that private owners “bear the costs of poor management decisions and have strong incentives to maintain their property”).

⁸⁴ WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND VOL. II: OF THE RIGHTS OF THINGS 979 (1766).

⁸⁵ Adler, *supra* note 83, at 673; Prosterman, Land Reform, *supra* note 23, at 769.

⁸⁶ Otsuka & Place, Evolutionary Changes, *supra* note 61, at 3 (citing studies indicating that due to secure land tenure, tree cover increased on farms in Uganda and that farmers now grow trees on the edges of crop fields in East Africa); Tapscott, *supra* note 22, at 35.

⁸⁷ World Resources, *supra* note 18, at 57; *see also* Ali, Deininger & Goldstein, *supra* note 3, at 272, 274 (illustrating how farmers whose land rights were regularized under Rwanda’s land tenure reform were twice as likely “to have initiated or maintained soil conservation investments in structures such as bunds, terraces, and check dams” and that female heads of households with secure tenure were three times as likely to engage in soil conservation measures); Berhanu Gebremedhin & Scott M. Swinton, *Investment in Soil Conservation in Northern Ethiopia: The Role of Land Tenure Security and Public Programs*, 29 AG. ECON. 69, 82 (2003) (concluding that “tenure security encourages land improvements, notably the use of conservation practices”); Petr Sklenicka et. al, *Owner or Tenant: Who Adopts Better Soil Conservation Practices?*, 47 LAND USE POL’Y 253, 257 (2015) (reporting the results of a study showing that erosion control measures were adopted in a significantly more responsible way by land owners than by tenants).

⁸⁸ *See* Sklenicka et. al, *supra* note 87, at 253, 257-59 (concluding that “land tenure security is widely considered to be a fundamental factor in motivating farmers to adopt sustainable land management practices”); Gebremedhin & Swinton, *supra* note 87, at 83 (“Land titling and legal enforcement of title are fundamental for the widespread adoption and sustained use of conservation practices”).

farmer hacks a plot of earth from the forest, burns the area, and plants a crop for one season—must move on to the next season, as the soil is now nutrient-poor and he likely has no legitimate claim to the land.⁸⁹ In contrast, a farmer with land tenure security has the opportunity and motivation to practice sustainable agriculture.⁹⁰ A farmer who expects to own his property indefinitely is more likely not only to invest in his property,⁹¹ but also to use disease-resistant plants and to choose native, drought-tolerant crops.⁹² To allow for natural soil regeneration, a farmer who has secure land tenure is more likely to practice techniques such as crop rotation and leaving his fields fallow.⁹³

Fourth, due to each of the above factors—an increase in agricultural production, better property maintenance, and the practice of sustainable agriculture—a farmer with secure land tenure is certain to receive a much better return on his investment.⁹⁴ These advantages are especially pronounced on smaller, family-operated farms, where “the highly motivated application of intensive family labor to a small piece of land owned or held securely by that family is precisely what makes economic sense.”⁹⁵ These families also reap the nutritional benefit of retaining a significant portion of crops grown on the land, which would have otherwise been transferred to the landowner or landlord.⁹⁶

⁸⁹ See, e.g., Otsuka & Place, *Evolutionary Changes*, *supra* note 61, at 5-6 (noting that land may be put into fallow for twenty to thirty years to restore soil quality after only one or two seasons of cultivation).

⁹⁰ See Sklenicka et. al, *supra* note 87, at 254 (finding that of the four types of sustainable farming practices tested in their study, all were adopted in a significantly more responsible way by owners of property than they were by mere tenants).

⁹¹ See *supra* notes 71-75 and accompanying text.

⁹² Prosterman, *Land Reform*, *supra* note 23, at 769; see also ROY L. PROSTERMAN & JEFFREY M. RIEDINGER, *LAND REFORM AND DEMOCRATIC DEVELOPMENT* 36 (1987).

⁹³ Otsuka & Place, *Evolutionary Changes*, *supra* note 61, at 3.

⁹⁴ Prosterman, *Land Reform*, *supra* note 23, at 770.

⁹⁵ *Id.* at 769-70.

⁹⁶ *Id.* at 770; Tapscott, *supra* note 22, at 35, 41, 42. *But see* Michael Roth & Dwight Haase, *Land Tenure Security and Agricultural Performance in Southern*

Fifth, secure land tenure increases the value of the property. Land will be worth more if it is more productive, has better returns on investments, and is better maintained.⁹⁷ Land with secure tenure is also more valuable because, unlike unregistered land which is sometimes sold simultaneously to multiple buyers, the buyer of land with secure, registered title can be certain that he will receive that for which he has paid.⁹⁸

Sixth, owners of land with secure tenure can use that land as security (“capital”) to obtain credit.⁹⁹ The use of such credit allows the owner to purchase additional improvements for the land, better agricultural products, improved equipment for the operation, and other items needed by the farmer.¹⁰⁰ Formalized tenure also serves as a safety net and a secure investment in times of financial crisis or in an uncertain economy.¹⁰¹

Africa, BASIS (1998), http://pdf.usaid.gov/pdf_docs/Pnacl422.pdf (last visited June 9, 2016) (arguing that other research efforts have failed to factually prove that land tenure security results in better investment returns and discussing a detailed research effort focused on land tenure security and agricultural performance in Southern Africa, which concluded that “regardless of whether communal tenure systems are unproductive, upgrading tenure to individualized freehold does not ensure improved agricultural performance . . . the ‘real constraints’ on agricultural productivity are not land tenure but infrastructure, market efficiency, and production technology.”).

⁹⁷ Tapscott, *supra* note 22, at 36.

⁹⁸ See Karol Boudreaux & Daniel Sacks, *Land Tenure Security and Agricultural Productivity* 3 (2009),

http://mercatus.org/sites/default/files/Land_Tenure_and_Agriculture.pdf (noting that “if formal transactions are allowed, sellers can command greater prices for their land”).

⁹⁹ World Resources, *supra* note 18, at 59, 62; Shackelford, *supra* note 31, at 301 (observing that “the incentive structure of private property rights . . . give[s] the owner a pecuniary interest in refraining from destructive practices and that in turn may be used to catalyze the creation of capital markets”); Wickeri, *supra* note 35, at 998.

¹⁰⁰ Panayotou, *supra* note 7, at 33 (“Titling untitled agricultural land and allocating water rights to farmers and other rural dwellers would provide them with access to capital markets, thereby increasing on-farm investments that improve agricultural productivity and help to arrest the erosion of the resource base”); Prosterman, *Land Reform*, *supra* note 23, at 772-73.

¹⁰¹ Tapscott, *supra* note 22, at 36.

