



Graduate School of Development Studies

**Sustainable Green Agriculture – The Wor(l)d According to
Capitalism:
Towards an Agrarian Political Ecology reading**

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List of Acronyms

AKST	Agricultural Knowledge, Science and Technology
CA	Conservation Agriculture
ETC Group	Action Group on Erosion, Technology and Concentration
FAO	Food and Agriculture Organisation
FFS	Farmer Field School
GDP	Gross Domestic Product
IAASTD	International Assessment of Agricultural Knowledge, Science and Technology for Development
IFAD	International Fund for Agricultural Development
LF	Rosa Luxemburg Foundation
LVC	La Via Campesina
NRI	National Research Institute
PES	Payment for Environmental Services
RAFI	Rural Advancement Foundation International
REDD	Reducing Emissions from Deforestation and forest Degradation
R&D	Research and Development
TINA	There Is No Alternative
UK	United Kingdom
UNCSD	United Nations Conference on Sustainable Development
UN-DESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environmental Programme
WESS	World Economic and Social Survey
WDR	World Development Report

Abstract

This research paper is about disentangling, in the shadow of contemporary capitalist forces dynamics, the politics of socio and ecological patterns of agrarian transformation *à la* Sustainable Green Agriculture, the new agri-environment paradigm promoted by international agencies for agricultural and rural development. Exploring this paradigm through an Agrarian Political Ecology, it aims at developing a socio-agricological regime lens for defining the context of the dynamics of the current capitalist framework and then investigate the location of the proposal within it. The research finds in Sustainable Green Agriculture mechanisms of mind and material accumulation by dispossession, where particular framing of the problem and the fallout solutions are biased towards enhancing capitalist approach of rural development. This paper is relevant to Development Studies as the research investigates reports issued by agencies from international development circle. As those policy statements might influence the social realities is many part of the world, yet the significance of critically analysing them.

Relevance to Development Studies

“Experience has shown, and true philosophy will always show, that a vast, perhaps the larger portion of truth arises from the seemingly irrelevant”

Edgar Allan Poe – *The Mystery of Marie Rogêt*

Keywords

Agricultural and Rural Development, Sustainable Green Agriculture paradigm, Agrarian Political Ecology, Accumulation by Dispossession.

Chapter 1

Introduction – The Watermelon Case

1.1 Agricultural and Rural Development paradigms: between change and continuities

In the wake of the June 2012 United Nations Earth Summit commemorating with great fanfare the 20th birthday of the sustainable development, the Future We Want¹ (sic) as been clearly although controversially announced to ‘consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development’ (UNCSD 2012: 9). Under the very critical eye of the civil society for whom, according to La Via Campesina for instance, it is ‘a new mask to hide increasing levels of corporate greed and food imperialism in the world, a brutal “green washing” of capitalism that only implements false solutions’ (LVC 2012). Offered at Rio+20 by the establishment as a triple-win framework where ‘economic growth, social progress and environmental stewardship can be seen as complementary strategic objectives’ (WESS 2011: 10), Green Economy’s approach is increasingly emerging as the backbone structuring the framework for the new agricultural and rural development agenda, allegedly conveying a fresh avenue to alleviate poverty and environmental depletion.

Though, this restructuring comes by several aspects as a breakthrough of the mainstream agricultural and rural development international agenda in vogue since the aftermath of the Second World War and whom latest version is illustrated in the 2008 ‘Agriculture-for-Development’ (WDR) report written by the World Bank. The watchwords, along minor variations, revolved for more than five decades around modernisation and productivism narrative, enhancing namely industrialisation, mechanisation, concentration, specialisation, scaling-up as well as integration into global market systems through liberalisation and privatisation (WDR 2008). This agenda has been thoroughly criticised over time for leading to an unequal set of social and political relations favouring an international regime jeopardizing genuine improvement of human conditions, that is to say social justice, as well as Nature well-being, i.e. ecological justice. Since the mid-nineties this is even illustrated by the raise of counter movement such the Food Sovereignty model and its alternate agroecology proposal.

¹ Name of the outcome document released at the end of the conference.

Yet, the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), also commissioned by the World Bank and released shortly after the WDR, unexpectedly send the mainstream agricultural development policy-maker back to their desks. In a context of increasing stardom of concept such as sustainable development and agroecology IAASTD, instead of backing-up the World Bank vision as it was expected, supported a drift away from 'Business-as-usual' approaches and called for a fundamental social and ecological comprehensive shift (IAASTD 2009). Setting a new tone among the international agencies working on development, the following set of reports (UNEP 2011; WESS 2011; IFAD 2011; FAO 2011) noted a U-turning from the previous World Bank pro-large scale farming, environmental blind and market fanatic rhetoric with henceforth a praise for environmental sustainable agriculture led by small farm holders relying on agroecological practices and with a very supportive state framework, a discourse seemingly closer to Food Sovereignty philosophy. The whole wrapped with strong linkage to sustainability and green goals at the opposite to the previous extolled global industrial agricultural modernisation for development. Rural development rhetoric thus recently switched from the era of agri-business to celebrate the awakening of agri-environment schemes, a trend among the policy-making aimed to be captured in the expression of the Sustainable Green Agriculture paradigm.

However, regarding this emerging eco and sustainable-friendly model, one has to be critical and question where the change stops and the continuity dovetails with the broader 'previous' development project –and adverse impacts– as portrayed –and conveyed– in the agriculture-for-development agenda. Appropriated by modernity *à la* capitalism, it constructed over time an uneven global food production economy ruled by dynamics of expanded reproduction of capital, commodification and appropriation. Fifty years of fight against underdevelopment as a global capitalist project, brought so far above all the development...of inequalities, where capitalist logic of surplus extraction and profit accumulation prevail over social or ecological considerations. Thus, there is a need to investigate in what extent, under the array of panacea fix is not disguised a new nostrum solution for social and ecological justice. Therefore, in other words, one must ask if Sustainable Green Agriculture is nothing but a Watermelon case: *green* agriculture skin but *red* herring inside? And a red herring from what hidden agenda? Yet, the paradigm does not come in a vacuum, but rather in a momentum. In this case, sustainable economy schemes are increasingly criticized for 'establishing the supremacy of the logic of capital accumulation over society's relationship with nature' (Arsel 2012: 58), logic characterised by process of accumulation by dispossession mechanisms (Harvey 2006). As a result, the arising question is how the Sustainable Green Agriculture paradigm, if red herring, participates into this set of capitalist forces?

Questioning is only a part of the problematic. The other side of the coin observes an analytical challenge. Indeed, the blueprint, combines rhetorical elements from two perspectives, the agrarian development discourse as well as

the environmental sustainability one, constantly leading to hybrid puzzling concepts as for instance ‘conservation agriculture’. It challenges the traditional analytical ways to look at mainstream development projects: from a quick glance, how to decide between food sovereignty’s agroecology and international development agencies’ green agriculture frameworks which one to support, as they both offers strong discursive commitment to protect environment, biodiversity and alleviate rural poverty through small-scale farming? Sustainable Green Agriculture progressive tone of appealing sustainable wonderland picture with conceptual one-size-fits-all cure acts as a green mist blurring the discursive frontiers with the other proposals for rural development. Then how to theoretically tackle this agri-environment discourse in order to disrobe the green screen and navigate between the lines?

1.2 Research Inquiry: squaring scope, relevance and limitations

Therefore, the paper intends to critically engage with the Sustainable Green Agriculture paradigm, in a vantage of broadly addressing the conditions of surplus extraction as shaped by contemporary –neoliberal– capitalism in the agrarian realm. As a matter of fact, the paper objectives are, by disentangling the politics of the sustainable green agriculture, to examine the dynamics of the interplay between agrarian realm and capitalist modernity. It offers to conceptually conduct this research from a hybrid analytical angle merging agrarian political economy and political ecology in a crossbreed theoretical Agrarian Political Ecology lens.

The problematic fundamentally underpinning the study is the shape of the socio and ecological patterns of the agrarian transformation in relation to the capitalist system. This paper engages in questioning, how, in the context of contemporary capitalism and its relationship with the agrarian realm, the Sustainable Green Agriculture paradigm is still a scheme embedded in reinforcing the logic of capital accumulation and its set of dispossession mechanisms.

This paper takes as its main objective unfolding the politics of the latest agri-environment scheme of international development agencies. The research is concerned by defining the regime of contemporary agrarian transformation and to investigate how the new rural development proposal locates in this context. Using agrarian political ecology perspective, it intends to outline a context of a socio-agriecological framework where the inherent logic of expanded reproduction of capital in agrarian realm is conveying a capitalism-in-agriculture regime based on accumulation by dispossession. The study will further detail how the Sustainable Green Agriculture paradigm participates in this regime, with discursive production of specific narrative on rural development problem and fallout solution supporting hidden mind and material dispossession mechanisms. Co-opting partially the Food Sovereignty’s

agroecology model, it however remains on the track of the mainstream capitalist agriculture-for-development. By mapping the prioritization and categorization of some realities over others, and the ways in which this is an impediment in addressing the root of the faced problems, the research makes the case for rural poverty and environmental un-sustainability as normal expressions of the very process of the development that is supposed to cure them.

To clarify further the scope, the study is based on critical discourse analysis and evolves in the agricultural and rural development paradigm landscape, understood as tripartite. The following table offers a list of what will be used as representative writings from each model. The focus of the critical discourse analysis is on Sustainable Green Agriculture, constituted of several major policy statements produced by various agencies and latest stand-out dish in the multi decade conceptual scramble for bringing (rural) development.

Model	Key texts
Mainstream Agricultural Development	World Development Report (2008) <i>Agriculture for Development</i> . Washington: World Bank.
Food Sovereignty Path	La Via Campesina (2009) ‘An answer to the Global Food Crisis: Peasants and Small Farmers can feed the world!’ in <i>La Via Campesina Policy Documents</i> . Jakarta: LVC.
Sustainable Green Agriculture ²	IAASTD (2008) <i>Summary for Decision Makers of the Global Report</i> . Washington: IAASTD. WESS (2011) ‘Chapter III: Towards a truly green revolution for food security’ in <i>World Economic and Social Survey 2011: The Great Green Technological Transformation</i> . New-York: UN-DESA. UNEP (2011) ‘Chapter I: Agriculture’ in <i>Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication</i> . Nairobi: UNEP.

² IAASTD is to be considered as the spark of the global agricultural paradigms re-designing. UNEP and WESS were the two main reports used as bedrock for the agrarian pillar of sustainable development agenda (see Rio+20). IFAD report, as emanating from the agency explicitly devoted to agricultural development also helps to square representatively the trend among the rural development policy-making.

The discourse analysis bias of the investigation drifts the research from the empirical enquiry of social frictions and tensions associated with development in contention, i.e. how rural societies react and (try to) resist to capitalist steamroller. The paper concentrates on the framing and its implications rather than the shaping of green agriculture scheme implementation and its associated social contestation. By the same token, the institutional international development intra-circle as a disputed arena is also forsaken, eluding the power relations within (see Scoones 2009 for the IAASTD report's intern conflicts) and between agencies to consider them as monolithic entities apparatus of capitalist forces, as insights on the intern institutional context of green agriculture is a picture rather difficult to access for an outsider.

But, gaining epistemological comprehensive understanding of the various forms of power exerted over rural societies is a crucial effort to avoid being stuck in the false apolitical debate around what empirical strategy nurtures the highest yields as it is often the case (McNeely and Sherr 2008 for instance). It is also crucial in deducing how to circumvent their reproduction in the new proposals. Indeed, deriving from the Foucauldian approach³, before addressing the formula of what agrarian change should be, the preliminary necessary task is to identify the –hidden– drivers of coercion in rural development schemes in order to deduce how to avoid reproducing them in the alternative paradigms.

