



**Understanding Multiple *Jatropha* Discourses in
Zimbabwe:
A Case of the National Oil Company of Zimbabwe
(NOCZIM) *Jatropha* Outgrower Scheme and
Nyahondo Small-scale Commercial Farmers, Mutoko**

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List of Acronyms

AGRITEX	Agricultural Technical and Extension Service
ARDA	Agriculture Rural Development Association
ESAP	Economic Structural Adjustment Programme
ETC	Erosion Technology and Concentration
FAO	Food and Agriculture Organisation
FGD	Focus Group Discussion
FTLRP	Fast Track Land Reform Programme
GMB	Grain Marketing Board
GNU	Government of National Unity
GoZ	Government of Zimbabwe
IMF	International Monetary Fund
JCL	Jatropha Carcus
JOS	Jatropha Outgrower Scheme
MDC	Movement for Democratic Change
NGO	Non Governmental Organisation
NOCZIM	National Oil Company of Zimbabwe
NR	Natural Regions
RBZ	Reserve Bank of Zimbabwe
SRLA	Sustainable Rural Livelihoods Approach
UNEP	United Nations Environmental Programme
USD	United States Dollar
ZANU (PF)	Zimbabwe African National Union (Patriotic Front)

Abstract

Jatropha has been rebranded in Zimbabwe as ‘green gold’ in the energy sector. The rebrand comes just after a Government initiated plantation *Jatropha* Out-grower Scheme failed due to lack of resources and policy direction. Farmers formerly contracted in the outgrower scheme were abandoned and the parastatal which spearheaded the project was dissolved. Now there is a coalition by the Government and two environmental and conservation NGOs trying to re-pack *jatropha* for sustainable rural livelihoods. These scenarios are assessed by political ecology lens to reveal the politics embedded in the failure of the *jatropha* outgrower scheme and the current projects by the Ministry of Energy and Power development, WWF Zimbabwe and Environment Africa.

Relevance to Development Studies

This research is relevant to development studies because it addresses the politics surrounding the *jatropha* discourse in Zimbabwe. Considering that *jatropha* projects have footprints of the land available for food, this is relevant in development studies

Keywords

Jatropha, NOCZIM, Zimbabwe, contract farming and *jatropha* outgrower scheme.

Chapter 1 : Introduction

1.1 An Anecdote

What is green about Zimbabwe’s ‘green gold’, that a tripartite alliance of actors converges at rural communities to sustain its greenness? *Jatropha* is such a ‘green’. It serves as a hedge in traditional knowledge and as a commercial ‘good’ in modern knowledge. *Jatropha* significantly transformed geographical landscapes of more than seven districts in Zimbabwe. *Jatropha* is in the agendas of Zimbabwe’s energy policy and in WWF Zimbabwe’s publications. Civil society organisations see *jatropha* in a ‘grey’ rather than ‘green’ language. How can we relate these scenarios to the past, present and future of *jatropha* in Zimbabwe and beyond? This paper presents a case study of an abandoned Government initiated *jatropha* outgrower scheme and the consequent attempts to re-brand and re-define *jatropha* through the tripartite alliance of the Government, an international conservation non-governmental organisation –(NGO) and a local environmental NGO as they work with Zimbabwean communities.

I analysed these transformations in four categories, the first, second, third and fourth *jatropha* discourses. These stories are not just symbolic but constructed by ecology and specific political-economic realities and processes. The first story involves regional excitement about the possibilities of *jatropha* and its potential to relieve Zimbabwe’s dependence on foreign oil imports. The second, “scary *jatropha*” story concerns local, regional and global reactions against *jatropha* for socio-ecological reasons. The third *jatropha* story involves influential environmental organizations such as WWF attempting to rescue *jatropha* and promote it in new ‘green’ and locally responsible ways. In my conclusion I map out the most recent shifts in *jatropha* discourse, connecting select fields in Zimbabwe to claims by parastatal officials and to debates among ‘*jatropha* experts’ in a meeting in Utrecht, the Netherlands in October 2012. The approach adopted here portrays the politics (who owns what, how, where and why) of *jatropha* in Zimbabwe. However, I start by giving a broad discussion of agrofuels in general, considering that *jatropha* is an agrofuel.

1.2 Biofuels Vs Agrofuels

Biofuels “are combustible materials directly or indirectly derived from biomass, commonly produced from plants, animals and micro-organisms but also from organic wastes” (UNEP 2009:25). Biofuels are classified into “first, second and third generations” (UNEP 2009:25). According to UNEP (2009:25) first generation agrofuels are generated from seeds, grains and plants, while the second and third generation agrofuels are generated from non-food sources and algae respectively. Groups like Biofuelwatch (2007) and Via Campesina (as cited in MST 2007:2), prefer to call ‘biofuels’, ‘agrofuels’, because the prefix ‘bio’ gives a message that it is energy derived from life, yet it is from ag-

riculture monocultures which pose threats to food security.¹ In Zimbabwe, formerly contracted farmers under the National Oil Company of Zimbabwe (NO CZIM)'s *jatropha* outgrower scheme (JOS) have land tied up with *jatropha* for at least two years now, without growing food crops. This reduces land for food production. Due to this, I also call 'biofuels' 'agrofuels'.

This paper focuses on first generation agrofuels, specifically *Jatropha Curcas L (jatropha)*. I investigate four basic questions:

- Why was the NO CZIM *jatropha* outgrower scheme abandoned?
- How do impacts of the closure of the NO CZIM *jatropha* outgrower scheme explain the political ecology of *jatropha* in Zimbabwe?
- Why did conservation and environmental NGOs (WWF and Environment Africa) join the Zimbabwean *jatropha* debate and implemented projects?
- What are the prevailing discourses concerning *jatropha* within and beyond Zimbabwe and how and why have these changed? What are the implications of these changes for different groups of people living in rural Zimbabwe (e.g. small-scale commercial farmers, subsistence farmers, the elderly and children, etc.)

1.2.1 The Agrofuels Debate

Agrofuels came to the limelight because of "energy security reasons, environmental concerns, foreign exchange savings, and socio-economic issues related to the rural sector" (Demirbas 2008:2106). Environmental concerns say fossil fuels need replacing because climate scientists argue that they are THE most important driver of climate change (Escobar et al 2008; Moomaw et al. 2012). Anticipations of fossil fuels reaching thresholds serve as another justification for promoting fossil fuels (Boucekkine et al. and Demirbas 2008). Large scale-agrofuels are claimed to improve rural livelihoods and restore land use (Cotula 2008).

However, this global excitement about agrofuels is criticised by civil society organisations (CSOs) like the ETC Group (2010), Biofuelwatch (2007) and Via Campesina (as cited in MST 2007) because they compete for water and fertiliser with food crops and they are grown extensively in an industrial way. Here CSOs refer to organisations which operate by associating with people like peasant associations, NGOs and social movements (Lister and Nyamugasira 2003).

Molony and Smith (2010) and Altieri (2009) associate food insecurity with agrofuel projects, with the latter emphasising that agrofuels cause environ-

¹ MST is Brazil's Landless Workers Movement, *Movimento dos Trabalhadores Rurais Sem Terra (MST)*.

mental degradation. Borras et al. (2011) argues that there is no marginal land where agrofuels are said to grow as that land supports other livelihoods. White and Dasgupta (2010) and Borras et al. (2010) expose the political ecology of biofuels while McMichael (2010) and McMichael (2012) claim that biofuels are a neoliberal and capitalist project. Agrofuel projects are linked to “land grabs”, which Hall (as cited in Borras et al. 2011:209) says include “private-private purchases and public-private leases for biofuel production and conservation arrangements”.

On a more ambivalent stance, Clancy (2008:418) says communities will either be bailed out of poverty or put into poverty or further pushed into it depending on alterations on “labour demand, land ownership and land use”. White and Dasgupta (2010:605) warn critiques not to see the crop or its uses as the problem but the conditions underlying which the crop is grown. In this paper I focus on the *jatropha* crop, my major theme, as outlined below.

1.3 History and Uses of *Jatropha*

According to Makkar (1998:31), *jatropha* species are generally non-edible and belong to the “Euphorbiaceae family”. The exact origin of *jatropha* is not known but the most possible origin is Mexico (and Central America) where it is found naturally in forests (Heller1996). Heller (1996:13) suggests that *jatropha* was “distributed by Portuguese seafarers via the Cape Verde Islands and former Portuguese Guinea (now Guinea Bissau) to other countries in Africa and Asia”. The plant was “introduced to Zimbabwe in 1940 by Africa 2000 (now Environment Africa)” (Hikwa, as cited in Karavina et al. 2011). According to Heller (1996:15), *jatropha* is referred to as “castor oil plant” or “hedge castor oil plant” indicating its uses as hedge and oil.

Zimbabweans refer to *jatropha* as ‘*jirimono*’ and it is mostly used as hedge to protect crops since its toxic nature drives livestock away. *Jatropha* leaves and seeds are dangerous to livestock and people (Karavina et al. 2011). Jingura (2011:2129) indicates that “extraction of oil from *jatropha* produces press-cake” which is toxic but can be used as ‘biofertiliser.’ The raw seed of *jatropha* is used as biodiesel, since it contains about 35% oil (Jingura et al. 2010:117). In 2005, the Government of Zimbabwe (GoZ) promoted *jatropha* growing in the quest for biodiesel (Jingura et al. 2011:2081). The following section looks into the potential of the Zimbabwean geography to support *jatropha* farming.

1.3.1. Zimbabwe's Suitability to *Jatropha* Farming

Zimbabwe is a country in Southern Africa with a human population of approximately 12.619.600 (The World Factbook 2012).² It consists of five broad agro-ecological regions (regions I-V) (Jingura and Matengaifa 2008) (see Figure 1.1 below). Agricultural productivity decreases from region I with rainfall of about 1000mm per year to region V with about 400mm of rainfall per year.

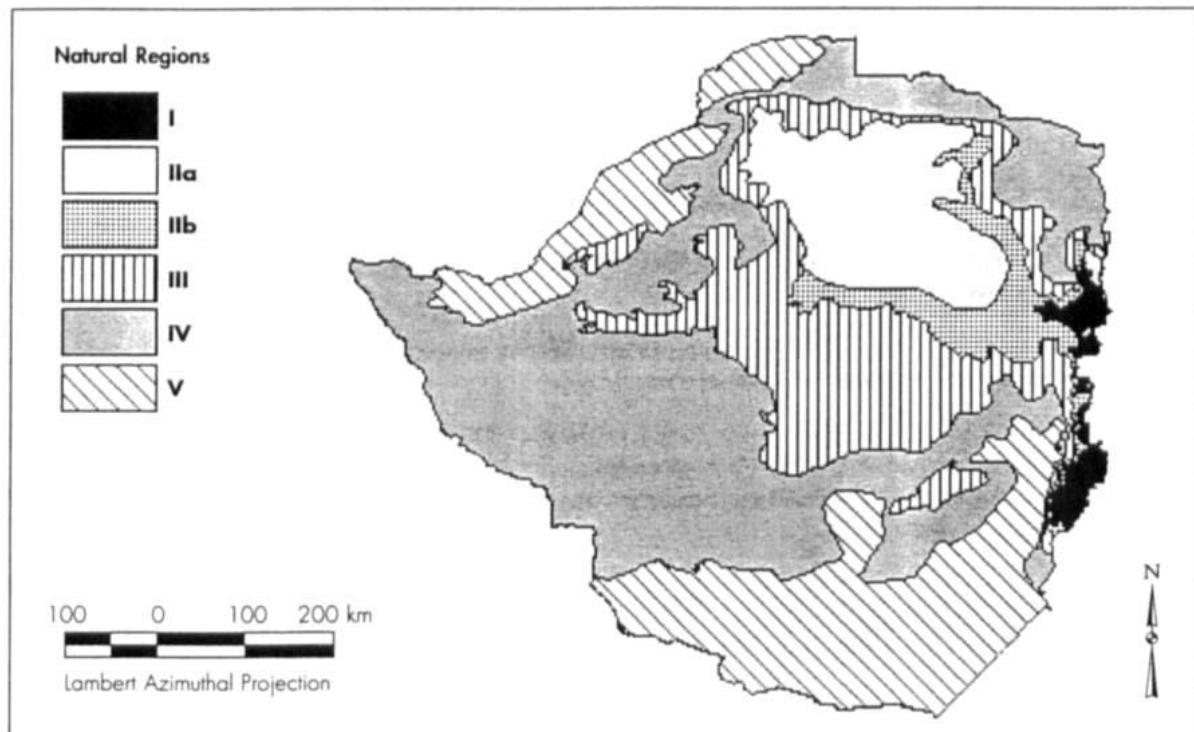


Figure 1.1
Zimbabwe Agro-ecological Regions (Source: Corbett and Carter (1997:207)

Agro-ecological regions can be called 'natural regions', but these regions are not 'natural'. They are produced based on statistical analysis with limited ground truth data based on select measurements of precipitation.

Zimbabwe has three elevation-based regions: Lowveld (<900m), Middleveld (900-1200m) and Highveld (1200m-1500m) (Jingura et al. 2011). The Lowveld, in terms of elevation is most suitable for *jatropha* farming where it overlaps with favourable agro-ecological conditions in regions IV and V (Jingura et al. 2011). The main argument for this is that these areas have low rainfall and are prone to drought (so-called 'marginal conditions'). The Middleveld is also suitable for *jatropha* production but it is likely to compete with food and other cash crops, which thrive very well in this region. Despite natural regions IV and V being suitable for agriculture, Jingura et al. (2011) indicate that in

²<https://www.cia.gov/library/publications/the-world-factbook/geos/zi.html> Accessed 9 November 2012.

Zimbabwe, the actual distribution of *jatropha* is primarily in agro-ecological regions II and III where most food crops are found.

Aside from these issues of potential conflicting overlap between competing land uses, it is important to consider the long history of land conflict in Zimbabwe in order to fully understand the significance of *jatropha* projects in the country today.

1.4. A Snapshot of the Land Reform Programme in Zimbabwe

Zimbabwe's land question has been the epicentre where all development evolves and it has always been the root of political tension nationally and with its former colony, Britain (Embassy of Zimbabwe 2012). So any research in development studies needs to acknowledge this phenomenon. In terms of a basic historical overview, the territory that now comprises present-day Zimbabwe resulted from key events of land dispossession and war.

1.4.1. Zimbabwe's General Historical Overview

In 1888, Europeans invaded the Ndebele Kingdom in Matebeleland (south-western part of the now Zimbabwe) and fraudulently signed the Rudd Concession with King Lobengula which gave them the rights to mine gold in the area (Embassy of Zimbabwe 2012). In 1889, with this exclusive grant, Cecil John Rhodes managed to acquire a Royal Charter for his company, the British South Africa Company (BSAC) to mine gold in Mashonaland, where Salisbury (now Harare) was established (Encyclopaedia of the Nations 2007). Blacks started to be displaced off their land and this marked the 1893-1897 First Chimurenga (meaning war/struggle), where after both Ndebeles and Shonas were defeated (Encyclopaedia of the Nations 2007; Embassy of Zimbabwe 2012).

1923 marked the transfer of power from the BSAC to the settler government (Ranger 1985). Land distribution had been skewed by now and there was need to recognise the blacks' access to land. This led to the Land apportionment of the 1930, which allowed black elites to buy land in the Native Purchase Areas (now small-scale commercial farms). White farmers sent messengers to recruit labour from the Reserves (Weiner et al. 1985). In 1960, the National Democratic Party was formed to represent blacks' resistance to white rulership but was banned in 1962, where soon after the Zimbabwe African People's Union (ZAPU) was founded, led by Joshua Nkomo (Ranger 1985). In 1961, Tribal Trust Lands (now communal lands) were formed. The settler government bans ZAPU in 1962 but it continues privately, until in 1963 when Zimbabwe African National Union (ZANU) was formed by ZAPU's opponents, where Robert Mugabe among the leaders (Ranger 1985).

In 1965, there was a massive war between ZANU's Zimbabwe African National Liberation Army and white forces in the "battle of Sinoia", (Ranger 1985:xiii). This was the Second Chimurenga War, which went on until the country got independent. In 1979, the Lancaster House Agreement was signed between Britain and the then Rhodesia, allowing white farmers to remain with the land for at least ten years, with land to be sold on willing buyer willing seller basis (Ranger 1985:xv and Thomas 2003:697). In return for this, the British government agreed to finance half the cost of the resettlement scheme (Thomas 2003:697 and Palmer 1990:168). In 1980, ZANU/PF led by Robert Mugabe won the elections (Ranger 1985). This was the birth/independence of Zimbabwe. The following section looks into the timeline of major land reform events of the new Zimbabwe.

1.4.2. Land Reform and Re-settlement in Post Independent Zimbabwe

According to Ranger (1985), Zimbabwean peasants supported the guerrillas because they wanted their land restored and they believe they contributed to the victory of ZANU/PF, now they want the land. Table 1 below shows land ownership at independence in 1980.

