



Drivers and actors in large-scale farmland acquisitions in Sudan

Martin Keulertz

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by Martin Keulertz

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www.iss.nl/ldpi

landpolitics@gmail.com

in collaboration with:

Institute for Development Studies (IDS)

University of Sussex

Library Road

Brighton, BN1 9RE

United Kingdom

Tel: +44 1273 606261

Fax: +44 1273 621202

E-mail: ids@ids.ac.uk

Website: www.ids.ac.uk

Initiatives in Critical Agrarian Studies (ICAS)

International Institute of Social Studies (ISS)

P.O. Box 29776

2502 LT The Hague

The Netherlands

Tel: +31 70 426 0664

Fax: +31 70 426 0799

E-mail: iss.icas@gmail.com

Website: www.iss.nl/icas

The Institute for Poverty, Land and Agrarian Studies (PLAAS)

School of Government, Faculty of Economic and Management Sciences

University of the Western Cape, Private Bag X17

Bellville 7535, Cape Town

South Africa

Tel: +27 21 959 3733

Fax: +27 21 959 3732

E-mail: plaas@uwc.ac.za

Website: www.plaas.org.za

The Polson Institute for Global Development

Department of Development Sociology

Cornell University

133 Warren Hall

Ithaca NY 14853

United States of America

Tel: +1 607 255-3163

Fax: +1 607 254-2896

E-mail: ta12@cornell.edu

Website: polson.cals.cornell.edu

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Abstract

This study analyses the political, economic and social impacts of the land and ‘virtual water’ grab in Southern Sudan. The ‘virtual water’ concept, which explains the absence of water wars through water embedded in agricultural imports, has been a major breakthrough in the study of the Middle Eastern water question. This paper shows how agricultural commodities in the form of virtual water are at the heart of Middle Eastern investors’ interests. The paper sheds light on investments in Southern Sudan, which are a form of water arbitrage by investing countries. The virtual extension of the investing countries’ Lebensraum into the recipient countries is part of a ‘new scramble’ over African resources — namely water resources. However, the risks of such investment activities lie in the social and environmental sphere with tribal conflicts and poor soil quality.

About the author

Martin Keulertz is a PhD researcher at King’s College London. His research analyses the recent surge of foreign direct investment in East Africa from a water security perspective. Currently based in the Middle East, he researches the alternatives to demand-side water management in the Middle East through investments in sub-Saharan Africa. His further research interests relate to the role of ‘virtual water’ in the global political economy of food trade. He takes a critical approach to the role of agribusinesses in the unofficial trade of ‘virtual water’ resources at a time of global political and economic change. He is one of the editors of the *Handbook on Land and Water Grabs: Foreign Direct Investment and Food and Water Security* published by Routledge in August 2012.

Acronyms

ABCD	Archers Daniels Midlands, Bunge, Cargill and Louis Dreyfus
ADM	Archers Daniels Midlands
AFRICOM-US	African Command – United States
CFA	Cooperative Framework Agreement
CIA	Central Intelligence Agency
CPA	Comprehensive Peace Agreement
EU	European Union
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GNPOC	Greater Nile Petroleum Operating Company
GOSS	Government of Southern Sudan
IFPRI	International Food Policy Research Institute
INGO	International non-Governmental Organisation
NBI	Nile Basin Initiative
OECD	Organisation for Economic Cooperation and Development
SPLA	Sudan People’s Liberation Army
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFPA	United Nations Population Fund
US	United States (of America)
USAID	United States Agency for International Development

Glossary

Blue Water:	<i>This water can be found in lakes, rivers or aquifers</i>
Green Water:	<i>A water source stemming from rainfall and water stored in the soil</i>
Liebensraum:	<i>Additional territory deemed necessary to a nation, especially Nazi Germany, for its continued existence or economic well-being</i>
Scramble for Africa:	<i>A process of invasion, occupation, colonisation and annexation of African territory by European powers during the New Imperialism period, between 1881 and World War I in 1914 (Carmody 2011).</i>
Prisoner's Dilemma:	<i>A canonical example of a game analysed in game theory that shows why two individuals might not cooperate, even if it appears in their best interest to do so.</i>
Virtual Water:	<i>Refers to the water used in the production of any commodity</i>

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1 Introduction

Large-scale investments in African farmland have recently alarmed Western and African civil society; governments; development agencies; and human rights activists, as a new form of ‘neocolonialism’, ‘land grabs’ or a new form of a global rush for food security (Cotula et al 2009; GTZ 2009; Palmer 2010; de Schutter 2010). The main challenge of any research on this topic is located in the methodology of the study. Whereas the drivers of foreign direct investment can only be understood on the global scale, the impacts are only visible on the local scale. This paper sheds light on the reasons for foreign (mainly Asian) investors to turn a politically tense region such as East Africa, and in particular Southern Sudan, into a ‘new Brazil’ (AS 2 2010) or a ‘breadbasket’ for Asia (and Africa).

In particular, the paper will analyse current agricultural investments from the viewpoint of hydro-politics. This fairly recent (sub-)field of geopolitics is defined as (international) politics affected by the availability of water resources (Waterbury 1979). Tony Allan’s ‘virtual water’ concept, which explains the absence of water wars through water embedded in agricultural imports, has been a major breakthrough in the study of the Middle Eastern water question (Allan 2002). It is argued that the main driver of land grabs is scarce water resources in the Middle East, South and East Asia. Land is abundantly available in countries such as Saudi Arabia, but it has not had water resources to support its food production ambitions. The production of food would require large-scale desalination plants, which would lead to unsustainable costs in the Saudi agricultural sector. Up until now, Middle Eastern economies were able to balance their water deficits through the import of ‘virtual water’ or water embedded in agricultural commodities. A dramatically changing global order, with changing food consumption patterns in Asia, has placed new pressures on the supply side. ‘Land grabs, or foreign direct-investment in land, represent investment in African ‘virtual water’ resources and an extension of global food supply. Moreover hydro-politics seeks to fill the gap in the geopolitics/international relations’ literature at a time of a ‘new scramble’ (Carmody 2011) in Africa with agriculture and therefore ‘virtual water’ as strategic resources. Acquiring access to land is part of the ‘new scramble’ on the African continent — to use an allusion to the international politics in Central Asia since the 1990s (and the British/Russian rivalry over Central Asia in late 19th century).