Concretising this enquiry of capitalist modernity relationship with agrarian realm against the case of the Sustainable Green Agriculture paradigm provides an appropriate study as the scheme is meant by the global policy makers of to be the bedrock of the establishment's development policies regarding agriculture; therefore the shape of the latter is expected to affect social realities in many parts of the world as still nearly one-seventh of the humankind is still considered as 'rural poor' in need of agricultural development policies. Additionally, since agriculture made its come-back on the development agenda (WDR 2008; IAASTD 2009) international funding for

³ According to Foucault,

'the real political task in a society such as ours is to criticise the workings of institutions, which appear to be both neutral and independent [...] in such a manner that the political violence which has always exercised itself obscurely through them will be unmasked, so that one can fight against them [...] if one fails to recognise these points of support of class power, one risks allowing them to continue to exist; and to see this class power reconstitute itself even after an apparent revolutionary process' (Chomsky and Foucault 1971).

agricultural development increased, raising interests at stake. For instance, IFAD loans and grant operations doubled since 2007 to overpass the line of 1 billion dollars (IFAD 2011b). If increasing amount of money is about to be spent in rural development policies, academia and civil society's monitoring of their impact is more crucial than ever. As a result of this momentum, peering academically beyond green agriculture proposal is an important step for providing background research for those, activist or scholars, involved in questioning the model; all the more important step that little academic literature on it is currently available.

1.3 Outline

The paper is organised into six chapters. Following the presentation of the research inquiry, directed towards how, in the context of contemporary capitalism, the Sustainable Green Agriculture paradigm is a scheme embedded in reinforcing the logic of capital accumulation and its set of dispossession mechanisms (Chapter 1) the subsequent chapter portrays the analytical, conceptual and methodological underpinnings of the study. It will present the intellectual tools intended to be deployed in order to cope with the investigation, i.e. the Agrarian Political Ecology theoretical framework (Chapter 2). Then applied in the third chapter, agrarian political ecology angle will be used there to understand the socio-agriecological regime of the relationship between society-nature interactions and capitalist modernity, i.e. the dynamics of contemporary capitalism-in-agriculture (Chapter 3). The next two chapters will be devoted to detail and analyse how the Sustainable Green Agriculture epistemological framing (Chapter 4) and enhanced agricultural model (Chapter 5) participates into capitalism-in-agriculture's accumulation by dispossession. Lastly, the final chapter will present a synthesis of the analysis along with the concluding thoughts of the research (Chapter 6).

Chapter 2

Theoretical Framework: The Agrarian Political Ecology goggle

This chapter aims at present the theoretical framework, i.e. the analytical and methodological tools that will be used to cope with disentangling, in the shadow of contemporary capitalism dynamics, the politics of agrarian transformation *à la* Sustainable Green Agriculture. In regard with questioning how it is a scheme embedded in reinforcing the logic of capital accumulation by dispossession, this chapter makes the case for developing an Agrarian Political Ecology lens. After unravelling why we need one and how it should look like drawing evidences from literature, the second and third sections will respectively present political economy's contributions and limits and then political ecology's addition. Will then be presented some methodological considerations and finally, the last section will wrap up the goggle.

2.1 On the need and shape of an Agrarian Political Ecology

As the agricultural and rural development policies are increasingly featuring environmental components in their discourses, for the emerging paradigm is a combined framing using components from agrarian production and sustainable development horizons, there is not yet comprehensive critics handed over on a silver platter. No literature has indeed really touched on the global agri-environment scheme from a systematic approach.

Civil Society, with its blistering style, stresses that establishment's environment policies avoid calling into question the rational of the system. For the Councils of Canadians, 'this Green Economy is a Trojan Horse – a very dangerous and conniving attempt by the corporations and powerful states to use our hope for a better future to implement one that accelerates environmental destruction, denies human rights, and feeds the greed that plunders natural resources' (Naidoo 2012). Transnational Institute entitled green economy as 'the Wolf in sheep's clothing' where 'by not questioning the logic of capitalist accumulation and the model of industrial society as the fundamental causes the destruction of the conditions that make life possible, it provided new legitimacy to neoliberal globalisation' (Lander 2011: 3) 'incapable of looking beyond neoliberal fundamentalism' (7). Critics defended in two more reports (LF 2012; Wichterich 2012). ETC Group speaks about a 'greed economy' enhancing corporate control (2011). Although a good basis, this literature is not sufficient because of its lack of theoretical framing.

The closest academic literature on the Green Agriculture is to be found in the United Nations Research Institute for Social Development Conference held in Geneva in October 2011 on 'Green Economy and Sustainable

Development: Bringing Back the Social Dimension’ where the last of the six panels was on ‘Agriculture and Rural Development’ and presented four papers (Alarcon 2011; Bastos Lima 2011; Musyoki 2011; Strang-iam 2011). If critically engaging with green economy policies as carbon tree sequestration or biofuels policies, they however do not look at the overall agricultural model defended by the blueprint. The critical literature on agri-environment scheme is more to be gathered throughout a clustered approach, as the different elements of analyse are scattered, somehow lacking of connection.

From one hand, the critics of agri-schemes, as portrayed in McMichael (2009b) and Patel (2007) review of Agriculture-for-Development have been emphasizing international trade aspects of the global food regime. How market intensification and trade liberalisation created a ‘corporate food regime’ where food and farming systems are controlled by a handful of giant private corporations. However, as Sustainable Green Agriculture dramatically switched its rhetoric and focus, from integration in global market to environment sustainability, this set of critics is not sufficient. Furthermore, the critics related to land redistribution and the small narrative in agri-scheme as undertaken by Byres (2004) are too embedded in political economy tone for looking at the environmental side or discursive narratives.

From the other hand, the critics of environmental schemes as elaborated by Redclift (2006) or Adams (2009) on Sustainable Development highlight the economic ideological bias towards capitalism. Questioning the possibility of genuine positive environmental accomplishment within the current capitalist economic growth model conserved by the concept, this trend sees in Green Economy a blueprint market and private sector-based (Brockington 2012) and absconding issues of equity, redistribution and social sustainability (Harcourt 2012). State-of-the-art critical academia, pushing further the greening of capitalism, actually observes a new phase rather than a disguise of the logic of capital accumulation over society’s relationship with environment through environmental policies (Arsel and Büscher 2012). Under an ‘eco-economic management’ (McAfee 2012) vision, the sustainable management of natural resources covers new epistemological and ontological dynamics of surplus extraction. However, this set of critics is not focussing on agricultural issues *per se*.

Engaging with the validity of the axioms put forward by mainstream institutions and investigating the dynamics in agricultural development requires a crossbreed approach looking not only from a critical empirical agrarian perspective, but also from a discursive political ecology standpoint. The

agrarian political ecology is a new theoretical production⁴ offering to merge their mutual strengths and tools (represented in the table below) in a two-pronged hybrid grafting. While the former is critically engaging with agrarian capitalism but with a pronounced structuralism and a lack of ecological concerns, the later incorporate those discursive insights and capitalism ecological dynamics, but is not necessary devoted on agrarian transformation – hence the importance of intertwined conceptualisation.

	Political Economy	Political Ecology
Impact of the development of Capitalism		
Within the agrarian realm	High	
Its ecological dynamics		High
In terms of		
Material Politics	High	
Epistemological production		High
Using the following tools	<ul style="list-style-type: none"> • Agrarian Marxism • Food Regime 	<ul style="list-style-type: none"> • Nature™ Inc. • Power/Knowledge

2.2 Critical Agrarian Political Economy’s contributions and limits

Political Economy establishes itself as a logical starting point as this heterodox school of thought rejects the dichotomy between politics and economics. Hermeneutically theorizing the capitalist development as a project featuring uneven socio-politico-economical dynamics, it delivers a class-based and power-sensitive approach on how the interplay between the political system and economic interests is shaping ‘who gets what, when and how’ (Lasswell 1958) and as a result contests the automatic validity of the doctrine economic growth – social development.

Critical agrarian political economy studies, focussing on the Agrarian Question, i.e. the patterns of the processes of agrarian transformation in

⁴ I base my understanding of what constitute a ‘theory’ on Harvey’s description as ‘an evolving structure of argument sensitive to encounters with the complex ways in which social processes are materially embedded in the web of life (Harvey 2006: 79).

relation to the capitalist system (Akram-Lodhi 2010) devotes to ‘the ways capital is taking holds of agriculture, revolutionizing it, smashing the old forms of production and poverty and establishing the new forms’ (Akram-Lodhi 2009: 5). In other words, the shape and extent to which capitalism system is transforming agriculture, as well as the consequences for rural poverty. Accordingly, the contour of the agrarian structure of a society is informed by materialist political economy revolving around three problematic (Bernstein 2010), namely accumulation (regarding the conditions of surplus extraction), production (the issue of commodification of goods and relations), politics (about the structures of domination). Such lens proved agrarian political economy to be acute in expounding flaws in orthodox economics theories of development. Among others, the limits of the land redistribution and small-scale farming centred vision of rural development to be increasingly found in mainstream policy-making (Byres 2004; Bernstein 2004). It has also been producing relevant work on historical processes of agrarian accumulation (Wood 2000), the primitive accumulation, and how those mechanisms translated into modern forms of accumulation by dispossession (Harvey 2003). Finally, his perspective is critically undertaking the understanding of development as well as the global food system.

In diametric opposition to the mainstream development circles framing of poverty causes analysis, it traces the roots of rural impoverishment not in being left out of the development process and excluded from market access, but as nurtured by a combination of uneven social relations embedded in capitalist forces processes enforced in name of the development. For this school of thought, rural poverty is not an originating condition of society but the outcome of agrarian capitalism, a ‘relational’ rather than ‘residual’ understanding ‘that emphasise the extent to which “development”, growth and the workings of markets can also produce poverty’ (Hickey 2007: 5). As a result, it pinpoints the nature of the global food and agriculture system as inherently contradictory, highlighting that the story of the current world food system is a cynical one of ‘hunger amidst abundance’ (Araghi 2000: 155). While some are ‘stuffed’, others are ‘starved’ (Patel 2009) and ironically a never-reached before proportion of overweight rub elbow with an also historically unprecedented number of undernourished people (ETC 2009). As agriculture is taken into hostage by capitalist system for feedings profits of the rich rather than stomachs of the poor, the ‘escape from hunger’ (Vanhaute 2011) is not in achieving more production but rather in shifting the patterns of social distribution in the world –capitalist– food economy.

This outlined analysis is conducted from a methodological standpoint through the ‘Food Regime’ (Friedmann and McMichael 1989). ‘The “food regime” has been a conceptual tool to define periods or projects of rule based in particular forms of agriculture, social diets and power relations on a geopolitical scale [...] each food regime has pivoted on a particular agrarian question’ (McMichael 2012: 101) To elaborate further, ‘food regime analysis brings a structured perspective to the understanding of agriculture and food’s role in capital accumulation across time and space’ (McMichael 2009: 140).

Several food regimes are historically identified. Accordingly, the narrative of current international capitalist agri-food relations, termed ‘World Agriculture’ or ‘Corporate Food Regime’ (McMichael 2005) is featuring *politics* of a market fundamentalism neoliberal ideology in trade policies where *production* is based on factory farming agro-export led model enhancing *accumulation* by transnational corporations at the expenses of social justice.

Although Marx mentions the idea of ‘metabolic rift’ where capitalist production drifts away agriculture from its natural cyclical nutritional base, nor environment nor ecology are a concern of importance for classical critical agrarian political economy. The class-based ‘social differentiation lens’ focuses on analysing changes in land property relations (distribution/concentration – Borras and Franco 2012) rather than how the environment is affected by and affects the socio-political relations. Just to give one example, reviewing ‘the traits of rural accumulation’ in the ‘twenty-first century neoliberal globalization’ Akram-Lodhi and Kay (2009b) do not hold a single reference to ecological dynamics of the latter. Incongruously, the both are the ones identifying a year later the ‘ecological agrarian question’ gap as a missing link within the literature. ‘The ecological agrarian question is predicated on the proposition that the rural production process, agrarian accumulation and rural politics have ecological dynamics’ (Akram-Lodhi and Kay 2010b: 269). They further add that ‘a failure to address the ecological dimensions of production, accumulation, and politics renders any understanding of the agrarian question, at best, quite limited’ and consequently ‘the agrarian question must critically investigate the character of ecological relationships and the ways in which they impinge upon and alter the resolution or otherwise of the agrarian question’(269).