Table 1.1: Land Ownership Pattern in Zimbabwe at Independence in 1980. (Source: FAO 2007:8)

Sector	Million Hectares	% of Total
Large Scale Commercial	15.5	39.1
Small Scale Commercial	1.4	3.5
Communal	16.4	41.4
National Parks and Urban	6.0	15.2
State Land	0.3	0.8
Total	39.6	100

In line with this, Palmer (1990:168) indicates that in "1980, 6,000 white farmers owned 42% of the country". The Government of Zimbabwe (GoZ) planned to resettle about 162,000 families by 1984 in the First Phase of Land Reform and Resettlement Programme (LRRP1), but by mid 1989, only 52,000 families had been resettled. Since little had materialised from the targeted goal of 162,000 households, in 1990, a plan had to be made concerning the Lancaster Agreement, which was now proving to be unfruitful (Palmer 1990:163). This was to some extent due to a somewhat provocative, "undiplomatic and unprecedented intervention" (Palmer 1990:177) by the British High Commissioner to Zimbabwe who had warned His Excellency, President Robert Mugabe (President Mugabe) "...not to seize land from commercial farmers when the Lancaster House Constitution expired" (Palmer:176), since this would reduce exports due to stalled production. However, this was "subjected to implicit threats of the withdrawal of aid" since most of the development programmes had been financed by the British Government (Thomas 2003:698).

In 1992 land tenure remained skewed where “... 4,500 mostly white commercial farmers owned 11.5 million hectares, ...about a third of the country..., while 7 million peasants lived on 16.4 hectares of communal farmland” (Chan and Primorac 2004:67). The agricultural season 1991/2 was hit by a catastrophic drought which impacted negatively on food prices Thomas (2003). The same year, the GoZ established the Land Acquisition Act (Chan and Primorac 2004). The food price index between 1990 and 1994 increased by 225% further deepening poverty since the poor spend more on food (Thomas 2003).

Nothing positive came from the British Government about its commitment to fund land acquisitions and in 1997 they made it clear that they were a new Government with new commitments not related to the past and they were not responsible for funding the Zimbabwean land reform (Chan and Primorac 2004:69). This rhetoric made the GoZ to take action by implementing the second phase of the Land Reform and Resettlement Programme (LRRP2) advocating for compulsory acquisition of land to benefit the black majority (Thomas 2003:700). President Mugabe “gazetted 1,732 farms for nationalisation” (Chan and Primorac 2004:69).

In 1998, the GoZ held an International Donors Conference to promote the LRRP2 and request donors to compensate dispossessed farmers (Thomas 2003:700). The process of acquiring land was very slow and the ex-combatants could not wait any longer but invade white farms to compensate for their unheeded grievances concerning their pension funds since independence (Thomas 2003:700; Chan and Primorac 2004:70 and Chaumba et al. 2003:541). Ex-combatants are former freedom fighters who contributed to the attainment of independence in 1980. In 2000 a draft constitution was made to support compulsory land acquisition but the referendum was defeated and this further instigated the already accumulated and burning desire by ex-combatants to occupy land (Thomas 2003 and Chan and Primorac 2004). So despite the defeat, the GoZ moved on to amend the constitution and gazetted the “confiscation of land” and the Fast Track Land Reform Programme (FTLRP) was born, referred to as The Third Chimurenga, funded by the GoZ (Thomas 2003:701). The FTLP, according to Mujere and Dombo (2011:7) displaced about 4,000 white commercial farmers and accommodated 7,200 black commercial farmers and 127,000 black peasant farmers.

The newly confiscated and acquired farms were primarily to benefit the mostly marginalised landless peasants and the poor but in the end not all of them benefitted and not as much land as they anticipated (Chan and Primorac 2004:72). Most ex-combatants managed to benefit from the land reform, but those who did not have high ranks were occupying areas of low fertility and less size. Rather the Zimbabwean elite and government ministers benefitted the most and traces of looting were realised alongside the redistribution process (Chan and Primorac 2004). As a serious setback to the project, “neither rich nor poor could farm their new acquisitions properly ... in the midst of drought, the poor had insufficient inputs and equipment to make use of their land and the rich had insufficient agricultural knowledge” (Chan and Primorac 2004:72). However, Thomas (2003:703) and Mujere and Dombo (2011) argue that resettled farmers benefited considering that some of the places they are now in were no go areas.

Thomas (2003:702-703) prove how on various occasions it was proved that black peasant farmers were well capacitated to produce enough food for the country despite limited land and capital to invest in agriculture. This opposes some arguments against land redistribution on basis that peasant farming has low productivity. Chan and Primorac (2004:67) also challenge the idea that white commercial farmers were more effective than black peasant farmers showing that in the years prior to the 1992 drought, communal farmers combined with resettled farmers produced 221,400 tons of maize compared to 292,000 tons by commercial farmers who owned almost a third of the country's land.

Finally, all these events unfolding since the year 2000 resulted in what Scoones et al. (2011:6) refers to as 'a radical change in the nation's agrarian structure (see Table 2 below).

Table 2: Changes in the national distribution of land, 1980-2009 (Source: Scoones et al. 2011:7).

Land Category	1980	2000	2009
	Area (million ha)	Area (million ha)	Area (million ha)
Communal areas	16.4	16.4	16.4
Old resettlement	0.0	3.5	3.5
New resettlement:A1	0.0	0.0	4.1
New resettlement: A2	0.0	0.0	3.5
Small-scale commercial farms	1.4	1.4	1.4
Large-scale commercial farms	15.5	11.7	3.4
State farms	0.5	0.7	0.7
Urban land	0.2	0.3	0.3
National parks and forest land	5.1	5.1	5.1
Unallocated land	0.0	0.0	0.7

Scoones (2011:13) says "this radical transformation of land and livelihoods has resulted in a new composition of people in the rural areas, with diverse livelihoods and strategies". However, if much contribution is to be realised on local livelihoods, food security and economic development, huge investments are needed infrastructurally and institutionally (Scoones 2011:36). In conclusion Scoones (2011:41) argues that "only with land viewed as a source of livelihood and redistributed economic wealth, and not as a political weapon or source of patronage, will the real potentials of Zimbabwe's land reform be realised". Unfortunately, at least in Nuanetsi Ranch and Chisumbanje, in the southern part of the country, people are being displaced, most of which are ex-combatants, to pave way for bio-ethanol related projects (Mujere and Dombo

2011 and Mutopo and Chiweshe 2012). These ex-combatants tried to resist eviction by explaining to government authorities how this move was against the manifesto of the Chimurenga Wars they had fought, but unfortunately when the issue went to court, they were defeated.

Recalling that this paper is concerned with small scale commercial farmers (Nyahondo) and communal areas in Mutoko and Mudzi, these land categories have virtually not changed as shown above. Small-scale commercial farm in this context refers to the colonial “Native Purchase Areas” (Ranger 1985) mentioned earlier, where farm labour is provided by the household or paid labour if the work is too much, and using non-mechanised farm equipment like ox-drawn ploughs.³ Produce is for both household consumption and sales in case of surplus and the farm size ranges from 70-100 hectares.⁴ However, from the whole national *jatropha* programme by NOCZIM, the researcher does not know if some of the land under *jatropha* in the project was from resettlements.

1.5. Conclusion

This chapter lays a comprehensive foundation of this research, giving particular attention to main themes of this research to include debates around agrofuels, the history and uses of *jatropha* and its suitability as a crop in the Zimbabwean climate. For those not familiar with Zimbabwean history, major events in the country’s land politics on dispossession of marginalised groups are highlighted in both colonial and independent Zimbabwe. The following chapter introduces the NOCZIM JOS from another broad post independent history of Zimbabwe, bearing on economic, political and land issues.

³ This description is based on the author’s research in Nyahondo Small-Scale Commercial area in Mutoko, Zimbabwe, August 2012.

⁴ This description is based on the author’s research in Nyahondo Small-Scale Commercial area in Mutoko, Zimbabwe, August 2012.

Chapter 2 :

Histories of Land, Agriculture and *Jatropha* Production in Zimbabwe

2.1 Introduction

This chapter looks into the broad history of land, agriculture and *jatropha* production in Zimbabwe. Recalling that an intensive land history of pre-independent Zimbabwe is given in chapter one, this chapter gives more weight to significant post independence issues, from 1980 onwards. The main aim of this chapter is to assess how land conflicts (addressed in detail in the previous chapter) and economics affect agricultural production. This helps assess the footprints of political and economic undertakings like *jatropha* projects on household and national food security. The Economic Structural Adjustment Programme (ESAP) is discussed more in this because its history has a bearing on land politics and food security in Zimbabwe. There is a broad history in Zimbabwe on Agricultural Production, Land Politics and ESAP (Refer to Annex1)

2.2 Background of *Jatropha* in Zimbabwe

Before the intensive promotion of *jatropha* by the GoZ in 2004/5, there had been groups around Zimbabwe with interests in *jatropha*. These include the *Jatropha* Oil Producers Association – 1992, the Bun Project 1996, the Binga Trees Project – 1996 and Environment Africa (Henning, n.d.)

Starting in 2004, the Government of Zimbabwe promoted *jatropha* biodiesel production to reduce the country's 100% reliance on imported fossil fuel (Karavina et. al. 2011). The country needs 1.8 billion litres of oil per year (1 billion litres of diesel and 8 billion litres of petrol annually) (Esterhuizen 2010).⁵ The main objective of the whole agofuel project was to achieve “10% import substitution of fossil fuels by 2010” (Ministry of Energy and Power Development 2010:2). According to the Ministry of Energy and Power Development (Ministry of Energy) (2010:1), “in 2005 Cabinet passed a resolution to develop alternative sources of liquid fuels and set up an Ad-Hoc Cabinet Committee on Import Substitution in the Energy Sector”. The aim was to substitute foreign oil imports by locally produced oil.

The programme emphasised two forms of agofuel: “the growing of *jatropha* and its processing into biodiesel and the expansion of sugarcane growing and resuscitation bioethanol blended petrol” (Ministry of Energy 2010:1). The Ministry of Energy was supervising the inter-ministerial taskforce up to 2007, until

⁵ Esterhuizen works for the USDA Foreign Agricultural Service.

three institutions assumed responsibility for the program. The National Oil Company of Zimbabwe (NOZCIM), Finealt Engineering (Pvt) Ltd (Finealt) and Transload Investments (Pvt) Ltd (Transload) (Ministry of Energy 2010:2). NOZCIM was a government run company in the oil trading business.⁶ NOZCIM was tasked to support and secure production of *jatropha* for the biodiesel programme through contract farming nation-wide (Esterhuizen 2010). In 2010 *jatropha* had covered about 30,000 hectares, only a quarter of the 120 000 hectares anticipated (Esterhuizen 2010). Finealt's mandate involves a pilot project for biodiesel production and mobilisation of *jatropha* feedstock. Finealt brands *jatropha* as 'Zimbabwe's Green Gold'. Transload's mandate is to process seed oils into biodiesel and it commissioned a biodiesel processing plant in 2007 in Mt. Hampden, at the outskirts of Harare. I conducted research in Mutoko district and then extended my inquiry into Mudzi, a district where NOZCIM did not establish *jatropha* monocultures but where a more recent *jatropha* project run by NGOs is underway (see Figure 2.1). Locations for major cities, biodiesel and ethanol plants are shown in Figure 2.1 below.

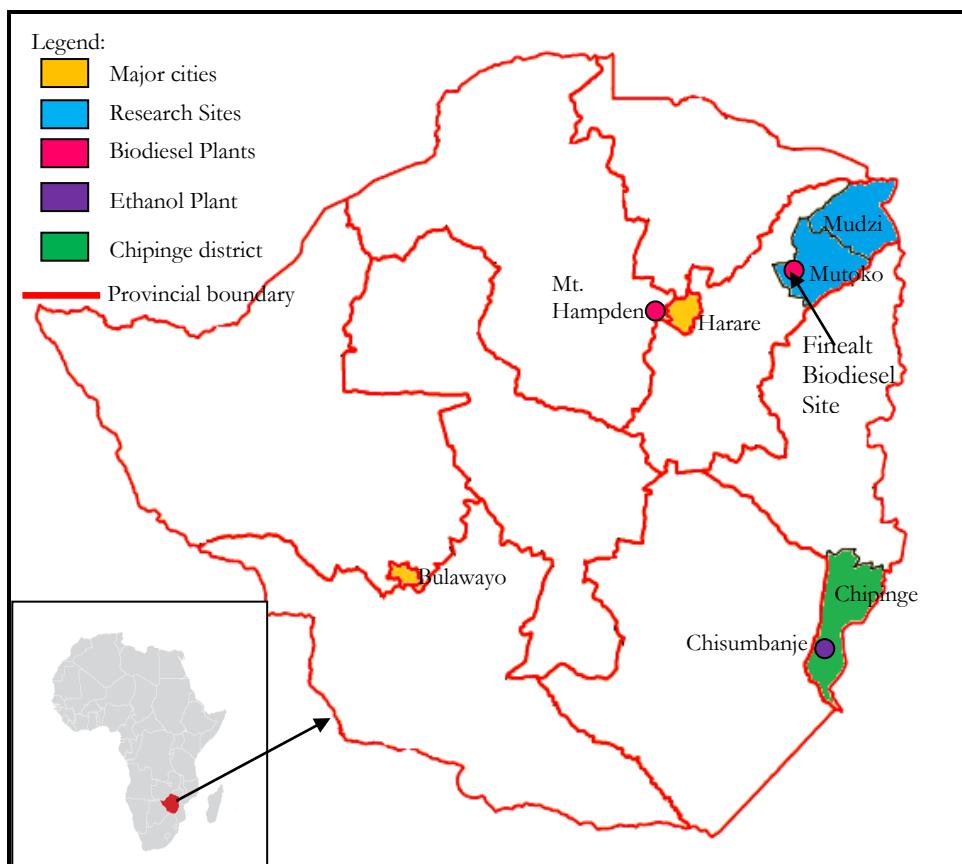


Figure 2.1: Locations for major cities, biodiesel & ethanol plants and research sites (Source: Map adapted by the author from WWF 2012:3; USAID 2012:3).⁷

⁶ NOZCIM was dissolved in 2010 to form two new parastatal companies, Petrotrade and National Oil Infrastructure Company (NOIC).

⁷ Naming, colouring and Africa map superimposition have been added by the author. <http://www.tbcare1.org/countries/africa/zim/>

The geographies of the ethanol and biodiesel projects are different. Having set out locations for each project, I now turn to the details of the NOCZIM JOS.

2.2.1 NOCZIM *Jatropha* Outgrower scheme (JOS)

Pursuant to its mandate, NOCZIM put in place three programmes to boost *jatropha* feedstock generation, including “contracted seedling production, contract farming and *jatropha* growers support” (Ministry of Energy 2010:4). In contracted seedling production, NOCZIM would buy *jatropha* seeds from communal farmers who already have *jatropha* and then freely supply seedling growers. The Agricultural Extension Services Company (Agritex), a parastatal, provided extension services to seedling growers in all districts with contracted farmers.

In terms of planting the seedlings for monoculture *jatropha* production, NOCZIM offered farmers with a minimum of five hectares, a contract-based *jatropha* growing agreement (Ministry of Energy 2010). These farmers were given free seedlings, tractors, drivers, planting labour and technical training through field days (Ministry of Energy 2010).⁸ The target was to produce “60,000 tons of *jatropha* seed as feedstock to be processed into 100 million litres of biodiesel per annum” (Ministry of Energy 2010:2). This would require 120,000Ha of land (Ministry of Energy 2010). NOCZIM’s JOS managed to cover 40,000Ha as hedges and 3,000Ha as plantations by small scale farmers nationwide (see Figure 2.2).

⁸ Field day refers to a day where farmers gather at another farmer’s field to learn from successful and failed stories in farming.

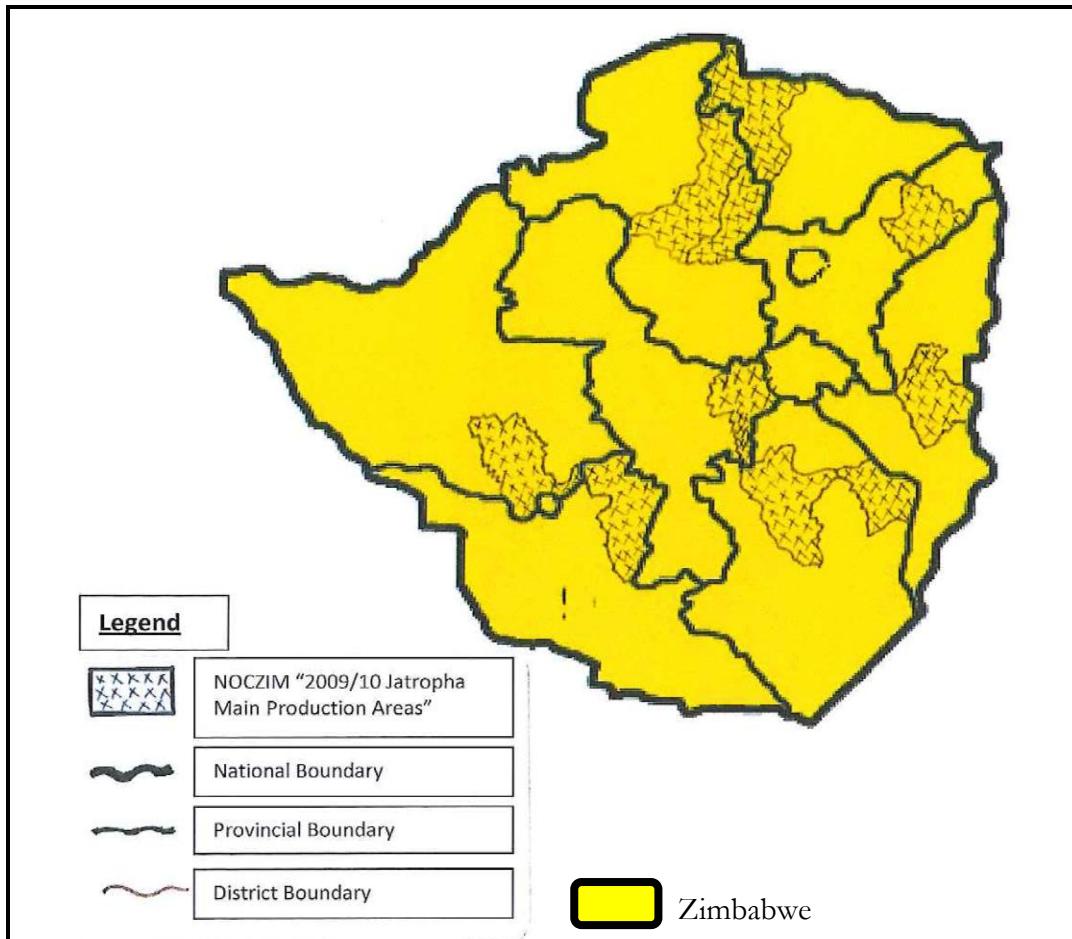


Figure 2.2: Districts with Small-Scale Commercial Area *Jatropha* Plantations (*Source: Adapted from Arroukatchee (2008)*).⁹

Intended benefits of the NOCZIM JOS included Total Gross Revenue of about US\$650,000.00 per year (Ministry of Energy 2010:10), and to improve rural livelihoods (Mushaka 2009).