Moreover, studies have shown that investment doubles on land with secure tenure.¹⁰²

Seventh, for each of the reasons above, land tenure security results in increased wealth, both for individuals and the national overall.¹⁰³ It is recognized that “property in land has been a principle source of wealth and also a guarantor of individual liberty.”¹⁰⁴ The Food and Agriculture Organization of the United Nations acknowledges that “countries that have invested in the technical and institutional infrastructure required for efficient and equitable land tenure administration, and that have been in the forefront of ensuring property rights for both men and women, have developed much faster with a much higher level of food security, health and welfare.”¹⁰⁵

The same principles apply on a national level. One of the detrimental effects of insecure land tenure is soil degradation, which has a significant effect on the continent’s gross domestic product (GDP):

The productivity loss due to soil degradation is pronounced in SSA. As much as 25 percent of land productivity has been lost due to degradation in the second half of the twentieth century in Africa. Because of the importance of agriculture to African economies, this has cost between 1 percent and 9 percent of GDP, depending on the country.¹⁰⁶

¹⁰² World Resources, *supra* note 18, at 59.

¹⁰³ See Shackelford, *supra* note 31, at 285-86 (“The developed world got rich . . . because of advanced property systems that allowed entrepreneurs to realize the full potential of their fixed assets, and in turn led to the development of banking and capital markets.”); Steven J. Eagle, *A Prospective Look at Property Rights and Environmental Regulation*, 20 GEO. MASON L. REV. 725, 746 (2013) (“A strong system of private property rights promotes economic wellbeing, and also protects liberty and autonomy.”).

¹⁰⁴ Eagle, *supra* note 103, at 14.

¹⁰⁵ FAO, Land Tenure, *supra* note 4, at 5.

¹⁰⁶ Otsuka & Place, Evolutionary Changes, *supra* note 61, at 19 (internal citations omitted).

When land tenure is secure, landowners have a greater incentive to use sustainable agriculture practices, leading to greater production and therefore higher incomes.¹⁰⁷ When agricultural families receive higher incomes, they have a greater ability to purchase goods and services in the marketplace, which also creates more demand for non-farm employment.¹⁰⁸ In this way, a “broad-based distribution of land assets not only benefits the poor but becomes a solid basis for sustained and inclusive economic growth.”¹⁰⁹

Finally, tenure security leads to “grassroots empowerment” and democracy, reduced social unrest and instability, and reduced urban migration.¹¹⁰ Tenure security empowers landowners by removing hierarchies of control, allowing landowners to participate directly in the marketplace and political process.¹¹¹ This shift represents a grassroots, marketplace-driven, and democratic redistribution of power, in which “more secure and self-confident producers . . . [can] challenge the inertia, elitism, and neglect that frequently characterize the politics of underdevelopment.”¹¹² Tenure security also gives agricultural producers a stake in local communities—not to mention a sustainable income from the

¹⁰⁷ See Prosterman, Land Reform, *supra* note 23, at 769-70.

¹⁰⁸ *Id.* at 770; ROY PROSTERMAN, MARY TEMPLE & TIMOTHY HANSTAD, AGRARIAN REFORM AND GRASSROOTS DEVELOPMENT: TEN CASE STUDIES 312 (1990); KLAUS DEININGER, LAND POLICIES FOR GROWTH AND POVERTY REDUCTION 17 (2003).

¹⁰⁹ Prosterman, Land Reform, *supra* note 23, at 770.

¹¹⁰ *Id.* at 768; World Resources, *supra* note 18, at 62 (citing Hernando de Soto for the proposition that “the countries that achieve substantial economic progress over the next two decades will be those that have developed strong property rights institutions” and arguing that “tenure reform has emerged as an essential component of a broader sociopolitical transition to greater democracy and decentralization in developing countries”).

¹¹¹ Prosterman, Land Reform, *supra* note 23, at 770-71.

¹¹² *Id.* at 771; see also *Land Policies for Growth and Poverty Reduction*, WORLD BANK POL’Y RES. REPORT, at xvii (2008), <http://documents.worldbank.org/curated/en/2003/06/2457830/land-policies-growth-poverty-reduction> (arguing that widespread land ownership strengthens democratic accountability).

land—thereby reducing, if not eliminating, the pressure to migrate to urban areas.¹¹³

V. HOW TENURE SECURITY HELPS PROTECT THE ENVIRONMENT

While the general benefits of land tenure security are relatively well known, there has been much less discussion of how tenure security protects the environment. Environmental protection stemming from land tenure security falls into two categories: a set of protections flowing from the aforementioned benefits, and a second more general set arising from the legal status held by a person with secure land tenure.

A. *Environmental Protection Flowing from Secure Tenure Benefits*

First, tenure security helps protect the environment when a farmer employs sustainable practices. As discussed in Part III, land tenure security leads to greater agricultural production.¹¹⁴ This growth in production means that each acre of land has become more efficient and that fewer additional acres must be converted from their natural state into pastures or fields.

Second, better-maintained property, with greater improvements and use of sustainable agriculture, protects the environment directly—fewer chemicals and agricultural waste run off the land, the nutrient-depleting slash-and-burn techniques are abandoned,¹¹⁵ and wastes are reused.¹¹⁶ Secure, transferable tenure provides incentive—even for someone unconcerned about or adverse to environmental protection—to consider environmental concerns, because “despoiling the resource [the property] may reduce its value in the eyes of potential buyers.”¹¹⁷ Tenure security stimulates land practices that protect the environment.

¹¹³ Prosterman, Land Reform, *supra* note 23, at 772.

¹¹⁴ See *supra* notes 78-82 and accompanying text.

¹¹⁵ Prosterman, Land Reform, *supra* note 23, at 772.

¹¹⁶ See *supra* notes 83-87 and accompanying text.

¹¹⁷ Adler, *supra* note 83, at 670.

Third, many of the benefits of secure land tenure, such as increased returns on investments, an increased value of property, an increased ability to use land as credit, and salability, both together and individually, contribute to a growth in wealth.¹¹⁸ It is well recognized that those with more disposable income can and do care more about better protecting the environment, and that support for environmental measures correlates with income.¹¹⁹

Finally, and of particular interest to the countries in Sub-Saharan Africa, secure land tenure is one of the keys to helping a developing country shorten the normal progression from a poor, uncontaminated state to a developed country taking environmental concerns seriously. Economists have articulated a theory identifying a relationship between income changes and changes in environmental quality called the “Environmental Kuznets Curve,” or “EKC.”¹²⁰ According to this theory, as per capita income increases, pollution increases, peaks, then decreases, forming an inverted “U.”¹²¹ People with the lowest per capita incomes and who live on a subsistence basis pollute less because they consume products requiring less

¹¹⁸ Prosterman, Land Reform, *supra* note 23, at 772-73 (arguing that “by clarifying and strengthening existing informal and/or weak land rights, governments can create wealth for the poor and bring ‘dead capital’ to life”).