To do justice to Food regime, it makes extensively the case for the environmental ecological un-sustainability of the current food and agricultural production system (McMichael 2006; Weis 2007; Araghi 2009; Campbell 2009). However, its conceptual underpinning offers only a limited scope to peer beyond the appearance of the green agriculture paradigm. Indeed, the lens works by identifying an opposition between ‘a trajectory of “world agriculture” represented by agro-industrialization (food from nowhere), and a place-based form of agro-ecology (food from somewhere)’ (McMichael 2012: 117). Referring to ecological dynamics in this dualistic manner, with an analytical grid contrasting eco-harmful large-scale factory farming to small-scale eco-friendly holistic agriculture, Food Regime has insufficient to decide in which category classify the paradigm. Green agriculture’s discursive tone is blurring the frontiers between the two as it announces supporting smallholder farmers with statements as ‘small-scale and diversified farming has advantages in terms of productivity, food production, and environmental protection’ (WESS 2011: 81); how to deal with it when it is praising for practices such as intercropping, integrated pest management, bio-pesticides, no-tillage practices, green manure, etc. (UNEP 2011: 52-55) that are close to agroecology’s points.

Finally, at least but not last, this blurring aspect of the green agriculture paradigm suggests that discursive framing play also a significant role in performing the capitalist agenda of uneven development. It falls in line with the idea that the restructuring of relations between the economic, political, social and environmental domains triggered by neoliberalism is also being ‘discourse-driven’, and in lights of the latest dynamics regarding the conditions of accumulation ‘language may have a more significant role in contemporary changes than it has had in the past’ (Fairclough 2010: 282). Yet, focusing on the interplay between economics and politics in the capitalist world food and agriculture system avows a superiority of this relationship on other factors to explain change in societies and discards knowledge and the framing of ‘truth’ as a mean of power. Only the structure matters; parts of the superstructure as knowledge ‘cannot describe or explain the dynamics of change and development in the real world because these dynamics are based not on the power of ideas but on the working of structural conditions, conditions that are objective in their effects’ (Veltmeyer 2001: 614). By being so, agrarian political economy is a cramped lens to tackle the green agriculture as a strategy also relying on a particular epistemology of rural development for securing specific regime of surplus extraction and capital accumulation.

2.3 Political Ecology: bridging the gaps

Dealing comprehensively with the green agriculture thus requires also a lens encompassing in its scope the social engineering of ideas as a backbone component. Going beyond the materialist appreciation of agriculture role within the capitalist global economic system, it must also appraise critically the picture of how paradigms defining agricultural development are also socially constructed discourses working for the interests of particular groups, relying on, conveying and enhancing particular conceptualizations regarding the state and role of agro-ecosystems. In light of the structural bias and the ecological gap loopholes of agrarian political economy the political ecology school of thought provides a relevant match. Bernstein himself praised for addressing ‘the intellectual deficit of the agrarian political economy [...] regarding the challenges posed by political ecology’ (2010b: 301). Delivering an approach at a crossroads between political economy of the environment and poststructuralist environmental sociology combining ‘the concerns of ecology and a broadly defined political economy’ (Blaikie and Brookefield 1987: 17), political ecology turns a critical eye on the capitalist development project. Loosely relating to social justice, environmental change and human relationship with nature issues (Neumamm 2005) it devotes to unveil the various form of struggle for access and control over natural resources (Watts and Peet 2004).

First of all, similarly to political economy, political ecology dismisses mainstream development discourse, more specifically regarding the nexus poverty-environment. Resisting the Malthusian narrative of environmental degradation and hunger as outcome of population growth and induced poverty, political ecology postulates rather than environmental problems are

embedded in capitalist development and its complex web of social, economic and political relations rather than the mere expression of technical issue. It rejects poor rural farmers and their lack of 'proper' environmental education as cause of eco-system degradation (Grossmann 1997) and seeks for the underlying logics compelling the eco-harmful behaviours. Additionally, the burden of environmental degradation and is unevenly carried, the group inducing the change not being the one facing the adverse impacts. Crucial part of this reading is also the denunciation and rejection of environmental policies (McAfee 2012) where sections of environmental issues are let to the iron fist of market relations (payments for ecosystem services, carbon off-set trading, REDD mechanism against deforestation, etc.). Current global environmental protection and biodiversity conservation policies are also harshly questioned for being market-biased and embodying a paradigm giving capitalism freedom to operate in new realms. As Sachs noted already two decades ago, 'far from "protecting the earth", environmental policy which works within a developmentalist frame cannot but concentrate its effort on rationing what is left of nature' (1993: 13). Political ecology aims at capturing 'ways in which natural realms are transformed through and for capital accumulation' (Büscher 2012: 4), i.e. how capitalism is enhancing ever-further commodification of nature. It investigates 'the political economy of the way new natures are produced' (Peet 2011: 24), what Arsel and Büscher (2012) coin 'Nature™ Inc.' This production occurs are two levels.

From a biopolitics perspective, nature is dismantled into various goods, functions and services in order to facilitate and accelerate environment-related capital accumulation. Everything and anything are potentially tradable commodities subsumed to market forces and part of strategy for accumulation (Smith 2006; Fairhead 2012). Pushing the argument further, this leads to process of a 'biopower designated to accelerate the reproduction of capital [with] massive realignment of human, animal and bacterial life' (Nally, 2011: 46). As a result, biological material is transformed into fluid movable information more easily controlled by capitalist relations (Braun, 2011: 392). Practices of remodelling and dominating the biophysical levels of nature (i.e. biotechnologies, geoengineering, etc.) are decried as an attempt of disciplining Pachamama the name of human economies. Natural cycles are broke in favour of linear end-use patterns. Agrawal's concept of 'Environmentality' (2006) derived from Foucauld's Governmentality argues that natural environment as a biopolitical regime is a tool for controlling people. Consequently, political ecology is engaging with the idea that 'the natural environment is also too often relegated at the backdrop, viewing the political economy of agriculture as something that manoeuvres within a given environment but never through it' (Carolan 2005: 380).

On the other hand, from an epistemological standpoint, the production of nature also refers to the role played by the rhetorical framings. Political Ecology's analytical lens indeed encompasses social engineering of ideas as backbone of uneven socio-political relations. In Fairhead's words, 'the new value of nature is clearly associated with the global discourses that have been

attributing value to it, [for instance] there would be no enclosures for biodiversity without the scientific and discursive processes that identified its global significance' (2012: 241). The representational ways conveyed by those policy statements are playing key role in establishing the normative settings in the global environmental politics. Political Ecology pays extra attention in its methodological approach to the manners knowledge control occurs and how the discursive exercise of representing reality is an important source and form of power; how the relation of power/knowledge as first unravelled by Foucault in society's relationship with nature is articulated through the construction of environmental narratives aiming at establishing regimes of truth.

The philosophical beauty of political ecology here is to avoid the denial, relativist and quietist trap of a merely social constructivism. Indeed, its tackling of ways politics of knowledge interplay within the nexus of social and environmental justices combine, or one should say reconcile, the seemingly anticlerical claims for which reality is a sum of objective external facts with reality as constituted by a set of discourse. Political ecology embraces a critical realism (Bhaskar 1998), a philosophy of science accepting ontological materialism but being epistemological deconstructionist. Hence, 'critical realism is a sort of acknowledgement that direct access to a preordered reality is impossible and that knowledge is always fallible and incomplete, coupled with an optimism that this admission need pose no fatal blow to the project of finding better explanations for reality' (Proctor 1998: 361). In another words, while recognizing there *is* a reality, such as Pachamama's well-being matters, no objective scientific knowledge claims are accepted. To use Jones' expression, 'by adopting an ontologically realist yet epistemologically relativist position, the naivety of "realism" is avoided and the impracticability and absurdity of "pure" relativism averted' (2002: 250).

2.4 Methodological considerations

As a result of critical realism's double-pronged philosophy, patterns captured by agrarian political ecology belong to the domain of what sociology call 'discursive material entities' (when the discursive production is embedded in material realm). Each node of analysis is a co-production of both discursive and non-discursive practices. In others words, following critical realism underpinning, agrarian political ecology appraises development policies as practices concomitantly intertwined in discursive narrative formations and empirical groundwork. It uses its political economy leg for engaging the shape of social relations of accumulation and its political ecology one to de-construct the discursive screens. By doing so, the theory encompasses the velvet glove *and* the iron fist of capitalism dynamics, looking at the dialectics between *words* and *worlds*.

Such intellectual merging between agrarian political-economy and environmental postructuralism, whether a postmarxism grafting with heterodox epistemological thinking (Goodman and Watts 1997) or a political

ecology outing in agricultural turf (Yapa 1996) have been traditionally marginal until recently⁵. They are however generally reflecting an imbalance, as either agriculture is under-analysed either the focus is on a particular issue, drifting away from addressing the rural development paradigm in its whole.

For this paper, revolving around the case of Sustainable Green Agriculture paradigm, the focus will be on a macro perspective. The investigation, aiming to be balanced, will be departing from an analysis of several major policy statements squaring the paradigm. Besides political economy tools, discourse analysis is also used. The methodology of critical discourse analysis as Phillips and Hardy explain straightforwardly, ‘tries to explore how the socially produced idea and objects that populate the world were created in the first place and how they are maintained and held in place over time’ (2002: 6). Frame analysis pays attention to the meta-narrative employed, i.e. what is included and excluded, the importance of labelling, how the package of ideas and practices is embedded in a power system, etc.

Methodology

Approach	Qualitative: Political Economy and Discourse Analysis
Epistemology	Critical realism
Level of Analysis	Macro
Unit of Analysis	Material discursive entities

⁵ For a partial overview of the political ecology of agriculture literature, one might want to go through some of those writings. Notable amongst the scholars coming from political economy background that could be said to have produced such studies would be Weis (2012) and Hemel (2011) on the industrial food system, Peluso (2011) and Hecht (2005) on land control and deforestation, Ariza-Montobbio (2010) on biofuels and Li on government biopolitics in rural Indonesia (2007; 2009). McMichael (2006; 2012) also produced hybrid work. From political ecology or geography field, this position has been adopted, among others and besides Yapa (1996) on seeds, in Watts (2009) on peasants at the age of globalisation, Nally (2011) on historical biopolitics of food provisioning, Carney (2003) on the cultural dispossession of the rice farming mastering by Europeans, McAfee (2003) and Braun (2011) on biotechnologies, or even Lockie (2010) in agri-environmental neoliberal governance. Phillips (2002) inventories all grafting operations, but for rural class analysis. Moore (2010) should also be quoted for his attempt in analysing agriculture’s function in neoliberalism’s relation to nature.

2.5 Setting up an Agrarian Political Ecology lens⁶

Agrarian Political Ecology thus enables overcoming Sustainable Green Agriculture's green mist and unfolding its hidden arrangements for the logic of capital accumulation thanks to analytical and conceptual toolkit with patterns of explanation encompassing several axioms of grip; first of all, a critical engagement with capitalism and rural development issues, then, devoted to their ecological dynamics, and finally navigating at both empirical and discursive framing levels. The bond between political economy structuralism and political ecology postructuralism is assured through critical realism philosophy. On the back of those philosophical underpinnings and methodological considerations, agrarian political ecology falls within the context of disentangling the paradigm's politics by analysing its socio and ecological patterns of agrarian transformation, in relation to the contemporary trends in the capitalist system.

Agrarian Political Ecology theory is first a conceptualisation of the socio-agricological framework of contemporary development. In order to do so, the Food Regime set, combined with NatureTM Inc.'s insights, furnish the necessary basis to attempt characterising the dynamics of capitalist forces in agrarian realm into an 'epoch', or a regime. The accumulation by dispossession concept will play a key role. The goal is to present analytically the broader puzzle of agri-food and ecological relations, i.e. the agenda in which the new agricultural and rural paradigm is potentially enshrining.

Then as Agrarian Political Ecology is assuming a world made out of words, both approaches' hermeneutic understanding of development as practice/discourse (Agrarian Marxism and Power/knowledge) will be used to unfold the production of specific rural development narrative carrying 'mind dispossession'. Those words are leading to the production of a specific world. Mechanisms of material dispossession strengthening the expanded reproduction of capital conveyed by the scheme are further unravelled using Agrarian Marxism and NatureTM Inc. arms. Throughout, the Sustainable Green Agriculture paradigm is investigated of participating to the mainstream capitalist-captured agriculture-for-development model rather than embodying the alternative path it is discursively co-opting.

⁶ 'An' and not 'the' as I do not have the claiming of developing *the* absolute answer but rather *an* attempt, a version, of what it could be.