NOCZIM introduced *jatropha* as a cash crop, a new knowledge both as a new crop in some areas and as a fuel crop. From the presentation by Mushaka (2009), I suggest that NOCZIM presented the 'bio' side of *jatropha* to farmers (the crop's merits), and overlooked the 'agro' qualities such as possible competition for land with food crops when grown as plantations. The project, however, failed due to lack of human and financial resources (Mushaka 2009); lack of policy direction, lack of research and development on the crop (Karavina 2011) and weak economy, change of priorities and poor coordination in the agrofuels sector (Esterhuizen 2010). In addition to these factors, a significant

⁹ *Jatropha* areas were plotted using data from the Ministry of Energy (April 2010 Report) and these are districts not specific locations of plantations and does not include *jatropha* planted as hedges.

<http://arroukatchee.fr/eng/zimbabwe/people-zimbabwe.htm> Accessed 20 October 2012.

event in 2008, the formation of a Government of National Unity (GNU) between the Zimbabwe African National Unity - Patriotic Front (ZANU-PF) and the Movement for Democratic Change (MDC) came with major changes, including the adoption of a multi-currency regime. This currency regime reduced fuel speculations leading to reductions in fuel prices, thereby easing the pressure on fuel imports, making biofuels a less important undertaking. Ultimately, the project failed and the farmers contracted in the NOCZIM JOS were abandoned as White and Dasgupta (2010:596) argue that, “When the contexts and conditions change, capital abandons its less profitable ventures and moves on, regardless of what problems are left behind”. The fate of the abandoned farmers is one of the main focuses of my research.

As a recap, this paper seeks to investigate the political ecology that surrounds the abandonment of the NOCZIM JOS to see how such a scenarios shape the future of *jatropha* in Zimbabwe. To address these questions, I now highlight my research area.

2.3 Research Area

I conducted my research in Nyahondo Small Scale Commercial Farm area (*figure 3 below*) in Mutoko district, and Mudzi district (*see figure 2 above*) Mashonaland East province, Zimbabwe. These areas have different exposures to *jatropha* interventions. Zimbabwe’s intense land politics and history, pre and post independence shape these sites too. I will highlight particularly relevant local historical details when I describe the field sites in greater detail in my methods chapter.

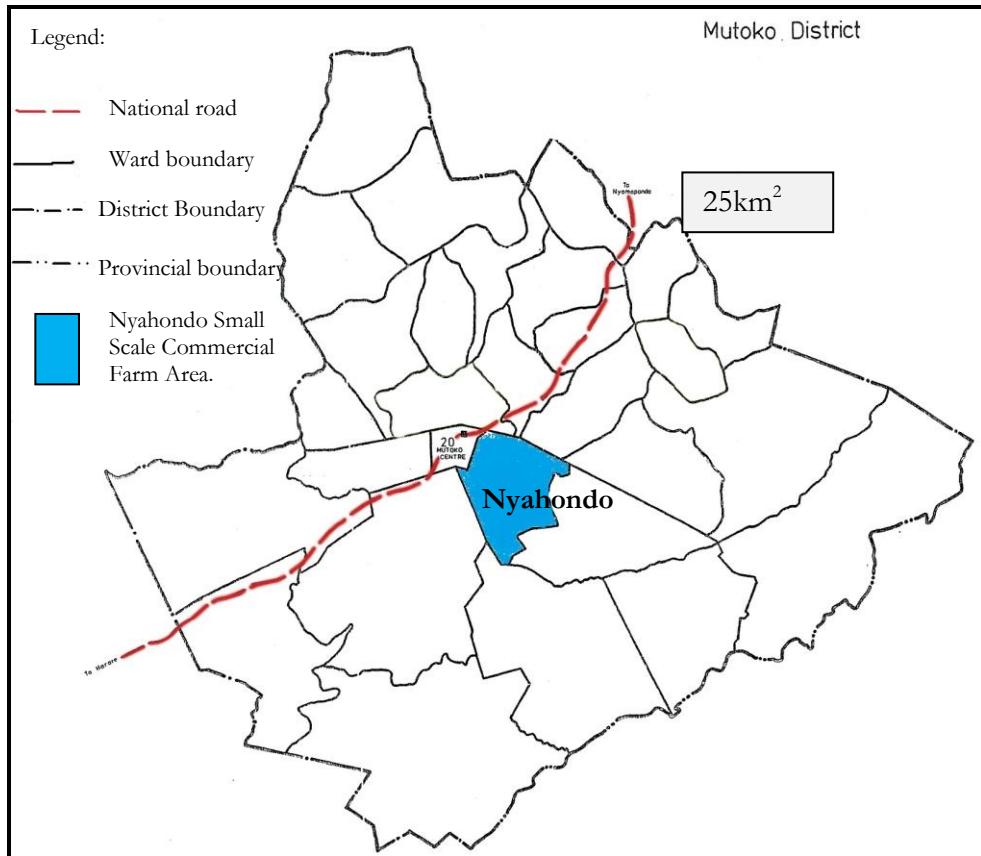


Figure 2.3: Research Site, Nyahondo small-scale commercial farm area in Mudzi district
(Source: Adapted by the author from Agritex 1995).¹⁰

A more detailed description of the study areas is given in Chapter 2.3.

2.4 Chapter Conclusion

This chapter outlines the broader history of Zimbabwe concerning land reform, agricultural production and economics to see how historical transformations shape *jatropha* stories in Zimbabwe. Struggles in the Zimbabwean land reform issues have great impacts on agrofuels. *Jatropha* production under contract threatens food security by competing with land for food. To assess these issues, I carried out field research in Mutoko and Mudzi districts, the data of which is analysed using the political ecology analytical framework that I explain in Chapter 3.

¹⁰ The author removed all ward number and names, added the blue background for Nyahondo and provided the legend.

Chapter 3 : Conceptual Framework

3.1 History of Political Ecology

I apply a political ecology analytical approach in this paper. Political ecology is a critique to the limitations of earlier environmental concepts preferred by businesses, governments and international organisations (Robbins 2004). According to Biersack (2006) and Robbins (2004), the term political ecology was first brought up by Wolf (1972), in a “neo-Marxist sense ... to signify the study of how power relations mediate human-environment relations” (Biersack 2006:3). This was a move from Marx and Engels’ work on political economy which bypassed “nature and the environment” (Biersack 2006:3). The neo-Marxist political ecology, as Friedman’s study indicates (as cited in Biersack 2006:3), was also a reaction to an “apolitical ‘cultural’ ecology that focused on the problematics of adaptation to the environment without attending to the structures of inequality that mediated human nature articulations”. According to Biersack (2006:3), political economy of political ecology came from “dependency theory” (Frank, as cited in Biersack 2006:3) and “world system theory” (Wallerstein, as cited in Biersack 2006:3). Political ecology has changed from the neo-Marxist stance to the now post-Marxist concept after criticisms from post-Modernist critiques (Biersack 2006). Nowadays political ecology focuses onto “the nexus of symbolic and material factors”, “the reciprocal impacts of nature and culture, using such terms as second, social, or humanised nature to signify a nature that is the by-product of human conceptualisations, activities, and regulations”, “the local, overlooking the global”, “practical theory, (Bourdieu 1977; or Ortner 1984), a theory that attends to the constraints of structure but also to the indeterminacies of agency and events” and “feminism, ... race and ethnicity” (Biersack 2006:4-5). This is the direction of political ecology addressed in this paper.

3.2 Why Political Ecology?

Originally my analysis was based on Sustainable Rural Livelihoods Approach (SRLA) (Scoones 1998) framework. However, after data collection, I had ‘supplementary data’, which did not fit in the SRLA analysis. SRLA allowed me to assess the impacts part of the NOCZIM JOS failure. That is when I adopted political ecology, because there was a lot of story-telling in my results, indicating political economics and ecologies surrounding the *jatropha* discourse in Zimbabwe.

My main new research question is ‘How have different discourses about *jatropha* within and beyond Zimbabwe shaped the abandonment of the NOCZIM *jatropha* outgrower scheme and creation of more recent alternative *jatropha* projects?’ Political ecology unpacks deeper issues that surround the Zimbabwean *jatropha* stories including contract farming in the NOCZIM JOS, *jatropha* as cure for foreign oil imports, large versus small-scale *jatropha* projects, NGO-Government alliances, natural resource distribution, exclusion by conservation and the future of *jatropha*. Grossman (1998:6-7), for example, unpacks the po-

litical ecology of contract farming, asserting that “state motivations for fostering contract farming are a complex blend of political and economic considerations e.g. state objectives to improve socio-economic conditions ...”. In this case import substitution in the energy sector, brought the idea of biodiesel production in Zimbabwe.

The new direction of political ecology helps me examine why WWF is partnering a local NGO, Environment Africa as well as associating with the GoZ and its communities in Mudzi, integrating “local communities into a modern world system” (Paulson et al. 2005:23). This encounter ends up with winners and losers (Arsel and Buscher 2012). The introduction of new knowledge about *jatropha* uses to communities (WWF 2011) is best analysed using political ecology by illuminating “differences in knowledge, interest, practice, and power among social groups differentiated by class, race, ethnicity, gender and other socio-cultural systems” (Paulson et al. 2005:26). The Zimbabwean *jatropha* discourses portray power exercised by the main actors, making it crucial to “investigate how agriculture and environmental change are influenced by state policy, regional trading blocks, [...] and social relations of production (Grossman 1998:18). It is important to mention that the European Commission (EC) partly funds the Mudzi project.

The above are critiques by ‘political ecologists’ who are critical about certain assumptions within dominant development models and practices, (e.g. that the market should be the ultimate basis for any development activity). The same sense is shared by ‘critical development scholars’ who work in development spaces. These two groups have come together to analyse a new and more nuanced set of transformations regarding nature, environment and society. These critique issues of ‘the green economy’, ‘NatureTM Inc.’ and ‘commodification of nature’. This discussion follows.

3.3 The Green Economy, NatureTM Inc. and Nature Commodification

According to UNEP’s report (as cited in UNEP 2011:16), a green economy is one that gives “improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities”. The green economy came as a shift from sustainable development but does not substitute it (UNEP 2011). WWF is supporting the green economy in a number of African countries (WWF 2012b). NatureTM Inc. “describes the increasingly dominant way of thinking about environmental policy and biodiversity conservation in the early twenty-first century” (Arsel and Buscher 2012:53). Conservation projects strategically choose who to work with and where, resulting in exclusion and marginalisation of others (Brockington and Scholfield 2010; Castree 2010 and Fairhead et al 2012). Exclusion by conservation is embedded in ‘green grabbing’, where land is seized under seemingly benevolent practices like nature conservation and restoration, yet behind this there are motives to scramble

for profits among major actors, resulting in the commodification of nature (Fairhead et al 2012). These practices result in the shifting role of the state, usually further suppressing nature and communities they should represent (Arsel and Buscher 2012). The role of the state started to change when it embraced neoliberalism in the “neoliberal era of the late 1980s” (Brockington and Scholfield 2010:554). Neoliberalism has a contested definition, but Castree (2008:142) says it constitutes “privatisation”, “marketisation”, “de-regulation”, “re-regulation”, “market proxies in the residual public sector” and the encouragement of civil society groups in development projects. According to Arsel and Buscher (2012:67), many political ecologists see neoliberalism as a machine which continuously tries to create unreal win-win solutions to real global issues.

3.4 Chapter Conclusion

In summary, political ecology encompasses a broad array of issues to do with neoliberalism and its projects (e.g. biofuels and conservation), green grabbing, sustainable development, the green economy, capitalism, social relations between the state, communities and nature, commodification of nature (through new production knowledge in this case), socio-economic relations between the state and communities (as in contract farming), scale and space linkages (community, national, regional and global), nature and biodiversity. These features characterise the Zimbabwean *jatropha* discourses analysed in the following chapter.

Chapter 4

Methodology

4.1 Introduction

I applied a combination of different qualitative methodological strategies in different situations in relation to my research questions. As stated earlier, my primary research question was, “How have different discourses about *jatropha* within and beyond Zimbabwe shaped the abandonment of the NOCZIM *jatropha* outgrower scheme and creation of more recent alternative *jatropha* projects?” In order to answer this broader question, I developed additional sub-questions including:

- Why was the NOCZIM *jatropha* outgrower scheme abandoned?
- How do impacts of the closure of the NOCZIM *jatropha* outgrower scheme explain the political ecology of *jatropha* in Zimbabwe?
- Why did conservation and environmental NGOs (WWF and Environment Africa) join the Zimbabwean *jatropha* debate and implement projects?
- What are the prevailing discourses concerning *jatropha* within and beyond Zimbabwe and how and why have these changed? What are the implications of these changes for different groups of people living in rural Zimbabwe (e.g. small-scale commercial farmers, subsistence farmers, the elderly and children, etc?)

To answer these questions, I utilised multiple qualitative methodological strategies, such as interviews, focus groups, observations and discourse analysis. Considering that my research questions are ‘how’ and ‘why’ questions, the qualitative approach allows me to find out the ways that people interact with each other and with the environment around them and for what reason and with what results. These questions bring different views from different people, allowing for an analysis of the diverse subjectivities of respondents (O’Leary 2010). These methods complement each other, helping me to triangulate my data where necessary. In most instances I complemented what the farmers told me with my observations (e.g. observing *jatropha* fields). These methods are discussed more later on in this chapter.

According to O’Leary (2010, 113), a qualitative approach:

Calls on inductive as well as deductive logic, appreciates subjectivities, accepts multiple perspectives and realities, recognise the power of research on both participants and researchers, and does not necessarily shy away from political agendas (O’Leary 2010:113).

The political nature of the NOCZIM *jatropha* outgrower scheme mainly influenced my choice for the qualitative approach to my research. The scheme encompassed state political and economic interests, while at the same time af-

fecting farmers socially, culturally and economically. . NOCZIM's *jatropha* out-grower scheme (JOS) commenced in 2007 in pursuit of the GoZ's national objective to substitute imported fuel with locally produced fuel (Ministry of Energy 2010). NOCZIM contracted small-scale commercial farmers who offered at least 5 ha of land for growing *jatropha* (Ministry of Energy 2010). Seven districts participated in the program, including Mutoko, Mvuma, Umgusa, Mutare, Masvingo, Hurungwe and Zvimba. The project ended in 2010 due to lack of resources and proper planning among other factors (Esterhuizen 2010 and Karavina 2011). Recalling that Finealt was mandated to implement a pilot biodiesel project in Mutoko, that portion of the project is still running today.

When I changed my analytical framework from the “sustainable rural livelihoods approach” (SRLA) (Scoones 1998:3) to political ecology, I appreciated qualitative research methods approaches even more, since they enabled me to analyse the *jatropha*-centred narratives promoted not only by NOCZIM, but by WWF and Environment Africa as they implemented their projects in slightly different locations. I organized my analysis into four ‘*jatropha* discourses’, which I discuss in chapters five and six.

4.2 Case Study Area

Before I go into detail on my case study, I want to illustrate clearly in a diagram, the location of both NOCZIM and WWF & Environment Africa's projects. See Figure 4.1 below.

