VILLAGE PROJECTS OBSERVED IN ERITREA: POST-CONFLICT PATHWAYS TOWARDS DEMOCRATIC RURAL DEVELOPMENT

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Abstract: Eritrea's rural development trajectory has fallen short of fully meeting the basic needs of its peasants and pastoralists, let alone national food security objectives. This article builds on earlier research on rural development projects in a select number of villages. These projects were primarily characterised by a state-centric technocratic logic that did, to some degree, embed "hard" infrastructure in the villages, but which paid less attention to building village-level capacity or organisational autonomy. Looking beyond these impasses, the present article suggests an inward-oriented national development model centred on the home market, rural co-operatives, and food sovereignty. As yet – at the time of writing – another major war afflicts Eritrea and Ethiopia, the presence of the political will for such a transition is by no means guaranteed.

Keywords: *technocratic fix, co-operatives, irrigation associations, pastoralism, convergence strategy, food sovereignty, indigenous knowledge*

Introduction

This article addresses a critical topic: the significance of agriculture and rural development in planning for political transition in Eritrea. Drawing on direct experience of researching this issue with local scholars on the ground some years ago, I leverage some important analytical frameworks against updated reporting to reflect on enduring insights from this initial survey research (Mehari et al. 2007) and theoretical work (Cameron 2009). Based on a synthesis of this material, the present article proposes a more democratic and self-reliant rural development model than has hitherto been the case in Eritrea. This topic is important for the simple reason that agriculture remains the bedrock of the Eritrean economy. During our original fieldwork from 2004–2006, conducted with other faculty from the University of Asmara, agriculture sustained 80% of the population but only comprised

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22.6% of GDP. The social effects of this underdevelopment were such that two thirds of the population was unable to obtain sufficient calories and basic needs. And in fact, in 2004, 66 per cent of households in Eritrea were living below the poverty line, with 70–80 per cent of the households receiving food aid (Rena 2005).

The Government of Eritrea (GOE) was certainly aware of these challenges. During our original field work, the GOE had outlined a series of measures to tackle rural underdevelopment and food insecurity, including the creation of practical cost-effective extension services to smallholder peasants for technology diffusion; the expansion of rural non-farm employment opportunities; the provision of health care and clean water; rural electrification (including for the operation of tube wells to extract ground water); labour intensive public works; and the building up of efficient rural markets and the establishment of savings and credit associations (GOE 2003: 38). The document further emphasised the need to rehabilitate large commercial farms to take advantage of global economic trends. Yet little attention was paid to sustained human capital investment and rural institution building, lacunae that hampered these very same projects and programmes.

The present article is organised as follows. The second part covers the shift by the Eritrean People's Liberation Front (EPLF)/Peoples Front for Democracy and Justice (PFDJ) (established in 1994), from Marxism-Leninism to Modernization Theory, and argues that "hard infrastructure" trumped human capital development and rural institution building for pastoralist and peasant communities. The third part reveals the technical focus on project development in a select number of sites in rural Eritrea, and maps where they fell short. In the fourth, penultimate, section, I analyse technocratic approaches to village development and their implications for the broader issues of extension system and training, community self-organisation, and land tenure. The final section of this article looks beyond the impasses to suggest an endogenous development grounded in a food sovereignty frame. Finally, I briefly consider where political buy-in may emerge, once a peace process is in place in the wake of the Tigray War.

The EPLF/PFDJ: From Marxism-Leninism to Modernisation Theory

The Eritrean People's Liberation Front (EPLF) emerged out of the cauldron of the Eritrean Revolution (1961–1991). It was one of the world's most suc-

cessful Marxist liberation movements, one that rapidly shifted from a socialist to a capitalist form of modernisation after formal independence in 1993 (Cameron 2009).

During the liberation struggle, the EPLF applied a Marxist-Leninist framework (people's war, democratic centralism, bureaucratic collectivism) to rural mobilisation. While it can be argued that the Marxist-Leninist (ML) model propagated by the EPLF during the liberation struggle implied its own form of modernist technocratic ideology, it is also true that the liberation fronts' social mobilisation held out prospects for popular empowerment. Socialist rural co-operation formed a central part of the EPLF's mobilisation in the liberated zones from 1976/77 (GOE 1995). This institutional context included producers' co-operatives (agricultural, cattle stalking and handcrafts) and service co-operatives (transportation, public lending, public shops, public pharmacies, and grinding mills). The EPLF also applied class analysis of the serfs of the lowlands as well as to the peasantry (poor, middle, rich) in relation to land reform, village assembly governance, and popular organisations (Gebre-Medhin 1989). The EPLF's National Democratic Program called for the abolition of feudal relations through equitable land reform and sought

to introduce cooperative farms by creating conditions of cooperation and mutual assistance so as to develop a modern and advanced system of agriculture and animal husbandry capable of increasing the income and improving the lot of the peasantry. (Gebre-Medhin 1989: 183)

Gebre-Medhin cites the progress observed in the village of *Azen*, noting that, "It is in this village and many others like it that the fate of the nation is being decided" (1989:186). A GOE document also cited, as examples of progress, the introduction of grinding mills in 1981 in the Northern Red Sea Zone, the creation of a fishermen's co-operative on the Dahlak islands, and the establishment of a salt famers co-operative outside the port city of Massawa (1995). Generally speaking, during land distribution the villages would assign specific land for co-operative purposes with some co-management with EPLF cadres, but more often run by elected village members themselves (GOE 1995). The British, in the 1940s, had promoted co-operatives, as had the Ethiopian regimes that followed them. But like the ineffectual land reform of the *Derg*¹ (Donham 1999), these co-operative endeavours had little impact. For the EPLF, the ever-changing balance of military power

¹ Provisional Military Advisory Committee regime in Ethiopia (the Derg, in Amharic).

between their forces and the Ethiopian regimes in rural Eritrea stymied the widespread adoption of rural co-operatives. Further, lack of capital and training hampered many of these efforts, as well as issues of internal governance of the social product. Though the co-operatives failed to achieve their intended goals, they made a modest contribution in the development of the rural areas by providing goods and services that could not be obtained from the cities under Ethiopian government occupation (GOE 1995). Below, we revisit rural co-operation as a model for strengthening livelihoods in the contemporary Eritrea countryside: since Eritrean independence in 1993, they have not, for all intents and purposes, been actively promoted.