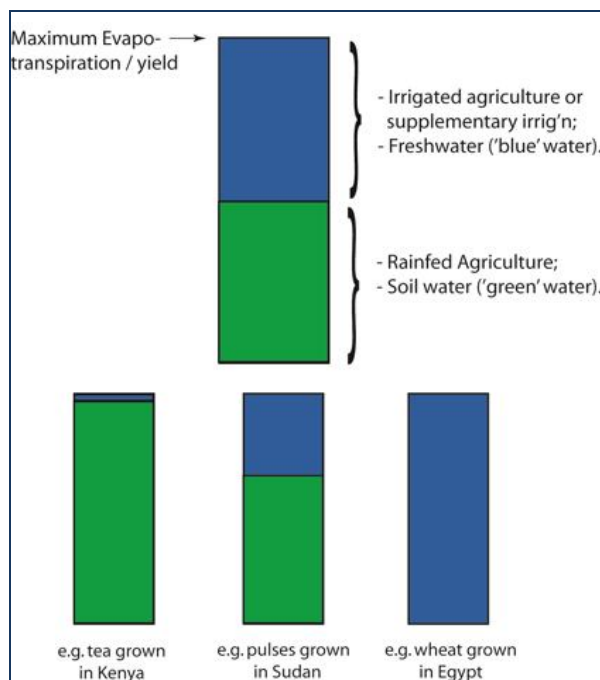
The literature on investments in farmland has grown significantly in the past 18 months. Most studies are located in the pessimist camp with alarmist views on foreign investment in African land. Within this camp are the German development agency, NGOs such as Grain and Robin Palmer from Oxfam. On the other side, von Braun and Meinzen-Dick from IFPRI (2009) mention the development opportunity for currently underdeveloped African political economies. The World Bank study (2010) is within the optimist camp, backing ‘land grabs’ as an opportunity for developing countries if a code of conduct can be implemented. The missing legal framework is also at the heart of the work by the Special Rapporteur on the Right to Food, Olivier de Schutter (2009), who places the emphasis on access to land. International law is mentioned in most studies to press for regulatory means. The only study to identify water as the main driver for land grabbing was conducted by Carin Smaller and Howard Mann (2009) which contributed to the debate around water law and access to land. However, it did not consider the crucial water/food/trade nexus which explains political economic issues around water and food security.

Investment in Sudanese land is not a new phenomenon. Early attempts in the 1970s and 80s failed due to insufficient investment or just plain greed (O’Brien 1981). The greatest optimist for a green revolution in Southern Sudan was David Hopper, who ascribed the southern half of the Sudan, as early as 1976, ‘as being potentially one of the richest farming regions in the world, with soil, sunlight, and water resources to produce enormous quantities of food — *as much, perhaps, as the entire world now produces!*’ (Waterbury 2002: 141; *emphasis added*). The breadbasket rhetoric attracted investors from the Arab world in the 1970s. In the new millennium, it is resource scarcity that brings investors to Africa. The World Bank (2009) in a joint study with the Food and Agriculture Organisation (FAO) has also assessed the opportunities for farming in the Guinea Savannah Zone ranging from Western Africa to Madagascar. As the authors of this study argue, this land is largely still an untapped treasure which could provide desperately required supply increases not only for Africa but potentially also for other parts of the world.

Water and food security has also gained prominence within the business community. The perceived risk has alerted multinationals from Europe and America to take agricultural water use seriously. As a result, the world's largest business consultancy, McKinsey, has quantified the future water use of Brazil, China, South Africa and India. A water gap of 40% was assessed for these four economies until the year 2030 (McKinsey 2009). Tony Allan (1997) has rendered possible the assessment of the impact on food trade (and certainly also 'land grab' activities) on water resources through the 'virtual water' concept which refers to the water used in the production of any commodity. The water consumed in the production of one kilogram of wheat, including all the freshwater, amounts roughly to 1000 litres of virtual water. One kilogram of beef produced industrially in Europe or America with soy imported from developing countries embeds as much as 15.000 litres of virtual water. If the commodities are traded, the (virtual) water is also silently exported to the purchasing economies. The importer therefore acquires water from a different country leaving domestic resources untouched.

An important distinction must be made between the types of water being used. If the kilogram of wheat has been produced through irrigation agriculture, its water content derives mainly from 'blue water' (Zeitoun et al 2009). This water can be found in lakes, rivers or aquifers, and it is often subject to water disputes (Zeitoun and Warner 2008). Most of the global agricultural output stems from 'green water', a water source stemming from rainfall and water stored in the soil. Rainwater represents the ultimate water resource, part of which vaporises during plant production (the so-called green water flow), while the rest forms runoff (so-called blue water flow) (Zeitoun et al 2009). A potential way to make more use of blue water and green water is to increase the crop-per-drop efficiency, which suggests that farmers in arid regions not grow water-intensive crops, but rather grow these in wetter areas of the world. This, however, requires costly investments in infrastructure. At the same time, a land use decision is always also a water use decision (Falkenmark 2003). In this study, focusing on crop production in southern Sudan, I am interested in the political economic impacts of green water use or the increase in the investing country's Lebensraum by making use of another country's rainfall and soil water.

Figure 1: Different types of water available to investors in the Nile basin



Source: Zeitoun et al 2009

It is argued that large-scale investment in land and virtual water also reveals the emerging new geopolitical order, which is characterised by the rush for natural resources. The field of geopolitics stems from the

imperialist days of European foreign policy making. One of the key theorists of the field was Halford Mackinder, who established a top-down way of thinking of the global political map. His major concern was the rule over a 'pivot area' ranging across the Northern hemisphere with Russia as the main area of interest. He influenced British decision-makers in the early twentieth century to counter German-Russian cooperation since this would have created a threat to the British Empire (O'Tuathail 1998). Since Mackinder's writings were later deployed by Nazi thinker Karl Haushofer to justify intellectually Hitler's claims for more Lebensraum (Warner 2010) for the German people it has been subject to embarrassment in geography in the first decades after the Second World War. Nevertheless, the concept has retained attention predominantly by US foreign policy makers, in the post-war era, with Henry Kissinger being amongst the most prominent voices.

Or as O'Tuathail (1998: 6) aptly sums it up:

Classical geopolitics represents the 'Geopolitical Man', the Mackinder-like figure that eyes the globe and divines the secrets necessary for mastering it. Informed by the geopolitical literature, this paper defines land grabs as a virtual extension of the investors' Lebensraum by acquiring land from another economically weaker and less legally regulated state.

Hardly any economic sector reveals the hegemony/domination of the Western world more aptly than global food trade. Freedman and McMichael (2009) speak of different 'food regimes' starting from European colonialism to Pax-Americana over agricultural trade. One result of the American food regime is the 'Big Four' in food trade, which comprise of agribusiness companies such as Archers Daniels Midlands (ADM), Bunge, Cargill and Louis Dreyfus. They are also referred to as ABCD in the international political economy. Sojamo (2010) estimated their share of virtual water trade at 50% on the global level. It is furthermore important to acknowledge US and European subsidies in agricultural policies on both sides of the Atlantic as a protectionist measure. The US and EU agricultural policies therefore reveal the strategic importance of the farming sector for the political economies on both sides of the Atlantic. This deliberate market distortion has kept food prices at a low level in the Western world since the end of the Second World War to maintain political stability in Europe and America.