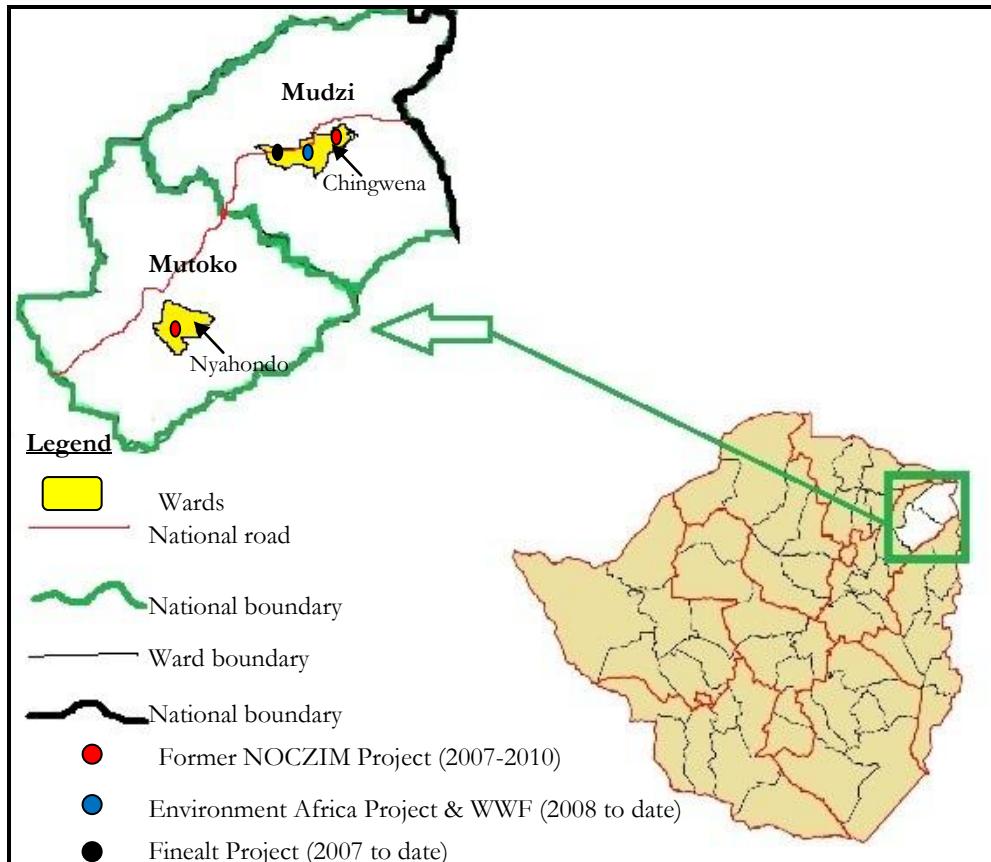


Figure 4.1: Field research sites in Mutoko and Mudzi Districts. (Source: Adapted by the author from WWF 2012:3).¹¹

Firstly, NOCZIM had two projects (red dot in Figure 4.1) in Nyahondo, Mutoko where it contracted farmers for the *jatropha* outgrower scheme; and in Chingwena, Mudzi, where it bought *jatropha* seed to grow *jatropha* nurseries to raise seedlings to give to contract farmers. However, despite NOCZIM being involved in these two places as well as in other districts, I did my research in Nyahondo only, where I wanted to obtain information concerning the abandonment of the project. Secondly, I visited an emerging *jatropha* project in Chingwena supported by Environment Africa and WWF. Thirdly, Finealt is also in Chingwena, where they buy *jatropha* seed to feed their biodiesel plant for their pilot project.

Mutoko and Mudzi districts are located at about 143km and 180km respectively from Harare (Tigere et al. 2006). Mutoko falls mainly in natural region III, making it suitable for *jatropha* farming due to more dry conditions. It receives an annual rainfall of about 650-800mm, suitable for semi-extensive agriculture (Tigere et al. 2006). Mudzi is in natural region IV and receives an annual rainfall of about 400-650mm. The vegetation in both Mutoko and Mudzi is “mainly the *Miombo* woodland on predominantly sandy loam soils of low in-

¹¹ Zooming out of Mutoko and Mudzi districts, colourings, naming and the legend were done by the author.

herent fertility" (ibid 2006:2). Nyahondo farmers mainly specialise in maize, groundnuts, vegetables and livestock farming. In Mudzi, families specialise in more dry resistant crops like sorghum, millet and groundnuts, with gardening supplementing food. NOCZIM operated in all the two areas during the life of its project. Firstly, it was buying *jatropha* seed from communal farmers in both Mutoko and Mudzi to supply nurseries which would produce seedlings to supply the contracted outgrower farmers. Secondly, NOCZIM contracted Nyahondo farmers, in Mutoko, as *jatropha* out-growers. My selection of Nyahondo was based mainly to its participation in the NOCZIM project, while my selection of Mudzi is to do with WWF since I had discovered that it had *jatropha* projects in this area. These two areas Nyahondo and Chingwena bear colonial history which socially constructed them (e.g. Nyahondo, as a small-scale commercial farm, came to existence through the Land Apportionment Act of 1930, while Reserve areas, Nyahondo communal, were constructed in 1961 through the introduction of Tribal Trust Lands.

4.2.1 Why a Case Study Approach?

I chose the case study approach mainly because I wanted to see for myself if what I had read in literature was true, especially the abandonment of the NOCZIM project. According to O'Leary (2010:174), a case study is, "a method of studying elements of the social through comprehensive description and analysis of a single situation or case ... A case study research can refer to single and multiple case studies". My case required me to go in the field and observe real people and places, doing what they do and listening to how *jatropha* has changed them and the environment around them through time. This is especially important in political ecology and development studies as it relates to a grounded approach to discourse analysis. There is also not much documented about these farmers, meaning that this research can highlight their concerns, which have been ignored up to now. Being on the ground helped me to get detailed responses to my research questions as well as pursue interesting issues as the WWF one.

Therefore, keeping Figure 5 in mind, Mutoko was specifically chosen because it is home to the NOCZIM project in Nyahondo. I realised later that Finealt was also operating in Mutoko. I chose Mudzi as a second study area to follow up on the link I had obtained from the Ministry of Energy that the Ministry was in an association with WWF and its partners in a project aimed at sustainable production and use of *jatropha* at the community level. Again, Mudzi is the main *jatropha* seed supplier to Finealt's biodiesel project. The two projects by WWF and Finealt are competing for *jatropha* seed in places like Chingwena.

Considering the dynamics of *jatropha* activities in this context, there is a need to select locations with multiple forms of *jatropha* investments and projects in order to understand not only how one failed project affected farmers, but to understand how "*jatropha*" is framed differently by different key actors and how changes in political economy and the greening trend in development influences actual projects on the ground in Zimbabwe. Therefore, it is clear that multiple efforts by different institutions to invest in *jatropha* converge in

the areas of Mutoko and Mudzi, making these districts appropriate as case study sites.

4.3 Data Collection Methods and Tools

As indicated earlier, I utilised multiple qualitative methodological strategies, including interviews, focus groups, observation and discourse analysis. Interviewing helped me interact with my respondents asking how and why questions related to my research questions. According to O'Leary (2010:194), interviewing is “a method of data collection that involves researchers seeking open-ended answers related to a number of questions, topic areas, or themes”. There are a number of different interviewing strategies, which include “structured”, “semi-structured”, “unstructured” and “focus group” (O'Leary 2010:197). I chose semi-structured and focus group interviewing. I used semi-structured interviewing with my first respondent in this research at the Ministry of Energy.

My respondent asked for the questions ahead of time which created a bit of stress for me. I then went for interviewing and my respondent chose not to be voice recorded on confidentiality grounds. Here I asked some of these questions concerning the NOCZIM project: (why did the project come? who came with the idea?; how did it come?; who funded the project?). I had an interview guide which helped me to have a quick reference and follow the interview well. My interview here lasted about ninety minutes. The informal nature of semi-structured interviewing helped me to pursue interesting and unanticipated issues during the interview (O'Leary 2010), for example, that the Ministry was working with WWF in a *jatropha* project at community level. This is how I got to know WWF, through “snowball sampling”, a “nonprobabilistic form of sampling in which persons initially chosen for the sample are used as informants to locate other persons having necessary characteristics making them eligible for the sample” (Bailey 1994:438).. This is where my discourse analysis started, because I noted changes in practices around *jatropha* through time from 2005 to 2012, and future plans. The Ministry of Energy gave me a letter to support my research, which I used to introduce myself to the Nyahondo Ward councillor. Conducting research in Zimbabwe, especially issues related to the state and rural areas, is time consuming because protocol is observed from local to provincial and even national level for foreigners. So being a Zimbabwean exempted me from other protocol.

I went to WWF to make arrangements for my trip to Mudzi. We discussed basic issues about the project for about ten minutes, while writing down some information in my notebook. I was told, however, that it was not possible to go directly to the farmers, since WWF was in partnership with Environment Africa, a local NGO, which was the first to work with the Chingwena farmers before they partnered WWF and the Ministry of Energy. I met with representatives from Environment Africa and WWF and they sent me documents about their project via email. When I got the permission to conduct interviews, I went to Mutoko where I conducted an interview with Environment Africa's representative. I asked if my respondent didn't mind me recording the conver-

sation and I was given permission. I asked (e.g. 'why did the project come and how? and why did you decide to associate with the Ministry of Energy in this *jatropha* project for sustainable livelihoods?') The interview lasted about sixty minutes. We then arranged the day I to interview farmers in Chingwena, Mudzi and Nyahondo (NOCZIM), Mutoko. I would like to mention here that WWF and Environment Africa do not have any project in Nyahondo but I requested for their assistance to be able to reach Nyahondo since I was new in the area and had no vehicle to move from one farm to another.

My schedule to meet the farmers started with the Nyahondo farmers (formerly contracted by NOCZIM). I went with Environment Africa.. Before heading to the farmers, we went to the Ward Councillor to request for permission, which we were given upon receipt of the letter I had been given by the Ministry of Energy. The councillor referred us to about seven farmers who participated in the NOCZIM *jatropha* outgrower scheme and told us to ask from our respondents where to go next because they knew each other, snowballing. In Nyahondo I interviewed seventeen farmers, writing down notes on my notebook. . I asked (e.g. 'why did you join the project? and how much land is under *jatropha* farming?') I interviewed all my respondents in Nyahondo in Shona, a Zimbabwean native language. I took about eight hours to interview seventeen farmers.

In Nyahondo I also utilised the observation technique, seeing by my eyes how big the *jatropha* fields were, the status of the *jatropha*, mode of land preparation, land condition, among other things to help me authenticate what the farmers were saying. Observation is "a systematic method of data collection that relies on a researcher's ability to gather data through his or her senses" (O'Leary 2010:209). I also used photographing. Selection of respondents in Nyahondo was based on where our respondents linked us. I decided not to continue with the interviews when I began to continuously get the same responses. This is what O'Leary (2010:114) calls "saturation", meaning to stop "collecting data only when additional data no-longer adds richness to understanding ...". We then went back to inform the councillor and thank him for the permission to conduct out interviews.

The following day we went to Chingwena farmers in Mudzi, where, WWF and Environment Africa representatives had a meeting with the farmers. I facilitated a focus group discussion with farmers after they had finished their meeting with WWF and Environment Africa. According to O'Leary (2010), focus group is a form of group interview with about 4-12 people, where the interviewer facilitates the discussion. Focus group helped me to get different views about the WWF and partners' project. We discussed two topics in general '*Jatropha* uses' and 'Do you want to project to continue or stop, why?' On the uses of *jatropha* I wanted to get the broader meaning of *jatropha* to these farmers. I also chose the second topic to get to know the farmers' visions in the WWF project. This information helped me assess the future of WWF's project in Chingwena EAG by comparing farmers' visions and the broader goals by WWF. I used pen and paper and photographing to capture data. I conducted the focus group in Shona, with twelve farmers for about forty-five minutes. At Chingwena I observed the size of the operations deducing from the size of the

jatropha oil hand presser, the press cake piled outside of the pressing room and the number of participants. From this meeting I went to interview a representative for WWF at their offices in Mutoko. I captured notes by pen and paper and we conducted the interview in English. The interview lasted for about forty minutes.

Meanwhile, I had applied for an attachment at Finealt because it is an organisational requirement for researchers. I was granted the attachment and went to Mutoko where I went to *jatropha* buying points with Finealt staff. I conducted a focus group discussion with the farmers after they finished selling their *jatropha*. Here one topic was discussed ‘Why do you sell *jatropha* to Finealt and what else do you want me to know about this project?’ The elderly indicated the needed for cash while kids wanted corn snacks. I observed that participants in the Finealt project were the extreme old and young unlike in the WWF project where the productive age group dominates. My intended interview with a representative from Finealt was not successful, making it one of the limitations of my research, as discussed below.

4.4 Challenges and Limitations

As indicated above, my research does not have much to say about Finealt because comprehensive information about the company’s current and future plans was not acquired. Applying for an attachment at Finealt took about 5-10 days to be approved, which was long compared to the limited time I had for my research. Accessibility of Nyahondo farmers was a problem, which made Environment Africa to help me with their resources. I used pen and paper to capture data in all except one of my interview and focus groups. This is problematic because it is difficult to capture all the information while at the same time listening, but I kept a journal to reflect on responses after the interviews. I have described how I collected my data, the next chapter analyses some of this data, starting with the first and second *jatropha* discourses as outlined in chapter one.

Chapter 5 : Discussion: Understanding Multiple *Jatropha* Discourses in Zimbabwe.

5.1 Introduction

My broad research question asks, ‘How have different discourses about *jatropha* within and beyond Zimbabwe shaped the abandonment of the NOCZIM *jatropha* outgrower scheme and creation of more recent alternative *jatropha* projects?’ Recalling that I carried out field research for NOCZIM JOS in Nyahondo small-scale farm area in Mutoko, a superficial glance at the data might lead to the conclusion that NOCZIM did not have the financial resources to sustain the program long enough for significant production to begin, and that nothing has been done to help the farmers because they are poor, powerless and not considered a political or economic priority in Zimbabwe.¹² While I found some level of truth to this answer, my research demonstrates a much more nuanced scenario that can most easily be understood as a series of overlapping stories or discourses about *jatropha*.

In this chapter I analyse the first and second *jatropha* discourses in Zimbabwe. However, before getting into detail with these two stories, I give a basic overview of the complete analysis of the four *jatropha* stories. The first story or discourse involves regional excitement about the possibilities of *jatropha* and its potential to relieve Zimbabwe’s dependence on foreign oil imports. The second, “scary *jatropha*” story concerns local, regional and global reactions against *jatropha* for socio-ecological reasons. The third *jatropha* story involves influential environmental organizations such as WWF attempting to rescue *jatropha* and promote it in new ‘green’ and locally responsible ways. In my conclusion I map out the most recent shifts in *jatropha* discourse, connecting select fields in Zimbabwe to claims by parastatal officials and to debates among ‘*jatropha* experts’ in a meeting in Utrecht, the Netherlands in October 2012. The approach adopted here portrays the politics (who owns what, how, where and why) of *jatropha* in Zimbabwe. I take the reader on a journey that shows the shifts in *jatropha* discourses, contextualised to Zimbabwe.

Each *jatropha* story both reflects and produces different geographies of investment, intervention and landscape change. They affect young, old, poor and middle-income groups differently and they deploy different sets of assumptions about who should and should not grow *jatropha*, about contract farming and the labour of vulnerable populations (children and the elderly). In this chapter, I draw on a political ecology analytical framework to unpack the first *jatropha* discourse in Zimbabwe—that of the miracle plant/ ‘Green Gold’

¹² See appendix for research data summary from Nyahondo small-scale commercial farm area.

that will alleviate dependence on foreign oil through a geographically distributed contract farming scheme.

5.2 The First *Jatropha* Discourse

This discourse primarily addresses the specific question, ‘why did the GoZ abandon the NOCZIM JOS?’ Centre stage themes here are global and regional influences, the prefix ‘bio’, contract farming, government mandates and profitability versus development, as follows.

5.2.1 *Global and Regional Influences*

Political ecologists and critical development scholars question the lack of precaution, mainly by corporate, the state and international environmental and conservation NGOs, in their adoption of science and technology as quick fixes to all problems. Based on my research, I suggest here that NOCZIM JOS was adopted based on reported international research and development, which was not proved before the project. My interview with an official from the Ministry of Energy indicated that the project had a theoretical foundation, which proved wrong on the ground and that government focus had been re-directed mainly at research and development while at the same time understanding of *jatropha* is being promoted at the community level. Initiation of the NOCZIM JOS was partly influenced by global excitement about agrofuels.

I have already discussed the influential global excitement concerning agrofuels (including *jatropha*), which Escobar et al. (2000), Demirbas (2008), Pupan (2002) and Vasudevan et al. (2005) presented as a promising substitute for fossil fuels. Fossil fuels need replacing because climate scientists argue that they are THE most important driver of climate change during the Holocene (Escobar et al. (2008) and Moomaw et al. (2012). Boucekkine et al. (2012) argue that anticipation of fossil fuels reaching thresholds also served as justification for the promotion of fossil fuels. However, in many developing states with limited fossil fuel resources (at the time), a different justification for growing biofuels overshadowed the promises of mitigating global climate change.

In Zimbabwe agrofuels were intended to alleviate foreign fuel dependency. This imperative was particularly critical as a quick fix in Zimbabwe during the country’s economic crisis of 2004 to 2010.¹³ The Ministry of Energy & Power Development (2010) also made no mention of climate change related objectives in its reports to the Ad-Hoc Inter-Ministerial Task Force on Biofu-

¹³ In 2010 the project was dropped due to insufficient funds and change of investment priorities by the Government of National Unity.

els Production. Climate change was not the main or direct objective because the extraction of liquid fuel from coal, a fossil fuel, was also adopted as a third approach after *jatropha* and sugarcane growing (Ministry of Energy 2010).

Basing the NOCZIM JOS on theory indicates that the project was on shifting sands, which resulted in its abandonment. The next theme relates to the theoretical presentation of *jatropha* or agrofuels in general as 'bio' or natural, another misleading attribute.