Chapter 3

Capitalism-in-Agriculture – Old Tale, New Version

As mentioned above, this paper engages in questioning how, in the context of contemporary capitalism dynamics in the agrarian realm, the new paradigm defended by mainstream international agencies is still a scheme embedded in reinforcing the logic of capital accumulation by dispossession. There is therefore a need to specify and define several key words. Following the presentation of the theoretical framework building, this chapter's objectives are to explicate meaning given to some terms of the research enquiry and by doing so understand the dynamics of capitalism-in-agriculture.

Using the agrarian political ecology angle to further precise the given meaning to 'contemporary capitalism dynamics in the agrarian realm' and 'accumulation by dispossession', the chapter will conceptualise the broader context of capitalism relationship with agriecosystems. After outlining agrarian political ecology tool of 'socio-agriecological regime', the following sections will use it to characterize the current nexus between society-nature interactions and capitalist modernity, how it forms a capitalism-in-agriculture puzzle.

3.1 Agrarian Political Ecology concept of socio-agriecological regime

Agrarian Political Ecology's lens is explicitly devoted to the understanding of society-nature interactions under capitalist modernity dynamics, in agrarian settings. Its approach to the ecological agrarian question starts with the tenet of socio-agriecological regime.

The concept merges political economy's Food Regime and political ecology's Socio-Ecological Regime. Socio-Ecological regime has been developed by the world-ecology scholar project theorising the relations of social and natural systems under capitalism (Moore 2010; Moore 2011; Moore 2011b). Predicated upon the idea that capitalist system 'does not develop upon global nature so much as it emerges through the messy and contingent relations of humans with the rest of nature' (Moore 2011b: 108), socio-ecological regime is defined as 'the bundle of relations that give rise to the nature-society dialectics' (Moore 2010: 392). Accordingly, each epoch in human history, rather than having simply different impacts on nature, has been evolving in a *constitutive* relationship. Behind the various forms of capitalist forces and phases of capitalist accumulation over time have been specific

conceptualisation and role for nature⁷. Behind who is settling how society should relate to nature realm are a set uneven socio-political relations de and em-powering. The constitutive relationship between nature and society is not neutral, but rather biased, produced by and working for interests of particular group. Resulting from this, the impact of capitalist development is not only to be looked as *over*, but also *through* nature. Those layers for surplus extraction include the social engineering of ideas as well as the physical engineering of nature. In that sense, the enforcement of a paradigm is performed throughout ‘eco-governmentalities’, where managing techniques for nature or natural-resources based production are also strategy for disciplining people to the dominant system. The socio-ecological idea highlights the state of the nature-society interactions and how it is embedded in the patterns of expanded reproduction of capital. Food Regime, for its part, is ‘linked to patterns and relations of capital accumulation [...] with regard to the role of agri-food relations’ (McMichael 2012: 104). It takes as the focus of its standpoint the ‘socio’ and ‘agri’ parts, the social relations in agrarian realm. The unification with the Food Regime lens is thus focussing Socio-Ecological regime in agri-food relations.

Agrarian political ecology reading is therefore drawing upon a ‘socio-agriecological regime’ for theorizing the shape of relations between capital accumulation and agrarian realm. Socio-agriecological regime tool aims at labelling the epoch, bringing together different pieces of the social and ecological patterns of rural transformation puzzle. It articulates around defining ‘contemporary capitalist dynamics’ and its accumulation mechanisms by looking more specifically at what is the engine of surplus extraction and how the resulting ecological dynamics relates to rural settings.

3.2 Neoliberal Capitalism and the shape of accumulation strategies

Extension of the capitalist globalisation, neoliberalism⁸ ‘stands for a complex assemblage of ideological commitments, discursive representations, and institutional practices, all propagated by highly specific class alliances and organized at multiple geographical scales’ (McCarthy 2004: 276) that one could analyse as a ‘resurgence of a more unbridled capitalism’ (Spector, 2010: 40). Capitalism, hegemonic economic system based on a particular mode of production as well as a system of social relations predicated on market dependence (Wood 2000) restlessly drives a quest for new possibilities for

⁷ One might find in McMichael (2006) or Bernstein (2000) further detailed information on how the different stages of capitalism have been relying of various forms of accumulation.

⁸ Considered in this paper as synonymous of ‘late’ and ‘contemporary capitalism’ and ‘capitalist modernity’.

profit extraction, inducing the commodification of subsistence, ‘process through which key element of the subsistence [...] become subject to the dynamics of market exchange’ (Bernstein 2010: 124). Imperatives of accumulation and extension are leading to a perpetual ‘law of motion’ where further production for further profit leads to what is designated under the name of expanded reproduction of capital, hence ‘endless cycle of accumulation’ (25). The story of capitalism is thus one about perpetual expansion and endogenous intensification of production. So it did spatially along the way since the last couple of centuries, first in Europe and then spreading as a global system encompassing the whole world. Its latest phase, since the 1980-1990s is now known as ‘neoliberalism’, a political ideology related to practices of hypercapitalism attempting to ‘subordinate social and political affairs to capitalist market dynamics’ (Büscher 2012: 5).

One of the particularities of neoliberal capitalism is regarding how profit-making is achieved. According to Harvey (2005: 154-155), neoliberalism failed and is failing to instil substantial real economic growth. Global growth rates since the 1980’s are lower than they were during previous decades. Decades in the aftermaths of World War II have been characterised by industrialisation of the economies, albeit in different extend in the North and the South. But since the 1980s no such major realisation has been done. Economies, especially Western ones, are struggling in stagflation situations to renew with higher growth rates based on production, as the part of services and finance in the economies has been sky rocketing. However, despite daunting economic performance, assessment must still be done that rich are still getting richer and the state of inequality increased dramatically since neoliberal era. If growth relatively stopped, so it has not for inequalities and wealth apparently. Conceptualising neoliberal capitalism must tackle the following interrogations: So where does the accumulation come from? If the inner logic of grow or die lead to perpetual expansion, how the latter occurs and how does the system relates its surplus extraction to natural realm, especially the agrarian one? What are the accumulation strategies and their ecological dynamics?

Patterns of processes and conditions to capital extraction in agriecosystems are relying upon strategies of accumulation by dispossession. Neoliberal capitalism failure to generate growth re-located the engine of surplus extraction as not grounded anymore in the classical M-C-M+, that is to say the political economy of ‘material conditions of *production*’ but rather in the material discursive conditions of accumulation. Accumulation is embedded in an ‘extractivist political economy’ (Fradejad 2012: 3) as, according to Harvey, ‘the main substantive achievement of neoliberalization, however, has been to redistribute, rather than to generate, wealth and income’ (2005: 159) – with ‘redistribution’ placed under the banner of the unevenness. He further argues that capitalism ‘did not depend upon its capacity to generate surpluses. It rested rather, upon its ability to appropriate them’ (2006: 90).

The accumulation of wealth is not obtained by the creation of new industrial productions but by the bending of new socio-ecological set of bulks and relations to the coercive forces of market. In the current socio-agricological regime, those accumulation strategies are ‘delivered through some combination of capitalized production (e.g. farm mechanization) and the *appropriation of nature* as “free gift” (Moore 2010: 394; emphasis added). A core process of neoliberalism is indeed the plunder of natural resources to which the appropriation of nature at low cost and the capitalisation of its reproduction are key expressions. World Bank’s narrative of marginal empty available land has been for instance crucial in rooting the enclosing land grab trend (White 2012) appropriating land at low cost via corporate long term lease and capitalising its reproduction by developing agro-export projects. This example also eloquently illustrates that development agencies, narratives as well as political economy are both important components of profit accumulation strategies.

The enclosure, termed ‘accumulation by dispossession’ (Harvey 2003) is developed through a commodification trend, the management and manipulation of crisis and active role for the state in the direction of the redistribution (Harvey 2005: 160). Accumulation by dispossession is understood in the context of Agrarian Political Ecology as discursive material ‘enclosure of [natural]⁹ assets by private interests for profit, resulting in greater social inequity’ (Bakker 2011: 348). In other words, dispossession is simultaneously empirical and epistemological, operating at both political and biopolitical levels. Neoliberal Capitalism is intimate with mechanisms of mind and material accumulation by dispossession.

3.3 The raise of Bioeconomy

In a nutshell, the agricological dynamics of this socio-political economy are an enhanced commodification of natural realm based upon an accumulation by dispossession: the enclosure of the resources themselves as well as the control of the way nature is socially conceptualised and related to. Indeed, in order to maintain profits rates, the perpetual law of motion is driving under neoliberalism an accelerated development in ‘3D’, where the expansion of capitalist relations is not only spatial and temporal, but also physical, within the Earth itself. Under those circumstances, with the continuous failure of Neoliberal capitalism to generate growth when the two first dimensions of capitalism have already been compacted as possible, the capitalist forces are structurally inclined toward overstretching the third dimension, the ecological boundaries. Unprecedented opaque levels of

⁹ The original term of the quote is ‘public assets’; though public assets can be considered as including natural resources.

penetration –grab– and commoditisation of environment or society-nature relationship are occurring.

Yet, one of the main, if not the, privileged channel of connection between society and nature are agricultural activities: agri-ecosystems are therefore crucially embedded in system of capital accumulation strategies. Rolling back the nexus, those strategies are in turn having as main bedrock agri-ecosystems, re-coupling agrarian world with the processes of accumulation in globalisation. Analysing this process, ETC group noted a switch from ‘from a (fossil based) hydrocarbon economy to a (plant based) carbohydrate economy’ (2010: 11) they termed the raise of ‘Bioeconomy’:

‘Bioeconomy describes the idea of an industrial order that relies on biological materials, processes and “services”. Since many sectors of the global economy are already biologically based (agriculture, fishing, forestry), proponents often talk of a ‘new bioeconomy’ to describe a particular re-invention of the global economy – one that more closely enmeshes neoliberal economics and financing mechanisms with new biological technologies and modes of production’ (ETC 2010: 5).

This is dovetailing with Smith’s formulation that ‘Nature *per se* may now represent an accumulation strategy for capital’ (2006: 32). ETC observes the articulation of the Bioeconomy order revolving around 3 main axioms. First, the ‘biomass economy’ provides the input. Instead of basing the energy production system on oil and gas resources, the logic of expanded reproduction of capital is increasingly plundering into biological material. Besides biofuels, are also concerned new way of producing electricity, chemicals, fertilizers, etc. all cellulose based. Second, the ‘bioservices economy’ is aiming at ‘incentivize conservation’ through ecosystem services. This market based approach is underpinning the global environmental policies. Thirdly, the ‘biotech economy’ with processes of synthetic biotechnologies for pharma and agro use, is operating –altering– biological resources at their genetic level. In this bioeconomy world, nature is produced as an external pool of resources only waiting to be exploited where biotechnologies and now nanotechnologies come ‘to accelerate the reproduction of capital [with] massive realignment of human, animal and bacterial life’ (Nally, 2011: 46). Nature is ontologically engineered and the ag-biotech project is one of most salient example, of this complex material and mind enclosing attempt, through seeds, by neoliberalism (Yappa 1996; RAFI 1997; McAfee 2003). Such trend illustrates that ‘capital reinforces its attempt to convert nature to a system of expanded reproduction of value relation’ (McMichael, 2006: 183).

3.4 The Capitalism-in-Agriculture puzzle

In the context of ‘Three-Dimension’ logic of expanded capital reproduction, natural resources are becoming the new basis of a biological material-based extractivist economy. Agri-ecosystems themselves and their induced society-nature relations are turning into crucial pool for late capitalism

surplus extraction. Biological material-derived and market-based solutions for environmental conservation etc. are becoming the new *El-Dorado* where any body of land and water is under threat of grab – of corporate ‘biomass coup’ (ETC 2010: 12). The relationship between society-nature interactions and capitalist modernity is thus witnessing a socio-agricological framework where market logic and dispossession mechanisms are enclosing the resources as well as subsuming ways people relate to them. Based upon two-pronged mind and material dispossession, capital accumulation in agrarian setting falls within the framework of a Capitalism-in-Agriculture regime¹⁰. To summarize it using ETC words, it ‘describes the retooling of the same old economy of production, consumption, capital accumulation, and exploitation – only now a new source of carbon is being plundered to keep the industrial machines going’ (2010: 12). From the Capitalism-in-Agriculture perspective, neoliberalism ‘does not have an ecological regime. It *is* an ecological regime’ (Moore 2010: 392) that ‘joins the accumulation of capital and the production of nature in dialectical unity’ (Moore 2011: 2) where ‘neoliberal nature’ and the ‘nature of neoliberalism’ (McCarthy 2004) intertwine dialectically.