The deficiencies of the global food system have attracted criticism for decades. After an emphasis on demand-side management in the past 20 years, the current global food markets prepare themselves for another round of supply increases. Driven by the food price spikes in 2007/08 and bullish projections of future food commodity prices (Witzke 2009), the apparent need for fresh supplies is an idea constructed around the globe to overcome the agricultural 'treadmill' (ibid). The OECD outlook on food prices from 2010-19 further fosters the notion of higher demand from Asia. However, it is worth taking a look at the current global political economy of food. Western food traders have privileged access to global agricultural commodities due to the foreign direct investment in overseas agriculture, which can be traced back hundreds of years. Global food prices are thus determined by the agricultural policies in Brussels and Washington through which they have created global trade monopolies (Wilkinson 2009). The essential resource required to challenge Western hegemony is water. An abundance of water is not available in all parts of the globe; investing countries such as Saudi-Arabia and China lack this precious resource at a time of population increase. Sub-Saharan Africa offers desperately needed water resources in agriculture; however, the cheaper resource to invest in is rainfall and soil water. Hence, the focus of this paper will be placed on green water.

1.2 Methodology

With regard to methodology, twenty key informant interviews were conducted in Ethiopia, Kenya, Uganda and Southern Sudan. The interviewed elites were nationals of the researched countries and international development experts. Given the nature of the topic – with its very recent developments – journalists from Western media were also interviewed because of their generalist perspective on African political economy. The qualitative data was collected from 26 July 2010 – 06 October 2010 with three weeks each in Southern Sudan and Kenya; five days in Uganda; and two weeks in Ethiopia. Ethiopia was chosen because Addis

Ababa is the political capital of East Africa; Nairobi for its economic importance as the leading business centre in the region; Kampala/Entebbe are the regional 'water capitals' as they are hosts to the Nile Basin Initiative (NBI). Finally, research in Southern Sudan was conducted in Juba and Bentiu, in Unity State in September 2010. Interviewees were chosen due to two considerations. First, general observers of African politics were identified to comprehend the underlying fundamentals of land grabs; also to provide their assessment on the geopolitical impacts of it. Those were interviewed in the political and economic centres of the region: Addis Ababa, Nairobi and Kampala. Second, water and agriculture experts were interviewed in Juba and Addis Ababa to get to the heart of the enquiry: land grabs. The analysis of secondary media literature is applied to link virtual water grabs to the 'new scramble' for Africa.

Table 1: Interviewees

Anonymous source no.	Field	Date	Place
AS1	Executive, INGO*	05/10/2010	Nairobi, Kenya
AS2	Senior water expert, Western donor agency	02/08/2010	Addis Ababa, Ethiopia
AS3	Senior water expert, Western donor agency	24/09/2010	Kampala, Uganda
AS4	Senior advisor, Southern Sudan government	13/09/2010	Juba, Southern Sudan
AS5	Africa correspondent, international newspaper	31/08/2010	Nairobi, Kenya
AS6	Agricultural advisor, GOSS	10/09/2010	Juba, Southern Sudan
AS7	Political researcher, NGO	09/08/2010	Addis Ababa, Ethiopia
AS8	Africa correspondent, international newspaper	12/08/2010	Nairobi, Kenya
AS9	Development expert, INGO	18/09/2010	Bentiu, Southern Sudan
AS10	Senior water expert, INGO	07/09/2010	Juba, Southern Sudan
AS11	Agricultural investor, Southern Sudan	21/09/2010	Bentiu, Southern Sudan
AS12	Senior water expert of INGO	08/09/2010	Juba, Southern Sudan
AS13	Africa correspondent, international newspaper	12/08/2010	Nairobi, Kenya
AS14	Team member, multinational organisation	30/07/2010	Addis Ababa, Ethiopia
AS15	Senior development advisor	13/09/2010	Juba, Southern Sudan
AS16	Land policy advisor, GOSS	08/08/2010	Juba, Southern Sudan
AS17	Senior government minister, Unity State	20/09/2010	Bentiu, Southern Sudan
AS18	Director, multinational water organisation	28/08/2010	Entebbe, Uganda
AS19	State secretary, state ministry	13/09/2010	Juba, Southern Sudan
AS20	Agricultural expert, INGO	08/09/2010	Juba, Southern Sudan
AS21	Advisor to the Ministry of Agriculture, Egypt	16/01/2011	Cairo, Egypt
AS22	Agricultural consultant, international consultancy	20/01/2011	Cairo, Egypt
AS23	Investor in Sub-Saharan agriculture	16/01/2011	Cairo, Egypt
AS24	Advisor to the Ministry of Agriculture, Egypt	17/01/2011	Cairo, Egypt

*Note: INGO= International Non-Governmental Agency

2 Politics of water in East Africa

Much of the academic emphasis with regard to hydro-politics is still placed on trans-boundary blue water relations. In an environment of nine Nile riparian member states, the functionalist paradigm in international relations has been applied since the NBI's inception in 1999. Water is not only a source of energy and irrigation provision, but also subject to nationalist sentiments. Whenever politicians seek to win national elections in member states, water security is used for a nationalist rhetoric (AS3). Egypt especially has great concerns about an independent new Sudanese state in the south that could potentially withdraw more water from the Nile for irrigation agriculture and energy supply (Key informant 2).

A striking feature of Nile hydro-politics is the prevailing power asymmetries (Cascao 2009). The states located in the basin are largely economically underdeveloped although improvements are visible given the recent growth rates in Kenya, Rwanda but also Uganda. Egypt has long held a dominant position in the region; influenced by the colonial Nile treaty of 1929 and established by the 1959 Nile Waters Agreement between Egypt and the Sudan. This non-inclusive agreement – involving only Egypt and the Sudan – determined not only power relations but also economic development in the Nile basin. Egypt claimed 75% of Nile flows; the Sudan was allocated the remaining 25%. Egypt's aim was to secure its agricultural sector in the economy. Despite the constant decrease of the agricultural sector as a proportion of Egypt's GDP since the 1970s, agriculture still accounts for 13% of the GDP and employs roughly one third of the Egyptian workforce (CIA Factbook 2010). Foreign donors are demanding a further decrease of Egypt's water use, the core opposition stems from the trade unions in Cairo that the government does not dare to confront at a time of political transition; this also contributes to current growing social unrest in a number of Arab states (AS 5). Blue water resources are amongst the most contested regional political issues. Politicians have therefore played the nationalist card in election campaigns with regard to water security. Ethiopia held elections in May 2010, Uganda will hold presidential elections on 18 February 2011, and Egypt is in a state of severe political unrest, which is likely to lead to a regime change in the course of 2011. Hence, the riparian countries are in a state of constant domestic contestation which leads to external economic nationalist rhetoric on the shared blue waters of the Nile (AS 3). The Nile Basin Initiative (NBI), with its functionalist agenda, is presently in a state of severe pressure due to lack of progress. In May 2010, Uganda, Ethiopia, Rwanda and Tanzania – upstream countries – signed the Cooperative Framework Agreement (CFA) to establish the right to use more water from the Nile. This agreement is heavily opposed by Egypt and the Sudan.