5.2.2 Politics in the 'Bio'

Political ecologists and critical development scholars have been worried about so-called green economy projects like *jatropha*. The politics of biofuels start with the prefix 'bio'. As indicated earlier on the implementation of NOCZIM's project, the 'first *jatropha* discourse' by NOCZIM emphasised the 'bio' rather than the 'agro' nature of large-scale *jatropha* production. NOCZIM presented *jatropha* as a biodiesel, livelihood and land reclamation resource. *Jatropha*'s footprint on land use competition was over-looked. These attributes persuaded the farmers to join the project, yet practically it was the opposite. One farmer from Nyahondo had this to say:-

Government people came through our MP and conducted meetings with councillors and farmers. We chose the project because we wanted to benefit from *jatropha* sales and employment creation as they said, but there are no benefits here, only problems. This is abuse to us and our land. It is 2 years now since they left us saying they were going to bring fertilisers to put on the *jatropha* crop and our land is tied up. We are disappointed (Solomon 2012, personal interview).¹⁴

C.T. Solomon's land with *jatropha* is about twelve hectares. The state of the land is as indicated below in Figure 5.1 below. This indicates a misperception about *jatropha* as somehow bio or natural, but rather it depends on a fundamental transformation of the landscape with significant ridging for agro-industrial production. Here *jatropha* has tied up land for food crop production.

¹⁴ Interview with a commercial farmer in Nyahondo, Mutoko, 20 August 2012.



Figure 5.1: Mr. Solomon's land lying idle with *jatropha* crop (photo by the author, August 20 2012).

The NOCZIM JOS had about 1,511 participants nationwide, 48 of which were from Nyahondo, where I interviewed 15 farmers, plus 2 others who did not participate in the project, bringing the number of my respondents to 17. From all of the benefits indicated by NOCZIM in its presentation on the attributes of the JOS, none has been realised so far, especially in Nyahondo ward. From the fifteen interviewed farmers who participated in the project from Nyahondo Ward, ten farmers were planting other crops on the same land before they put *jatropha*, while five said the land had been lying idle due to infertility. From the fifteen farmers, however, twelve indicated that they had other future plans for the land other than the *jatropha*. I suggest here that these farmers have foregone crop production benefits which have been tied up in their land with *jatropha* since farming season 2009/10. Given this field data, I support calling 'biofuels' 'agrofuels' because despite *jatropha* being a non-edible crop, it has a remarkable footprint on the food available to farmers' households due to its competition with food crops for land. McMichael (2010:223) asserts that "renaming biofuels 'agrofuels' not only reminds us of crop land competition and fuel displacing food, but it also signals an ecological consequence whereby biofuel plantations displace biodiversity and, under the current agrofuels project, reproduce and deepen forms of greenhouse gas emission".

Another important issue is that NOCZIM JOS was based on industrial agricultural farming methods, (e.g. use of fertilisers, mechanised tillage and monocropping). This opposed to "organic agriculture" (IFOAM 2005:1), which is based on the principles of "health, ecology, fairness and care" (IFOAM 2005:1). These attributes, according to Vaarst (2010:38), "... enhances soil fertility and biodiversity, while minimising land degradation, erosion poisoning and other negative side effects of chemical or industrialised agricultural activities". NOCZIM JOS did not have organic agriculture farming methods that include "... inter-cropping, mulching, use of compost, crop rotation and non-

chemical pest and disease prevention” (Vaarst 2010:38). (Considering that the NOCZIM JOS was based contract farming, farming methods were stipulated by NOCZIM. The theme of contract farming is discussed below..

5.2.3 The Politics of Contract Farming

Political ecologists have been critical about contract farming in African contexts and also in regarding the food question e.g. Grossman (1998). Little and Watts (1994: 9) define contract farming as:

Forms of vertical coordination between growers and buyers-processors that directly shape production decisions through contractually specifying market obligations (by volume, value, quality, and at times, advanced price determination); provide specific inputs; and exercise some control at the point of production (i.e., a division of management functions between contractor and contractee).

In NOCZIM’s JOS, contract farming was implemented as a “programme to promote feedstock generation” (Ministry of Energy 2010:4). This was promoted by three programmes, “contract farming”, “contracted seedling production” and “*jatropha* out-growers support” (ibid 2010:4). The former targeted “farmers who offered a minimum of five hectares to grow *jatropha*” (ibid 2010:4) while the latter identified seedling growers, trained them and provided them with seeds to establish nurseries in different provinces (ibid 2010). This paper focuses on contract farming and the outgrower support to it.

Contract farming in Africa, according to Little and Watts (1994:13-14), “is rooted in the hegemonic policies and strategies of colonial states”, and it is “... masked with a fundamental relationship of dominance”. NOCZIM presented the project as a “win-win partnership” (Mushaka 2009:24) between itself and the contracted farmers. However, in the case of Nyahondo farmers,¹⁵ there is no win-win partnership at all. CF has potential benefits for both growers and contractors, theoretically, while in reality more benefits accrue to the latter (Grossman 1998:4). Since the project failed, NOCZIM did not recoup their costs, but they had projected about US\$650,000.00 in the first year as gross revenue (Ministry of Energy 2010).

Firstly, by analysing project documents, by Mushaka (2010) and Ministry of Energy & Power Development (2010), there is no mention of anything to do with the farmers’ livelihoods in the objectives, at least to make it one of the project’s priorities. Mushaka (2009:3) outlined three objectives; “establish about 120,000 Ha of *jatropha* plantations, to produce 360 000 tons per annum feedstock base (yields about 100 million litres) and production of biodiesel to

¹⁵ Since NOCZIM abandoned the project, this might be the case with all farmers nationwide who were contracted in this project.

meet 10% import substitution (roughly 100 million litres per annum)”. Reference to farmers’ benefits was referred to as project characteristics (Mushaka 2009).

Secondly, these two parties wielded different power levels both legally and intellectually. All the fifteen interviewed farmers from Nyahondo ward indicated that they had neither anywhere nor anyone to plead their case. NOCZIM as a separate legal entity, by then,¹⁶ signed the contracts well aware of possible risks and opportunities. Most farmers did not know the name of the company they are contracted with. Watts (1994:65) asserts that “... the contract is frequently ‘signed’ by illiterate peasants and hence widely misunderstood”.

Nyahondo farmers indicated that they do not own the *jatropha*, suggesting lack of power over their natural capital, land. One farmer said “we do not know what to do with this *jatropha*, it is not ours” (Lowa 2012, personal interview).¹⁷ This case is one in many cases of contract farming where peasants do not consider the plants theirs. Watts asserts that:

The grower lends to the production process labour power and the effective property within his/or her possession. Conversely, the contractor provides some of the production inputs, participates in production decisions and supervision and holds title to the product (Watts 1994:27).

Indeed NOCZIM brought ‘some’ of the inputs because all farmers interviewed in this research indicated that NOCZIM left saying they were going to bring fertiliser but they never did. They also left other patches of the land ridged but no seedlings were delivered.

NOCZIM breached the contract but they were never confronted by the farmers, as Clapp (1994:81) discusses “many contracts ... bind the farmer to the terms of the contract but leave the company free to abrogate it”. NOCZIM was acting on behalf of the state, hence its domination over Nyahondo farmers, as in Neo-Marxist theory, which sees the state as “an instrument of domination” under the assumption that “the state was neither an arena nor an impartial moderator of conflicting interests ...” (Hyden 1996:28). CF is seen by some as “the latest instrument for the subordination of small holders, creating a class of virtual ‘development peons’” (Payer, as cited in Clapp 1994:79). Watts (1994:71) says “the political and ideological requirements of contracting explain why the state is imperative in the reproduction of this particular production regime and why contracting is often conducted directly under state auspices”.

¹⁶ By the time field research was conducted, NOCZIM as a company had been dissolved to form two companies ‘Petrotrade and National Oil Infrastructure Company (NOIC)’.

¹⁷ Personal interview with C. Lowa of Nyahondo, Mutoko district, 20 August 2012.

Thirdly, NOCZIM prescribed the type of technology to be used in *jatropha* growing. As part of the *jatropha* growers' support, tractors were given by NOCZIM to till the land. Farmers, however, said tractors damaged their land and the technology they have (ox-drawn ploughs) is not compatible with tractors, making it difficult to undo the ridges in their fields and put their own crops. Figure 5.2 illustrates ridging.



Figure 5.2: Ridged land for *jatropha* growing (Source: Mushaka 2009:4)

The critique of technological fix is weaved here in industrial farming which degrades land as one farmer in Nyahondo indicated that both ridging and *jatropha* were damaging their land because of massive land cultivation which degrades land and monocropping. These are against the ecological way of farming which encourage intercropping and crop rotation which these farmers practice traditionally. In line with this, Little and Watts (1994:62) say that “many contracts specify growers adhere to quite specific farming practices prescribed by the company (land preparation, sowing dates, input application ...)”. Ridging causes environmental degradation due to massive land cultivation. NOCZIM promoted the use of scientific fertiliser for *jatropha* growing, which degrades soil nutrients and alters soil chemistry, posing the “environmental question” by Grossman (1998:3). The introduction of *jatropha* in Nyahondo might introduce new pests in the area since researchers themselves do not know much about *jatropha*.

The fourth aspect of politics in the NOCZIM project was that contracts were not given to farmers with less than five hectares to offer for *jatropha* farming. This had directly favoured a certain group of people, small scale commercial farmers, leaving communal farmers. Little (1994:223) indicates that “contract farming in Ghana, Cote d'Ivoire and Zimbabwe also appears often in regions where class differences based on agriculture are firmly embedded in the local social structure”. Benefits accruing to contract farming mostly go to the already

better-off farmers (ibid 1994). Yet in this case, the ‘benefits’ have thus far been a burden due to the abandonment of the project.

In summary, this first *jatropha* discourse is more complicated than a simple explanation that the project failed and the farmers were abandoned. There are assumptions intrinsic in this story about the ‘bio’, state motivation; power relations and contract farming that help explain the abandonment of the project and its farmers. This case is exceptional in that it is driven by the quest for ‘import substitution’ unlike cases when it is driven by the climate change discourse. Also, the NOCZIM project was the brainchild of the GoZ, which through Cabinet, mandated NOCZIM to lead the project, as discussed below.

5.2.4 Mandate’ Politics

The Ministry of Energy & Power Development report shows that:

Pursuant to the cabinet decision in December 2005 and September 2006, the national oil Company of Zimbabwe (NOCZIM) was mandated to spearhead and implement the National Feedstock Generation Program. The Ministry of Energy and Power Development then initiated the formation of a Biofuels Unit within NOCZIM in March 2007 (Ministry of Energy 2010:4).

From the above quotation, I assert that JOS was not a brain-child of NOCZIM. A former NOCZIM JOS employee said “We used to get long overdue salaries as there were reports that NOCZIM’s wage bill had skyrocketed’ (Tsotso 2012, personal interview).¹⁸ Based on this interview, I conclude that this project was neither in NOCZIM’s nor small-scale farmers interests. However, further research with the Ministry of Energy & Power Development would better confirm this point.

The NOCZIM JOS was meant to supply *jatropha* feed stock to the mega-biodiesel manufacturing plant owned by Transload, a joint venture company between the Reserve Bank of Zimbabwe and a Korean company.¹⁹ Therefore the JOS’ interests overlapped with those of Transload.

5.2.6 Summary

This section has given a theoretically informed and critical perspective on the first *jatropha* discourse, unpacking the politics across the ‘bio’, contract farming, state motivation, power relations and landscape transformations. Small scale

¹⁸ Personal Interview with Z. Tsotso at Mutoko Business Centre, Mutoko District, 20 August 2012.

¹⁹ The status of this joint venture is not known since the plant is not producing any biodiesel at the moment.

farmers have been identified in “modernity projects” (Taylor 2000:551), biofuels in this case. Political ecology helps us reveal complex dynamics beyond the mere project failure and dumping of farmers. The contract farming setup was problematic and the government understands that as indicated by the abandonment of the projects and the re-look of the programme as revealed by the Ministry of Energy. This failure by the first *jatropha* discourse contributed to the introduction of the ‘second *jatropha* discourse’, which criticised elements of the ‘first *jatropha* discourse’ for promoting agrofuels as substitutes to fossil fuels. On a global scale, failure by biofuels to meet their promises also raised support for the second *jatropha* discourse.

5.3 The Second *Jatropha* Discourse: Scary *Jatropha*

The second discourse is about *jatropha* as ‘scary’, a broader reaction against *jatropha*, and biofuels in general, for socio-ecological reasons. This discourse transmits a message of *jatropha* as ‘scary’. Remember I discussed agrofuels histories and contentious nature. That leads to the fact that Zimbabwe is not immune and the reactions have infiltrated in some way.

Regionally, social movements like Via Campesina have raised alarm about *jatropha*. In Mozambique, Via Campesina, represented by the National Farmers Union (UNAC), a group of peasant farmers in the country, protested against biofuel projects in Mozambique during the 5th International Via Campesina Conference in Maputo (Peck 2008). Also, SAPPI, an industrial agrofuel company, withdrew its plans to invest in biofuels after peasants protested (Norfolk and Hanlon 2012). Other two projects failed, Procana Ethanol and Sun Biofuels, proving agrofuels difficult (Norfolk and Hanlon 2012). Via Campesina member groups (including ZIMSOF – Zimbabwe), protested against biofuels during the “17th Conference of the Parties (COP 17) of the United Nations Framework Convention on Climate Change (UNCCC) in Durban”, South Africa in 2011 (Via Campesina 2011). In Zimbabwe, peasants have also protested against biofuels-related land grabs, especially in Nuanetsi Ranch and Chisumbanje where farmers were displaced to pave way for bio-ethanol projects (Mujere and Dombo 2011). These events add their voice to the ‘scary *jatropha*’ story as another problematic agrofuel phenomenon. I suggest that these events have begun to influence practices on the ground and policy within Zimbabwe (e.g. the focus by the government to community level projects and associations with WWF in policy formulation) (Ministry of Energy 2010). These transformations are analysed in the third *jatropha* discourse.

In addition to Mr. Solomon’s extremely angry reaction to *jatropha*, the other fourteen respondents shared the same sentiments, revealing that *jatropha* is not helpful and most of them were preparing to grow tobacco, a new venture in the area. Most farmers indicated that they will never listen to anyone who comes to them talking about *jatropha*. *Jatropha* failed to match its promises of employment creation, sustainable livelihood outcomes and land reclamation in this particular case.

When these local voices, though sometimes not heard, are weaved into the broader global voices against *jatropha*, their message is clear, that they are criti-

cal about agrofuels. More-so, nationally the ‘relook and restructuring’ of the project speaks volumes on the failure of large scale *jatropha* production through contract farming. These critiques are fundamental in creating the new solution, the third *jatropha* discourse, assessed in Chapter six, together with the fourth *jatropha* discourse, that weaves all the three discourses and assess how they map the future of *jatropha* in Zimbabwe and abroad.

Chapter 6 : The Third and Fourth *Jatropha* Discourses

6.1 Introduction

The previous *jatropha* discourses, in the Zimbabwean context, contributed to a strategic shift into the ‘third *jatropha* discourse’. This is a transformed discourse where contract farming has been erased; the role of the state has changed from regulating to facilitating the *jatropha* discourse and new actors (NGOs) have come in to take the lead unlike in the first discourse where the state dominates. Emphasis has shifted from large-scale clusters to fences (small is beautiful). Research and development is simultaneously conducted with community projects while in the first discourse it was not considered. The greening of *jatropha* is being carried on under green economy and sustainability by WWF. Labour continues to be provided by the households within their land territories, but without monocropping and mechanised land tillage. However, no “ecological farming” (IFOAM 2005:1) is encouraged. Value addition to *jatropha* is introduced which was not present in the first discourse and social capital has been introduced through Environmental Action Groups (EAGs).

6.2 Shifting to a Focus on Livelihoods, Communities and ‘Small-Scale’ Activities

Advocates for small scale or community level *jatropha* production and utilisation argue that these projects would do away with most problems associated with large-scale *jatropha* production (Achten 2010:4-6). In Zimbabwe, WWF (2010) prefers small scale to large scale *jatropha* production as the former increases global warming while the latter improves rural livelihoods and reduce greenhouse gas emissions. This rebrands *jatropha* as a ‘sustainable rural livelihood approach’ (Scoones 1998) (SRLA)’that is capable of ‘reducing GHG emissions’. The latter is a new theme here, related to climate change, which was absent in the first *jatropha* discourse. Part of the third *jatropha* discourse is drawing on a notion of helping and training that is different from the state-run training and help promoted by NOCZIM. The latter approach is bringing in value addition (processing) while the former included only production training.

In line with WWF’s approach, the government has the same sentiments of shifting to community level *jatropha* production. Mucha, a government official from the Ministry of Energy indicates that large scale *jatropha* production needs proper research and development and to understand *jatropha* at a small scale setup like communities, until enough evidence is gathered justifying large scale operations. This indicates that currently the third *jatropha* discourse dominates, but there is still pressure to do large-scale production, in a questionable ‘sustainable’ way as proposed by WWF. The following section looks into this concept of sustainable rural livelihoods because it helps analyse the ‘sustainability’ and economic issues of the project.