As Harvey reminds, ‘there is no way we can expect the rules and laws of capital accumulation to enter into the socio-agroecological world in an unmediated way’ (2006: 84). In that sense, the production of capitalism is creating specific agriculture; this material discursive production, or mediating way, is operating at two levels, epistemological and empirical. Consequently, the dispossession mechanisms are also of a material discursive nature, based on interconnected epistemological and empirical nodes. The ‘discursive’ mediating way is enforcing disciplinary eco-governmentalities with tropes aiming at creating the enabling conditions to facilitate surplus extraction (see World Bank narrative). This enclosure is dispossessing people of social justice and Pachamama of ecological justice. Then, the ‘engineering’ mediating way, is designing agricultural practices and natural resources, where the realignment at molecular level of biophysical resources is also facilitating the reproduction of capital, with utilitarian and reductionist approach of nature/agricultural systems very doubtful for a genuine social and ecological sustainability as well (see Biotechnology project). Political economy of socio-agricological enclosures is enforced through particular conceptualisations facilitating the reproduction of capital for money-seeker groups rather than society’s social and ecological sustainability.

One could see a third mediating way in the landscape – the socio-political patterns, i.e. how this regime is diffused and implemented worldwide. State-Capital alliance, or government-corporation nexus, brought to unprecedented level in both Global South and North after a decade of ‘good governance’ is strongly shaping the relationship between economic interests, politics and

¹⁰ Derived from Araghi’s phrasing of ‘labor-in-nature’ (2009b).

development. Since the invention of development (Cowen and Shenton 1996) the project has been gradually ideologically appropriated over time for justifying the expansion of capitalist forces (Araghi 2000; Rist 2008). Elevated to the global level, it produces a matter of fact where the captured 'Development' agenda and its governmentalities by capital interests are working for disciplining the rest of the world according to Capitalism vision. Undertaking this state-capital alliance perspective, which tentacles are also expanding upon controlling science agenda, agri-environment schemes are an emanation of mainstream development and therefore standing as vector of Capitalism-in-Agriculture.

Chapter 4

The words of the Mind Dispossession

Capitalism-in-Agriculture is thus the art of putting old wine in new packs. Old economy dynamics of commodification and appropriation, but in new patterns of plunder... into natural resources, where the surplus extraction is also derived from society's interactions with environment rather than the mere realm of social relations of production. The context of contemporary capitalism has been traced as a socio-agriecological regime rooting capital accumulation in dispossession mechanism. The paper is now to analyse how the Sustainable Green Agriculture framing of the problem (this chapter) and the resulting deployed solutions (next chapter) fits the paradigm into this Capitalism-in-Agriculture regime.

This chapter objective is to explore discursive 'mind dispossession', i.e. how the Sustainable Green Agriculture paradigm narrative allows the condition for appropriation and accumulation as conveyed in mainstream capitalist agricultural development to occur. The first section presents the rhetorical building blocks of the paradigm while the second part of the chapter disentangles them. Special attention is there paid to analyse the biased centring of the focus, drifting away the spotlight from the genuine decisive issues that need to be addressed. By doing so, it deligitimizes some claims and the social groups that would carry them. Creating a dominant rationality for rural development is an act of biased framing excluding and prioritizing some realities over others. It is a power/knowledge grabbing enhancing mind dispossession depriving the victims of late capitalism from a genuine pro-poor blueprint having dominant groups and practices accountable, taking their right responsibilities in the socio-ecological burden of environmental degradation.

4.1 Sustainable Green Agriculture: an opera in three acts

The tale of Sustainable Green Agriculture relies on the following argumentation, unfolding in three steps.

1. In a world of hunger and growing demographic constraint, there is an imperative of dramatically raising food production.
2. This context is further embedded in the global environmental crisis and the accelerated depletion of natural resources.
3. Given those circumstances, one needs to produce more but with more sustainability.

The first act of Sustainable Green Agriculture framing sets up the general décor. The main problematic faced by the agricultural development agenda,

accordingly, is from a demographic order. The focus is on ‘feeding an expanding and more demanding world population (UNEP: 36) as ‘the world population is expected to grow to over 9 billion people by 2050’ (IFAD: 148) in a situation with food insecurity already prevalent in many parts of the planet (WESS: 68-9; IAASTD: 10-1). This result in pressuring on demand: ‘global cereal demand is projected to increase by 75% between 2000 and 2050 and global meat demand is expected to double’ (IAASTD: 5). In order to tackle this challenge, no choice but to ‘raise food production by some 70%’ (IFAD: 148), a corner statement word for word repeated in WESS, ‘food production will have to increase between 70 and 100 per cent to feed a growing population’ (67).

The second act is précising the set of conditions constraining the necessary agricultural production increase. Faltering natural resources endowment cannot be solicited for expanding food production, but on the contrary must be harnessed to repair nature and mitigate climate change. Through a groceries list of hindrances firing from all sides drawing a bedlam picture, the reports highlight, besides economic reasons such as underinvestment in the sector (UNEP: 39; WESS: 73) connecting to ‘lack of intensification of production systems’ (IFAD: 154), the natural endowments scarcities, portraying a global environmental crisis. In addition to the increasing demand for food (UNEP: 44; WESS: 71; IAASTD: 5), the agrarian world accordingly witnesses a shrinking of arable land (UNEP: 45; IFAD: 153, IASSTD: 5) with ‘about 40% of the world’s land surface degraded’ (WESS: 74), water scarcity and pollution (UNEP: 46; WESS: 74; IFAD: 153; IASSTD: 14), loss of biodiversity (WESS: 74; IFAD: 153; IASSTD: 5), adverse impacts leading/due to climate change (WESS: 76-7; UNEP: 48-50-60) leading to ‘cereal yields plateauing’ (IFAD: 153) and ‘reduced long-term productive capacity’ (WESS: 74). In fact, emphasis is constantly added on chemical fertilisers’ role in this depleting of agricultural land and water. Falling reserves of majors minerals used in conventional fertiliser production (UNEP: 47) are presented as one of the main challenge to agricultural production.

The last act merges the two claims together: the sustainable green agriculture is ‘an agriculture that is productive, profitable and sustainable’ (IFAD: 148), ‘more sustainable as well as more productive’ (IFAD: 156), ‘addressing environmental issues while maintaining and increasing productivity’ (IAASTD: 6). In UNEP’s words, it aims at ‘maintain and increase farm productivity and profitability while ensuring the provision of food and ecosystem services on a sustainable basis’ (42). ‘Therefore, future increases in agricultural will have to come mostly from intensive land use and higher crop yield [...] future increases in livestock and fishery production will also need to be based on more efficient and sustainable use of available resources’ (IFAD: 148). It is gung-ho to a blueprint ‘conductive to the kind of technological innovations that aims to radically improve the productivity of small farm holdings through environmentally sustainable natural resource management’ (WESS: 67). The idea is of ‘reducing waste and inefficiency’ (UNEP: 36) ‘in the context of a weakened natural resource base’ (IFAD: 178). Agriculture must

'be non-polluting and environmentally sustainable, preserving or enhancing soil fertility and protecting biodiversity' (IFAD: 155). This is to be achieved throughout 'the harnessing of the technology and innovation needed to increase the productivity, profitability, stability, resilience and climate change mitigation potential of rural production systems' (WESS: 82).

4.2 Behind the stage, coming back on each act

70% increase, or the arts of blinders

This 70% increase statistic, bedrock of the Sustainable Green Agriculture, is prevalent in all contemporary food security narrative. There is no a single report from international development agencies (FAO 2011), eminent scientific publications (Nature 2010) or general public literature (Weid 2012) that would nowadays tackle the 'food 'problem without departing from endemic hunger as spectre that can be fought only through increasing aggregate food production. This portraying of the food problem scene is narrowly blinding others corners of the general landscape:

'It is clear that the rehearsal of the "doubling/70%" statistic is a key discursive device being used to frame the food security problem in a particular way. As previously discussed this framing is problematic because of its inappropriate use of a 'positive' statistic in a normative way. Further, though, this framing is problematic because of what it excludes from our understanding of the food security problem, and its solution' (Tomlinson 2011: 4).

Doubling the agricultural production is indeed a red herring from engaging with the political economy of global agri-food relations and looking at how the commodification of food bend agricultural system to the law of profits rather than social equity. To paraphrase Sen (1981), hunger is perceived in this discourse as the outcome of not *being* enough food available, excluding the understanding of people not *having* food. Peering beyond this assertion, Agrarian Political Ecology rejects its residual approach underpinnings, seeing the politics of the global food system dictated by the uneven terms of incorporation in the global food system rather than a matter of 'insufficiency'. In that sense, Sustainable Green Agriculture belongs to what Mooney and Hunt identify as a 'flat keying' of 'food security as hunger' master frame (2009). This master fame appraises food security as a matter of availability and accessibility, whilst keying refers to the relationship with dominant institutionalised practices – a flat one is said to reinforce them. This frame is two-pronged.

The first main keying is the association of hunger to the global food supply. Emphasizing on achieving more agricultural *production* is a trick to let in shadows the patterns of social food *distribution* and consumption in the world capitalist food economy.

‘Most strikingly, the dominant framing sees food security as a problem of inadequate agricultural production (availability), sidelining the other two pillars of access and utilisation and the perspective that sees food security as a distributional issue and of ensuring regular, appropriate, affordable access to food’ (Tomlinson 2011: 5).

Not addressing those patterns, i.e. where are the power control nodes in the supply as well as the political economy of food distribution rules in favour of a statu quo itself strengthening the current uneven development of neoliberal capitalism socio-agriecological regime, with mainstream agriculture-for-development market based model. Furthermore, it paradoxically leads to further food insecurity as ‘the spectre of a hungry world is being used to push the agenda for industrial agriculture, but in reality, the majority of the land is used for producing animal feed and agrofuels, as well as land speculation, rather than food crops’ (Henriques 2011).

The second flat keying feature is ‘the individualisation of collective action’ (Mooney and Hunt 2009: 475). All the constitutive reports of the Sustainable Green Agriculture paradigm ultimately shrug off the burden of rural development on the small-scale peasant shoulders and the improvement of their practices. The shape of the structure of domination, is conspicuous by its absence. This individualisation of responsibility is a very questionable move in the extent that hereafter ‘there is little room to ponder institutions, the nature and exercise of political power, or ways of collectively changing the distribution of power and influence in society—to, in other words, “think institutionally”’ (Maniates 2001: 33). Whatever institutional arrangement that will be proposed will remain within the brackets of simply enhancing global productivity and production without touching on class power and its political violence.

The normative use of the statistic is crucial. As a matter of fact, all texts do extensively draw on the role of institutions in supporting the smallholders (UNEP: 65; IFAD 163-77; WESS 93-6; IAASTD: 6), but without questioning their role in the state-capital alliance context, where emanating paradigms from captured institutions are vehicles of models enhancing appropriation, dispossession and commodification capitalist forces. Hence, asserting institutional seizure is all the more important. Arrogating the right of designing the agenda food provisioning system of the world population comes with great worldwide potential control over social realities. Though the scheme a lot is at stake as Green Agriculture comes with a proposal of 198 billions dollars to be invested (UNEP: 61). As a result, beyond purposely blinding the food security problem landscape to the question of social distribution, the cynical discursive framing in terms of a food-deficit regime (Araghi 2000) is killing two birds from one stone by further legitimizing this institutional seizure; presenting ‘food crisis’ as endemic and mankind’s survival affair, it becomes naturally a task that need to be undertaken and *managed*. As public action is required, road is paved for development programmes and governmentalities, i.e. state ability through food provisioning to exerting disciplinarian influence over living conditions of whole populations (Nally 2011). Enforcing what is the

'legitimate' problem is the first crucial step of the power/knowledge grabbing exerting mind dispossession.