Possible large-scale investment in irrigation agriculture schemes upstream has therefore led to growing concerns in Egypt but also amongst the water experts in the NBI, about future water outtakes from upstream riparian's (AS2). The signing of the CFA affirms the notion of current power restructuring on the regional level. Large-scale land acquisition in upstream riparian countries may at a later stage lead to an expansion of supplementary irrigation in upstream riparian countries but it does not touch upon blue water resources in Southern Sudan at present (AS 2, 3). At this early stage, green water resources are the water resources targeted by investors in Southern Sudan. Green water husbandry is not only a promising future path for virtual water supply but more importantly a risk-averse way of cultivating land. Not only the invested capital but also the political costs are comparably low as opposed to irrigation schemes that require expensive irrigation infrastructures to store and regulate blue water.

3 Southern Sudan

3.1 Political history of Southern Sudan

The Sudan is one of the most difficult countries to research in Africa. It has experienced a long history of warfare between the central government in Khartoum and southern rebels in an area that covers approximately one-third of the country in the south. The southern region of the Sudan covers an area similar to Germany and Poland together with a population of 7.5 to 9.7 million (UNPFA 2006). An official census in 2008 counted only 8.2 million Southern Sudanese; although Southern Sudanese politicians

disputed this number because it was provided by the central government in Khartoum. A civil war between the northern army and southern rebels lasted from 1955 to 2005, only interrupted by an eleven-year ceasefire from 1972 to 1983. Since 2005 a Comprehensive Peace Agreement (CPA) is in place which includes an agreement on a referendum on independence of the southern part. This referendum has been held between 9 and 16 January 2011. A majority (98.9 %) of Southern Sudanese have cast their votes in favour of independence; it is expected that the new state will be declared on 9 July 2011 (Southern Sudan referendum 2011: 1 August 2012).

3.2 Geography of Southern Sudan

The southern part's most remarkable feature is its flat geography with swamplands covering most of the northern states of the South (see map). The Sudd, the world's second largest swamp after Vasyugan swamp in Russia, provides a formidable expanse of lakes, lagoons, and aquatic plants, whose area in high floodwaters exceeds 30 000km² – approximately the size of Belgium. Approximately two thirds of the Sudd are located in the South. This unique ecosystem enjoys nine months of green water availability during the rainy season. It is from February until May that the dry season hampers agricultural potentials which could be mitigated through irrigation systems at a later stage of an independent South. Water from the contested Nile would not have to be used at an early stage of investment. If demand makes future supply necessary then irrigation systems would need to be established to increase agricultural production. Yet, if such a scenario occurs, price theory of demand and supply tells us that such investment would have to be underpinned by higher food prices. Such a situation would potentially lead to mutual benefits for investors and recipient countries. It is estimated that the irrigation potential of the River Nile has hardly been touched in the past decades with only 0.3 % of Nile waters used for irrigation agriculture in Sudan (AS3).

Scoping studies were conducted by Blackmore & Wittington (2009) to model scenarios of water outtake for irrigation and hydro power generation in Ethiopia, Sudan and Egypt. Higher water outtake by upstream riparian's such as Sudan and Ethiopia may not affect Egypt's share of 55 billion cubic metres per year due to current evaporation losses, one scenario concludes that Egyptian irrigation agriculture may experience severe consequences because of the long-term hydrological memory of the Aswan dam. Moreover, climatic changes will make a cooperative approach necessary by riparian states to deal with the 'uncertain future' (Blackmore & Wittington 2009). However, in most scenarios, the authors came to the conclusion that increased water outtake from downstream riparian's hardly has an impact on the water flows to Egypt which has been allocated 55.3 billion cubic metres of water from the river in the colonial Nile Water Treaty of 1956. The World Bank has also decided to establish a support system unit based in all Nile Basin Initiative member states to model water use scenarios. Greater investment in irrigation agriculture would not lead to great blue water losses in Egypt. If 10 billion m³ of water were being used for hydro power or irrigation agriculture by upstream riparian's, Egypt would only receive 1.5 billion m³ less water flow from the Nile due to high evaporation of water in the Sudd. Future research will however be conducted on the impact of upstream water withdrawals on the ecosystem of the Sudd. As one key informant stressed:

Blue water withdrawals from upstream riparian's of both, White and Blue Nile riparian's, could lead to a loss of green water availability in the Sudd as impacts on the ecosystem may be possible.

AS 14

In other words, this would be a prisoner's dilemma for inhabitants of the Sudd; Nile riparian governments; and investors. Countries and investors may not cooperate over blue water use in the basin despite in their best to do so to increase water efficiency and preserve the ecosystem. Although major plans for irrigation agriculture exist along the Sudanese share of the White Nile, no project has yet become operational in the southern part of Sudan. Hence, the core focus of this paper is placed on Southern Sudan's green water resources as a provider of virtual water.

3.3 Land in Southern Sudan

Southern Sudan has been selected by the author from a large number of potential targets for inward investment in land and water because of the alleged great agricultural potential and its political dimension. It is in the midst of securing independence, and generating future incomes from the agricultural sector, and is a highly sensitive political case study in East Africa. Land issues are clearly embedded in the development strategies of the government and foreign donors. Although the European Union has officially been given the task by the GOSS to identify the agricultural strategy, USAID contributes to a new agricultural strategy — the 2006 Food and Agriculture Policy Framework — that emphasises smallholder agriculture (AS 15). It reveals the growing concern of the US that Southern Sudan may be on the verge of failure if economic development is not addressed. Moreover, the expectations of the Southern Sudanese are at a very high level, which poses further pressure on the GOSS to achieve a successful transition to an independent state. Education levels in Southern Sudan rank amongst the lowest in the world. About one quarter of the Southern Sudanese is literate. Government strategy is thus focused on the agricultural sector where a workforce can be relatively easily educated. The GOSS is therefore already providing agricultural education on model farms in Central Equatorial state. The official position of the government is to increase the current average farm size from 0.2 acres to 3 acres, and raise investment from 0.8% at present to 10% of all investment into Southern Sudan within the coming three years (AS 4). As one international aid worker bluntly expressed:

The feasibility of these plans will decide the country's fate. I have been to Iraq, Afghanistan and in Malawi but I never had to deal with so many high-flying expectations alongside scarce information on the political dimension of my work.

AS 6

Foreign direct investment in agricultural land was described by a senior GOSS advisor 'to be welcomed by the government', which he underlined with the slogan 'think agriculture – think Southern Sudan' (AS 6).

Almost all international 'land grab' players in the land grab business are present in Southern Sudan. Land has therefore changed hands to mainly Chinese, US, Indian-Ugandan and Middle Eastern investors in the southern region, and US and Middle Eastern investors in northern areas. Although only a few of the land acquisitions have been made public so far, the presidential advisor admitted that most land deals were unofficially signed; the north of Southern Sudan and the equatorial states have received most interest.