After thirty years of conflict in the countryside, the EPLF emerged as the undisputed military victor. With independence at the end of the Cold War, the new Eritrean government discarded its ML ideology, and the EPLF morphed into a new successor party, the monolithic People's Front for Democracy and Justice (PFDJ) in 1994. The PFDJ's general perspective on development came to dovetail with the Modernisation Theory paradigm that envisioned a market society guided by the state, in this case, that would reach ever-higher levels of productivity and urbanisation that would overtake a traditional subsistence-based economy, with the objective of an eventual "take-off" into self-sustaining export-led growth, modernity, and integration into the world economy (Cameron 2009: 141). As such, a central and defining feature of the Eritrean Revolution was its modernist bent. The EPLF/ PFDJ aspired to the rationalisation of society in the name of progress in the form of overcoming poverty and "backwardness," but, in the end, fell short in realising these aspirations (Redeker Hepner and O'Kane 2009: x). Strikingly, the PFDJ paid little attention to the experiences of the radical nationalist regimes of eastern and southern Africa (Tanzania, Mozambique, Zimbabwe), including both their promotion of popular economic organs, or more generally, their post-independence rural development policies, and often just repeated the same flawed policies, as I discuss below. The paradox of the GOE's post-independence strategy was that it sought to create an export-led model that sidelined the role of peasant agriculture in generating industrialisation. The Modernisation Theory approach framed to a great extent the question of national food security, and the role of peasant and (agro) pastoralist communities in achieving it.

Certainly, in the early phase of independence during the 1990s, the state introduced a number of rural development programmes. These included distribution of seeds; fertilisers and pesticides; the construction of dams; the organisation of training; the supply of agricultural instruments, from tractors to basic implements; the provision of loans; and the establishment of (unregistered) co-operatives among other measures. Initially, these initiatives were generally inclusive, with strong peasant support before progress stalled and war broke out in 1998 (Beyan 2021: 301). After the inconclusive Border War (1998–2000), the situation on the ground deteriorated.

By the mid-2000s, the time of our research, the Government of Eritrea (GOE) and its technical experts faced massive structural constraints in Eritrean agriculture: erratic rainfall and recurrent drought; small and fragmented farm size; extensive deforestation and soil erosion; the lack of investment in land improvement; pasture land shrinkage; the need to improve the quality of livestock; inaccessibility to markets; inadequate human capacity; poor physical rural infrastructure; labour shortages; weak agricultural extension services; inappropriate production technologies for smallholder farming; lack of credit; weak rural-urban industrial linkages; and an overall tenuous national food security situation (Gebremedhin 1996; GOE 2003). The 1994 Land Proclamation which nationalised land had still not been fully implemented (O'Kane 2015: 15). Under Eritrea's major land tenure systems (village-based communal land tenure, called &A, desa, and lineage-based collective tenure, usually called C的才, risti, or 彩合門, tsilmī, in Tigrinya), land was neither the property of individuals nor of the state. Rather, individuals would access land through their membership in local communities (O'Kane 2015: 18–19, 32). The GOE's land policy was part of a wider developmental programme, which aimed to transcend older kinship systems and loyalties and make land a commodity.

In regard to (agro)pastoralists, the GOE committed itself to a policy of sedentarisation through villagisation – the congregation of scattered hamlets within a radius of 10–15 km into larger villages – with the government providing road access, drinking water, primary schools, health stations and veterinary clinics (Dinucci and Fre 2003).² Eritrea's pastoralists are found in three major ecological zones: the southwestern lowland zone, the northwestern lowland zone, and the coastal plain. The Tigre, Afar, and Hidareb ethnic groups are the predominate communities working with a mode of livestock economy centred around goats, cattle, sheep, and camels (Dinucci and Fre 2003: 7). Sedentarisation had implications for those (agro) pastoralists who used migration with herds as a crucial survival strategy, practicing transhumance by moving to the highlands' rainy season and back to the lowlands to benefit from the

² Pastoral production is defined as being when 50% or more of a household gross revenue comes from livestock or livestock related activities (Dinucci and Fre 2003: 2).

flash floods through spate irrigation (Dinucci and Fre 2003).

The donor-funded Eastern Lowland Wadi-Labka Development Project (Sheeb Sub-Zone), established in 1995 in an ethnic Tigre community, was an example of sedentarisation. It had four developmental components: spate irrigation, extension outreach, road development, and domestic water provision, the goal being to create "a dynamic, prosperous and market oriented farming community" (Abraha 2006: 3). The GOE sought to promote both grain (sorghum) and cotton (a cash crop). While the project was able to integrate staple food systems (sorghum with livestock), cotton production goals fell short due to land fragmentation, and because planners did not fully comprehend the credit needs of the rural poor: these encompassed not just the need for production-related credit (e.g. hiring labour, animal medicine) but also for consumption (e.g. crop failure, small ruminant purchases, charcoal for energy use), especially among female-headed households (FFH) (Abraha 2006: 77-72). The fate of the Wadi-Labka project reflected experience elsewhere in eastern Africa, where education and extension services and/or the setting up of ranching schemes or irrigation works have been at odds with pastoralist culture. These government initiatives have tended to leave pastoralists, whose land has remained part of the state domain, as the only social group without secure land tenure rights including in the GOE's 1994 Land Proclamation (Dinucci and Fre 2003: 3). The Beni-Amer, to take another pastoralist people, also suffered the loss of a great deal of grazing land during this period due to constraints on livestock movement (Naty 2002: 592).3

The land tenure policy of the Government of Eritrea, which turned all land into state property, also put the Kunama's traditional management of the natural resources in the Gash-Setit under extreme stress, due to the arrival of a potpourri of outsiders. These included repatriated refugees from Sudan, demobilised ex-fighters, mostly of the Tigrinya ethnic group, and agricultural enterprises geared to urban and export markets (cotton, citrus fruit, bananas, tomatoes) (Naty 2002: 4). The economic motive for the promotion of large-scale agriculture was the idea of self-sufficiency in food, in line with the Modernisation Theory assumption that local communities in the region were backward and incapable of effective utilisation of their land (Naty 2002: 581, 584). Just as pastoralist communities, and national minorities, have been consistently seen as "backward" and made the object of attempts

³ For an overview of stressors (drought, conflict) and coping mechanisms of Tigre and Hidareb pastoral groups in the northwestern lowlands (pure pastoralists) in Kerkebet and in the eastern lowlands (Sheab) (agro-pastoralists), see Tewolde (2004).

to erode their autonomy, so too have peasant communities been seen as destined to be dissolved by processes of modernisation (O'Kane 2015: 50), a subject I will address below. In all of these cases, the GOE had sidelined indigenous knowledge (IK), defined as the knowledge used by local people to make a living in a particular environment. Such knowledge evolves in a total way, and is specifically adapted to the requirements of local people and conditions. It is also creative and experimental, constantly incorporating outside influences and inside innovations to meet new conditions (Dinucci and Fre 2003: 2).⁴ I return to IK as part of a bottom up revitalisation of rural communities later in this article.