Global Crisis but Global...South in front line – the politics of blame shifting

The second rhetorical act of the sustainable green agriculture paradigm framing is the global environmental crisis and the imperative of not further soliciting natural endowments. This production of nature as in a crisis facilitates the 'urgency' of the situation where one needs to act and take measures *now* – and enforce the offered answer¹¹. Coming simultaneously with a problem and its solution, in a tone of hurry, enforces a TINA – There Is No Alternative – discourse¹². A state of emergency as here the threat of being on the brink of a Malthusian stalemate is one of Neoliberal Capitalism trick to create a pressure on accepting enforcements society would not have accepted in a 'non-crisis' time: a 'crisis is continuously and actively *needed* by capitalism' (Dickens 1996: 30). In that sense, the expanded reproduction of capital will 'never let a crisis go to waste'¹³.

The framing of protecting an environment in crisis is also coupled with the imperative of protecting if not re-building it. UNEP text speaks about it in terms of practices that 'rebuild ecological resources [...] restoring and enhancing soil fertility' (42). This comes as the other side of the Nature™Inc. trend, where the commodification of nature revolves around the use of natural resources, but also increasingly on the social relations revolving around, what critics termed, 'its repair':

"The economy of repair has been smuggled in within the rubric of "sustainability", but its logic is clear: that unsustainable use "here" can be repaired by sustainable practices "there", with one nature subordinated to the other. Once this logic of repair is grasped, so a new interplay can be discerned which is doubly valuing nature: for its use and for its repair' (Fairhead 2012: 242).

Though, recalling the difficulties to have climate change scepticism being bypassed and the former admitted on the international agenda, having the global environmental crisis widely acknowledged could be welcomed as a step backward on society's social and ecological injustice ladder. However, this is hiding a 'one step backward, two steps forwards' move where compromising

¹¹ Agrarian Political Ecology does not deny the gravity of the environmental depletion, on the contrary it recognizes to Pachamma a well-being status, and it rather pinpoints the instrumental use of it.

¹² Infamously strategy used by neoliberalism during the '80s on UK Prime Minister Thatcher's words to force economic reforms.

¹³ As former White House Chief of Staff Rahm Emanuel said.

on one point cynically allows strengthening on the other hand the power/knowledge grabbing undertaken by the dominant rationality. The particular way the crisis is unpacked act as a blame shifting strategy further legitimizing Capitalism-in-Agriculture take on agrarian settings. While Sustainable Green Agriculture is about how to face a *global* crisis and the greening of dirty agricultural practices, the focus is however quasi-exclusively on small-scale farming in the Global South, eluding genuinely questioning conventional agriculture and Western lifestyle model, i.e. the real scale and place where environmental degradation is rooted.

Expressions revolving around small farming are to be found in average one and half time per page while the one about large-scale only once every 4 pages, as the table below illustrates.

Entries					
Absolute and Average Relative per page Occurrence in	IFAD		WESS		UNEP
Small farmers/holder/scale	53	1.7	65	2	11 1.1
Large/Industrial agriculture/scale	0	0	9	0.2	15 0.4

Small-farmers are put in frontline of belt of fire for natural resources degradation. More precisely, while traditional agriculture impact is described with active phrasing and accurate sentences such as ‘poor small-scale farm holders can over-exploit natural resources’ (WESS: 80), conventional agriculture repercussions are outlined casually, without proper emphasis in passive tone and opaque formulations. For instance, ‘the consequence of the [green] revolution have not been entirely positive’ (UNEP: 40), ‘Emphasis on increasing yields and productivity has in some cases had negative consequences on environmental sustainability’ (IAASTD: 5) or ‘water quality has been degraded partly owing to intensive agriculture’ (WESS: 78). As for IFAD, the report is not even close of mentioning industrial agriculture in an explicit sentence, it as if environmental degradation just happened out of the blue. As UNEP puts it eloquently, greening of agriculture ‘should particularly focus on improving farm productivity of smallholder and family farms’ (68). This strategy minimizing the role of ‘real’ harmful practices conducted in conventional intensive large scale agro-export production model is also expressed when for instance, WESS report is highlighting, for agricultural contribution to global greenhouse gas emissions, the biomass burning (WESS: 77), a practice strongly associated to traditional farming in mainstream thinking, living in shadows the land clearing for intensive livestock production. This association traditional farming – environment depletion is repeated through statements such as ‘Poverty among small farm holders may create incentives for more intensive non-sustainable resource extraction as a short-term survival strategy’ (WESS: 82).

The same bias is applied in the geographical approach. The following table indicates the occurrence of selected geographical entries.

Geographical References¹⁴					
to	IFAD	WESS	UNEP	TOTALS	
Occurrence in					
Asia	40	41	24	105	38%
Africa	37	35	34	106	38%
Middle East	5	1	1	7	3%
Latin America	15	15	7	37	13%
Western World ¹⁵	3	10	9	22	8%

In a nutshell, less than 10%, 1 on 10, of geographical entries refers to Western countries. Likewise, North Africa is barely mentioned and Middle-East is left out of the scope. On the other hand, Asia and Africa share the major part. It is interesting to note that among Asia, China is often mentioned (individualized), but for various adverse roles, dovetailing with the current context of international relations where China is mostly constructed as a threat. Latin and Central America get few references on a marginal basis. By the same token, the expression ‘developing countries’ is to be found 7.5 more times than ‘developed countries’¹⁶.

Such a partiality of the global crisis rhetoric shyly drifting away from the equation issues can be explained for three reasons. First, stressing the diminution of ‘natural’ resources available and the need of their pristine preservation is also an unstated open door for artificial substitutes such as synthetic, bio and nanotechnology and classical political economy of corporate control that accompany them (see ETC 2010). Second, most of biological resources fuelling Neoliberalism socio-agricological regime that are to be grabbed for the new bioeconomy are located in the Global South (ETC 2010), yet the importance of bringing the scheme to this area. Finally, the traditional power of labelling for controlling dear to ‘development as a discourse’

¹⁴ Reference to country or continent.

¹⁵ North America, Europe, Australia.

¹⁶ ‘Developed countries’ is mentioned 13 times (4 in WESS and 9 in UNEP) while ‘developing countries’ occurs 98 times (15 in IFAD, 32 in WESS and 51 in UNEP).

(Escobar 1995) keeps its crucial importance. Such mindscapping where Southern traditional agriculture is over-emphasized is dispossessing local communities from the legitimacy of engaging with conventional ideas of agricultural development and having factory farming being held accountable.

The marriage of Productivity and Sustainability: From neo-productivism with love

Bracketing productivity within the sustainability constraints enforce specific practices (see next chapter) aiming at enhancing food production from intensive approach. Raising the productivity discourse is corroborated in other international agencies. For instance, the World Bank argues nowadays along the same line: ‘our analysis shows that the projected increase in the demand for agricultural commodities over the next decade could be met, without cutting down forests, by increasing productivity and farmland expansion in non-forested areas’ (2010: vii). From this perspective, the development economics behind the ‘new’ paradigm remains unchanged compared to mainstream WDR model. Using again a ‘quantitative’ discourse analysis perspective enables bypassing the green¹⁷ and sustainability¹⁸ vocabulary. The prevalence of some key classical terminology dear to neoclassical economics becomes striking as well, as illustrated by this table.

Entries									
Absolute and Average Relative per page Occurrence in	IFAD		WESS		UNEP		WDR		
Productivity/productive	36	1.1	41	1.2	42	1.2	362	0.9	
Efficient/efficiency	12	0.4	8	0.2	30	0.9	8		
Increase	54	1.7	36	1	47	1.4	206	0.5	
More	80	2.6	32	0.9	95	2	760	2	
Market	33	1	8	0.2	24	0.7	575	1.5	
Innovation	15	0.5	67	2	0	0	54	0.1	
Technology/ies	35	1.1	68	2	37	1	328	0.8	
Management	28	0.9	56	1.5	51	1.5	298	0.9	

¹⁷ The world is mentioned 15 times in IFAD (once every two pages in average), 39 times in WESS (once per page) and 123 times in UNEP (almost four times per page). In comparison, the occurrence is only of once every five pages in WDR (88 entries).

¹⁸ The expressions Sustainable/Sustainability are mentioned 101 times in IFAD (more than three times per page), 70 in WESS (twice per page) and 76 times in UNEP (twice and an half per page). In comparison, the occurrence is only of once every two pages in average in WDR (156 entries).

Neoclassical economics is prevalent in Sustainable Green Agriculture, where Green appears to be a coating, while the actual bounty remains unchanged, the same peanut waved to the developing world since Truman's Point IV – the modernisation mantra enrobed into sustainable intensification. All reports are strongly marked by a productivist approach in line with the residual philosophy unravelled previously premised upon (un)development as a result of technical insufficiencies, asserted as a matter of lack of access in technology, lack of innovation lack of investments, lack of infrastructure, lack of land tenure security and lack of credit etc. (WESS: 90) where the solution is to have *more* of this and *increase* of that. This legitimizing epistemology is dovetailing with capitalist system where the imperative of *more* extension is a fundamental law of motion allowing capitalism to stay afloat through constantly renewed the reproduction of capital in material relations of production and accumulation. This approach narrows the nature of agricultural development to productivity and efficiency rather than distribution and social justice. The path forward is still paved along the same mainstream development economics, with technology, innovation and market helping achieving efficient and productive management of what is bulky referred not even as environmental resources but 'natural capital'¹⁹.

Another insightful clue of the neoclassical economics ideology is in the 'incentivize' approach of smallholder decision-making. Adoption of innovation is to be seen only through market mechanisms (IAASTD: 8; UNEP: 64; IFAD: 174; WESS: 67). Accordingly to the reports, rural transformation is based on *homo economicus* communities where 'the main challenge is to improve incentive so that they promote and lead to the development of sustainable agriculture by small farm holders' (WESS: 67)²⁰. This idea is also part of UNEP approach of developing sustainability, throughout 'economic incentives that reward green practices' (64). IFAD drives the point home with the following statement: 'the accessibility of new approaches to increasing productivity in agriculture is of little value in itself if there are no short-term incentives for poor rural people to adopt them' (158), hence the importance of 'identifying market-based incentives for the development or adoption of these innovations' (174).

This paradigm is axed around a productive and concomitantly more sustainable agriculture. In that sense, the marriage of these claims participate into what a school of thought from rural sociology (Almas and Campbell 2012) analysed as the emergence of what they coin 'neo-productivism'. Reading this restructuring of agricultural policies discourses, neoproductivist stream rejects the idea of a post-productivist agrarian change 'proposed as a straightforward reversal of intensification, concentration and specialization into trends of extensification, dispersal and diversification respectively' (Evans 2002: 317). Post-productivism, indeed analyse a policy shift in state agricultural policies,

¹⁹ UNEP's chapter is entitled 'Agriculture, investing in natural capital'.

²⁰ The skilful eluding of conventional agriculture can be admired once again.

from industrial modernisation goals towards a reconfiguration of farming systems less intensive and in a more multifunctional relationship with environmental concerns (Wilson 2001), that is so to say what Sustainable Green Agriculture is trying to sell. Neo-productivism rather pushes forward a theorization of agrarian change highlighting that ‘productivism is not only still in existence, but in some places is making somewhat of a comeback’ (Burton 2012: 54) with practices that ‘represent a movement beyond productivism while maintaining productivist goals’ (55). Defined as ‘extending the expansionary logic of capital accumulation [...] the key defining feature of neo-productivism is the ability to follow an accumulative and intensive production ideology within a multifunctional regime by either incorporating or manipulating broader concepts of sustainability’ (Anderson 2009: 49). The neo-productivism reading allows taking off the mask of Sustainable Green Agriculture rhetorical framing real economic nature.

To conclude this chapter, devoted to unpack Sustainable Green Agriculture’s framing, the disentangling showed that the scheme narrative was by several aspects a red herring of old wine into new packs, drifting away the focus from the real issues that needed to be addressed. Sustainable Green Agriculture ‘completely ignores all the most controversial issues’ and ‘repeatedly refers to *policies*, but never to *politics*, never to *power*’ (Lander 2011: 9 about Green Economy). It appears then that the prioritization and mapping of some realities over others acts as a power/knowledge grabbing leading to mind dispossession deligitimizing small-scale farmers from global south to ask ‘development’ and change for Northern agriculture. This ‘mindscaping’ production featuring discursive governmentalities is using a green coating to act as a smokescreen for mainstream productivist modernist approach. The key socio-agricological patterns of the agriculture-for-development political economy of material dispossession – commodification, appropriation and control, end-use conceptualisation of agricosystems – are left unaddressed as the next chapter is to further investigate.