Whereas investment in the southern states appears to be being evaluated according to agricultural criteria, investment in the northern part of Southern Sudan is being assessed through political lenses. The northern part of Southern Sudan enjoys a growing period of 120-179 days per year as opposed to the southern part, where the growing period is between 180-282 days. Moreover, the soil fertility in the northern parts is poorly suited for all kinds of agricultural activities. The Food and Agriculture Organisation (FAO) of the UN classification of the soil in the north assesses the land as prone to the development of Acrisols, Arenosols, Nitisols and Leptosols. The management and use of all three types of soil requires scrutiny with regard to management attention due to the nature of the soil types. Farming is indeed possible on these soil types but the threat of overuse, negligence of soil conservation and erosion persists. Whereas Acrisols is a clay-prone soil suitable for production of rain-fed and irrigated crops only after liming and full fertilisation (FAO 2009), Arenosols, in humid areas, is a sandy soil best left under natural vegetation such as forests. If cleared for agricultural purposes, Arenosols turn into bad-lands without any ecological and economic return. Nitisols is the most productive soil found in tropical areas, which however, are only partly found in Sudan. The most available soil type is Leptosols, which is particularly prone to erosion threats if overused or polluted. The best use for Leptosols is forest land and wet season grazing (FAO 2009). Southern Sudanese soil types should thus be treated with caution. Emphasis on high returns without taking into account the vulnerability of the soil may lead to dismal farming results.

Most of the soil types therefore have poor agricultural potential in common (Pasquale Steduto, *personal correspondence* 2010). In one of the few hydrological studies on the Sudd, Howell (1988) assessed the region to be characterised by ‘soil deficiency by normal agricultural standards’.

This uncertainty about the actual agricultural potential of the Southern Sudan raises questions about the ‘hidden agendas’ (AS 2) of investors. Especially since the less fertile north has received most interest from Middle Eastern and US investors. Some Middle Eastern countries were particularly interested in land in Western Bahr el Ghazal (AS 4, AS 20), where soil fertility does not permit the same returns as in the southern parts. However, the north hosts oil fields and the potential of minerals. The hidden agenda behind strong interest in agricultural land may therefore also be related to access close to very precious resources or land.

4 Investors’ profiles

In this section, I will present two investment projects in Unity State to provide an illustration of the profile of investors. Southern Sudan is a unique case in the current surge of farmland. Gathering data was the expected challenge given the state of the political and legal systems. The key people in large-scale land sales or leases are state governors, to whom the GOSS has delegated land issues at this stage of political development (AS 15). This approach accords with the tribal setting of the country, which certain ‘borderline investors’ (AS 9) such as US speculator Phil Heilberg is seeking to exploit in circumstances of weak governance structures (Funk 2010). The talk around the international ‘land grab celebrity’ Phil Heilberg appears to be not well grounded at this stage. His project in Unity State is far from being operational. It is not even clear whether he has actually acquired one million acres in this state he intends to use for intensive farming. His contact person in Unity State, General Paulino Matib, does not have much influence over Governor Taban (AS 9, 15). Matib’s main activities take place in Juba in order to remain close to the GOSS. Heilberg’s investment has been linked to the much more short-term field of business – oil (AS 9). It is likely that oil concessions will be retendered after the referendum and he may be positioning himself in a privileged position (AS 15). According to one aid worker, Heilberg may have purchased land but he does not play a high-risk game due to the cheap availability of land. It is uncertain if Heilberg has paid a single US Dollar for his alleged land acquisition or if he has rather offered advisory posts in his company for members of the Matib family in exchange (AS 8 and AS 17). This contradicts the otherwise cheap availability of land, which has changed hands in other parts of Southern Sudan in exchange for cash only (AS 4). Moreover, it is questionable why Heilberg purchased land in an area, which is not very suitable for agriculture and therefore for profits. However, one may question whether the land has got oil or minerals on it.

The key player in Unity state, Governor Taban, has an engineering background and has a high interest in farming (AS 9, 15). A project that is, however, partly operational is the 200 000ha land acquisition by Concord Agriculture. Financed through Egyptian funds, several ‘farming consultants’ from South Africa, Namibia and Australia have launched a project in Munga, Unity State in early 2010. On their land, they test the soil with sorghum and maize but also vegetables such as tomatoes, cucumbers and lettuce. To increase the initial revenues, they grow flowers intended to be shipped via plane to Western and Middle Eastern markets. Concord is in its initial stage using only a small fraction of their land powered by 80 generators; on which they have their own health clinic and a restaurant with close access to Thaarjat airport, the only airport serving Unity State. With respect to water resources, an interview with one of the farmers confirmed that the company is interested in testing the possibilities of rain fed agriculture in Southern Sudan, hence the interest is targeted at green water resources. The company seeks to increase the land productivity through modern equipment and especially through water-efficient low-till ploughing methods. Low till refers to an agricultural planting practice in which disturbance of the soil is kept to a minimum. The structure of the topsoil, which determines the water-holding capacity of the soil and the ease of new plants to put down roots, is thus preserved (Green Facts 2009). At present, in the absence of a proper market for high-quality food, the produce is partly given away for free to local neighbourhoods. The strategy of the

company is to utilise the full amount of allocated land in the coming years and also to provide consultancy to other interested investors (AS 11). The crucial question however of how to transport the food to the main centres in Southern Sudan remains open as long as the company does not have access to functioning infrastructures. It is intended in the near future to purchase an airplane to supply Juba with vegetables from Unity State, yet this undertaking is entirely dependent on the outcome of the referendum (AS 11). Again, it is inconceivable why these investors have purchased land in Unity State and to what extent their intentions are agricultural or political. In contrast to other investors, Concord Agriculture was surprisingly open about their farming plans.

The practice of farming in Southern Sudan by Egyptian investors must be clarified by looking at the strategy of the investors. Interviews with investors, government advisors and environmental consultants (AS 21, 22, 23, 24) in Cairo revealed that the Egyptian state is not directly involved in the investments but underwrites them through guarantees and incentives in accordance with the Law No. 8 of 1997 on Investment Incentives and Guarantees. Moreover, the state provides consultancy through its agricultural research institutes. The investment is under the umbrella of the private sector in Egypt, and the regime views it as an alternative strategy to respond to international political and economic changes (Egyptian Ministry of Agriculture 2010). In the Ministry of Agriculture's assessment, it stresses that the country should move beyond the old strategies of food self-sufficiency towards a better utilisation of comparative and competitive advantages. As one interviewed person explained:

Egypt has understood that its comparative and competitive advantages are the supply of organic vegetables and fruits in the winter months to consumers with higher purchasing power than domestic consumers.

AS 22

Moreover, the scarce water resources in Egypt can therefore be utilised at higher economic revenues, whereas staple foods can be imported from tropical zones such as the investment in Unity State. Furthermore, production of biofuels is also mentioned as a potential strategy of farmland purchase in Sub-Saharan Africa. The utilisation of Sub-Saharan Lebensraum leads to higher efficiency of virtual water use. Whereas Egypt has been exporting cheap food in the past few decades to mainly European consumers for relatively low revenues, hence Egyptian decision-makers intend optimum allocation. Because the private sector is given the role of investing in foreign agricultural land, it appears unlikely that a regime change in Egypt will change the general strategic agricultural outlook. Interviewees affirmed that there are no plans to invest in large-scale irrigation schemes in targeted countries, to avoid high costs but also to avoid water outtake from the Nile. To speak in economic terms, this behaviour can be termed 'water arbitrage', which means that investing countries faced by water scarcity move to countries where water is available at lower economic and environmental costs. Additionally, Chinese activities in Sub-Saharan Africa are viewed with great concern for future domestic food security. In this 'new scramble' Egypt seeks to position itself twofold: first, as an active player to compete over resources but also as a partner of China with whom Egypt seeks to cooperate (AS 24).