Modernisation Theory ideology dominated the 6th Association of Eritreans in Agricultural Sciences (AEAS) General Assembly in February 2004 in Asmara, which I attended. Most of the 80-100 or so participants and presenters, the majority being civil servants or academics, were truly committed to the betterment of Eritrean agriculture. However, the overwhelming consensus favoured the 1994 Macro Economic Plan and the building up of hard infrastructure - power generation, the Massawa airport, port development, economic processing zones (EPZs) - in order to tap Foreign Direct Investment (FDI) from the world economy. For agriculture itself, the common view was the need for more investment in high value production niche crops (as in some places around Asmara, and at Mendefera), backed with water pumps, irrigation, and improved drought resistant seeds. This would, it was thought, reduce food imports, and open up access to foreign markets (Saudi Arabia). References to smallholder agriculture included it being too traditional and bypassed by the Green Revolution.⁵ Another speaker said that traditional pastoralism lacked scientific management, breeding, refrigeration, and meat transport, hobbled as it was by communal grazing, excessive herd numbers, and a certain "culture and psychology."⁶ At this point there came push-back from a PENHA representative (a regional NGO which stands for the Pastoral and Environmental Network in the Horn of Africa) who forcefully countered that the main constraint on livestock production

⁴ Some scholars are uneasy at using the term "indigenous" because it is difficult to determine the status of "indigene," and thus propose alternative concepts such as "local" or "traditional" knowledge (Silitoe and Bicker 2004: 1).

⁵ At the 2006 General Meeting of the Association of Eritreans in Agricultural Sciences, one academic, paraphrased here, exclaimed that traditional agriculture was not getting us anywhere and we need to go straight to Genetically Modified Organism (GMO) crops (AEAS work notes 2006).

⁶ During this time the Drylands Coordination Group (DCG), supported by Norwegian bilateral aid, sought to promote food security and livelihoods in Eritrea's drylands through workshops and lobbying (DCG 2002).

was the lack of policy acknowledgement of pastoralism's role in food security; she passionately stressed that pastoralists need to be more involved in policy, as a murmur arose from among the attendees.⁷ Aside from a nod to the University of Asmara (UoA), human capital investment was barely mentioned. This, in a context of general economic crisis afflicting the country, and yet a vast epistemological gulf remained between the city-centric AEAS members, and the subjects of their discussions – Eritrea's rural communities.

To top it all off, no one could provide evidence-based data on the impact of the GOE's projects and programmes on food security in the villages since the end of the Border War. It was this knowledge gap that began the research project of 2004–2006 which I describe in the next section.

Rural Development Projects Observed

This section draws heavily on our research project conducted at the University of Asmara in 2004–2006 (Mehari et al. 2007), not long after the Border War (1998-2000). The survey centred on the impact of village development projects on production and marketing systems related to food security. We selected projects located in the Central Highlands and the Western Lowlands. At the time of the study, and despite a reduction in food production of some 40% over the period 1980-1990, agriculture still sustained 80% of the population. According to FAO in 2000, annual cereal production was 235,000 metric tons with national requirements being 384,600 metric tons (Zeremariam 2000: 29). More than half of the poor lived in the rural highlands, the rest in the rural lowlands (about 30 per cent), with female illiteracy (in the age range 15-49) as high as 62 per cent (Rena 2005: 205). Common coping mechanisms among villagers during this period included: food sharing, petty trade, government welfare, loans from NGOs, selling salt, sharing livestock, food aid, the selling of wedding jewels, collecting wood, migrating from villages, and reducing the number of meals per day (NFIS 2005: 12-14).

Our team consisted of four male faculty from the departments of political science (myself as the principal investigator), public administration, economics, and agriculture.⁸ Three fourth year undergraduates accompanied us during the survey enumeration, one being a female who would interview

⁷ The same PENHA representative also questioned the presenter's MT worldview that Eritrea would somehow achieve productivity on the scale of a Western country (AEAS work notes 2004).

⁸ The University of Asmara awarded our food security proposal to the tune of \$USD 4,000 in a faculty competition, funded by USAID.

female headed households (FHH) and who spoke Blin. Our methodological approach went through a series of steps. After the team selected the research sites, reconnaissance surveys and contact visits were done at the sites from 4 March–24 December 2004. Not long thereafter the survey was slightly revised and shortened. The final version of the survey comprised 39 questions, both structured and semi structured, divided into four parts on topics covering household economic and farming system, institutional support, and farmer perceptions.

The team selected the villages based on the presence of village associations linked to significant capital outlay by the government. We chose three types: irrigation projects, horticulture associations, and marketing associations. The following three highland villages were selected: Gulagul (close to Adi Tekelezan town), Wara (roughly 8 km from Adi Tekelezan town), both in Anseba Region; and Kudofelasi (roughly 5 km from Mendefera) in Southern Region. Generally speaking, the Central Highland zone is a high-altitude cereal-producing zone with 500-700 mm of rainfall and farm sizes averaging 0.5 ha. For the lowlands, we selected the town of Hagaz and its environs in Anseba Region. Salient ecological features of the Western Lowlands include 300mm of rainfall with agricultural production systems that include agro-pastoralism, and irrigated commercial fruit and vegetable production (Gebremedhin 1996). Studying two different agro-ecological zones offered comparative insights into the role of organisations across regions, which differed in rainfall patterns and land holding sizes. The survey was administered per household head. Approximately 80 represented the highland villages of Gulagol, Wara, and Kudofelesi, and roughly 60 represented the lowland Hagaz area. With the assistance of local MOA staff or the respective village chairman, survey interviewees were selected to include members of associations, as well as those peasants involved in irrigation agriculture and those who were not involved. 142 heads of households were interviewed in total. Of the 142 surveys, 18 were FHH, and most of the respondents were Tigrinya speakers. Finally, we conducted semi-structured interviews with village elders and/or key informants related to the village projects in order to supplement the survey data, along with a general observation of the fieldwork settings. We felt that the methodological triangulation presented a fair picture of the projects (Mehari et al. 2007).