Chapter 5

In a World of Material Dispossession

The Sustainable Green Agriculture rhetoric has thus been presented as revolving around the ‘9 billion people question’²¹ narrative, where increased productivity is advanced as the best way to accommodate dramatic environmental scarcities and world’s population demographic increasing pressure with the imperative of making hunger and –rural– poverty history. It further comes with a ‘198 billion dollars answer’ where achieving this goal is a matter of splashing the cash; with ‘an additional 0.16% of the global GDP is invested in green agriculture per year (equaling US\$ 198 billion) between 2011 and 2050’ (UNEP 2011: 61) the necessary innovation would be triggered to solve agricultural-related poverty and environmental issue. But what if the real solutions to social and ecological justice, for reasons rooted in power and politics, were not for sale?

The previous chapter analysed how the paradigm’s epistemology of rural development was rhetorically securing a mind dispossession legitimizing the capitalism-in-agriculture regime. Completing the other of the coin, this chapter addresses the praised practices and look at the material dispossession mechanisms. Consequently, its objectives are to look at the socio-agricological patterns of the enhanced agricultural practices. After briefly outlining the paradigm’s solutions, the next sections will develop an agrarian political ecology of the dispossession mechanisms by peering beyond what is to be briefly outlined in the last part as a co-optation of ‘agroecology without agroecology’.

5.1 The practices of the Sustainable Green Agriculture blueprint

The paradigm proposal revolves around three axioms, to be referred as small-scale farming, agroecological set of practices, and supportive institutional framework for innovation, sharing similarities with the Food Sovereignty path.

The focus of sustainable green agriculture on small-scale farming is eloquently illustrated by IFAD chapter opening with its first sentence stating that ‘agriculture – particularly smallholder agriculture – is to provide one the principal routes out of poverty for the next generation’ (148). It is even more explicitly claimed later on, ‘notwithstanding recognition of the challenges faced by small farm holders, these findings reinforce the view that they should be

²¹ As entitled by the Economist conference held in Geneva the February 8th 2012.

assigned a prominent role in food security strategies' (82). WESS states that strategies should be 'focussed on improving the productive capacity of small-scale food producers' (91) as 'small farms units tend to show higher productivity than large-scale farms [...] small-scale and diversified farming has advantages in terms of productivity, food production and environmental protection' (81). UNEP report also defends this idea 'that smaller farms have higher yields than large farms' (41). IAASTD, for its part, calls for a shift emphasizing the importance of farming communities as producers and managers of ecosystems, formulated as the need for 'targeting small-scale agricultural systems' (6).

Regarding the praised set of practices, agriculture based on a green sustainable vision lies in first restoring and improving soil fertility 'through the harnessing of agroecological practices' (IFAD: 158), such as nitrogen fixing, green manure, low-tillage, crop rotation, intercropping, biochar use, more precise water management, etc. (UNEP: 42; IFAD: 158; WESS: 89). The second main pillar concerns the 'low input farming' (IAASTD 2009b: 51) and a 'selective and frugal use of external inputs' (IFAD: 158) approach, with appropriate use of chemical and herbicide. Integrated pest management, intercrop system, diversification, and bio-pesticides among others are stressed as techniques (UNEP: 68; IFAD: 158; WESS: 89; IAASTD: 21). Those set of practices are part of the framework termed 'conservation agriculture' by the FAO (20011b). Finally, all four reports also praise for payment/compensation for environmental services (PES) under the umbrella of natural resources management.

Finally, the last part of the solution is a supportive institutional framework for technological innovation, or, in WESS words, 'a radical change in existing policies – a change that would result in a strengthening of current fragmented systems of innovation and an increase in resources for agricultural development and sustainable resource management' (67). Sustainable Green Agriculture backbone is expanded public and private investment policies for 1) reviving agricultural Research and Development (R&D) fostering innovation 2) providing 'better agricultural education' (IFAD: 179), including 'training smallholder farmers in green agriculture practices' (UNEP: 52). As for IAASTD, it makes also the case for giving more room for Agricultural Knowledge, Science and Technology (AKST) contribution, context-specific. Increased amount of money invested for technology and innovation through development institutions is at the heart of 'a true green technological revolution in agriculture' (WESS: 82), for it is the only path to resolve the 9 billion people question.

As noted before, this rhetoric of Sustainable Green Agriculture is in a certain extent seemingly closer to the Food Sovereignty proposal than agriculture-for-development in term of scale and practices. Food Sovereignty, incarnated through the work of social movements such as la Via Campesina, adopted as bedrock a small-scale farming focus with the motto 'peasant can

feed the world!’ (LVC 2009). While presenting its model of alternate peasant agriculture, it also mentions that ‘Among the key principles are those of agroecology’ (LVC 2010: 2). Based on Altieri’s science (2002; 2011), agroecology aims at developing agroecosystems with minimal dependence on external agrochemicals and energy input through the regeneration of soil fertility, based on traditional knowledge. Assuring favourable soil conditions is enhanced through promoting increased synergisms among system components a menu of practices, for example no-tillage, intercropping, integrated pest management etc. (Rosset 2011: 176). The small-farming centred narrative as well as several of those methods from the agroecological science and popular in alternate agriculture – intercropping, green manure and integrated pest management, among others – are also replicated in the policy statements of the Sustainable Green Agriculture²².

5.2 Peering beyond

Small-scale focus unravelling neoclassical agrarianism

As presented in the previous chapter, the paradigm is still predicated upon mainstream neoclassical development economics, and embeds the small-scale narrative in what has been called ‘neoclassical agrarianism’ (Kay 2009: 109). The Agrarian Political Ecology of it raises two points differentiating it from Food Sovereignty path and impediment to ecological and social justice.

First, if smallholder farmers are at the center of the narrative, it is only as a transitory status to be improved through modernisation and scaling-up (Byres 2004) where they are merely resumed to their efficiency in term of productivity compared to large-scale. Yet, Food Sovereignty appraises peasant farming as subjected to a different rationality. Economic behaviour is not dictated under terms of a neoclassical decision-making but by other principles (Shanin 1973; Scott 1976; Thorner 1988; Toledo 1989). Furthermore, productivity is also conceptualized in relation to its ecological properties. From this vantage, the very notion of ‘economic agricultural productivity’ is challenged, departing from the question ‘Does an increase in the input of fertilizers per hectare really result in an increase in productivity? It certainly does, up to a certain level of input. But is the measurement of productivity the correct one?’ (Martinez-Allier 1997: 225). It there argues the method of accounting ‘do not subtract the value of the waste or prejudicial by-product creates’ (225) neither its takes ‘into account the present and future externalities that the use of these inputs may imply due to the loss of other environmental services’ (235). Food Sovereignty aims at providing a more ecologically comprehensive understanding of production out of market logic. Yet only the neoclassical sense narrowed down

²² None of the reports explicitly stands for ‘Food Sovereignty’.

to strict economics allows the development mantra to ‘make sense’, when a broader ecology of it would blast away its so-called viability (economic growth myth). Therefore, Sustainable Green Agriculture still pretends to treat small-farmers holders as pursuing *homo economicus* decision-making to enforce the enclosure of market-biased solutions.

Second, the Food Sovereignty movement is making the case for re-peasantization approach of rural development, standing for a model ‘empowering peasants’ (Van der Ploeg 2012), while Sustainable Green Agriculture is perceiving small-scale farming as the original condition defining poverty in the South. Food Sovereignty is an attempt to re-appropriate rural development away from a developmentalist paradigm and provide a vision of food system outside the capitalist path, revolving henceforth around ‘the peasant food web’ (ETC 2009) with social equity. On the contrary, for Sustainable Green Agriculture, the question is not about how to preserve small-scale farming but how to transform it into a more modern version. Bringing productivity to family farms is suppose to enable them achieve ‘greater commercialisation and integrating them into supply chains’ (UNEP: 42), that is to say word for word the agriculture-for-development (WDR) model. This vision is simplistic as smallholder farming is appraised as a homogenous category, ignoring class differentiation – and by doing so the shape of the structure of domination in agrarian societies (Bernstein 2010); besides, the changing realities and patterns of significance of the peasantry in both Global Northern and Southern agrarian societies, ‘the new peasantries’ (Van der Ploeg 2008) are also left out from the scope. Rural development is still thought within the boundaries of capitalism and modernisation, enabling dispossession mechanisms that could not possible in the re-peasantization approach, as the fallout praxis illustrates.

The praxis: some flaws for accumulation by dispossession

The set of practices praised is a vehicle of accumulation by dispossession through the enclosure of the resources themselves – the extractivist political economy, as well as by the control of the way nature is conceptualised or related to by communities.

First of all, the paradigm generally over stresses the importance of soil and water management. The prevalence of the word ‘management’ along the tone of the reports is associating with the idea that all environmental damages are the outcome of ‘inappropriate’, ‘inefficient’ and ‘poor management practices’ of resources. The traditional neoclassical ‘getting the prices right’ is being simply recycled in the Sustainable Green Agriculture in a ‘getting the practices right’. The rhetoric is developed out of binaries constructions, of wrong against right, efficient against inefficient, conventional against traditional, etc. This is typical from the neo-classical ‘short-sightedness’ of large bureaucratic institutions (Scott 1978), where only a discursive simplification of the messy bundle of socio-ecological relations can justify materialist schemes developing

governmentalities. Besides reinforcing the implementation of a ‘right’ managerial view over the rural populations, it is also diverting once again from burning issues to be addressed. As La Via Campesina explains, ‘we do not believe that the mere substitution of “bad” inputs for “good” ones without touching the structure of monoculture is sustainable’ (LVC 2010: 2).

Furthermore, one of the arguments consistently repeated over all four reports is that the degradation of natural endowments has been induced by ‘the excessive use of chemicals and the engagement in unsustainable land management practices’ (WESS: 80). Reducing harmful agriculture to a matter of wrong pesticides, presents aftermath the solution limited to a matter of ‘bio’ fertilisers and pesticides. It then allows the paradigm to a proponent of biochar (carbonized biomass) as an all-cure elixir (UNEP: 52). However, research has clearly shown that

Political-economic, discursive, social and science/policy processes are configuring, researching and developing biochar as a particular kind of green commodity in ways [...] which suggest a reductive interest in biochar that threatens to fuel green grabs [...] biochar becomes ‘green grabbing’ within process that Harvey (2003) has characterised as “accumulation by dispossession” (Leach, Fairhead and Fraser 2012: 287).

It ultimately falls in line with Green Sustainable Agriculture previously unfolded simplification and reduced approach of the agricultural production, where market and dispossessing technologies are enforced.

The soil fertility enhancement thanks to biofertilisers and no-tillage practice is embedded in the blueprint called ‘conservation agriculture’ (CA) (FAO 2011b). A recent study, looking at the evidence of positive effects claimed for agroecological as well as social benefits for small-farmers in Africa, sharply stated that finally ‘perhaps a simpler conclusion is that under present circumstances CA is inappropriate for the vast majority of resource-constrained smallholder farmers and farming systems’ (Giller 2009: 31), further adding ‘there is no case for promoting CA as a panacea’ (idem) from both ecological and social perspective.

Another component strongly advocated by the paradigm for sustainable natural resources management are the PES. The compensation for environmental services schemes have been extensively investigated and criticized by the Nature™Inc. school. Beyond the technical and institutional obstacles, the conducted political economy and ecology highlight that the commodification of natural resources by pricing them as well as the subsuming of nature-society relationship to accumulation by dispossession (Robertson 2011; McAfee 2012b). Deconstructing PES as another discursive material entity enhancing power over and through agrarian settings, the pro-poor narrative justifying it is shown as actually shyly implementing eco-governmentalities bending and disciplining peasants to the neoliberal capitalism socio-agricological regime.

Finally, the paradigm remains very ambiguous about biotechnology. To quote one, 'biotechnology can still be an effective instrument for facilitating the transformation of agriculture in poor agroecological regions with low productive capacity under current technology' (WESS: 97). IFAD and IAASTD are also not rejecting the technology. Yet, a comprehensive agrarian political ecology of biotechnologies as material discursive entity linked to (bio)politics has been as very well thoroughly examined (see Kloppenburg 2001; McAfee 2003 or Braun 2011) as an attempt 'to discipline biophysical nature at a cellular and even genetic level' (Moore 2010: 401) leading to 'accumulation by molecularization' (Nally, 2011: 46). Climate-resistant crops, which importance is emphasized in accordance to the global environmental crisis narrative are also promoted, though political economy of its corporate control threat has also been demonstrated (ETC 2010b).