4.1 The social composition of the investment area

However, the most severe obstacles for Egyptian, or any other, investment is the social and political landscape of Unity State. The highly politicised situation in Southern Sudan has also led to increasing discontent about the policies of local state commissioners towards the Dinka tribe. Tribal tensions between the Nuer and the Dinka minority have prevailed in the past twelve months prior to September 2010. The historical origins of these tensions are cattle rustlings, especially during the dry season, over water resources for their cattle. In 2009-2010, numerous raids occurred: the deadliest attack took place in January, when Nuer from Mayom County attacked Dinka cattle camps in Chot Chara Payam (Koch County), reportedly killing 136 Dinka and 7 Nuer from Mayendit, igniting a series of counter-raids affecting all bordering counties (anonymous document 2). The historic origins date back to the second Sudanese civil war when a splinter Nuer group broke away from the Sudan people's liberation army's (SPLA) leader John Garang, which led to severe internal clashes in the early 90s (Johnson 2003). The county commissioner General Mabek has been accused of annexing land in the Ruweng area in Unity State for undeclared

purposes (anonymous document 1). This caused the death of two civilians which has been confirmed by international observers. The aggressive stance of the local government towards the Dinka minority has several implications for further development in the agricultural sector. As mentioned above, a Dinka governor governs Unity State and the minority of people are from the Nuer tribe. Most of the dwellers are from pastoralist backgrounds. The traditional subsistence production mode of pastoralists has often been described as economically irrational (Livingstone 1985) with a tendency towards personal and family security. Cattle stocks, the colour of the animals and their number enjoy more importance than economic output factors. Furthermore, clashes between tribes over water resources during the dry season has led to growing concern amongst foreign security advisors such as by USAID to develop counter strategies to avoid further clashes. An innovative way of constructing water conveyance structures for cattle is intended to separate tribes from each other during the dry season. For grabbers of land, pastoralist tribes may pose a high degree of investment risk (AS 2, 9, 17). The cynical answer of a senior advisor to the GOSS to a question about pastoralists' existence in agricultural investment areas was 'the civil war has been a blessing because tribes will have learnt their lesson after independence' from the North (AS 4). Aggressive action by the SPLA in Unity State towards their own people may therefore be interpreted as a first act to protect investors from pastoralists.

Meanwhile, government advisors in Juba appeared to be very optimistic about inward investment on land. However, the worryingly aggressive language from Juba officials raises concerns about the future victims of land grabbers in Southern Sudan. Despite intentions to socialise the benefits of investment in the agricultural sector after a few years – 'We will increase taxes and customs for agricultural products' – the first major obstacles that traditional dwellers on Sudanese land may have to face will be force imposed by the authorities if cooperation cannot be secured (AS 9). The land is not only poorly suited for agriculture, it is also a potential risk area for investment given the tribal composition in this region. It must be added that the poor infrastructures are additional major obstacles to investment.

This section has provided information on soil fertility, current investments and incipient operations in Southern Sudan. At this stage, investment in the southern states may be linked to the extension of the investing country's Lebensraum into rain-fed agriculture and therefore green water of another.

5 The regional infrastructure plans

This section will examine the impacts of serious virtual water resource grabs to illustrate the changes in the second layer of the regional geopolitical order. For this purpose, the plans for novel infrastructure mega-projects will be presented. Hydro-politics along the Nile have shaped the geopolitical setting of the region for more than 50 years after independence from the British colonisers. Egypt emerged as the economically strongest country. This was partly on account of its hegemony over the Nile waters (Cascao 2009). The region has, however, undergone major changes in patterns of economic development in the past ten years. In particular, upstream Nile riparian's are now economies in transition mode (McKinsey 2010), which have been able to attract foreign direct investment into their economies. Kenya has emerged as one of the key players in the region with a desire to pursue a further economic growth path. The likely secession of Southern Sudan from the north would strengthen Kenya's position in the region. The shatter belt or the zone of persistent splintering and fracturing in Sub-Saharan Africa's established power under colonial rule would stand up to the old balance of power.

Kenya's President Kibaki had two major political objectives for his country in mind when he entered office: a new constitution and Lamu port (AS 5). Through the ratification of the referendum on 10th August 2010 and promulgation on 27th August 2010, the new constitution seeks for greater devolution, more checks and balances of the executive through the judiciary and tougher action on corruption (US Department of State 2010). The Kenyans have responded to calls by foreign donors and investors to provide more protection for domestic and foreign direct investment. The introduction of the new constitution was

welcomed with nationalist tunes such as ‘a new dawn’ or ‘the rebirth of a nation’. With this constitution, Kenya intends to attract further investment. Most significantly for farmland investment and to develop the Lamu port in Eastern Kenya. The intent is to develop a new trade hub in East Africa (AS 5). The \$18 billion investment in the Lamu Archipelago is heralded by the Kenyan government to answer the economic woes of the region but it has also received severe criticism from environmentalists for being established in a UNESCO Man and Biosphere reserve (Natural Justice 2010). These environmental concerns do not yet have much purchase on policy. The project is currently in its feasibility stage carried out by a Japanese and Chinese consortium.

China has signalled willingness to fund this new deep-sea port, which will include the development of an international airport, railway, oil refinery, resort city, and major highway (Daily Nation 2010; Standard 2010; Business Daily 2010; AS 5). As one source stressed, Kibaki is in particular concerned to construct a new city for two million people for which he would pay almost any price including the ‘silent approval of commodities being shipped out of East Africa at large-scale’ (AS 5). The railway is sought to link East-Africa with Lamu to accelerate international trade. The initial countries to be connected with the deep-sea port are Ethiopia, Uganda, Rwanda, and Southern Sudan. At a later stage, the railway is intended to reach out to the Democratic Republic of Congo and to Western African states. The port will thus function as an alternative trade hub for the heavily overstretched ports in Mombasa and Dar es Salaam but it will also take business from Djibouti and Port Sudan as major ports in the a region threatened by international terrorism. The rush for food commodities raised with African water and land by foreign investors was mentioned by several sources (AS 5, 6, 8, 9). Three key informants feared this might have a significant effect on East Africa’s regional geopolitical order (AS 3, 8, 9). One source also stressed that the changing order is desired by the United States to draw a line between Muslim and Christian states in Africa as a counter-strategy against Islamist terrorist expansion in Africa (AS 8). This brings us to the role of foreign powers or the geostrategic level.