Next, we addressed the household profiles. Although labour in the study areas could be acquired from different sources, the household was the primary labour source. In this regard, the analysis showed that the average household size comprised six individuals, of whom members 14 years or under accounted for 50% of the household. This age group was mainly responsible for rearing small ruminant animals, collecting firewood, fetching water, and undertaking light farming work. This "under 14" category would potentially, within a few short years, demographically dominate household and rural labour markets. But during this period with many village youth in national service, land intensive practices, especially in relation to irrigation, such as at *Gulagul*, would have been difficult to do. At *Gulagul* one youth said that around 100 out of 450 youth of military age were away performing national service. We noted hopefully at the time that with demobilisation, national service youth, with their organizational skills, would have the potential to play leadership roles in spearheading the formation and running of community organisations (Mehari et al. 2007).

The dominant economic activity of all the villages was rain fed agriculture, with irrigation as a component. Mechanisation was not common in the areas studied. The main crops in the highland villages of Golagul, Wara and Kudofelasi were wheat, barley, maize, and beans in the rain fed farms. Tomato, onion, and potato predominated in irrigated agriculture. Sorghum and pearl millet dominated rain fed farming in the Hagaz area. Farmland was acquired by different means, with land title and sharecropping being common in the highland villages. On top of these, land rent was practiced in the lowland village, Hagaz. Naty's study around the same time showed Hagaz as having 6,000 locals and less than 2,000 returnees (2002). Farm size differed from village to village. The overall average land entitlement per household was 1.33 ha. in rain fed agriculture and 0.66 ha in irrigated agriculture. Hagaz had a relatively larger average farm size in both rain fed and irrigated agriculture, followed by Kudofelasi. In addition, the average farm size acquired by sharecropping was bigger in Hagaz than in the rest. Hagaz and Kudofelasi villages performed better in irrigated agriculture compared to the others. At Kudofelasi there were also 20 commercial livestock producers as well as a number of off-farm activities. We were told by a villager at Kudofelesi that 100 out of 800 households were female headed households (FHH). Generally, financial data was taken with caution as interviewees would have naturally been reticent to reveal financial details of the household.

We next covered joint projects. At *Golagul* there was extensive external support in setting up water pumps and irrigation canals over a wider area of the village fields for servicing 230 households. However, there was a lack of technical support for water pump repair (three irrigation engines, both old and new, for downstream land were not functioning), nor regular training on how to run and maintain the irrigation technology after its installation.

Intra-village conflict complicated the technological bottlenecks. According to the *Gulagul* elders, better-off peasants were foot-dragging on resolving land managerial issues in the hope that the government would re-allocate the plots of the smaller peasants to those larger peasants eager to turn a profit on larger irrigated tracts of land. Hence, the infrastructure was used only in the 1997 season before becoming defunct. The shortage of male labour and increasing reproductive pressures on women household members also had implications for the effectiveness of maintaining irrigation infrastructure.

The survey revealed that peasants felt that agriculture was either deteriorating or standing still. At Gulagul, for instance, 61% of respondents said that they had received some limited training in agronomy. The elders there continually reiterated that their main problem was not the amount of land but rather its administration: had land management issues been solved the dam would have helped productivity, even at half its capacity. They pointed out that some Golagul peasants had their land very close to the dam, which thus made irrigation very simple, but other peasants had their land far away from the dam, which made their irrigation more difficult and hence caused quarrels among the end users of the system. The elders further underlined that the existing traditional rules and regulations of land management were not effective; as a consequence, the resolution of disagreements required follow up from government staff (Mehari et al. 2007). Research elsewhere also noted the dependency created when government provided machinery to expand irrigation areas, repair pumps etc. (Abraha 2001: 215). However, in a case study of Lamza village the physical infrastructure had been well embedded in social infrastructure. Before the construction of the dam, and the introduction of water extraction pumps and canals, Lamza had an institution of equitable land distribution, repetitive farming interactions, vegetable growing and marketing practices, water delivery arrangements, and good village chair leadership well networked with government officials and even foreigners (Abraha 2001: 215). "Free riding" was controlled by institutional rules such as the requirement of all to attend communal work or pay a fee, as well as by social sanction in that tight knit community. Finally, the rules of common property were established by consensus in the village assembly, ባይቶ, bayito, in Tigrinya (Abraha 2001: 217, 239). Lamza still faced challenges, of course, particularly training in relevant financial and technical skills (such as bookkeeping and pump maintenance). Dependence on private middlemen also constrained the marketing of produce at better prices, compounded by a lack of storage facilities, akin to the marketing bottlenecks observed at Hagaz. In fact, this was a generalised problem, where for

example, a study found that 75% of peasants sold produce on their own efforts, with the rest being sold to wholesalers at the farm-gate (Zeremariam 2000: 49). Despite the organisational weakness in marketing, the key feature of *Lamza* was that this village had developed rule-governed relationships for sharing commonly owned water resources outside of government structures (Abraha 2001: 243).

Wara appeared to have stronger links with the Ministry of Agriculture (MOA), and less internal village conflict in relation to its dam infrastructure. The farm size per household, however, was very small (0.014 ha/household on average), and no intervention was done in expanding irrigation land so as to raise household productivity. Neither was significant intervention evident in provision of high yield and early maturing seed varieties, nor the provision of credit and inputs. Indeed, a Wara elder stressed the need for improved seed and veterinary services for livestock, adding that Wara used to produce a bounty of potatoes during the Italian period. The dam's contribution to household production was therefore negligible. This pattern was corroborated by a study on peasants in the areas of Bultubyay, Areda, Falko and Mogoraib, practicing run-off irrigation. Here, peasants lacked the technical know-how and skills for constructing and maintaining irrigation, along with soil and water conservation structures. This was due in part to their not being involved in the preparation, design, construction, and implementation of the run-off structures in the first place, which produced dependence on government. The peasants were neither organised into irrigation committees, nor offered training which meant that they lacked the local capacity to mobilise their resources for the operation and maintenance work, which reduced the irrigation scheme's potential output (Abraham 2005). Zeremariam's fieldwork indicated that most water pump services generally went to farmers with less than a hectare (2000: 46).