6.2.1 WWF, Environment Africa and the Sustainable Rural Livelihoods Approach

SRLA takes into account “resources (what people have), strategies (what people do) and outcomes (the goals people pursue)” (Oberhauser et al. 2004:205). The SRLS concept came to dominate the *jatropha* stories in Mudzi in 2008, when NOCZIM's projects (JOS and *jatropha* seed buying from communal farmers) were not giving more benefits to farmers who had the crop. Environment Africa then came in the same year and selected farmers in the later programme in Mudzi district and grouped them into Environmental Action Groups (EAGs) (WWF 2011). Afterwards, WWF joined the *jatropha* debate by partnering with Environment Africa, in association with the Ministry of Energy. Mutoko—a district with a former NOCZIM project area in Nyahondo—was included after the success story of the Mudzi project. A project, “Biofuels Policies and Practices for Sustainable Socio-economic Development in Zimbabwe” (WWF's *jatropha* project), is being implemented for four and half years, after which the communities would operate independently. The Mudzi project is well established while in Mutoko machinery is being mobilised for chosen wards to start the project. Research for the WWF *jatropha* project was therefore conducted in Mudzi. The Figure 6.1 below indicates WWF *jatropha* project areas, Chingwena ward in Mudzi as well Makhosa ward in Mutoko. These are some of areas where NOCZIM used to buy *jatropha* seed to make nurseries to supply contract farming in other districts.

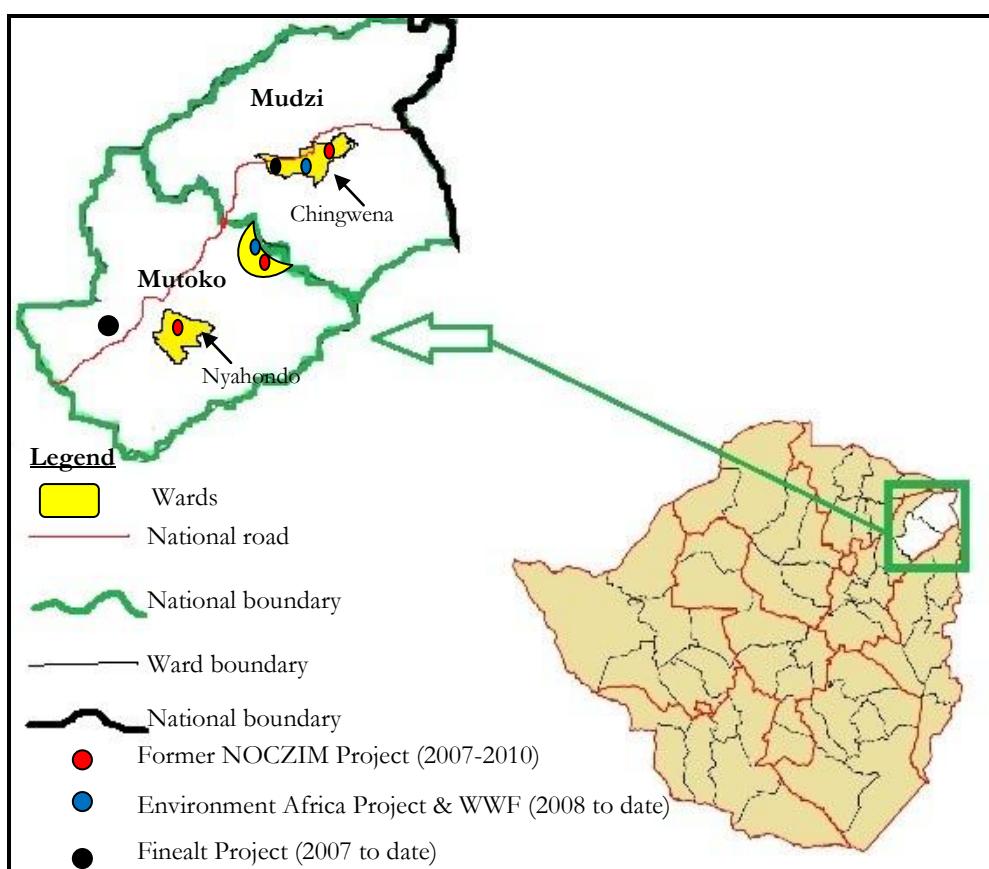


Figure 6.1: WWF *jatropha* and former NOCZIM project areas (Source: Adapted

from WWF 2012:4).²⁰

The WWF *jatropha* project has the following goals as indicated in Figure 6.2 below.

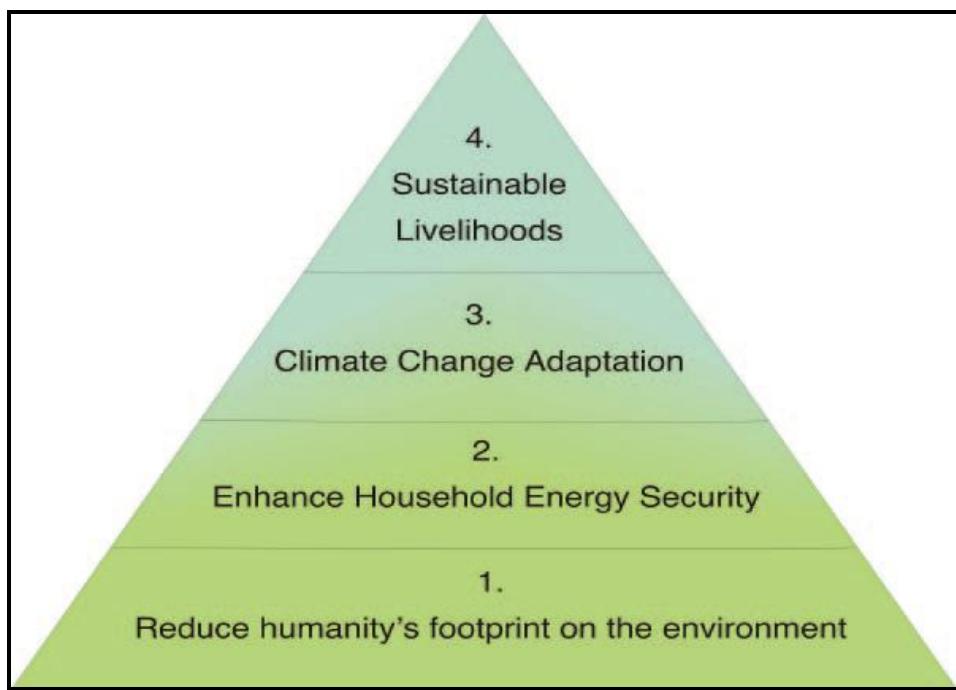


Figure 6.2: WWF *jatropha* project goals (Source: WWF 2012:4)

The objectives of the WWF *jatropha* project are:

To create an enabling policy environment for biofuels investments in Zimbabwe; to enhance the knowledge base on *jatropha* feedstock production, processing, utilisation and marketing; and to promote community based *jatropha* feedstock production, processing, utilisation and marketing (ibid 2012:4).

These project goals and objectives are pursued using the following model of activities as shown in Figure 6.2 below.

²⁰ Legend, zooming, place locations and colourings are done by the author.

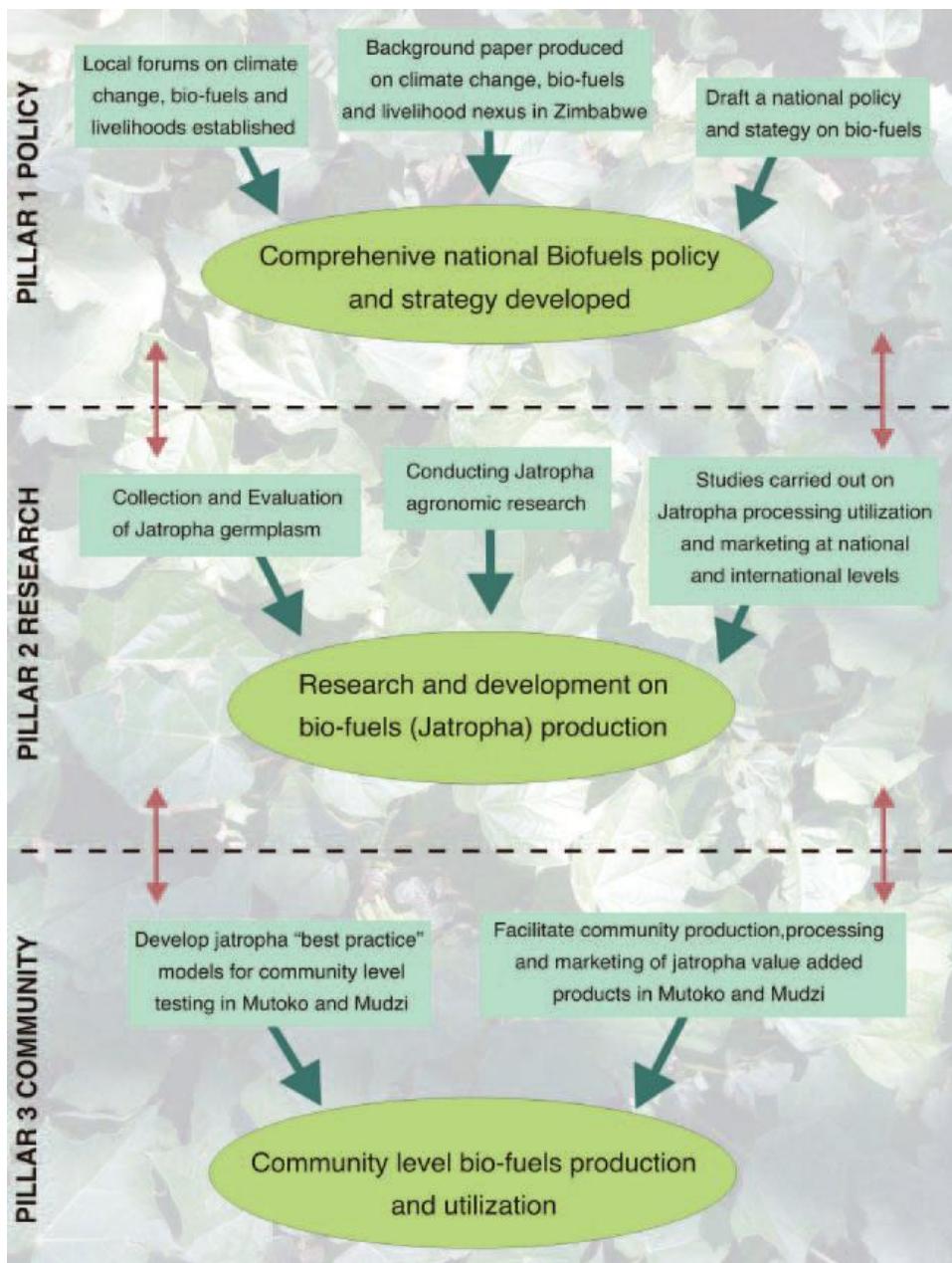


Figure 6.3: Activities to meet the BPPSSDZ project goals and objectives. (Source: WWF 2012:5).

The theme of research and development surfaces here and once research and development has approved high yielding *jatropha* varieties to make large scale *jatropha* production viable economically and 'sustainably', I suggest that WWF will support large scale *jatropha* projects. This third *jatropha* discourse mainly focuses on actors involved in pillars 1 (policy) and 3 (community), with emphasis on Mudzi, where this issue was carried out, as follows.

6.2.2 Mudzi Project Context

In Mudzi, Chingwena Ward (*see map ... above*), where the research was undertaken, communities already have *jatropha* as fences around homesteads and gardens. Mudzi district's climate is suitable for *jatropha* farming. Men and women who already had *jatropha* joined the project on their own free will. They embraced WWF and E. Africa's project due to its value addition theme. The following section looks into the project from a

6.2.3 SRLA from Jatropha

When WWF came in, it emphasised sustainability because it is concerned with marketisation and neoliberal development approaches to development, which promote projects and policies that can be classified as NatureTM Inc. and the green economy which strategically commodifies nature. SRLA does not necessarily resolve these issues, the reason why political ecology has been adopted. However, before shoving out the SRLA, a look at what is happening on the ground based on this concept needs to be assessed. To determine the status of a household's assets and livelihood strategies, five categories are considered:

Natural capital (land, water, trees); physical capital (irrigation canals, implements, roads); human capital (education, skills, health); financial capital or its substitutes (cash savings, jewellery, goats and cattle); and social capital (networks, associations) (Ellis 2000:296).

Based on the RSLA, the results found in Chingwena EAG, as a model of the third *jatropha* discourse, are discussed here.

6.2.4 An Overview of the SRLA in Chingwena EAG

Table 3 below gives an analytical summary of Chingwena EAG project using the SRLA.

Table 3: Chingwena EAG's Sustainable Rural Livelihoods Analysis (Source: Adapted from Scoones 1998)

Heading	Status
1. Context	-Climate is suitable for <i>jatropha</i> . -Nationwide price hikes make <i>jatropha</i> products more affordable than industrial ones.
2. Livelihood Resources	
a) Natural Capital	-Land - <i>Jatropha</i> and a diverse biodiversity (e.g. Miombo woodlands for wood fuel).
b) Economic/Financial Capital	-Income from <i>jatropha</i> product sales.

tal	
c) Human Capital	<ul style="list-style-type: none"> -Both men and women are in the project, balancing labour requirements. -Able bodied members.²¹ -<i>Jatropha</i> growing experience -Training.
d) Social Capital	<ul style="list-style-type: none"> -EAGs help impart project development ideas among members. -Members emergency support schemes (e.g. medical and funeral aid).
3) Livelihood Strategies	<ul style="list-style-type: none"> -Multiple uses of <i>jatropha</i> (WWF 2011), value addition. -Livelihood strategies (<i>jatropha</i> growing, product manufacturing, marketing and selling).
4) Institutional & Organisational Structures	<ul style="list-style-type: none"> -Possible conflicting interests
5) Sustainable Livelihood Outcomes	<ul style="list-style-type: none"> -Wellbeing improvement (e.g. access to and use of soap reduces incidences cholera incidences). -Poverty is difficult to measure considering that only selected households, of selected wards in selected districts are included. It would be too much of a generalisation.

As mentioned earlier, SRLA has short comings when it comes to address institutional & organisational structures and sustainable livelihood outcomes. However, we notice that farmers are happy with the project. This raises questions for people who are very critical of the market and green economy. Part of this is working and needs to be recognised. But unfortunately 'only certain groups' of people are happy and talking of sustainable development here would be too much a generalisation. It does not resolve the issues of all the abandoned farmers. A political ecology approach pushes us to ask deeper questions.

²¹ This does not imply that disabled members are excluded from the project or are not able to do the job.

6.3 Political Ecology Analytical Angle

As a recap, political ecology is “an interdisciplinary field that combines the concerns of ecology and a broadly defined political economy” Blaikie and Brookfield (as cited in Neumann 2005:33). The WWF *jatropha* project entails biofuels policy and practices, and sustainability in socio-economic development. These attributes are embedded in human-environment relations, resource use, politics and economics. To analyse these relationships, i apply a political ecology approach.

6.3.1 Sustainability Goals in WWF *jatropha* project: Racing Against the Wind?

Sustainability can be used interchangeably with SD as in (Wass 2011:1639). SD is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, as cited in Wass 2011:1648). This goes right in line with the BPPSSDZ project goals as indicated earlier. WWF and partners seek to “help Zimbabwe and its communities produce biofuels in an environmentally friendly and sustainable manner” (WWF 2012:3). This indicates SD as the main thrust for WWF in biofuels, as Pilgrim and Harvey argue, that WWF “is not to stop the further development of the sector but improve the sustainability of the biofuels industry as it emerges” (Pilgrim and Harvey 2010:7).

One of the project participants in Chingwena, Moyo (2012, FGD), had this to say about the WWF and E. Africa project of value addition to *jatropha*, “This project is very good; we are now businesswomen and men in this village. We sell products better than what General Dealers sell at our Township”.²² The question is ‘how long will they remain businesswomen and men after funding is withdrawn from the project?’ Machinery maintenance may cause problems if spare parts are not available locally.

SD is a vague concept (Poli 2010 and Quental et al. 2011), which makes us wonder if the BPPSSDZ’s implementation has any direction. Giddings et al. (2002:188) argue that:

There are so many interpretations of sustainable development that it is safe to say that there is no such thing as sustainable development-ism, in contrast to the schools of neo-liberalism, feminism, deep ecology or socialism.

²² Discussion by P. Moyo at Chingwena EAG, Mudzi, 21 August 2012.

Based on this quote, I suggest that the BPPSSDZ project, which is to be implemented for four years and intends to attain sustainable livelihoods, is ‘racing against wind’ because they will never realise sustainability. The definition contains a “linguistic trick” (Poli 2010:68) which targets economic growth not development. This ambiguous definition is manipulated by different people and institutions to suit “own interests and agendas” (Wass 2011:1656). If sustainability is nonexistent, there is ‘something’ which exists ‘somewhere’ which will be realised by private interests.

WWF supports the growth of the biofuels industry as long as it is sustainable (Pilgrim and Harvey 2010). The ‘sustainability’ referred to by WWF is questionable as it endorsed the so called ‘sustainable’ use of palm oil as a biofuel (ibid 2001:9), despite that many societies depend on palm oil for their livelihoods. The same is likely to happen in Zimbabwe as the new draft biofuel policy (due for approval in 2012):

Permits for the promotion of alternative feedstocks, which include sorghum for ethanol and the oilseeds like soybeans, sunflowers and cottonseed for biodiesel. The assumption is that by encouraging the production of these alternative crops for bio-fuels, biofuels production will increase and support the Zimbabwean economy by creating jobs and weakening Zimbabwe off its dependence on petroleum imports. The policy on biofuels, once approved, is expected to lay the framework that will regulate and promote investment, production, marketing, and the use of biofuels. (The Bioenergy Site 2011).