5.1 The geostrategic dimension of land grabs in Africa

As discussed above, the Lamu port can be considered as a major geostrategic attempt by China to become a maritime power with access to agricultural production in East Africa and later from Central and West Africa. East Africa could become for China and other Asian states what Brazil and Latin America became for the Western world since the 1970s: a provider of food, livestock feed and biofuels (AS 2). Lamu mirrors China’s other mega-port in South Asia, Gwadar port in Pakistan. A modern cargo vessel can cross the Indian Ocean within 100 hours from Eastern Kenya to Pakistan. It also avoids the geopolitically sensitive Somali coast. China would turn itself into a new maritime power. This would give China’s economic growth strategies a major boost, given reductions in transaction costs through shipping food (and other resources) through both ports. China’s rise to a global economic super power would be further enhanced. However, it is important to note that China is not a major agricultural investment player in East Africa at the moment (AS 7). There are already signs on the horizon that this will change. The GOSS’s Minister for Agriculture’s visit to Beijing gathered some media attention with the Chinese declaring interest in Southern Sudanese farmland. It is important to note that no single Chinese funded project has been launched to date in Southern Sudan (New Sudan 2010).

China has been establishing links in Southern Sudan through the provision of emergency budget aid assistance to the GOSS in 2010 (AS 15). This might be linked to China’s 40% share in the Greater Nile Petroleum Operating Company (GNPOC) but also in an increasing interest in land. The Lamu port project will hardly pay off economically if access to Southern Sudan via rail cannot be secured. Oil resources in Southern Sudan are finite with a life of 12-15 years (AS 5, 8). Other resources including virtual water and food will therefore influence China’s plan to invest \$18 billion in Eastern Kenya before the project can be launched. The major milestone for the ‘new scramble’ in Africa will be the secession of the South from the North.

The last remaining superpower, the United States, has become increasingly alert to China's attempted take-over of East Africa. The genesis of the US Africa Command (AFRICOM) in 2007 has been linked to observing Chinese activities in Africa (AFRICOM 2008). Moreover, several interviewed key informants mentioned US strategic interests in East Africa as a driver of the close relationship between America and the GOSS. The position of Southern Sudan as a corridor to Chad and Cameroon, and therefore the Chad-Cameroon oil pipeline (Hahn 2010), must also be considered in parallel with the analysis of land investments. Initially in 2000 funded by the World Bank to use oil revenues for pro-poor development, the Bank pulled out in 2008 after the revenues were spent on Chad's military. Exxon-Mobile, Petronas and Chevron run most of the country's oil operations (Rice 2008). The pipeline is now fully owned by the government of Chad.

As mentioned above, the US (USAID Strategy paper 2005) also views the growth of Southern Sudan's agricultural sector as vital for future development. However, the emphasis of the US advisers is on smallholder agriculture, which would hardly be in the interests of Asian food commodity investors. Addressing this issue will be on the US agenda as soon as the likely secession of the South from the North will have taken place. Hahn (2010) argues that Southern Sudan is only the first stage of a geopolitical reshaping in East Africa. The next step as he argues will be the secession of Darfur from Sudan making Southern Sudan part of a corridor to connect it with Chad and Cameroon. The role of the subtle battle over resources in this scenario has yet to be made evident.

6 Conclusion

Land grabs in East Africa and notably Southern Sudan need to be placed in a geopolitical context. I have illustrated the local, regional and global material and political contexts of the resource question in Southern Sudan. A moment of realist 'games' over the future question of this long neglected part of the world is tangible. Food aid and agricultural protectionism has been a leitmotif in Western trade policy from the second half of the twentieth century until present. As a consequence, hegemonic structures in the global food system were produced which maintained Western power over the strategic arena of global food commodity trade. At a time of looming water stress in demographically booming regions, the path dependence of this power over food commodity trade has led to a 'virtual hydro-hegemony' upon the rest of the world.

The investment in water and land resources in parts of Africa by Asian investors, with very deep pockets, as a result of US money printing can be interpreted as an attempt to challenge the hegemony of Western public and private interests in trade and agri-business. Research on land grabs is still in early stages. To quote Susan Strange, we must also bear in mind 'who benefits' from political developments (Tooze 2000). No study has questioned the strategic impact of foreign direct investment in land yet. Instead most studies focus on development, international law and livelihoods. Southern Sudan is a politically contentious country which has received a great deal of attention in the past few months from the Western media as well as from the United States' government (Prendergast and Clooney 2010; Department of State 2010). Although the humanitarian driver must not be underestimated, the student of world politics should question why a small region such as the southern part of Sudan receives more attention than for example Botswana or Burundi. We may speak about virtual water as a core interest of East Asian investors. By contrast, the hidden interests of Western and Middle Eastern investors should rather be linked to oil resources, which are traditionally the epitome of power politics. This study has provided evidence that Southern Sudan could become a virtual water provider to the global economy through utilisation of green water resources located in certain parts of the country. These activities should also be viewed as low-risk agricultural investment and as a form of water arbitrage. Two international organisations' representatives stressed (AS 1), 'Chinese investors are far more long-term oriented investors than previous Western counterparts' whose record in East Africa is better than its reputation in the West. It appears Asian investors would like to turn Africa into 'their Brazil' and therefore challenge Western virtual hydro-hegemony to meet their own domestic food security demands.

The infrastructure investment plans mirror these long-term strategies of the new Asian ‘dragons’ on the move. The Western world has mobilised a large number of critical researchers, analysts, consultants and development experts to question grabbing of land in the national economic interest. Moreover, small-holder agriculture is openly advocated by American and European donor agencies to provide policy recommendations for sustainable agriculture. For the first time in post-war history, the West may face a severe encroachment on its agricultural hegemony over the rest of the world. The necessity to expand ‘a country’s virtual Lebensraum’ at a time of water scarcity challenges the global order in the globally strategic field of food production.

Foreign direct investment in land may address global food asymmetries to mark the beginning of the end of Western hegemony. If China can succeed with its mega-port plans, it will cut shipping costs and time in unprecedented ways. This raises questions as to what extent alarmism in the Western world may be for humanitarian reasons or based on fear of political and economic futures.

The extension of the investing country’s Lebensraum into one another may also mark a new era in global consumption patterns. Because high-value food is demanded in the economic centres of the world, investment in land may be viewed as an alternative means of achieving self-sufficiency. This can be called a risky strategy because it will depend on the marketing skills of a country like Egypt to make proper use of its comparative advantage for which it will have to compete with its neighbouring country Israel.

The phenomenon of ‘land and water grabs’ is as yet insufficiently researched. Future research should not only focus on regulatory means but also on political interests at a time of new global power struggles. During the Cold War, Africa was a hot spot for proxy wars. One can view investment in land through similar patterns. The world has experienced an economic revolution in the past decade but it is still recognisably structured politically as in the days of the Cold War. The current international food system (McMichael 2009) has been in place since the end of the Second World War without any adaptation to a changing global order. At a time of water scarcity, this system is outdated. In the absence of a truly fair and free trade system, clandestine foreign direct investment in land may be one option to challenge Western hegemony, which impacts on local societies are unforeseeable.