The GOE poverty alleviation document (2003), as well as local experts, often stressed the important role of horticultural production, including in areas such as *Dekemhere* and *Mendefera* where such a tradition goes back to the Italian colonial period when Italian entrepreneurs introduced mechanical powered irrigation at beginning of the 20th century – dams, wells, water pumps etc. They planted vegetable and perennial fruits mainly for Italy's market and were doing well until Ethiopian annexation, when the enterprises collapsed, and locals no longer had access to outside markets (Zeremariam 2000: 3). With this background in mind, the project at *Kudofelesi*, near *Mendefera*, initially faced the problem of the deterioration in ground water supply used for irrigation. The MOA subsequently formed the *Kudofelesi* Association on the sub*zoba*-level, with individual members joining from three different villages (*Ku-dofelesi, Embazareb*, and *Adi Ada*). The main objective of the association was to make inputs available to the peasants at a fair price and to sell outputs at a reasonable price. It commenced with 300 members, each with a contribution of Nakfa 300. Early on, however, the association was beset by problems of trust and awareness around management and other institutional issues. For example, members did not put their produce in the association shop. Membership was voluntary, and it elected managers twice after the MOA intervened to remove weak leaders, according to our informants. On the supply side, the association also managed to purchase fertilizer, and other inputs with credit from the MOA (Mehari et al. 2007).

The Hagaz associations were the only associations still active when we conducted our survey. The MOA officer said that at the time there was credit for three associations - dairy, drip irrigation (50 families), and marketing. The MOA initiated the associations by promising to supply inputs such as fertilizer and insecticide. But by the time of our survey these inputs were not available. The strongest of the three appeared to be the marketing association, called the "Association of Vegetable and Fruit Producers," which marketed various fruits and vegetables, and some grains. Onion marketing was particularly a problem for the association, which lacked go-downs and thus depended on middlemen for sales. The members were expecting government or NGO assistance to construct a warehouse for them. The internal cohesion of these associations was unclear: by-laws were unavailable; in fact, one informant said that there was no structure as such, only a list of members, and that the books of accounts were on scraps of paper. The Ministry of Agriculture provided the guidelines to the association, as well as a vehicle that soon fell into disrepair. One MOA staff member informally told me that the association was basically set up with government objectives in mind, and would need to restart from the grassroots (field notes 2006). Some of our informants at Hagaz also worried that the MOA extension services were paying more attention to the larger commercial farmers.⁹

Our research sought to ascertain the extent to which government projects had made a difference on the food security profile of a select number of households in four villages. Our findings revealed that the smallholder sector was not increasing household subsistence, let alone producing a marketable surplus. Moreover, if agricultural growth primarily occurred in the commercial sector, then this could lead to a form of dualism whereby a technically supe-

⁹ On the divergence between the challenges of rebuilding community livelihoods in the face of state-led projects see Poole (2009).

rior modern sector (with colonial period origins) co-existed with a low productivity smallholder sector, with few linkages between them. Certainly, there was much to commend in the national development efforts undertaken in the rural sector at both micro- and macro-levels, including road building, microdams, terraced mountains, and other infrastructures, which we ourselves witnessed. As for the associations, the highest proportion (60.4%) of our survey respondents indicated that government support had no lasting impact. The next section discusses the broader implications of these findings.

Discussion of the 2007 Field Research

The research findings had implications for rural communities' relationship with the extension system and training, community self-organization, and land tenure, which I shall address in turn. The extension system that we found during our fieldwork was not in any way a robust one capable of delivering critical services to rural communities. Undoubtedly, many of the extension officers of the Ministry of Agriculture were professionally dedicated and able to collaborate with communities, but lacked the support to see projects to completion. There had also been retrenchments of extension agents in the 1990s which would have thinned out coverage geographically. Extension agents were usually based at the sub-zone level and not the village which no doubt would have limited follow up visits especially where transportation was lacking. The educational background of the extension agents also varied. Some, before Eritrean independence, had been trained in agronomical sciences in Derg-era Ethiopia or even further abroad in the then-USSR, while many had only diplomas. Furthermore, training also had professional gaps such as on-farm system analysis, especially in relation to the drylands; "people-first" training; extension methodology such as social and communication skills; and training in sociological concepts pertinent to rural societies (GOE/DANIDA/FAO 2000; UoA work notes 2004). The bifurcation of the MOA research and extension units also siloed work outputs from the other (UoA work notes 2004). Farmer training subjects at this time were mainly around plant production/ protection, home economics, horticulture, animal production, vet services etc. (SOE 2003). Some observers said that MOA extensionists spent more of their time with commercial farmers rather than peasant smallholders, similar to the comment related to the MOA at the Hagaz site. This may have been due to the ability to reach fewer but more productive peasants, rather than being spread over more spatially dispersed peasant households. One way around this, never seriously implemented, would have been to conduct "training of trainers"

sessions in villages, among villagers. Further, there could have been more female extension agents employed given the growing number of FHH, as well as recruitment from ethnic minorities who would have been more attuned to the indigenous knowledge (IK) of their home areas (State of Eritrea/Danida March 2000). Finally, a stronger training outreach program from higher education institutions, along the lines noted above, would have strengthened rural institution building processes especially for the many women peasant farmers. Even if such training could have bumped up against traditional mores, the principles of the liberation struggle could have been articulated to build social consensus (Technical Paper on Gender Relations 2000: xiii).

The research team found that the government-sponsored popular associations had little internal coherence or cohesion from the ad hoc government support, and little to show for their existence. Greater community self-organisation would have reduced transaction costs such as compelling the extension service to be more accountable in terms of appropriate technology application, input delivery, maintenance of dams, and enabling the development of more streamlined markets. Commercial suppliers would also have been more likely to offer wholesale prices to organised groups of end-users. Government policy did signal support for co-operatives during this time. The Government of Eritrea (2003) called for support to dairy co-operatives and the livestock sub-sector; and appropriate technology in irrigation: catchments rehabilitation, rainwater harvesting, ground water extraction, surface irrigation, and low-cost water saving irrigation methods (GOE 2003). These incipient associations, e.g. Asmara Dairy Producers Organisation, were very limited: [they] "do not provide the sort of services their members require such as technical assistance, financial management, political lobbying etc." (Danish Ministry of Foreign Affairs 2001: 17). A proposed co-operative law, which the ILO had assisted in drafting, was envisioned to set up a market-driven co-operative sector at the primary, secondary, and tertiary levels to be under the auspices of the Ministry of Labour and Welfare, but the proposed legislation never materialised. A Drylands Coordination Group representative indicated his intention to request that in the meantime the government issue a Proclamation to this effect (AEAS work notes 2006). The clarification of the legal status of co -operatives would have bolstered the institutional rules of collective economic forms in rural Eritrea, the potential of which is outlined below.