Innovation, institutions and R&D, a.k.a Ruling&Dispossession

Coherently with the residual approach components of the Sustainable Green Agriculture assuming that 'underdevelopment is caused by an inadequate development of production forces, a situation that can be correct by the diffusion of inputs: capital, know-how, and technological innovations' (Yappa 1996: 75), institutional framework for Research and Development and scientific technological innovation is given a crucial role. By doing so, the paradigm is still reviving the modern-science-superiority myth enforced worldwide through the developmentalist project (Cowen and Shenton 1996; Rist 2008).

Although claiming a more inclusive participative 'pro-poor' approach to innovation being 'context specific', with initiatives such as FFS, Farmer Field Schools (IFAD: 176; WESS: 84) the usual top-down bias is kept. As a research conducted on FFS in West Africa, the program is been used 'to push scientist-based ideas about improved varieties and pesticide use [...] Since the researchers had a 'hidden objective' there was no room for grounding the FFS in the specific needs of farmers' (Nederlof 2004: 18). It further notes

the tendency of NRI [National Research Institute] to use FFS as an extension method to introduce their technologies to farmers and not to trust farmers' own ability to choose and make decisions and to consider them co-producers of knowledge. In this case study, scientists' role in knowledge generation has not changed as compared to a transfer of technology approach' (Nederlof 2004: 19).

Innovation is not to come from existing practices of local communities, as defended in agroecology (Altieri 2011) but suggested on the contrary to be engendered from outside: 'challenges will be resolved primarily by development and appropriate application of new and emerging AKST' (IAASTD: 6). Furthermore, the 'improvement' of 'efficiency' and 'management practices' over-repeated terminology helps in conveying the doctrine of those required innovations as highly complex, matter of great science and knowledge

as only the modern one can bring. The paradigm is not praising for an empowering local knowledge but rather for a scientific knowledge. In Dickens' revealing words, 'there is an important distinction to be made between everyday knowledge and skills (which are usually only developed as far as the demands of everyday life require) and theorised concrete knowledge' (1996: 69). For instance, crops adapted to climate change are not to be found in existing seeds bank of farming communities but in the laboratories of agricultural research centres. In this narrative then modern theorised Science is as the centre rather than holistic everyday knowledge.

This framing is developed in order for the West to remain the owner of the tools opening the right path for development. From an agrarian political ecology perspective, two points are to be raised. First, the economic value added is kept to the technology provider, skewed from farmers still perceived as only knowledge users, whose role are confined to the delivery of raw food material. The social knowledge/power relations in agrarian settings remain dictated by the dispossessions already existing and demonstrated by the food regime analysis. Second, the institutional seizure and its eco-governmentalities, all the more important in state-capital alliance context, are reinforcing the captured agenda of science for rural development. Capital intensive technology rather than appropriate technology are developed, where agricultural production is constructed in an end-use system – input-output perspective – instead of a self-regenerating cycle – as praised in agroecology and permaculture – that would indeed allow little access points for capitalist forces to anchor and extract surplus. None of the technologies can be endogenously created as defended in Agroecology science and enforced by the communities. Development needs an array of external 'helping' actors, which will all have a bit in the pie at different stages.

Agroecologism Without Agroecology

All in all, it appears that Sustainable Green Agriculture is developing a cooptation within the capitalist framework of agroecology. If the general tone is indeed from a quick glance sharing some common rhetoric nodes with agroecology, more scrutinised look disclose an inverse picture. While agroecology is being supported by the Food Sovereignty movement as an attempt to provide alternate pathway to rural development based on a localised model of production and consumption putting farming communities at the centre of a new reality, Sustainable Green Agriculture is eluding the politics of development (Leftwich 2000), i.e. power and distribution of resources. Instead, the framing of policies based upon reductionist practices to ecological issues and biased institutional investment and scientific framework are depoliticizing the rural development politics and still enhancing patterns of agrarian transformation based upon expanded reproduction of capital. Boiled down to technical and 'good' managerial activities with 'sustainable' practices flawed to dispossession mechanisms, the paradigm participates into capitalism-in-agriculture joining in dialectical unity the shape of accumulation processes and

the nature of agriecosystems responding to surplus extraction imperatives at the expense of social justice and ecological well-being.

Chapter 6

Conclusion – The Good, the Bad, and the Watermelon

The Sustainable Green Agriculture paradigm, despite its seemingly progressive tone, is a scheme embedded in reinforcing the logic of capital accumulation and its set of dispossession mechanisms over alternate approaches such as Food Sovereignty while relating to the planning of agrarian transformation. The latest global agri-environment blueprint emanating from the United Nations constellation (FAO, UNCSD, UN-DESA, UNEP, etc.) allegedly providing a changed and fresh avenue for agricultural and rural development, remain however strongly anchored in mainstream capitalist approach. Dressing in the apparatus of ‘the good’ sustainable practices but keeping the patterns of ‘the bad’ capitalist development premised upon accumulation by dispossession, Sustainable Green Agriculture locates as ‘the ugly Watermelon’, slyly veiling new sales pitch of last season’ merchandise – a renewed red herring under green skin from social and ecological justice.

This research has been devoted into disentangling, in the shadow of contemporary capitalist forces, the politics of socio and ecological patterns of agrarian transformation *à la* Sustainable Green Agriculture, the new agri-environment paradigm promoted by international agencies for agricultural and rural development. The study departed from the need to assess this proposal between change and continuities regarding the previous capitalist agriculture-for-development model and more generally in perspective with current capitalist dynamics. The paper made the case for the paradigm as a discursive production still being rooted in participating into the late capitalism framework of expanded reproduction of capital, identified as conveying a particular regime of commoditised socio-political, economical and ecological relations relying upon mind and material dispossession forces.

The study’s analytical assessment has been conducted through the lens of Agrarian Political Ecology, a crossbreed theory merging critical agrarian political economy and poststructuralist environmental political ecology. This theoretical production encompasses patterns of analysis and explanation i) hermeneutically engaging rural development, capitalist forces and their ecological dimensions, ii) navigating at both empirical and discursive framing levels, as words and the worlds are conceived enshrined in a constitutive relationship. More particularly, the shape of relations between capital accumulation and agrarian realm are conceptualized thanks to a specific toolkit, the socio-agriecological regime, which aims at theorizing, in relation to rural social and ecological settings, the system’s engine of surplus extraction. The fallout methodology adopted by Agrarian Political Ecology for disentangling the paradigm is a dual political economy and discourse analysis approach which unit of analysis is material discursive entities.

Regarding the late capitalism structure of expanded reproduction of capital, the research, using the socio-agricological lens, squared the pattern of a Capitalism-in-Agriculture framework. Under capitalist modernity, or neoliberalism, the process of accumulation is based on a biomass-coup, a control grabbing of nature and society-nature relationship, for they are a crucial pool for surplus extraction. As a result, natural resources as well as ways people relate to them are subsumed to market forces, leading to enclosures. This context is dialectically joining in a constitutive relationship the nature of neoliberalism and nature according to neoliberalism. Patterns of processes and conditions to capital extraction in agricosystems are relying upon strategies of accumulation by dispossession. Those socio-agricological dispossession enclosures are mediated in society through interconnected production of material engineering and epistemological discursive nodes. Finally, the regime is enforced through a State-Capital alliance capturing the Development project and using the paradigm to enforce spaces allowing Capitalism-in-Agriculture nodes for dispossession to operate.

Accordingly unpacking the bluep

rint, the paper has been supporting the paradigm as participating into this regime by driving mind and material accumulation by dispossession. The nodes of dispossession mechanisms, identified as manipulation and management of crisis, state involvement in the direction of the redistribution and commoditization trend are performed as material discursive entities, with a discursive framing and its material counterpart.

Exploring first the discursive master-framing of 'the food problem' and 'environmental depletion' by international agencies that the development project needs to address, the analysis outlined the prioritization and mapping of some realities over others acts as a power/knowledge grabbing leading to mind dispossession deligitimizing some claims. The biased centring of the focus, from one hand on the production system and from the other hand on smallholder belonging to the Global South, is deligitimizing claims regarding the power and politics of the global agricultural and food distribution, a relational approach of rural poverty and the true responsibility of Western model of agriculture. This mindscaping production throughout the manipulation of crisis hides the classical material political economy of capitalist modernist development, where the green coating of Sustainable Green Agriculture acts as a smokescreen to productivist modernist goals. In the same vein, the small-scale focus hides neoclassical agrarianism, an agroecologism without agroecology. Logically, the framing strongly legitimizes the intervention of institutions to manage these crises.

Investigating then the involvement of institutional structures in the direction of redistribution, the discursive framing component of this second node is falling within the context of the need of management practices due to food and environmental crises. From its material counterpart, besides enhancing eco-governmentalities, this is fuelling institutional seizure, all the

more crucial in a context of State-Capital alliance. The good practices discourse is boiled down the problem to a technical and managerial matter, eluding the politics, and justifying specific type research as cornerstone, another step of mind dispossession. Yet the agenda of Research and Development is biased towards technological innovation where the knowledge is still owned by West and corporations rather than local farming communities.

Finally, regarding the third node of dispossession component, the commoditisation trend; the neoclassical economics and its *homo economicus* approach are still strongly underpinning the rhetoric of agrarian transformation, old wine in new packs, dovetailing with the neo-productivism exposed during the analysis of the first node. This discursive framing is driving market-biased and corporate-led material measures that are false solutions for the alleged benefits. First, environmental conservation is assumed to be a matter of right incentive, and therefore Sustainable Green Agriculture promotes PES schemes, while their social and ecological limits have been extensively demonstrated. Second, reductionist approach to agricultural production system produces green fertilizers and chemicals as key components of renewed practices instead of broader understanding of ecosystems interactions, while the promoted biofertilizer, biochar, is already under fire from academia for its political economy and ecology. Ambiguous position on biotechnology is also an open door for commoditisation of seeds. Through this node of dispossession mechanism, the aim is at creating an agricultural chain model less capital-resisting, easier to take over by set of capitalist forces than an autonomous and resilient one predicated upon the peasant food web.

Conducting this study of the new agri-environment scheme promoted by international development circle from an agrarian political ecology perspective allowed several contributions. Connecting set of writings from critical studies on agrarian issues, sustainable development, green economy, this engagement with the Sustainable Green Agriculture paradigm challenged the lack of critical academic literature devoted to global agri-scheme as well as the pre-existing claim of this proposal to be socially and ecologically green, sustainable and new. The research made the point for a new statement – for the politics of Sustainable Green Agriculture as still located in the expanded reproduction of capital at the expense of social and ecological justice. Besides providing empirical background information for people and groups from civil society organisations involved in resisting this model, the significance is also theoretical. Socio-agriecological regime lens, i) a new concept ii) combines existing observations in different ways. The contribution is therefore also moving further theory on the ecological agrarian question.

However, as the title indicates, this research is only an *attempt towards* an Agrarian Political Ecology reading of agrarian transformation. In that sense, this research is more a first step than the outcome of a final staircase. Furthermore, on one hand, the appraisal of the various political statements could have gained in nuance, looking at the glass half-full, considering for

instance that IAASTD relative progressive tone as well as intern politics and tensions within those agencies. On the other hand, but caused by financial and time constraint, the empirical data to support the theoretical claim could have been more elaborated; more specifically on the Food Sovereignty and agroecology proposal. Finally, partly due to the fact that the reports are avoiding themselves those issues, the investigation did not touch upon more precise class-power components; and dynamics such as the financialisation of agriculture also conveyor of accumulation by dispossession, the land and water grabbing phenomena primary vector of natural resources enclosure, and the role played by energy discourses in determining trajectories of land towards non-food commoditised use. As a result, the portrayed landscape of agrarian transformation is missing some important corners for delivering a picture on the nexus within capitalist ecology between climate, energy, food and land crisis and industrial model of agriculture. Additional further area for development research, beyond the potential of Food Sovereignty model to provide an exit from this capitalist ecology, could then engage with the neoliberal development project as it relates to other burning agrarian issues and engage in linking its different food, land, finance and energy pendants under the socio-agricecological regime lens.

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