However, ‘land grabs’ represent a challenge to the neoliberal US-influenced global order by state capitalist models from the political economies of the East without democratic traditions. Camouflage of real political interests is thus the core method of counter virtual hydro-hegemony activities. The ‘New Scramble for Africa’ should thus be viewed from a power relations perspective. Only if one conceives the use of trade surpluses in the form of US dollars, one could speak of international funding being used for counter hegemony measures. At a time of currency wars (Spiegel 2010) between the US and China, with a high risk of a devaluated US Dollar through quantitative easing measures by the Federal Reserve Bank, the mobilisation of money in African land can be interpreted as one counter hegemony strategy by Asian investors. Whether or not a hidden agenda is behind ‘land grabs’, the paper has illustrated that water resources are at the heart of the investors’ minds.

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LDPI Convenors

Saturnino M Borrás Jr is Associate Professor of Rural Development Studies at the International Institute of Social Studies (ISS), The Hague. He helps coordinate the work of the Initiatives in Critical Agrarian Studies (ICAS) hosted by the Resources, Livelihoods and Environment (RELIVE) Research Cluster at ISS. He was the Canada Research Chair in International Development Studies at Saint Mary's University in Halifax, Nova Scotia in 2007–2010 and an Adjunct Professor in the College of Humanities and Development Studies (COHD) of the China Agricultural University in Beijing. As a Fellow of the Transnational Institute (TNI) in Amsterdam, he is actively involved in its 'Agrarian Justice' Program. He is also a Fellow of Food First/Institute for Food and Development Policy in Oakland, California. Publications include: *Pro-Poor Land Reform: A Critique* (2007) and *Transnational Agrarian Movements Confronting Globalization* (2008, co-edited with M. Edelman and C. Kay). He has ongoing research projects on global land grabbing, biofuels and the politics of transnational agrarian movements. Email: borras@iss.nl

Ruth Hall is a Associate Professor at the Institute for Poverty, Land and Agrarian Studies (PLAAS) at the University of the Western Cape in South Africa. Her research interests include land and agrarian reforms, rural labour markets and farm worker rights, agricultural commodity chains, and the politics of rural development. She holds a Masters degree in Development Studies from the University of Oxford, where she is completing her doctoral studies. Publications include an edited volume entitled *Another Countryside? Policy Options for Land and Agrarian Reform in South Africa*; with Lungisile Ntsebeza, eds.; *The Land Question in South Africa: The Challenge of Transformation and Redistribution*; and with Cherryl Walker, Anna Bohlin and Thembela Kepe, eds., *Land, Memory, Reconstruction, and Justice: Perspectives on Land Claims in South Africa*. She is Book Reviews Section Co-Editor of the *Journal of Peasant Studies*. Email: rhall@plaas.org.za

Ian Scoones is a Professorial Fellow at the Institute of Development Studies (IDS), University of Sussex, UK. He has a background in agricultural ecology and his interdisciplinary research links the natural and social sciences and focuses on the relationships between science and technology, local knowledge and livelihoods and the politics of policy processes. He has worked on issues such as pastoralism and rangeland management, soil and water conservation, biodiversity and environmental change, land and agrarian reform, dryland agricultural systems, crop biotechnology and animal health science policy, mostly in Africa. He is currently co-director of the ESRC Social, Technological and Environmental Pathways to Sustainability (STEPS) Centre at Sussex and Joint Convenor of the Future Agricultures Consortium. Key publications include: *Science, Agriculture and the Politics of Policy: The Case of Biotechnology in India* (Orient Longman, 2006) and *Land Reform in Zimbabwe: Myths and Realities* (James Currey, 2010). He is a member of the Editorial Collective of the *Journal of Peasant Studies*. Email: I.Scoones@ids.ac.uk

Ben White is Professor of Rural Sociology at the International Institute of Social Studies (ISS) and Professor of Social Sciences at the University of Amsterdam in the Netherlands. He is part of the Resources, Environment and Livelihoods (RELIVE) Research Cluster at ISS. He has carried out research on the themes of agrarian change, social differentiation of the peasantry, contract farming, rural labour, land policies, among others, mainly in Indonesia. He has published extensively on these themes. For seventeen years, he was co-editor of *Development and Change*, until mid-2009. Email: white@iss.nl

Wendy Wolford is the Polson Professor of Development Sociology at Cornell University. Her research interests include the political economy of development, social movements, land distribution and agrarian societies. Key publications include *To Inherit the Earth: The Landless Movement and the Struggle for a New Brazil* (co-authored with Angus Wright, Food First Books, 2003) and *This Land is Ours Now: Social Mobilization and the Meaning(s) of Land in Brazil* (2010, Duke University Press). She is a member of the Editorial Collective of the *Journal of Peasant Studies*. Email: www43@cornell.edu

LDPI Working Paper Series

A convergence of factors has been driving a revaluation of land by powerful economic and political actors. This is occurring across the world, but especially in the global South. As a result, we see unfolding worldwide a dramatic rise in the extent of cross-border, transnational corporation-driven and, in some cases, foreign government-driven, large-scale land deals. The phrase 'global land grab' has become a catch-all phrase to describe this explosion of (trans)national commercial land transactions revolving around the production and sale of food and biofuels, conservation and mining activities.

The Land Deal Politics Initiative launched in 2010 as an 'engaged research' initiative, taking the side of the rural poor, but based on solid evidence and detailed, field-based research. The LDPI promotes in-depth and systematic enquiry to inform deeper, meaningful and productive debates about the global trends and local manifestations. The LDPI aims for a broad framework encompassing the political economy, political ecology and political sociology of land deals centred on food, biofuels, minerals and conservation. Working within the broad analytical lenses of these three fields, the LDPI uses as a general framework the four key questions in agrarian political economy: (i) who owns what? (ii) who does what? (iii) who gets what? and (iv) what do they do with the surplus wealth created? Two additional key questions highlight political dynamics between groups and social classes: 'what do they do to each other?', and 'how do changes in politics get shaped by dynamic ecologies, and vice versa?' The LDPI network explores a range of big picture questions through detailed in-depth case studies in several sites globally, focusing on the politics of land deals.

Drivers and actors in large-scale farmland acquisitions in Sudan

This study analyses the political, economic and social impacts of the land and 'virtual water' grab in Southern Sudan. The 'virtual water' concept, which explains the absence of water wars through water embedded in agricultural imports, has been a major breakthrough in the study of the Middle Eastern water question. This paper shows how agricultural commodities in the form of virtual water are at the heart of Middle Eastern investors' interests. The paper sheds light on investments in Southern Sudan, which are a form of water arbitrage by investing countries. The virtual extension of the investing countries' Lebensraum into the recipient countries is part of a 'new scramble' over African resources – namely water resources. However, the risks of such investment activities lie in the social and environmental sphere with tribal conflicts and poor soil quality.



landpolitics@gmail.com

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