Our fieldwork revealed that land tenure was largely dormant, both in regards to traditional *dēsa* and the implementation of 1994 Land Proclamation. At *Ku-dofesli* and *Gulagol*, the village *dēsa* system was still operative, but distribution had not been done for some years. This aligned with O'Kane's observation that

dēsa was still practiced at the time of his fieldwork in Embaderho (2015: 63-64). Zeremariam's more general study estimated the traditional tenure types in place to be 68% for desa and 32% for terra demaniale and risti. He found that desa went from .05 hectares to 2.0 hectares, whereas demaniale/risti was 12 ha to 1 ha (2000: 46). Many GOE officials considered *desa* to be antiquated, slow to uptake technology, lacking permanent improvement measures, and as prone to parcelisation, all of which apparently would have disincentivised productive investment (Rena 2005: 207). Dēsa, it was claimed, could even weaken indigenous knowledge, a surprising view that I heard on more than one occasion: at the AEAS meeting, for example, one participant exclaimed that even his parents did not want to put in natural fertilizer on desa land (AEAS work notes 2004). Unmentioned in this narrative was the delay in the implementation of the 1994 Land Proclamation. This meant that "The farmers do not have the idea as to how many years they are going to use the piece of land they are currently using so they do not want to put too much investment into it" (NFIS 2005: 11). In effect, the uncertainty emanating from the lack of state capacity to implement the 1994 Land Proclamation, whatever its putative merits, put the *desa* land tenure system into institutional and legal limbo and created the self-fulfilling prophecy of its developmentally ineffectual character. Yet other, more site-sensitive studies have noted that peasants supported *desa*, based on minimum subsistence ethos, and were wary of investors leasing traditional village land as it would reduce the amount of land available for distribution; moreover, the clan system still determined land tenure allocation given that the 1994 Land Proclamation nationalisation was only partially applied (O'Kane 2015: 118-119). Foreign observers at the time cautioned Eritrean policymakers to think through the implications of state-driven land privatisation, a trend in the wider region, while calling for other pathways such as the registration of communal land tenure or by drawing on the principles of the EPLF's earlier land reforms of the mid-1970s and 1980s (AEAS work notes 2006; Rock 2000).¹⁰

What the author found was that the government repeatedly approached development challenges with pre-formed ideas of what was needed and how it ought to be implemented—a classic case of blueprint planning—and wilfully ignored the lessons of their failures (personal communication). The phenomenon of the "technocratic fix" appears to be at play, one which brings to mind the world-renowned development economist Albert Hirschman's *Development Projects Observed* (1967), the inspiration for this article. Among his case studies was Brazil whose military government had, after seizing power in 1964, sought to integrate

¹⁰ The *dēsa* system remains an important area of debate, with intellectual lineages going back to nineteenth-century Russia around the role of common village land for socialist transition (Marx 1977).

the Amazon into the national economy, foster foreign direct investment, and use the "frontier" as a social safety valve to shift landless peasants from Northeast Brazil to the Amazon. Hirschman argued that the greater the integration into the local economy, the greater the uncertainty, especially, in that context whereby a complex and integrated colonisation settlement scheme would involve the setting up of irrigation works, educational/health facilities, the clearing of arable land, accessing wider markets etc. He noted that planners had more enthusiasm for the engineering phase of a project (road construction, dam, irrigation) than for agricultural and marketing activities. And without a strong ideological bias towards social movement mobilisation, policymakers would tend to avoid projects that would involve the political and psychological dilemma of dealing with thousands of people (Katzman 1976). In the end, settlement of the landless in the harsh Amazonian environment failed, and was followed by cattle ranching, forestry, hydro-electric, mining - all with little connection to the actual local economy and with ongoing ecological destruction into contemporary times. While post-independence rural Eritrea is not a frontier in the Amazonian sense, its development process parallels the travails of a militarised political class launching top-down projects through the prism of national sovereignty. Remarks by the Eritrean Minister of Agriculture to the tepid 2002 rains typified this technocratic attitude:

Eritrea's [...] mainly subsistence farming in small-sized plots have always implied a structural crop shortfall even in the best of years. For the Ministry of Agriculture, the radical and long-term solution will be the modernization of agriculture through large-scale irrigation systems, which will require huge capital investments as well as appropriate adjustments in land tenure. (Eritrea Profile 2002)

An incorrigible and incurious political class was unrelenting in using state power to forcefully change the nature of rural Eritrea in its own image. The deleterious consequences are outlined below.

Back to Square One - Harnessing the Rural Legacy of the Liberation Struggle for a Convergence Strategy

The border war accelerated the devastation of the peasant economy and a growing estrangement of the peasantry from the PFDJ state. According to Beyan (2021: 302), by 2008, not long after our 2004–2006 study, migration appeared to have become a generalised solution to the erosion of livelihoods, driven as much by the terms and conditions of national service as by poverty

and the loss of opportunity. This helped to transform the economy into one dependent not on peasants' creative input but on their offspring's remittances (personal communication). This form of migration would appear to be qualitatively different from that observed in an earlier study where peasant households received remittances from youth working in nearby towns, Asmara, or in Saudi Arabia (in sectors such as construction). These youth would usually return to Eritrea after a few years and continue traditional rural livelihoods (Frey et al. 1998). The contemporary picture appears to be quite different. Due to this dependence on remittances, a growing section of the peasantry has become more and more dependent on the market for food which in turn has lessened the role of land in peasant society while diminishing food supplies to the urban centres (Beyan 2021: 306-307). I personally experienced signs of this trend during our 2004-2006 research. In one of our research villages in the highlands, a villager approached me during survey enumeration, asking for help in locating his estranged son in the West. However, the villager did not know the name of the country where his son was now residing, only the name of the city. Coincidentally, this was my home city, Toronto, Canada. When I went on leave to Canada, I sought assistance from an Eritrean living in Toronto who directed me to a popular Eritrean diner in the city's downtown west end. There, a staff member was able to identify the son in the old picture his father had provided. We met face-to-face later that week, and when I returned to Eritrea, I took a trip back to the village to deliver the son's package to his father. This was just before travel outside of Asmara to rural areas would become too difficult for foreigners by 2006.