¹¹⁹ JACK M. HOLLANDER, THE REAL ENVIRONMENTAL CRISIS: WHY POVERTY, NOT AFFLUENCE, IS THE ENVIRONMENT’S NUMBER ONE ENEMY 15-16 (2003) (arguing that “there is no inherent conflict between a healthy economy and environmental quality; actually they go hand in hand” and that “an environmentally sustainable future is within reach for the entire world provided that affluence and democracy replace poverty and tyranny as the dominant human condition”); Adler, *supra* note 83, at 681-84 (discussing a “significant body of literature [that] has found a correlation between economic improvements and several measures of environmental quality. . . . Wealthier societies have both the means and the desire to address a wider array of environmental concerns”); *see supra* notes 94-109 and accompanying text.

¹²⁰ Panayotou, *supra* note 7, at 13; Richard J. Culas, *Deforestation and the Environmental Kuznets Curve: An Institutional Perspective*, 61 *ECOLOGICAL ECON.* 429, 430 (2007).

¹²¹ Panayotou, *supra* note 7, at 13; Culas, *supra* note 120, at 430; Usama Al-Mulali et. al, *Investigating the Environmental Kuznets Curve Hypothesis in Vietnam*, 76 *ENERGY POL’Y* 123, 123-24 (2015).

energy and use few if any industrial processes.¹²² In contrast, people in developing economies initially pollute more because they use fossil fuels to light and heat their homes, fuel their transportation, and manufacture goods.¹²³ In other words, at this stage “environmental damage [is] increas[ing] due to greater use of natural resources, more emission of pollutants, the operation of less efficient and relatively dirty technologies, the high priority given to increases in material output, and disregard for—or ignorance of—the environmental consequences of growth.”¹²⁴ Once a higher level of income is reached, however, emissions level off due to a combination of innovations in technology and increases in energy derived from cleaner, renewable sources that make economies more successful.¹²⁵

For citizens of developing countries eager for not only rising incomes but also environmental protection, the “inevitability” of the standard EKC model seems to be depressing in that the standard model requires a period of environmental degradation in conjunction with “development and industrialization progress” and rising incomes.¹²⁶ Additional study, however, has revealed that countries may “tunnel through” the EKC,

¹²² See Panayotou, *supra* note 7, at 25.

¹²³ Usama Al-Mulali et. al, *Investigating the Environmental Kuznets Curve (EKC) Hypothesis by Utilizing the Ecological Footprint as an Indicator of Environmental Degradation*, 48 *ECOLOGICAL INDICATORS* 315, 320 (2014) [hereinafter Al-Mulali, Footprint]; Panayotou, *supra* note 7, at 25.

¹²⁴ Panayotou, *supra* note 7, at 17-18 (discussing low demand for environmental amenities when income is low, but observing that environmental degradation is also low due to low levels of waste and unimpaired capacities of the environment); see also Al-Mulali, Footprint, *supra* note 123, at 319.

¹²⁵ Panayotou, *supra* note 7, at 18; Al-Mulali, Footprint, *supra* note 123, at 316.

¹²⁶ Panayotou, *supra* note 7, at 28 (observing a “certain inevitability of environmental degradation” as a country develops); Bruce Yandle et. al, *The Environmental Kuznets Curve: A Primer*, PERC RES. STUDY 02-1, at 4 (May 2002). *But see* Panayotou, *supra* note 7, at 28-30 (suggesting that “resources can best be focused on achieving rapid economic growth to move quickly through the environmentally unfavorable stage of development,” while also advancing multiple reasons, including possibly irreversible environmental damage as well as the impact of environmental degradation on the economy, why such an approach is unwise).

effectively taking a “shortcut” to higher income and environmental protection.¹²⁷ To do so, a country may adopt appropriate policies and maintain quality institutions allowing it to “leapfrog ecological thresholds” and thus significantly reduce environmental degradation at low-income levels and speed up improvements at higher-income levels.¹²⁸ Similarly, another study concluded that “improvement in institutions that empower people through secure property rights for forests will ultimately reduce the pressure on resources and lead to forestland conservation.”¹²⁹

Therefore, where a country provides well-defined property rights, eliminates harmful environmental subsidies, and establishes environmental standards appropriate for the country’s level of development, the country can flatten the EKC and achieve its environmental goals faster.¹³⁰ This conclusion is buttressed by additional research indicating that there is a strong relationship between property rights enforcement and environmental quality.¹³¹ This research reveals that strong property-right institutions support free markets, which in turn leads to growth in income and wealth.¹³²

¹²⁷ Mohan Munasinghe, *Is Environmental Degradation an Inevitable Consequence of Economic Growth: Tunneling Through the Environmental Kuznets Curve*, 29 *ECOLOGICAL ECON.* 89, 107 (1999) (concluding that “developing countries could learn important lessons from the experiences of the industrialized nations, and devise development strategies that can ‘tunnel’ through any potential EKC—thereby avoiding going through the same stages of growth that involve relatively high (and even irreversible) levels of damage to the environment”); Hollander, *supra* note 119, at 15 (observing that “developing societies have a tremendous advantage over yesterday’s [societies]” because they “do not need to tread through the entire learning experience in each technology area; instead they can ‘leapfrog’ over the pathways (and mistakes) of the industrial pioneers and jump straightaway to the environmentally kinder and smarter technologies of the twenty-first century”).

¹²⁸ Panayotou, *supra* note 7, at 14; *see also* Yandle et. al, *supra* note 126, at 13-14.

¹²⁹ Culas, *supra* note 120, at 436; *see also* R.T. Deacon, *Deforestation and the Rule of Law in a Cross-Section of Countries*, 70 *LAND ECON.* 414-30 (1994) (discussing deforestation in connection with land tenure security in the context of 120 countries); Panayotou, *supra* note 7, at 34, 36 (tying secure property rights to a flattened EK-curve).

¹³⁰ Panayotou, *supra* note 7, at 31-32; Yandle et al., *supra* note 126, at 14.

¹³¹ Yandle et. al, *supra* note 126, at 14.

¹³² Prosterman, Land Reform, *supra* note 23, at 770, 772-73.