This draft has included sorghum (maize substitute), sunflower & soya (cooking oil) as biofuel feedstock despite their immense contribution to food nutrition in the country. This does not bring development. These recommendations have private interests embedded in the institutional and organisational structures of actors, like NGOs and the state. The following section digs deeper into the NGO institution.

6.3.2 The Role of NGOs

According to Michael (2004:3), NGOs are:

Independent development actors existing apart from governments and corporations, operating on a non-profit or not-for-profit basis with an emphasis on voluntarism, and pursuing a mandate of providing development services, undertaking communal development work or advocating on development issues.

However, “in reality the boundaries are blurred” (Hearn 2007:1095). These blurred boundaries bring in more interests conflicting with communities’. Nature conservation is “big business” to conservation NGOs (Arsel and Buscher 2012:53 and Fairhead et al. 2010:240). In sub-Saharan Africa, the largest con-

servation NGO, WWF's budget and operations "are greater than the next two combined". WWF is a multi-million dollar organisation (Brockington et al 2008). I suggest here that beyond conservation, there is a profit motive by WWF, the reason why it embraces capitalism as discussed below.

6.3.3 NGOs and Capitalism

NGOs are more of a '*comprador*', who "acts as an agent, operating in the interests of international capitalism against the interests of the indigenous popular classes" (Hearn 2007:1097). This is supported by Brockington and Scholfield (2010:554), who suggest that "in many cases conservation NGOs are best conceived as constitutive of, and central to, the workings and spread of capitalism in sub-Saharan Africa".

Following this quote, WWF is marketing the European Union (EU)'s biofuel investments to southern Africa. Despite the adverse effects coupled with large-scale biofuel production in the countries where WWF operates (like Zimbabwe), the giant conservation agency is indirectly promoting these projects, because the European Union proposed that its members should use renewable energy. Here is what WWF writes;

... the European Union has proposed that its member states should ensure that 10% of all road transport fuel comes from renewable energy sources by 2020. This opens avenues for biofuel investments in developing countries. The investments offer opportunities to reduce global carbon emissions and allow developing countries, including those in Miombo eco-region, to benefit from the resultant financial and related inflows as they have suitable land and water resources (WWF 2009:3).

The benefits mentioned here (reduction in global carbon emissions and finance) are not what countries like Zimbabwe primarily needed, as previously discussed. Considering WWF's long terms goals, the biofuels here are to feed the EU, not local markets. Another benefit from the quote says 'related inflows'. From experiences in Zimbabwe's bio-ethanol projects in Nuanetsi Ranch and Chisumbanje, peasant farmers were displaced (Mutopo and Chivweshe 2012 and Mujere and Dombo 2011), while around the region, mega biodiesel and bioethanol projects have displacement villagers and food crops like in Mozambique and Ghana (Borras et al. 2011, Norfolk and Hanlon 2012). However, I acknowledge that based on the SRLA outlined above, related inflows are currently positive. An interview by an official from WWF indicated WWF needed the government of Zimbabwe so that the later creates policy to aid the former to pursue its agendas of 'sustainable biofuels'. Conservation NGOs are importance "because of their role as brokers and introducers of new practices in Africa, as the creators of conservation commodities, as promoters and lobbyists for more capital investment" (Brockington and Scholfield 2010:569).

The above quote is a broader policy statement, representing international regional blocks like the EU, which has the potential to transform environmental and agricultural practices in the country. Grossman (1998) argues that these sorts of issues are worth assessing using political ecology. Why is WWF representing the EU in sub-Saharan Africa and Zimbabwe in particular? The BPPSSDZ project is partly funded by the EC, which “promotes sustainable energy solutions” (WWF 2012:8).

However, EC is under pressure to stop promoting biofuels because it does not count carbon emissions from “ploughed up forests, peat lands and grass lands” when calculating GHG emitted from biofuels (Ecofys, as cited in Oxfam (2012:7). In the long run, the EC and WWF may bring these faulty biofuel practices to Zimbabwean policy. More so, the EC’s study indicates that about half of the land required to meet the European Union’s (EU) biofuel targets was outside the EU (ibid 2012).

Based on a future perspective critique, countries like Zimbabwe should think outside the box of a possible future scenario of ending up entering into agreements with the EU to export biofuels at the expense of their local industry and communities. Here is where Arsel and Buscher (2012) argue that the state is caught up in facilitating neoliberal agendas. Embracing neoliberalism is the acceptance of new knowledge, another concept fraught with politics as outlined below.

6.3.4 The Politics of Knowledge and Exclusion

At national level, after having failed the implementation of large scale *jatropha* project, partly due to lack of enough resources (funds and knowledge about *jatropha*), the government embraced assistance from WWF and partners. To substantiate this, Ellerman has the following:

In development assistance, unhelpful cognitive help takes the form of teaching and training courses given by development agencies and their consultants to transmit “development knowledge” to developing countries. Even if the help is genuine, this form of help spares the doers the job of capacity-building to find the answers themselves. ... There is a reinforcing lock-in between developing countries that *want* “The Answer” and the development agencies that *have* “The Answer” (Ellerman 2004:157-158).

The Ministry of Energy and WWF & Environment Africa have converged at the ‘front’ where the former needs association to help formulate local policy and the later consortium is in need to fix policy gaps so that it creates a conducive environment to further its agenda. In line with this, Brockington and Scholfield (2010:554) argues that conservation NGOs have leverage because they are “global and they can be particularly influential in poorer parts of the

world where government expenditure on conservation issues is slight, and NGO expenditure proportionately larger”.

At community level, *jatropha* in Zimbabwe was historically known as hedges, but as WWF (2012:2) puts it, “the *jatropha* trees that were originally planted as hedges have now found a new use – production of pure plant oil for lighting, cooking and soap making”. The question is, ‘where did the new use come from?’ This idea of new knowledge is likened to Marx’s argument (as cited in Brockington et al., 2008:185), that “industrialisation … alienated objects from people, thereby alienating people from themselves”. This new knowledge and way of production is coming from outside and is not an “extension of a person” (Brockington et al. 2008:186). These farmers are not bonded with these other uses of *jatropha* (soap, floor polish, heating & lighting oil, etc. because there is no “expression of the person’s creativity” (ibid 2008:186). Chitatu and Sigwa (2012, personal interviews),²³ indicated that “the project is now upgrading to a medium scale, but still at community level, where farmers are given new electric *jatropha* oil pressers which will produce more oil for more products”. These commodities will further distance community social relations as commodity circulation is now determined by “demands of the market and exchange value measured in abstract terms (price)” (ibid 2008:186).

This new knowledge is again related to what Fairhead et al. (2012:241) called “Foucauldian knowledge/power relation in the production of scarcity (Mehta 2011), loss (Fairhead and Leach 2003) and repair (Leach et al. 2012)”. WWF indicated earlier that reliance on fuel wood in rural areas was one of the causes of deforestation; this is the construction of “loss” (Fairhead and Leach, as cited in Leach et al. 2012:141) such that communities are transformed to believe that they are causing the loss and should opt for new technologies. WWF wants to encourage communities to vary energy sources other than wood fuel, the main cause of deforestation and contributor to GHG emissions (WWF 2011:4). When the loss of the resource (trees, in particular the Miombo) has occurred, what’s left is to conserve because the resource is already “scarce” (Mehta, as cited in Leach et al. 2012:141). After this comes the “repair” (Leach et al., as cited in Leach et al. 2012:141), when WWF is promoting ‘sustainable’ biofuels to help communities as well as conserving the Miombo woodlands.

Both NOCZIM and WWF take it upon themselves to ‘introduce new ideas’. In many places NOCZIM introduced a new plant where it was less familiar. In WWF’s case, the new information was the types of products produced from *jatropha*. The specifics of the discourse change but the action is to teach/introduce something ‘new’, which is typical in many development approaches. A slogan goes as this “Stop the teaching so that the learning can begin” (Ellerman 2004:160). Training, according to Ellerman (2004:157), bears dimensions of “cognitive benevolent aid”. This is ‘unhelpful’ help. It gives the

²³ Personal Interview with C. Chitatu and S. Sigwa at Mutoko Centre, Mutoko, 20 August 2012.

“answers to save doer or doers the ‘trouble’ of learning through their own experiences and reasoning”.

WWF highlighted that communities’ overdependence of fuel wood causes deforestation, but if they can use *jatropha* for heating and lighting; this would reduce deforestation, mainly the Miombo woodlands in these districts, which are one of WWF’s priority places (WWF 2011). Fairhead et al. (2012:251) argues that “this new inclusive greenness also produces its own exclusions, in which some people come to be defined as against nature”. Conservation in this case will be at the expense of communities’ use of those resources conserved. This is a process of “green grabbing” which characterises new models of “ownership and control over nature (Fairhead et al. 2012:251).

All circumstances discussed here bring up commodities and the emergence of markets due to “complex encounters between science, technology and politics” (Fairhead et al. 2012:141). WWF (2011:4) recommends the “need to broaden the *jatropha* feedstock product range, improve product quality and seek external markets for products produced at community level”. External trading deprives the very community from utilising its commodities in trying to meet demand. *Jatropha*’s value, as biodiversity/nature, has been “multiplied and enhanced” by these ‘green’ markets (McAfee, as cited in Fairhead et al. 2012:244). This is a capitalist and neoliberal practice of commodifying nature (Arsel and Buscher 2012, Fairhead et al. (2012) and Fletcher (2010).

6.3.5 Social relations and Jatropha Distribution Politics

This section aims at analysing the relationship between *jatropha* distribution and the selection of project area by WWF, E. Africa and Ministry of Energy. Recalling that the first *jatropha* discourse’s focus was nationwide, here the geographical theme has reduced to only two districts, Mudzi and Mutoko.

The selection of Mudzi and Mutoko as targets for the BPPSSDZ project portrays elements of political ecology in terms of “social relations and places” (Paulson et al. 2005:23) and “differences in practices among social groups differentiated by socio-cultural systems” (ibid 2005:26). In Mutoko district, not all wards had *jatropha* as fences before the government or NGOs brought their projects. One respondent indicated that “all wards on the northern side of the national road have *jatropha*, plus Chimoyo A, B, C and D and Chiwore, which

are to the south but close to the road" (Muronga (2012, personal interview).²⁴ This description is illustrated in Figure 6.4 below, which shows wards in Mutoko, divided into south and north by the national road linking Mutoko to Harare.

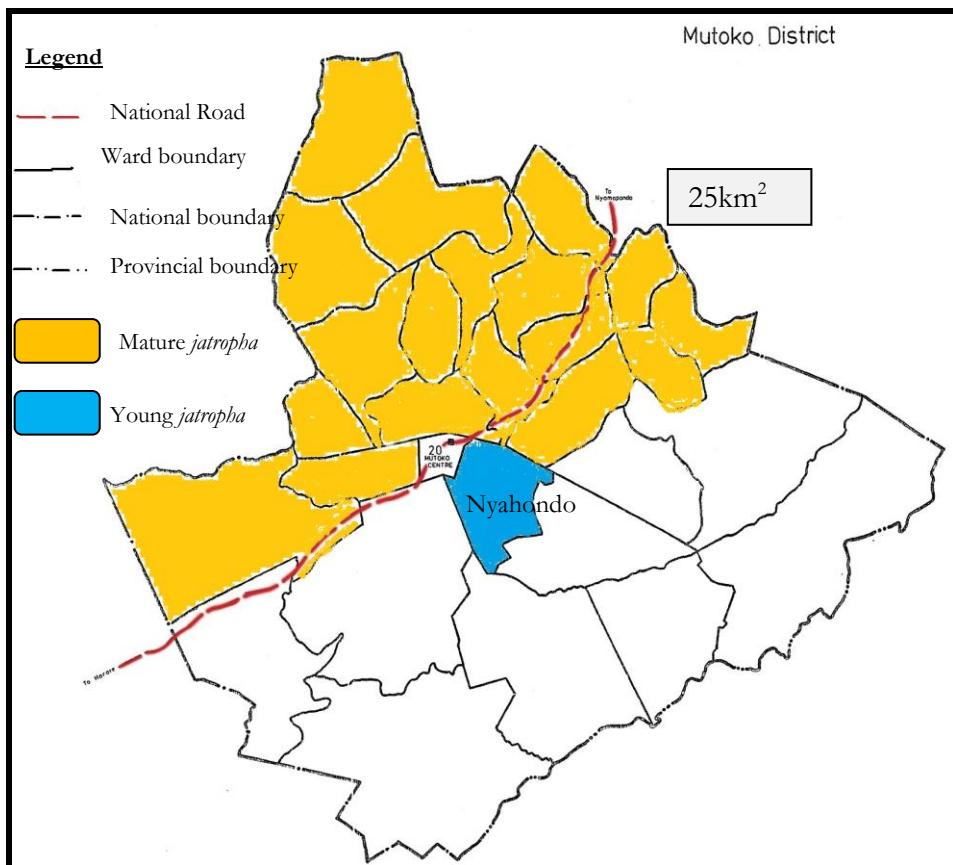


Figure 6.4: Mutoko Wards with mature *jatropha* and young *jatropha* (Source: Adapted from Agritex 1995. The legend and colourings are by the author).²⁵

Firstly, given Figure 6.4 above, I suggest that the distribution of *jatropha* in Mutoko was socially constructed by villagers, especially those north of the road. One interviewee indicated that neighbours would borrow the cuttings from each other like that until most households had *jatropha*, strengthening its identity as a symbol of security for crops and homesteads and beautification of homes. I suggest that due to reciprocal relationships with those across the national road, Chimoyo and Chiwore, the crop was distributed to these areas too.

²⁴ Personal Interview with G. Muronga at Mutoko Business Centre, Mutoko, 20 August 2012.

²⁵ NB: Mature *jatropha* represents *jatropha* for fences which has been there for decades while young *jatropha* represents *jatropha* not more than two years from the NOCZIM JOS.

Secondly, considering that Nyahondo is a commercial small-scale area, despite being close to the national road, on the south, it did not have *jatropha* until NOCZIM came in. I suggest here that livelihood practices and class seems to have differentiated Nyahondo from sharing the same social structure on the *jatropha* discourse (as a security symbol) with the other wards with *jatropha*, which are mostly, if not all, communal farmers. I observed that most Nyahondo farms are fenced with barbed or net wires, with steel gates. The areas of these farms ranged from 70-100Ha. However, most communal homesteads are fenced with *jatropha* live fence, and their length range from '30-800 metres' (WWF 2011:8). This was the reason why Nyahondo farmers qualified to be contracted by NOCZIM since they offered a minimum of five hectares for *jatropha* growing. I argue here that the geographical landscapes of these areas, to a certain extent, have been agriculturally and environmentally shaped by socio-cultural and place structures. This resulted in Nyahondo farms bearing vast lands of idle and un-matured *jatropha* and a lot of grass with no promise of life soon, while the communal areas have *jatropha* as fence on their landscape.

6.3.6 Summary

Recalling that this chapter mainly addresses the question 'Why did conservation and environmental NGOs (WWF an Environment Africa) join the Zimbabwean *jatropha* debate and implement projects?', my analysis reveals that there are private interests represented here, beyond sustainable rural livelihoods and community development. There is no discussion about the fuel import substitution theme, which was at centre stage in the first discourse. This has been strategically replaced by issues to do with climate change (e.g. preventing deforestation) and supporting livelihoods with value-added strategies. However, as indicated earlier, the issue of sustainability in *jatropha* production at large scale is still alive, and this is briefly addressed in the following section where the future of *jatropha* in Zimbabwe and beyond is analysed.

6.4 The Fourth *Jatropha* Discourse

The fourth discourse ponders the future of *jatropha* in Zimbabwe and beyond. As hinted earlier, the future of *jatropha* in Zimbabwe points back to the first *jatropha* discourse, trying *jatropha* once more as a cure to foreign fossil fuel imports, but this time funding is sourced from outside compared to a government funded NOCZIM project. Also, production is by a parastatal plantation on a joint venture with a foreign company. Contract farming is nowhere to be seen. Emphasis on the 'bio' of agrofuels is still present. Household labour is still in use but this discourse uses the colonial approach, where communities work in plantations for wages (Via Campesina 2009). Research and development predominate here to determine the adoption of large-scale plantations of approved high yielding varieties. Science, technology and marketisation would swing in this discourse to determine sustainability and WWF will support the movement. The future of *jatropha* in Zimbabwe, just like the three stories already discussed, is not anywhere near the adoption of "ecological farming" practices (IFOAM), whether as fence or plantations. Space does not allow me

to detail what o found on the ground. I pose the following questions to future research: Who are the losers in the WWF jatropha project?; How can traditional jatropha knowledge be defended from domination by modern ‘new knowledge?’ and How are the Environmental Action Groups sustained after fund withdrawal from by WWF, in four years time?. For more details about the future of jatropha in Zimbabwe and Beyond, (see Annex II)

Chapter 7

Conclusions

In this paper, I presented and analysed four *jatropha* discourses or ‘stories’ in the Zimbabwean context. The purpose is not to say that this is the only way that we can understand *jatropha*, but rather to show how all of these conflicts are playing out on the ground and the real impacts of re-packaging *jatropha* through successive projects. The importance of looking into these stories is because Zimbabwe, just like many countries today, is caught up in the contested political economy of land, the environment and livelihoods, which made it relevant in this paper to assess such an encounter with a political ecology approach. The political economy of land has drifted from the cause of the Fast Track Land reform Programme (FTLRP) as capital projects like agrofuels are displacing biodiversity, food and rural communities.