In the absence of hard data, it is difficult to determine how widespread this reduction in local food production is in rural Eritrea. Other recent studies among highland peasant communities (Debasi 2020:10) and on Saho pastoralists in the Qohaito Plateau (Haile 2017: 295), indicate increasingly diversified incomes (farming, livestock, petty-business, forest products), the greater consumption of non-local foodstuffs, and ongoing pastoralist sedentarisation. This is especially the case among low-income groups, defined as those living on less than 2-40 Nakfa a day (Debasi 2020: 5). It also bears repeating that survey informants from Debasi and Haile's studies would have been very reluctant to reveal remittances as an income source: Beyen's study reveals a critical nodal point in current rural dynamics. Whatever the real picture, trends indicate an extreme form of disarticulated rural underdevelopment (i.e., consuming what you do not produce, and producing what you do not consume) with potentially severe consequences for rural livelihoods in the longer term.

Migration of this kind is not a phenomenon unique to Eritrea. Many of the Global South's rural poor are on the move to western countries, and for those who make it, their remittances sent back home have become an important source of survival for the members of the rural household (Kay 2009). Much of this international outmigration is illegal, dangerous, and disruptive of family and local community life, yet governments in less developed countries (LDCs) have done little to stem this drain of human resources by providing better employment opportunities (Kay 2009). Further, the West itself may be entering a period of chronic economic crisis with the concomitant rise of anti-immigrant/anti-globalisation national populism.¹¹ This sobering reality is something that LDCs need to plan for, especially since Africa's rural areas are where much of the poor will be located for the foreseeable future, even with international migration. Critical therefore is the ability of the LDC state to design and implement context-specific development strategies in an increasingly turbulent global context (Kay 2009: 130). Policy makers need to consider how to ensure that sufficient incentives are provided to peasants so that agriculture produces a required surplus without exploiting rural communities, while fuelling a balanced industrialisation of the national economy with equity between sectors and classes (Kay 2009). In the Eritrean case, this would require the PFDJ state to jettison its chimera of a "Singapore-on-the-Red Sea."

Clive Y. Thomas (1974), writing during the Cold War at the University of Dar es Salaam, Tanzania, proposed another alternative, known as convergence theory, which deserves a hearing today, one I mentioned in passing in an earlier paper (Cameron 2009), but which I wish to further flesh out briefly in the present article. Thomas outlined an inward development strategy where domestic output converges with domestic demand (and mass needs), to re -articulate the whole national economy of an underdeveloped LDC inwards. For agriculture, in such a scenario, the productive surplus for industrialisation would be channeled through enhanced food production and value added industries ranging from small scale manufacturing (e.g. dairy product processing, clay bricks, leather goods) to agricultural industry (e.g. tools, irrigation, machine equipment) to scaled up industry (e.g. food preserving, canning), all of which would be oriented to the home market, with surplus goods for export as a "spill-over" of domestic production (Thomas 1974). Thomas called for a strong co-operative sector to back up such a convergence strategy.

Formally, registered co-operatives are expected to run their affairs according to universally accepted co-operative principles of the world co-operative move-

¹¹ For a preliminary exploration of a convergence strategy for the West see Cameron (2009 b).

ment centred on independence from external pressures, and internal democracy based on self-interested associations of people voluntarily satisfying their felt economic needs in common purpose. Critical here is the form of group action known as the "co-operative effect," a concept which can encompass the economics of scale in buying and selling: value-added activities; the elimination of the middleman; enhanced control over prices and quality control; the pooling of investment; and technical specialisation -as well as community building and having a united political voice. Without becoming too prescriptive, both "vertical" and "horizontal" rural co-operation could come into play in a post-conflict Eritrea. Vertical co-operation would speak to service co-operatives such as the purchase of farming inputs or the joint marketing of agricultural commodities, with land still individually held (Saith 1985). In Eritrea this could include additional measures such as the leveraging of watershed and wildlife preservation, carbon sequestration in soils, oxen and tractor sharing, forest management, green energy projects, credit arrangements, the drilling of bore holes in the rangelands, and the regeneration of the pastoral drylands. A critical social institution in the villages, the ማሕበር, mahber, in Tigrinya, could bolster the social cohesion required of vertical rural co-operation including on dēsa land. As community self-help networks, which have a close relationship with the village's kinship system, a *mahber* can be formed on the basis of shared membership of a lineage, as well as personal and religious affinities (O'Kane 2015: 81). Horizontal co-operation, on the other hand, would see some degree of socially owned means of production, and speaks to the socialist version of rural co-operation, with roots in the EPLF liberation movement, and former socialist countries (including contemporary Cuba). Here, undertakings could include simple agricultural tasks, group farming, peri-urban gardening, joint irrigation, joint ownership of farm implements, and common herding areas. Government owned land would be amendable to joint farming, such as co-operative work groups (O'Kane 2015: 58). Mahber-groups of demobilised soldiers infused with their organisational and technical skills, and communal way of living and teamwork, could play a role in the formation and running of horizontal-type co-operatives.¹² Past experience from the first generation demobilisation warns against ignoring soft skills such as leadership and organising abilities (Mehreteab 2004: 187), which are crucial to all forms of successful co-operation.

Throughout eastern Africa, there are co-operative training institutes and colleges. The present author worked for five years, during the 1990s, with the Co-operative College of Moshi, Tanzania, in one of its long-distance sections.

¹² Of course, if and when demobilisation happens, resettlement should not be at the expense of other local communities' resource bases (Naty 2002).