As a result, two forces are at work in achieving environmental protection: the recognition and enforcement of land tenure security leads to higher income levels, which in turn generates demand for environmental quality.¹³³

B. Environmental Protection through Common Law Remedies

Whereas the benefits of tenure security discussed above tend to deal with the possessors' use of the land and resulting wealth, this final benefit of land tenure security arises due to the owner's *standing* before the law. In other words, the benefit derives from the property-right aspects of the owner's tenancy: owners with secure tenure can take legal action against those who pollute or damage their property.¹³⁴

Long before any specific environmental regulations existed, citizens used the common law to protect themselves and their property from damages that today we would consider environmental contamination.¹³⁵ The common law served as a precursor to zoning laws, compelling polluters to locate themselves away from populated areas.¹³⁶ More recently, the possibility that citizens could bring a common law action against polluters provided an incentive for pollution control technology.¹³⁷ Today, individuals with secure property rights may pursue one of several common law actions—trespass, nuisance, strict liability, and negligence—to protect their property.¹³⁸

¹³³ Yandle et. al, *supra* note 126, at 14.

¹³⁴ *What is Land Tenure*, FOOD AND AGRIC. ORG. OF THE U. S. (June 9, 2016) www.fao.org (see section 3.10 and Examples of Rights).

¹³⁵ Adler, *supra* note 83, at 670.

¹³⁶ Eagle, *supra* note 103, at 749.

¹³⁷ *Id.* at 749-50.

¹³⁸ See, e.g., Mercy O. Erhun, *A Legal Framework of Sustainable Environmental Governance in Nigeria*, FRONTIERS OF LEGAL RES. 3(4), at 30 (2015) (listing these four common law torts as protection for private individuals from environmental pollution).

1. Trespass

Trespass actions “protect an occupier’s right to enjoy his or her land without unjustified interference.”¹³⁹ Trespass is limited to direct or tangible interference, such as when a person causes a physical object to directly contact another person’s land,¹⁴⁰ and one who commits such interference is liable for the resulting harm.¹⁴¹ Courts have developed the law of trespass as an intentional tort and typically construe its limits strictly.¹⁴² For example, if a defendant can prove that he trespassed accidentally, the plaintiff will not succeed, but the plaintiff may still succeed under a nuisance or negligence claim.¹⁴³

In environmental litigation, the law of trespass focuses on whether a tangible object—such as a power line or particles of air pollution—has entered another person’s property.¹⁴⁴ If a plaintiff is successful, powerful remedies are available. A court may award nominal, compensatory, or even punitive damages, along with injunctive relief for threatened or continuing harms.¹⁴⁵ For example, a plaintiff in Kenya pursued an action in trespass after the defendant began construction on the plaintiff’s property to install a utility line without following the prescribed land acquisition process.¹⁴⁶ The High Court of Kenya granted a temporary injunction against the defendant

¹³⁹ COMPENDIUM OF JUDICIAL DECISIONS ON MATTERS RELATED TO ENVIRONMENT 4 (July 2001), <http://apps.unep.org/redirect.php?file=/publications/pmtdocuments/-Compendium%20of%20Judicial%20Decisions%20on%20Matters%20Related%20to%20Environment%20National%20Decisions-20012292.pdf> [hereinafter *Compendium*].

¹⁴⁰ *Id.*

¹⁴¹ Denise E. Antolini & Clifford L. Rechtschaffen, *Common Law Remedies: A Refresher*, 38 ENVTL L. REP. 10114-15 (2008).

¹⁴² *Id.*

¹⁴³ *Id.* at 10116.

¹⁴⁴ *Id.* at 10115.

¹⁴⁵ *Id.* at 10116.

¹⁴⁶ *Machareus Obaga Anunda v. Kenya Electricity Transmission Co. Ltd.*, Environmental and Land Civil Case No. 197, Kenya Law Reports [K.L.R.], ¶ 4, High Court of Kenya at Kisii [H.C.K. at Kisii] (2015), available at <http://kenyalaw.org/caselaw/cases/view/113466/>.

and ordered that fair compensation be provided to the property owner.¹⁴⁷ When applicable, the law of trespass can offer a strong remedy for property owners against those trespassing onto their property.

2. Nuisance

The second common law remedy has two variations: public and private nuisance, collectively considered “the true ancestors of environmental law.”¹⁴⁸ Public nuisance actions arise when there is “an act or omission that causes inconvenience or damage to the public health or public order, or an act which constitutes an obstruction of public rights.”¹⁴⁹ In general, a public nuisance occurs when the effect of the interference is so pervasive that it would be unreasonable for a single person to challenge the matter herself.¹⁵⁰ Public officers, such as attorneys general, are usually the only party with standing to challenge a public nuisance.¹⁵¹

Private nuisance, while not always distinct from public nuisance, arises when there is a “nontrespassory invasion of another’s interest in the private use and enjoyment of land.”¹⁵² Courts often evaluate private nuisance actions by considering factors such as whether the utility of the defendant’s conduct is outweighed by the gravity of the harm.¹⁵³

In the environmental context, a property owner may rely on private nuisance theory to challenge interferences like dust emissions from an adjoining cement plant, unpleasant odors from a nearby pig farm, or

¹⁴⁷ *Id.* at ¶ 5.

¹⁴⁸ Antolini & Rechtschaffen, *supra* note 141, at 10116.

¹⁴⁹ Roger Meiners & Bruce Yandle, *Common Law and the Conceit of Modern Environmental Policy*, 7 GEO. MASON L. REV. 923, 927 (1999). In other words, public nuisances concern “interference with the public’s reasonable comfort and convenience.” Compendium, *supra* note 139, at 4.

¹⁵⁰ Compendium, *supra* note 139, at 4.

¹⁵¹ Meiners & Yandle, *supra* note 149, at 927.

¹⁵² *Id.* at 928.

¹⁵³ *Id.* at 929.

groundwater contamination from a pulp mill.¹⁵⁴ Similarly, an environmental public nuisance could include the contamination of groundwater, a release of hazardous chemicals into the environment, or common cesspools.¹⁵⁵ As a result, parties may obtain a variety of remedies. A court may order equitable relief: operational limitations (such as emissions control devices), the establishment of funds for the benefit of injured persons, or even the imposition of a permanent injunction if the problem is not resolved within a specified timeframe.¹⁵⁶ Parties may also recover money damages corresponding to depreciation in property value and certain special damages, including losses from injury to livestock or direct damage to property.¹⁵⁷

Several of these remedies were employed in *Naigum v. Nanette*, where the plaintiff's health and property use were affected by an industrial byproduct that emanated from the defendant's adjoining property.¹⁵⁸ The defendant ran a licensed cabinetry business that employed the use of industrial electrical machines and caused noise and dust pollution in the residential area where the plaintiff lived.¹⁵⁹ The Supreme Court of Mauritius ordered the defendant to pay compensatory damages to the plaintiff and placed a permanent injunction against the defendant to prohibit further hazardous industrial practices.¹⁶⁰

¹⁵⁴ Antolini & Rechtschaffen, *supra* note 141, at 10119.

¹⁵⁵ *Id.* at 10120-21.

¹⁵⁶ Meiners & Yandle, *supra* note 149, at 935.