The first *jatropha* story portrays a broad applause of biofuels (including *jatropha*) on the global scale as a competitive substitute for fossil fuels, which are the major cause of global warming, an accomplishment thought to ease climate change problems. The story narrows down in the Zimbabwean case, where an ambitious nationally funded project of biodiesel is adopted to substitute foreign fuel imports with home produced biodiesel as a way of import substitution. The thrust, however, is not climate change but to reduce fuel imports and save foreign currency. NOCZIM spearheaded the *jatropha* feedstock production programme through a *jatropha* outgrower scheme. Major themes here included contract farming, which the government later realised to be very problematic resulting in the neglect of farmers, state regulation, greening of agrofuels and policy. The role of the state here was thwarted by lack of resources to support the project and lack of policy direction and research and development among other issues. These drawbacks strongly influenced the abandonment of the NOCZIM JOS, recalling that this paper seeks to know in part ‘why did the GoZ abandon the NOCZIM JOS and how do the impacts of abandonment explain the political ecology of *jatropha* in Zimbabwe?’. Research from the ground shows sad effects of land tied up with ‘NOCZIM’s *jatropha*’ for at least two years, resulting especially from structures intrinsic to contract farming. Political ecologists such as Little (1994) are critical about contract farming in some African countries because it is embedded in the colonial way of farming where farmers are subordinated to the state, legally incapacitated, made custodians of contractors’ crops on their own land and technologically overridden. These complications in the first discourse led to the emergence of the second and third *jatropha* discourses.

The second discourse is about *jatropha* as ‘scary’, a broader reaction against *jatropha*, and biofuels in general, for socio-ecological reasons. This paper weaved global voices that are against biofuels and *jatropha* in particular, mainly activists, political ecologists and critical development scholars. Locally, in Zimbabwe, voices against *jatropha* are there, though sometimes not heard, especially at community level, e.g. in Nyahondo small-scale commercial cluster, where *jatropha* is identified as ‘their crop’, as damaging land due to ridging and as having false promises of employment creation. However, nationally, the message is clear, especially about *jatropha* under contract farming, due to the abandonment

of the project and the re-look by the Ministry of Energy into the project. Interestingly, while these voices are going on, there seems to be some who are busy looking for the solution, by conveniently scrapping of the ills of the first *jatropha* discourse as well as addressing some of the reactions from the second *jatropha* discourse. This is the mission of the third *jatropha* discourse, currently underway in Zimbabwe.

The third *jatropha* discourse did away with large scale *jatropha* plantations, contract farming and state regulation. The WWF *jatropha* project advocates for *jatropha* as a fence (no monoculture and mechanised land tillage), state facilitation through biofuel policy implementation, the importance of research and development, *jatropha* values addition and introduction of markets, local and external for the products thereof, social capital through EAGs. This story carries on the legacy of the 'bio' in agrofuels, however, in a linguistically concealed way using sustainability, the green economy and policies and practices categorised as Nature™ Inc. strategies. An alliance by the Ministry of Energy, WWF and Environment Africa is an unusual one considering the broad goals of especially WWF, a mega multimillion dollar international conservation organisation, whose principles come from neoliberals' camp. *Jatropha* as nature is being manipulated to save another nature, Miombo woodlands in the area. Communities are taught to behave morally and in a rational way by using *jatropha* for lighting and heating to reduce deforestation, a footprint of these communities on the environment, it is believed. Following political ecologists and critical development scholars, this is conservation by exclusion, which in the end will deprive communities from relying on the environment where their livelihoods have been based on for generations. This does not benefit communities, except in the very short-run during project life by improving household income as discovered on the ground, only to the very few included in the project.

WWF is likened to a new *comprador* representing the interests of industry and regional blocks like the EU in Southern Africa and Zimbabwe specifically. This analysis gives an insight to 'why did conservation and environmental NGOs join the *jatropha* debate in Zimbabwe?' which is another specific question that this paper addresses. Again these transformations point to some of the reasons why the rest of the farmers involved in contract farming under NOCZIM JOS have been left out in this discourse. One of these reasons as discussed in this paper is the issue of exclusion by resource distribution and ownership identification, *jatropha* and in a broader hidden goal, Miombo woodlands which fall under WWF's priority places of the Southern African Eco-region. This left me with lingering questions like 'who will then genuinely stand for the communities in such a contentious arena?' This question is, however, outside the scope of this paper and I humbly suggest that future research may look into such questions. This complexity led to an interest to look into the future of *jatropha* in Zimbabwe and beyond, which is the fourth *jatropha* discourse.

Locally, in Zimbabwe, the fourth discourse has drawn on the old and current themes surrounding the *jatropha* discourse and almost concluded that the industry is heading back to large-scale *jatropha* production but not under contract farming, but rather parastatal plantations under possible joint ventures with foreign investors as in the case of Finealt. Research and development is the main determinant of this move, which is linked to science and technology

and is perceived to bring sustainable *jatropha* production, an ‘achievement’ strongly supported by WWF, despite the plantation-based structure of such projects reminiscent of colonial land use practices. All four *jatropha* stories in Zimbabwe do not consider agro-ecological farming practices. Globally, we have seen contentions from the Utrecht meeting The Netherlands. This makes the future of *jatropha* unpredictable as long as there are multiple interests to be pursued. This is the paradox people in the *jatropha* industry are faced with. Future research is encouraged to further explore this paradox.

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ANNEX I

Broad History of Zimbabwe

To give a coherent outline of post independence issues in Zimbabwe, it is wise to touch on the Lancaster Agreement of 1979, a roadmap transfer land from white farmers to the black majority. Zimbabwe's position at the Lancaster Conference was that the liberation struggle's goal was to restore land back to the black people and that land is to be restored with or without compensation. (Embassy of Zimbabwe 2012). Britain committed itself to fund the land reform programme (Embassy of Zimbabwe 2012). White farmers were allowed to remain with the land for ten years (Thomas 2003). After independence, the GoZ's task was to ensure equity in land ownership between the white farmers and the black majority.

2.2.1 Agricultural Production, Land Politics and ESAP

In pre-independent Zimbabwe, black peasants were marginalised and government regulations were in favour of white farmers, so agricultural produce which sustained the country came from white commercial farms (Range 1985). During the early 1980s, agriculture contributed about 13% of the gross domestic product and the sector employed about 70% of the nation's population (Mumbengengwi, as cited in Weiner et al 1985). Also 40% of industrial inputs were from agriculture (Weiner 1958). Considering that the white commercial farmers had been more established from the colonial period, their sector was the major support of the economy and the ruling government was hesitant to resettle black populations, fearing disruptions in agricultural productivity (Weiner et al. 1985). This led to the assumption that white farmers were more efficient and productive than peasant farmers (Weiner et al. 1985). However, Weiner et al. (1985) argue that such an assumption is questionable because white farmers were exploiting cheap labour from these peasants and government regulations favoured them; and their land was located in best climatic conditions in the country (Weiner et al. 1985). Weiner et al. base their argument on the fact that under good conditions such as in 1985, peasants got bumper harvests, which resulted in market surpluses (Weiner 1985). In 1985, Zimbabwe led a food-security programme for the then Southern African Development Co-ordination (SADC), which included nine Southern African countries (Weiner (1985:251). This recommendation was based upon production from white commercial farmers.

Black peasants were still tied by the Lancaster Agreement, and no productive land was given to them. From the mid 1980s, the World Bank started to promote the liberalisation of the economy (Moyo 2011). On the other hand the land reform programme was slow such that in 1989 only 52,000 families had been settled instead of the targeted 162,000 (Palmer 1990). In 1990, the Lancaster Agreement had failed its target but Britain warned the GoZ not to take land (Palmer 1990). The same year neoliberal policies were adopted through ESAP. Zimbabwean scholar Sam Moyo (2001:4) explained the ESAP:

The first victim of the replacement of socialism by neoliberal economic reform, which attempted to balance the interests of external capital, local white capital and the 'indigenisation' project, was the land question.

The ESAP made the government focus on altering its macro-economic policies and overshadowed the redistribution of land (Moyo 2001). The ESAP recommended the government to reduce administrative costs (Kovacic 1993), which caused retrenchments of many civil servants. In 1992 there was a major drought and the Grain Marketing Board's grain stocks were insufficient to feed the nation because GMB had been down sized to reduce operational costs, making it hard by peasants to sell surplus grains to GMB (Chan and Primorac 2004). This marked the downfall of Zimbabwe from its role as the breadbasket of the SADC to become an importer of food up to this day. Moyo (2001) says investors and donors withdrew investments. In the end, ESAP impoverished the rural poor and the elite's accumulation portfolios were narrowed down, making all these groups to look to land for solutions.

As highlighted in the first chapter, when land redistribution negotiations had failed in formal arenas, war veterans compulsorily acquired land, and the GoZ had to support the move (Moyo 2001:9). According to Moyo (2000), compulsory land acquisition brought equity, democracy, sustainability and efficiency in the country's land reform programme. This brought hope to Zimbabwe to regain its position as the bread basket of SADC because this time the economy has been in crisis. However, the last phase of the FTLRP from 2003-2005 violated the state's "one person one farm policy" as the elites grabbed multiple farms (Mujere 2011:8). In September 2008, a Government of National Unity was formed between NAZU/PF and MDC, which stabilised the hyper-inflationary economy. The economic improvements after the Government of National Unity supported farmers in establishing livelihood bases on the new farms. Mujere and Dombo (2011:3) explain that the FTLRP benefited farmers despite being controversial. However, with the new advent of agrofuel projects in quest for fuel energy, some communities in Nuanetsi Ranch and Chisumbanje have been displaced (Mujere and Dombo 2011 and Mutopo and Chiweshe 2012). I suggest here that this just worsens the situation in terms of the country to be able to produce food for its people. Considering that this paper is centred on *jatropha*, the following section looks into the history of *jatropha* in Zimbabwe.

ANNEX 2

7.1 The Future of Jatropha within Zimbabwe

Recalling on my research questions, this chapter mainly addresses the question 'how the prevailing jatropha discourses shape the future of jatropha in Zimbabwe?' The re-look by the Ministry of Energy, which directed attention to community level seems to be 'buying time' while research and enough resources are being mobilised. If feedstock production increases, then supply will graduate from household use to feed grinding mills, from there again, if more, it will then feed vehicles. This is again supported by approvals from the research pillar. Finealt Engineering, which is carrying out a pilot project in jatropha production for biodiesel, would join the

bounced back jatropha discourse at a larger scale if its pilot projects are successful.

Finealt's operations are in the outskirts of Mutoko Business Centre. The project is undertaking research on high yielding varieties and also biodiesel production. According to the Ministry of Energy (2010), Finealt is in negotiations with a foreign investor for a joint venture in a jatropha-growing plantation, estimated at about 10,000Ha.

During my field research, I visited jatropha buyers at buying points in Mudzi and Mutoko with Finealt staff, where I observed that the project was dominated by the extreme young and old age groups. From the focus group discussions conducted with these respondents, Finealt's project helps them with some money (though very few) to go e.g. to the grinding mill, buy household basics (salt, matches, etc). The young children present said they wanted snacks (*jigis*), a payment in kind for jatropha seed. Another factor which contributed to the participation of school children is that Finealt starts buying the seed from July to September, which coincides with school holidays in from early August to early September. Actually this is an advantage to Finealt since the middle age group is not into jatropha picking but other more productive activities like gardening. One parent brought her kids to the buying point and has this to say:

I do not pick jatropha; it is for kids who want *jigis* and it serves me the trouble of being bothered by my kids wanting snacks from the township. If this company wants us to join the project i propose that they should buy jatropha cuttings from us, they plant in their own field, then we go for temporary jobs at their farms during summer like this when we are not doing much work home except gardening (Sango 2012, personal interview).²⁶

Actually what this parent said was just exactly what is in pipeline in Finealt's future plans as indicated earlier. However, this is problematic in its own ways, despite that they have scraped contract farming. Somewhere in Zimbabwe, communities and biodiversity are being displaced due to these large-scale biofuel plantations for example in Nuanetsi and Chisumbanje as indicated earlier for bio-ethanol projects. The same is feared to happen to the planned 10,000 ha bio-diesel project. This brings yet another problem as government is caught up in facilitating the growth of neoliberalism (Arsel and Buscher (2012). Once plantations are established, commodification of nature comes in as jatropha is industrialised and put in the market. It would be interesting to look in to the future of jatropha in Zimbabwe if there are no high yielding varieties approved. However, this analysis is not possible given space limitations in this paper.

²⁶ Personal interview with G. Sango in Mutoko, ... August 2012.

Jatropha continues to be promoted as a development solution that just needs a better fit at global levels. It remains to be seen how this is going to impact places like Zimbabwe. Interestingly, given all these issues on the jatropha discourse, there are still meetings going on around the world, including in Europe, that try to make jatropha work. The following section gives a global view on the future of jatropha.

7.2 The Future of Jatropha Beyond Zimbabwe: An Anecdote

Meetings to make jatropha work beyond Zimbabwe might have impacts in the future of jatropha in Zimbabwe. This is because international NGOs have influence in development activities in the South since they work with local NGOs there. This is the case here, where the organization Hivos hosted a Jatropha Expert Meeting in Utrecht, The Netherlands and is supporting Environment Africa's 'clean-up' projects in Zimbabwe. The following is a discussion from the same meeting which I attended in October 2012, under the theme *Jatropha & small-scale farmers: How can small-scale farmers benefit from jatropha production and processing?*

Presentations from different institutions showed various ideas and models on jatropha production and processing which they thought or perceived would benefit small-scale farmers. One representative from the business sectors, investing in west Africa, was upbeat about smallholder jatropha production and processing.

We are working with 12-13 thousand smallholder farmers and they have cooperatives which own shares in the company. We think big for smallholder farmers that work with us. Our model promotes intercropping of jatropha with food crops. Spacing is important, 8 metres between jatropha lines, to avoid jatropha's wide root system interrupting food crops. What is more exciting about us is that we have opted for carbon fix and the negotiations are progressing well. The more jatropha trees we grow, the more carbon credits we get and sell to get money. However, we have a struggle in making sure there is good biodiesel legislation in Mali. KIA Motors is working with us to finance operations in Mali to plant more jatropha trees. We discovered *simenia* seed to be a viable oil seed and we are now buying it from farmers, they eat the fruit and we take the seed. That is the good part of being in business; you do not put your eggs in one basket. There might be other non-edible seeds even more viable than jatropha (Bezit 2012, meeting presentation).

There were mixed reactions from the audience. In Mexico farmers were said to abandon intercropping of jatropha with food crops three years after when jatropha starts competing for space and food with food crops. But this was refuted by those pro-intercropping, saying such problems occur when there is wrong spacing. Land availability was another point raised since 8 metre spacing means a lot of land to small scale farmers who normally have small portions of land. Again those pro-intercropping said the space foregone

would be compensated by higher yields since intercropping with jatropha increase yields. There is also an indication of a possible shift from jatropha to other viable biodiesel feedstocks.

I suggest that this is a capitalist model of operation because it is strongly linked with the “science-policy discourse” which “produced ‘carbon as a commodity” (Fairhead et al. 2012:141). Carbon credits commodify nature in a virtual market (Fairhead et al. 2012, Arsel and Buscher 2012, Brockington and Scholfield 2010).

One Government representative expressed disappointment in the meeting, saying:

“There is nothing new about jatropha since the time we heard about it. I am wondering that meetings like this one are still taking place and I hope this will be the last one (Daag 2012, conference discussion).²⁷

The frustration here is with the continued search for jatropha to be a development solution. This explains why failures with each approach push people to come up with yet another jatropha story. This is similar to Ferguson’s idea of a development Machine, where politics tends to be removed from all of these discourses, and the focus continues to be on new technical solutions (Ferguson 1993). Elsewhere, Henard (2012) reports that the French Government plans to steadily reduce the support of first generation agrofuels starting 2014 and end it in 2015 due to hiking feedstock prices.

From an agronomist point of view, the way forward was to stop and wait for research to prove that jatropha was viable for both small and large scale production and processing. Scholars were sceptical about claims that jatropha is benefiting small-scale farmers.

7.3 Chapter Conclusion

To map the future of jatropha in Zimbabwe, I have integrated transformations in the earlier jatropha discourses, 1st, 2nd and 3rd, looking at real people and places, doing what they do, and changing through time, based on jatropha ideas. Analysis has revealed what these changes are and the broader issues at stake here, which is narrated by the main themes of contract farming, the role of the state, project scales, research and development, the ‘bio’ in agrofuels, labour supply structure and value addition. These specific themes in my stories are embedded in political ecology as shown in the analyses. I was impressed by the participant from the Dutch Government, because he emphasized the endless process of an overly technical focus on jatropha that remains removed from the complex realities of this crop on the

²⁷ Discussion by V. Daag at Het Vechthuis, Utrecht, The Netherlands on October 3 2012.

ground. The reality is integrated in all these politics. That gets forgotten by this businessman who keeps on searching for solutions in the market. WWF is more on this camp too. Ideologically, there is no right way. Powerful institutions and organisations push their interests forward in this conflict. It remains to be seen how smallholder farmers, both small-scale commercial and communal, will make their voices heard. These are the on-going realities that people continue to face, despite and in relation to these shifting jatrophya discourses.