These long-distance centres served community primary co-operatives of agriculturalists, fishers, women's groups, carpenters, and other groups in all of the nation's regions by offering correspondence courses and community seminars on bookkeeping, co-operative principles and so on. To my knowledge, Eritrea had nothing comparable in place. Yet mass-level training and financing would be critical to kick-start rural co-operation. Embedding co-operatives in the community sector would have ameliorated some of the problems encountered in this study, such as the lack of technical follow up, weak dispute mechanisms, poor marketing facilities, inadequate water supplies, non-existent by-laws on land use and so on. Such embedded organisations require strong educational inputs. This could include technical and administrative training around use of technology and planning, as well as literacy training for women's groups. Even a GOE Poverty Reduction Policy Paper at that time promoted rural empowerment approaches and called for the development of an integrated agro-pastoral system to enhance livestock production though producers' co-operatives backed by credit, inputs, and an integrated rangeland support system. It also called for strengthened school education and vocational training institutes (GOE 2003: 12). Similarly, Debesai's recent research calls for safety nets for the majority poor, attention to non-farm sources of income, and vocational rural educations, both adult and formal (2020: 10).

Co-operatives are no panacea, of course. They can succumb to factionalism, "free-rider" problems, aid dependency, and local elite dominance (Hammer 1981). And the record of co-operative development in eastern and southern Africa among the former socialist countries was not stellar, with the core shortcomings being a combination of mono-party top down control, exploitative crop monopsonies, and institutional and financial marginalisation of food producing peasant co-operatives.¹³ Interestingly, around the time of our fieldwork, an Eritrean author advocated for co-operatives of commercial farmers to be set up, but just the "mobilization of small farmers for self-supporting activities" (Bekuretsion 2002: 14). This view shared a striking similarity to the real world phenomenon in socialist Mozambique of the peasant co-operatives being "mobilised" by the party but otherwise left to their own devices in the countryside of 1970s/80s (Bekuretsion 2002: 14). These socialist governments rapidly transitioned from bureaucratic socialism to market liberalism in the

¹³ For Mozambique see John S. Saul, A Difficult Road: The Transition to Socialism in Mozambique NY: Monthly Review 1985; for Tanzania see Oda van Cranenburgh, The Widening Gyre: The Tanzanian One Party State and Policy towards Rural Cooperatives, Delft: Eburon Publishers, 1990; and for Zimbabwe see Andrew Nyathi with John Hoffman, Tomorrow is Built Today: Experiences of war, colonialism and the struggle for Collective Co-operatives in Zimbabwe, Harare: Zimbabwe Anvil Press, 1990.

1980s/90s; a convergence strategy was never on their policy agendas. Under post-socialist policies in eastern and southern Africa, rural co-operation has had mixed success at best (one success being the women's "green zones" of Maputo, Mozambique). It is striking that Eritrea policymakers showed no interest in these experiences in the region, akin to their lack of attention to the regional record of pastoralist sedentarisation policies. The PFDJ government, in fact, turned its back on a co-operative strategy, perhaps fearing loss of control over autonomous peasant and pastoralist rural development trajectories.

Another facet of rural development potential in Eritrea is indigenous knowledge, discussed earlier. An IK-driven natural resource focus speaks to the concept of food sovereignty, defined "as the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems" (*La Via Campesina* 2021). The proper financing of rural development, mass-level training, and rural institution building could createthe critical mass locally to ensure that these food sovereign rights are truly embedded in rural Eritrean communities – of peasants, pastoralists, minorities – following their own IK systems. In certain contexts, such as ex-fighters or the highland peasantry, the values of the original independence struggle – self-reliance, egalitarianism, ethnic tolerance, women's liberation, internationalism, and popular economic organs – could also catalyse food system self-determination.

Food sovereignty also puts the aspirations and needs of those who produce, distribute, and consume food at the heart of food systems and policies rather than the demands of markets and corporations. The state's role needs to be considered if food sovereignty is to become a new agricultural paradigm (Vergara-Camus and Kay 2017). It is here that Eritrea's "hard" state could actually foster the grounding of food sovereignty practices by protecting smallholder initiatives from corporate market actors as well as intrusive "outsider-directed development." The public face of government is the village administration under the authority of the sub-zone administration (O'Kane 2015: 73). Here, state reform could decentralise to Eritrea's 2,500 village authorities the capacity to organise revenue, finance modern infrastructure, and provide a regulatory environment for rural market development (DANIDA 2001: 15), and other forms of local, but nationally supported food sovereignty initiatives.

But what of political transition at the centre of power? Did the PFDJ state ever have any intention of enabling village level development outside of its strict control (O'Kane 2015)? This is not just confined to Eritrea's governance, of course. Across the Global South, most countries have either lacked the capacity and/or political will to politically empower the excluded peasantry and pastoralists through rural institutional transformation (Saith 1985). Yet a feasible convergence strategy as outlined herein would require maximum democratic participation by the producers – pastoralists, peasants, and other communities – otherwise the state would still face local resistance in the form of smuggling, non-compliance and so on (Thomas 1974). This is exactly what has been happening in rural Eritrea as peasants supported by remittances from the diaspora engage in passive resistance to state policies and rules such as refusing to get registered in local administrations, avoiding village gatherings, and sourcing news outside of state channels (Beyen 2021: 310–311).

But how can a break be made with top down developmentalism and endless conflict? A third war, the Tigray War, no doubt must have inflicted further massive damage on rural Eritrea, and beyond. There are no simple solutions: a peace process and reconciliation is, first and foremost, the most crucial step to take. What can be stated for certain, however, is that the current "Nakfa Generation" leadership in the PFDJ is aging and will eventually pass into history in the not-too-distant future. What the new generation of PFDJ leadership and/or middle level officials/cadres in government and party will be like is unclear, but they may be more open to some elements of political reform and greater economic autonomy, even if they still reject the option of a politically pluralistic and democratic Eritrea. Looking beyond the state, a role could be played by regional developmental actors or civil society elements. Diasporic organisations of Eritreans in Europe and North America (more conscious today of the unsustainable nature of Western industrialism), and even Higher Education entities in Eritrea, where critical scholarship still endures, could also be involved in discussions. Opposition parties in exile, putting aside the question of political power, could strive to outline a transition process towards democratic rural development. The obstacles are formidable, but the articulation of new ideas is critical, no matter how remote from reality on the ground. What must be realised is that both state-led developmentalism and market liberalism have "shot their bolts" and in all probability will never deliver on their imagined worlds of a better life for all in Eritrea, as elsewhere. If this can be recognised, truly internalised, and acted upon by all sectors of Eritrean society and its supporters, then an inward oriented and democratic rural development paradigm offers the possibility of Eritrea breaking its political and economic impasses.

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