¹⁵⁷ *Id.* at 934-35. In some circumstances, even punitive damages may be available.

Antolini & Rechtschaffen, *supra* note 141, at 10120.

¹⁵⁸ Compendium of Summaries of Judicial Decisions in Environment Related Cases, Revised 2nd Edition, at 28 (Jan. 2015) (citing *Naigum R.L. v. Nanette G.*, 2004 SCJ 286 (Mauritius)),

http://www.unep.org/delc/Portals/119/publications/Compendium_summaries_judicial_decisions_revised_second_edition.pdf [hereinafter Compendium 2015].

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

3. Strict Liability

Under the theory of strict liability, a person is absolutely liable for the harmful results of any escapes from that person's land.¹⁶¹ In other words, "[t]he theory of strict liability in tort for harms to strangers holds a party responsible for the harm that it causes by way of trespass or nuisance, regardless of the level of precaution taken."¹⁶² The theory derives from the famous case of *Rylands v. Fletcher*,¹⁶³ in which a property owner was held liable when his water reservoir flooded an adjoining property.¹⁶⁴ In the United States, many courts have expanded the theory to cover other "abnormally dangerous activities."¹⁶⁵ In the environmental context, "abnormally dangerous activities" include, among others, crop dusting, operating oil refineries in densely populated residential areas, blasting, and fumigating buildings with toxic gas.¹⁶⁶ In this way, strict liability remains a powerful theory in the environmental context, "as courts generally reason that, quite simply, entities engaged in dangerous activity should bear the costs of damages caused thereby."¹⁶⁷

In *Ndetei v. Orbit Chemical Industries Limited* (Orbit), the High Court of Kenya relied upon *Rylands* when it ordered an injunction against Orbit's industrial practice.¹⁶⁸ Orbit manufactured soaps, detergents, and other related products, and it regularly drained industrial wastewater onto

¹⁶¹ Compendium, *supra* note 139, at 5.

¹⁶² Richard Epstein, *From Common Law to Environmental Protection: How the Modern Environmental Movement Has Lost Its Way*, at 8 (2015), <http://www.law.uchicago.edu/faculty/research/richard-epstein-common-law-environmental-protection-how-modern-environmental-moveme>.

¹⁶³ *Rylands v. Fletcher* [1868], L.R. 3 H.L. 330.

¹⁶⁴ *Antolini & Rechtschaffen*, *supra* note 141, at 10122.

¹⁶⁵ *Id.*

¹⁶⁶ *Meiners & Yandle*, *supra* note 149, at 937.

¹⁶⁷ *Id.* at 937-38.

¹⁶⁸ *David M. Ndetei v. Orbit Chemical Indus. Ltd.*, Civil Suit No. 147, K.L.R., ¶ 9, H.C.K. at Kisii (2014), <http://kenyalaw.org/caselaw/cases/view/99244/>.

Ndetei's property.¹⁶⁹ Ndetei complained that due to Orbit's negligent construction and operation of the plant, Ndetei's property had become unfit for occupation or agricultural use.¹⁷⁰ For these reasons, the court additionally ordered Orbit to pay compensatory damages for soil restoration, general damages for nuisance, and court costs.¹⁷¹

4. Negligence

Unlike the three preceding causes of action, negligence actions do not depend on the occupation of property.¹⁷² As a general rule, a person is negligent when he breaches a duty of due care, resulting in injury to another person.¹⁷³ In terms of remedies, a plaintiff may be entitled to compensatory damages and possibly (albeit rarely) punitive damages, but injunctive relief is not available.¹⁷⁴ In the environmental context, negligence is often combined with the theories above and might be "the least productive of all tort law theories for environmental practitioners."¹⁷⁵ An example of environmental negligence where compensatory damages were awarded occurred in *Agbara et al. v. Shell Petroleum et al.*, where the plaintiffs claimed that Shell's negligence in constructing and failing to maintain a pipeline caused the uninhabitability of several square miles of land.¹⁷⁶ The Federal High Court of Nigeria ordered Shell to pay the plaintiffs compensatory damages for the systematic damage caused by a pipe that, for 15 years, had leaked crude oil onto the plaintiffs' property and caused the

¹⁶⁹ *Id.* at ¶ 30.

¹⁷⁰ *Id.* at ¶ 5.

¹⁷¹ *Id.* at ¶ 1.

¹⁷² Compendium, *supra* note 139, at 5.

¹⁷³ *Id.*

¹⁷⁴ Antolini & Rechtschaffen, *supra* note 141, at 10121.

¹⁷⁵ *Id.* at 10122.

¹⁷⁶ Compendium 2015, *supra* note 158, at 52 (citing *Agbara et al. v. Shell Petroleum et al.* (Unreported) Suit No. FHC/ASB/CS/231/2001 of (June 14, 2010) (Nigeria)).

property to become uninhabitable.¹⁷⁷ The Court also ordered Shell to remediate the contamination and restore the land to its original state.¹⁷⁸

5. Common Law Remedies Evaluated

Since the birth of the major environmental acts in the United States—such as the Clean Air Act, the Clean Water Act, the Endangered Species Act, and others—common law actions to address environmental contamination have been much less common in the United States.¹⁷⁹ This may be beginning to change in the United States.¹⁸⁰ Nevertheless, because most Sub-Saharan African countries do not have similarly comprehensive environmental legislation and accompanying regulations, the use of these common law actions may be more helpful and applicable in helping to protect the Sub-Saharan African environment.

The application of these common law actions is not without its detractors. According to some critics, the actions are “cumbersome,” only “reactive in nature,” and merely “operate on the basis of reactive cure rather than prevention.”¹⁸¹ A second objection to applying the common law to environmental litigation is that it perceives “the common law as a rather primitive legal system.”¹⁸² Building on this shaky foundation, the critics’

¹⁷⁷ *Id.*

¹⁷⁸ *Id.*

¹⁷⁹ R. Trent Taylor, *The Obsolescence of Environmental Common Law*, *ECOLOGY L. Q.* 40 (2013).

¹⁸⁰ See Jonathan H. Adler, *Is the Common Law the Free Market Solution to Pollution?*, 24 *CASE WESTERN RESERVE UNI. SCH. OF L. PROP. AND ENV'T RES. CTR.* (2012) (collecting articles from advocates calling for the use of common law approaches to protect property rights and concluding that while the “case for common law environmental protection has not been made . . . that does not mean it cannot be”); see also Meiners & Yandle, *supra* note 149, at 959-63; MICHAEL S. GREVE, *THE DEMISE OF ENVIRONMENTALISM IN AMERICAN LAW* 110, 115-18 (1996) (defending a common law approach to environmental law, but recognizing that no significant changes are on the horizon).

¹⁸¹ Erhun, *supra* note 138, at 31.

¹⁸² GREVE, *supra* note 180, at 116.

argument next posits that only comprehensive legislation and administrative regulations “can account for the complexities of modern life.”¹⁸³

But, as a fair, analytical evaluation of the common law approach reveals, “nothing in the basic logic of common-law arrangements precludes their extension to more complex cases.”¹⁸⁴ In reality, the very simplicity of the common law allows it to apply in many different situations— “[t]he basic intuition of the common law is that precisely because the world is complex, it needs simple rules that allow it to be managed not through collective, centralized, one-size-fits-all arrangements but in small chunks and by individuals who are likely to get the results.”¹⁸⁵ Thus, Sub-Saharan Africans may find these common law actions to be very helpful in addressing their unique environmental law situations.¹⁸⁶

¹⁸³ *Id.*; see also Joseph Sax, *Introduction*, in CREATIVE COMMON LAW STRATEGIES FOR PROTECTING THE ENVIRONMENT, at xvii (Clifford Rechtstaffen & Denise Antolini, eds.) (2007) (opining that “the traditional common law remedies were utterly inadequate to deal with contemporary environmental problems”). One could respond that it is impossible for even the exceptionally complex U.S. environmental regulations to handle every possible environmental situation. “It is uncontested, for example, that much regulation is woefully inefficient and needlessly expensive; only the order of magnitude is seriously disputed.” GREVE, *supra* note 180, at 87. Greve similarly argues that this perspective on regulations “is emphatically not a partisan phenomenon but approaches a consensus: virtually no economist or policy analyst of any political persuasion would defend the existing regulatory regime—taken as a whole—as even tolerably efficient and effective.” *Id.*; see also *id.* at 88 (discussing further regulatory woes and experts critical of environmental regulation).

¹⁸⁴ Greve, *supra* note 180, at 116.

¹⁸⁵ *Id.* at 116-17.

¹⁸⁶ This author is not suggesting that these common law actions should be used to address environmental issues to the exclusion of national regulation. Nevertheless, he is proposing that they may be useful alongside governmental regulation to protect the property of individuals, particularly where it is widely recognized that many Sub-Saharan governments are less than vigilant in their monitoring of environmental contamination, to say nothing of their actual enforcement of their environmental regulations.

VI. POLICIES THAT ARE WORKING TO PROMOTE TENURE SECURITY

Recognizing that land tenure security is instrumental not only in helping the poor but also in protecting the environment, this part discusses policies to promote tenure security in two types of situations: (A) where tenure security needs to be strengthened, such as in many customary tenure situations or where the individuals are using land belonging to another, albeit without opposition; or (B) where there is almost no tenure security, because either the land possessors' claims are completely absent or the land possessors have no access to the land at all.

A. *Strengthening Land Tenure Security*

Tenure reformers take two primary approaches to helping promote tenure security: (1) formalizing property rights by issuing titles to land, or (2) promoting strengthened security by helping governments recognize traditional customary tenure.

1. Formalization of Land Tenure

There is little argument that registered land tenure is the most secure form of tenure security.¹⁸⁷ In considering the development of nations, “there is a growing consensus ‘that the material rise of the West during the last’ three centuries is at least in part attributable to legal institutions formalizing property rights.’”¹⁸⁸ In the years since South American economist Hernando de Soto published his book, *The Mystery of Capital*,¹⁸⁹ world leaders have praised his theory that the formalization of property rights is the key to a

¹⁸⁷ Lasse Krantz, *Securing Customary Land Rights in Sub-Saharan Africa: Learning from New Approaches to Land Tenure Reform*, GOTEBORGS UNIVERSITET DEPT. OF ECON. & SOC'Y 1 (2015) (noting that the “conventional approach for securing property rights to land is by establishing a system of private ownership through individual titling”).

¹⁸⁸ Shackelford, *supra* note 31, at 285 (quoting O. Lee Reed, *What Is “Property”?*, 41 AM. BUS. L. J. 459, 470 n.34 (2004).

¹⁸⁹ HERNANDO DE SOTO, *THE MYSTERY OF CAPITAL: WHY CAPITALISM TRIUMPHS IN THE WEST AND FAILS EVERYWHERE ELSE* (2000).

country developing and flourishing,¹⁹⁰ and many nations and agencies have sought to implement his recommendations.¹⁹¹ Few argue with de Soto's basic premises that secure property rights are invaluable to progress and development and that providing individuals with title to property is, wherever possible, the ideal.¹⁹²

Unfortunately, formalizing land tenure—giving title to the owner of a property that has not previously been titled—can be difficult.¹⁹³ For example, in Sub-Saharan Africa, land titles have rarely been issued, if at all.¹⁹⁴ Title administrators must be trained, property borders must be established, and titles must be formatted, created, and distributed. Even where land titles are available, the process to obtain title is often arduous and expensive.¹⁹⁵ As de Soto exhaustively documented, the cost to purchase land (not including the land price) can be expensive, and obtaining legal

¹⁹⁰ In 2004, President Bill Clinton characterized de Soto as “probably the world’s most important living economist” because of his work on property rights. *This Land Is Your Land*, WORLD POL’Y INST., <http://www.worldpolicy.org/journal/summer2011/this-land-is-your-land> (last visited April 21, 2016). Presidents Ronald Reagan and George H. W. Bush officially backed de Soto’s views. Steven E. Hendrix, *Myths of Property Rights*, 12 ARIZ. J. INT’L & COMP. L. 183, 184 n.2 (1995).

¹⁹¹ See Hendrix, *supra* note 190, at 184 n.2 & 185-86 (collecting examples).

¹⁹² See *id.* Hendrix, after identifying six “myths” in response to de Soto’s work, admits that “titling of property may give security” and that “security of ownership plays [an important role] in economic development.” *Id.* at 209, 212. Hendrix’s main point is that while “titling is a highly important ingredient to a more general strategy for development . . . the true impact of titling should not be overstated, nor should other factors be ignored. Such an overemphasis would give policymakers unrealistic expectations about the way in which titling does impact on broadly based economic growth.” *Id.* at 183.

¹⁹³ Indeed, some have suggested that the problems with existing land tenure in Sub-Saharan Africa are so complex that no effort to overcome the challenges will be successful. Thankfully, this opinion has not stopped many individuals and institutions from pursuing reform.

¹⁹⁴ Liz Alden Wily, *How African Governments Allow Farmers to be Pushed off Their Land*, THE GUARDIAN (Mar. 2, 2012) <http://www.theguardian.com/global-development/poverty-matters/2012/mar/02/african-governments-land-deals>.

¹⁹⁵ See, e.g., Wickeri, *supra* note 35, at 973-74, 986 (reciting the challenges Nepali farmers undergo to obtain land certificates, the Nepali equivalent to land titles).

title to the land (where a title is available at all) and a building permit can be very time-consuming.¹⁹⁶

With a view toward promoting tenure security and reducing or eliminating these costs and barriers, reformers such as de Soto, as well as governments of developing countries, have sought to implement formalization procedures in many developing countries.¹⁹⁷ For example, Rwanda has engaged in a series of land reforms seeking to protect property rights for its citizens.¹⁹⁸ Legislation was enacted providing that both sons and daughters could inherit parental property, property rights of women in a legal marriage were protected, and spousal consent was required before matrimonial property was transferred.¹⁹⁹ Subsequently, additional reforms established a “single statutory system of land tenure that vests land ownership with the state and provides users with long-term usufruct rights (up to 99 years, depending on land use) that can be sold, passed on to heirs, mortgaged, leased, or otherwise transferred.”²⁰⁰ Trained surveyors travelled throughout the country identifying parcel boundaries, recording them on aerial photos, and issuing receipts.²⁰¹ The information was transferred to a registry, digitized, and publically displayed.²⁰² Although more studies need to be done, initial studies indicate that Rwanda’s tenure reforms have

¹⁹⁶ *Key Concepts*, THE POWER OF THE POOR, <http://www.thepowerofthepoor.com/concepts/c7.php> (last visited Apr. 22, 2016) (citing de Soto’s researching showing the following times and costs: in Guatemala, 4,307 days and \$9,312 (4.3 years pay); in Argentina, 3,974 days and \$12,592 (4.3 years pay); in Albania, 225 days and \$816 (three months pay); in Egypt, 1,371 days, \$5,070 (more than three years pay); in Tanzania, eight years and \$2,252 (more than three years pay)); see also DE SOTO, *supra* note 189, at 18-28.

¹⁹⁷ See M. Mercedes Stickler & Heather Huntington, *Perceptions of Tenure Security: An Exploratory Analysis of Pretreatment Data in Rural Communities Across Ethiopia, Guinea, Liberia, and Zambia*, THE WORLD BANK (Mar. 23, 2015).

¹⁹⁸ Ali, Deininger & Goldstein, *supra* note 3, at 267-74.

¹⁹⁹ *Id.* at 267.

²⁰⁰ *Id.*

²⁰¹ *Id.* at 268.

²⁰² *Id.*

provided secure tenure, helped protect the environment, and increased protection for married women and girls.²⁰³

Nevertheless, other efforts have been less rewarding, and researchers have found that efforts to obtain title, certification, or registration had mixed results in strengthening individual land rights.²⁰⁴ Indeed, some scholars have found that efforts to achieve formal tenure systems may increase tenure insecurity in some places due to the conflicts between traditional rights and the newly created legal land rights.²⁰⁵ Similarly, others have recognized that attempts to bring about “exclusive, alienable and legally registered individual land rights [are] not always the best solution for poor rural people.”²⁰⁶ Many poor farmers have come to “depend on more flexible, diversified, decentralized and common property systems over which they can often exert greater influence and that are more conducive to optimum uses of land.”²⁰⁷ In the face of these odds, many reformers have switched their focus from formalization of property rights to strengthening customary tenure systems.²⁰⁸

²⁰³ *Id.* at 267, 274.

²⁰⁴ See Krantz, *supra* note 187, at 1-2; see also Otsuka & Place, Evolutionary Changes, *supra* note 61, at 9.

²⁰⁵ Otsuka & Place, Land Tenure, *supra* note 9 at 263 (explaining that tenure *insecurity* results because of conflicts between traditional rights and the newly formalized rights and opining that “[o]nce the individualization of land rights has been achieved endogenously, land registration is likely to strengthen land rights because of the absence of overlapping land rights among family members.”); see also Otsuka & Place, Evolutionary Changes, *supra* note 61, at 10.

²⁰⁶ IFAD, Improving Access, *supra* note 18, at 6.

²⁰⁷ *Id.*

²⁰⁸ To be sure, there are still those who favor the effort to formalize property rights. Hernando de Soto continues to urge that formalization is necessary and that without overt efforts, “it could take 300, 500 years” for formalization to occur and for greater prosperity to be achieved. Tapscott, *supra* note 22, at 33, quoting de Soto, “Commanding Heights,” Video Transcript, PBS (March 30, 2001), available at http://www.pbs.org/wgbh/commandingheights/shared/minitextlo/int_hernandodesoto.html.

2. Customary Tenure as a Means of Tenure Reform

Due to the challenges of efforts to replace customary tenure systems with title formalization in Sub-Saharan Africa, tenure reformers have shifted their approach from replacement to adaptation.²⁰⁹ In other words, reformers have concluded that instead of implementing Western-style individual land rights to the exclusion of customary tenure, it may be easier and more effective to work within the customary tenure system to strengthen the property rights of the community. North American readers may appreciate the example of the challenges the United States Congress encountered when it attempted to convert Native American communal tenure to individually titled property, a process called “allotment.”²¹⁰ According to one reviewer, the allotment failed because Congress sought to “impose private property on the indigenous peoples who had no conception of the private ownership of land.”²¹¹ A more insightful perspective, however, suggests that because the Native Americans actually already possessed a “complex system of fluid tribal property rights,” the allotment failed because it “impos[ed] a rigid system that failed to account for traditional Native American property rights regimes that were based on cultural norms reflective of the common social good.”²¹² Thus, tenure reformers cannot simply expect to establish a “single, externally-imposed and static system of private property rights” that will be a “one-size-fits-all solution to catalyzing capital and building wealth.”²¹³ The goal must be to work with local communities in customary tenures to reinforce rather than replace customary tenure systems.²¹⁴

²⁰⁹ World Resources, *supra* note 18, at 61.

²¹⁰ Shackelford, *supra* note 31, at 277.

²¹¹ *Id.* (quoting Kenneth H. Bobroff, *Retelling Allotment: Indian Property Rights and the Myth of Common Ownership*, 54 VAND. L. REV. 1559, 1561 (2001)).

²¹² *Id.*

²¹³ *Id.* at 278.

²¹⁴ *Id.* at 279.

One of the more innovative approaches to helping establish a more secure customary system has been proposed by land tenure expert Liz Alden Wily, who suggests that “it is above all rural people’s rights to the collectively possessed and used ‘commons’ that need protection in Africa.”²¹⁵ Alden Wily includes the commons area in her proposal for two reasons.²¹⁶ First, these resources—off-farm woodlands and pastures—are especially vulnerable to being used and abused by outsiders.²¹⁷ Second, these commons are considered by many African governments to be public lands.²¹⁸ Alden Wily’s approach therefore works to secure the entire area—both individually held property and off-farm commons—as community-owned property.²¹⁹

B. Creating Land Tenure Security

For many of the Sub-Saharan African poor, their poverty stems from effective or complete landlessness. They may be slum-dwellers with no more land than that upon which the crate they call home sits, or they may be trying to scratch some meager existence from the dirt alongside a rural road. In any case, the discussion of providing land tenure security is meaningless to them because they have no access to land.

In such circumstances, particularly where “a high degree of ownership concentration is combined with a significant level of rural poverty attributable to lack of access to land, fisheries and forests,” land redistribution may be an effective means of providing the poor with land and secure land tenure.²²⁰ Allocation of public land,²²¹ voluntary and

²¹⁵ Krantz, *supra* note 187, at 11-12.

²¹⁶ *Id.* at 12.

²¹⁷ *Id.*

²¹⁸ *Id.*

²¹⁹ *Id.* For additional customary tenure reform proposals and studies of existing reforms, see Knight, *supra* note 35.

²²⁰ FAO, Voluntary Guidelines, *supra* note 4, at 25-26.

market-based purchases of land, or seizure by eminent domain and redistribution of land to the poor “can facilitate broad and equitable access to land and inclusive rural development.”²²²

Certain practices are necessary, however, to help ensure that land redistribution leads to secure land tenure and not bitterness and resentment, which can lead to open hostility, strife, and revenge.²²³ Thus, whether the land is seized by eminent domain or procured on the market, efforts must be made to ensure that adequate compensation is provided without undue delay for the expropriated or purchased land.²²⁴ Many tenure reform efforts have failed largely because the financing for expropriation has been insufficient to adequately compensate the former owners of the land and legitimize the reforms.²²⁵ Insufficient compensation almost guarantees that the landowners who are losing property whose property is being taken will “evade the law, cause the law to be rescinded, or violently resist enforcement” of it.²²⁶ Payments may be less than market value, but should replace the former owners’ lost income from the land.²²⁷ Furthermore, where the transfer is by

²²¹ The distribution of *public* lands is not uniformly supported. Professors Prosterman and Hanstad argue that alternatives such as distribution of public lands, voluntary sales of land through “market-assisted” means, and resettlement programs have failed by either not having any significant impact or, worse, being simply “costly, disruptive, and environmentally damaging.” Prosterman, *Land Reform*, *supra* note 23, at 780-81.

²²² FAO, *Voluntary Guidelines*, *supra* note 4, at 25. Since there is some evidence that formalization increases rental prices, it may be helpful to consider creating tenure security in leasing arrangements without reallocating property rights—an issue that has not been considered adequately. Similarly, removing restrictions on renting land promotes the rural economy without the expense of traditional titling efforts, as studies in Ethiopia and South Asia demonstrate. Shackelford, *supra* note 31, at 298–99.

²²³ Tapscott, *supra* note 22, at 31 (observing that forced transfer of land without compensation “creates a host of political and human rights concerns and can instigate enduring tension and conflict”).

²²⁴ Prosterman, *Land Reform*, *supra* note 23, at 778; FAO, *Voluntary Guidelines*, *supra* note 4, at 26, 27 (¶¶ 15.4, 15.9).

²²⁵ Prosterman, *Land Reform*, *supra* note 23, at 778.

²²⁶ *Id.* at 781.

²²⁷ *Id.*

eminent domain, the state must be careful not to communicate a sense of judgment or penalty on the former owners.²²⁸

Care must be taken to ensure that the redistribution is successful. While the amount of the land provided to the beneficiary should be sufficient to earn an adequate standard of living,²²⁹ the size of the property supplied need not be excessively large, as even small land plots with tenure security can provide significant benefits.²³⁰ Providing plots of land sufficient for a small house and garden, between 1/25 acre (about 1,730 square feet) and 1/10 acre (about 4,350 square feet), to agricultural families has proved to make a significant difference for the beneficiaries.²³¹ While these plot sizes may seem very small to many Westerners, it is important to realize both how productive a small plot can be²³² and how valuable to a poor family the plot will be.²³³ The state should use the amount of land a family can farm with its own labor and capital as a guideline for sizing the property.²³⁴

In addition to right-sizing the property redistributed, the state should also ensure that the beneficiary has access to credit, markets, farming advice, technical assistance, and other resources necessary to make the redistribution successful.²³⁵ Some tenure reforms have failed in large part

²²⁸ *Id.* at 782.

²²⁹ FAO, Voluntary Guidelines, *supra* note 4, at 26.

²³⁰ Prosterman, Land Reform, *supra* note 23, at 782.

²³¹ *Id.* at 782-83 (collecting case studies); Tapscott, *supra* note 22, at 31, 35.

²³² See generally Robert Mitchell et. al, *Micro-Plots for the Rural Poor*, in ONE BILLION RISING: LAW, LAND AND THE ALLEVIATION OF GLOBAL POVERTY 153-94 (Roy L. Prosterman, et. al, eds. 2007).

²³³ Tapscott, *supra* note 22, at 35 (observing that “even minor profits can provide resources sufficient to enhance child nutrition, decrease time spent gathering food and firewood, and increase family income. Slight improvements in each of these categories can be sufficient to fight malnutrition and child mortality, allow children to attend school, increase access to healthcare, and expand future opportunities, effectively lifting families out of the cycle of poverty and allowing them to chart a new path toward development”).

²³⁴ Prosterman, Land Reform, *supra* note 23, at 783.

²³⁵ FAO, Voluntary Guidelines, *supra* note 4, at 27; see IFAD, Improving Access, *supra* note 18, at 30.

because, despite the provision of land and tenure security to the beneficiaries, the new owners had “no other inputs and services to be able to cultivate [the land] properly.”²³⁶

VII. CONCLUSION

A growing body of scholarly research ably demonstrates that land tenure security provides relief for the poor. Those with no- or low-income, upon obtaining secure access to land, enjoy improved livelihoods because they can grow more food, harvest more products for consumption or trade, invest in more economically productive activities, and use the property to obtain credit.

The research is less developed but equally persuasive that land tenure security also promotes environmental protection. Where a country adopts law and policies promoting and protecting tenure security, it can significantly reduce environmental degradation. Land tenure security also results in greater environmental protection through better stewardship of natural resources. Thus, farmers who have secure land tenure are motivated not only to make improvements to aid in their agricultural work but also to help improve their environment. Providing secure land tenure under the rule of law and enforcing claims under the common law, enables developing countries to achieve their environmental goals faster.

To achieve these ends, progress must continue to be made in formalizing property rights, strengthening customary tenure systems, redistributing land, and providing tenure security to the landless poor.

²³⁶ IFAD, *Improving Access*, *supra* note 18, at 6, 13 (noting that “measures to strengthen land tenure security must be complemented by pro-poor policies, services and investments that reduce vulnerability and enable people to make the best use of their access to land”).