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The Influence of Colonial Economic Policies on Agricultural Development in Independent Kenya: 1954 To 1992

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Historical and contemporary evidence indicates that the colonial government did not make a large-scale effort to develop African agriculture before the 1950s. The emergent African Land Utilization Scheme (ALUS) of 1946 later renamed the African Land Development Board (ALDEV) policy in 1947 objectively focused on 'communalism' as agricultural philosophical thought and tackled emerging issues of land usage crisis, land degradation and resettlement to reduce the strain on land. The first large-scale comprehensive post-war colonial plan for promoting African agricultural development was titled the 'Swynnerton Plan' of 1954 called for the intensification of land use in African areas. It was later supplemented by the Land Development and Settlement Board (LDSB) schemes of 1961 – 62, which addressed emerging land issues in addition to integrating Africans into the capitalist economy. This colonial agricultural policy sought to improve African agriculture development through large-scale commercialization of smallholder mixed-farming but failed to achieve the desired objectives in independent Kenya as farmers regressed to subsistence levels. Thus, the study evaluated the economic influence of colonial agricultural policy on Ndalat Settlement Scheme, Nandi County, Kenya. The study adopted a historical descriptive design with a sample size of 32 key informants conveniently sampled from 18 farmers, four cooperative officials, five pioneering settlement officials, two Ministry of Agriculture officials and three retired agricultural officers. Interviews were the main research instrument supplemented by archival and government policy documents. The findings indicated that the Ndalat settlement scheme was part of the colonial LDSB initiatives to resettle the landless Nandi people based on a loan facility under the Her Majesty Government scheme (assisted-owner schemes). The scheme was experimental in design and involved a resettlement programme from scratch. The scheme economically influenced the settlers by integrating them into the capitalist economy through land use intensification and commercialization of smallholding mixed farming systems (milk and maize) of 15 acres. Other important economic influences include; the institutionalized usage of statutory regulatory and marketing boards,

individualization of land tenure, promotion of agrarian revolution, raising the economic productivity of land and institutionalization of cooperative societies as marketing agents. The study concluded that the policy largely failed to commercialize smallholding farming systems and ensure the continued subjugation to metropolitan London. The study recommends that the government rewrite a new agricultural policy to promote high-value crops, land intensification techniques and value-creation processing of crops.

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INTRODUCTION

Before the 1950s, contemporary evidence indicated that there was no large-scale effort by the colonial government to develop African agriculture and the Swynnerton Plan in 1954 was the first comprehensive post-war colonial development plan for promoting agricultural development (Thurston, 1987). The years between the two – world wars in 1914 and 1945 were tumultuous periods for African agricultural development as any policy on African agrarian development brought conflict with the settler farming sector, and generated a serious crisis in the political economy of Kenya (Anderson & Throup, 1985).

Whereas historical records show that the Agricultural Department was established in 1906, it exclusively served European interests and left the African areas to operate under the colonial structure, the Provincial Administration. It was only in the 1920s that incipient agricultural services were introduced to African areas (Thurston, 1987) with the posting of 9 white

agricultural officers to African areas. The early development of the African areas was based on food crop and livestock production for subsistence and to improve the diet and reduce the incidence of famine (Heyer, 2011) but at the same time, discouraged African agriculture notably through labour extraction to work on European farms (Heyer, 2011). The colonial government emphasized animal disease control in the African areas and sent veterinary officers to train African instruction on animal husbandry and disease prevention (Heyer, 2011).

Only in the 1930s, did the colonial government become receptive to African agricultural development, though African agriculture faced other constraints that included shortages in financial and human resources for instance, there was only one Agricultural Officer for each of the African agricultural districts in the late 1930s (Thurston, 1987). This number increased to 228 by 1938 from 26 in 1924 (Heyer, 2011). Though the number of officers was significant, one agricultural officer served between 100,000 and 200,000 people over a widely scattered area, and

coverage was selective. For instance, the districts in the central province had agricultural officers in the 1930s except for the Meru district, while the Rift Valley districts of Baringo, Elgeyo-Marakwet, Nandi, and West Suk (West Pokot) had veterinary officers only. The impact of agricultural policy was very uneven at this period (Heyer, 1981).

In the late 1930s and the mid-1940s, population growth, overstocking, soil erosion, and land degradation deteriorated the African areas leading to a new dominant narrative of destocking, land rehabilitation, and resettlement and the development of a communal approach to agriculture (Thurston, 1987; Heyer, 2011). In the early 1940s, the evolving land fragmentation and enclosures were a precursor to individualized land ownership in African areas in Central and parts of Rift Valley provinces (Thurston, 1987) and led to the establishment of the African Land Utilization and Settlement Board (ALUS), later renamed ALDEV (Heyer, 1974).

ALDEV objectively pursued communalism in the African areas and focused on soil conservation, afforestation and provision of water supplies and smaller resettlement activity to reduce the strain on land use (Thurston, 1987) and resettled less than 5,000 families (Heyer, 2011). Whereas, communalism agricultural forms took hold in the Nyanza it never gained tractions at a national level to be considered economically important (Heyer, 2011). The failure of communalism as an emergent African agricultural philosophy in 1947 called for a policy shift in African agriculture towards intensified agricultural production of high-value crops through the Swynnerton plan (Thurston, 1987).

The plan encouraged smallholding farming systems of at least seven to 10 acres with farm income ranging between £ 20 to £100 a year for subsistence. These smallholding farming units called for the consolidation of fragmented holdings, agricultural development and land registration over a period of 15 years as freehold (Thurston, 1987). Upon implementation, there was almost no agricultural development in Central

province during the emergency period because of direct paramilitary control but took hold in western Kenya with less dramatic results (Thurston, 1987). The Swynnerton Plan of 1954 revolutionized smallholder farming practices countrywide (Segal, 1968) and significantly impacted agricultural output. For instance, the African marketed production grew by 13.5% in 1955 to more than 22.5% in 1963 and to over 50% by 1967 (Van Arkadie, 2016).

In terms of the value of marketed output, Nyanza province dominated the value of marketed maize output in the early 1950s but then in the late 1950s, Central province led in the value of marketed coffee. Agricultural development also benefited from the increased provisioning of agricultural services (Heyer, 2011) and the fourfold increase in the number of cooperative officers (Colony and Protectorate of Kenya Report, 1956). The plan dramatically increased the size of agricultural staff in African areas and by 1961, there were 50 Agricultural Officers, 48 research specialists, 209 Assistant Agricultural Officers, 63 Lab Technologists, 138 Lab Assistants, and 12,000 Agricultural Instructors and Assistant Instructors. In all the plan, increased the number of agricultural staff from one officer to 83,000 people to one to 50,000 people (Thurston, 1987).

In 1959, the demand for agricultural services was ramping up but the political situation curtailed the development of smallholding farming systems, as the staffing levels were cut by 15% and funds wound down because of the political and economic uncertainty in 1960 (Thurston, 1987). Though the Swynnerton Plan intensified land use it could neither solve the basic immediate problem of population pressure and poverty due to land shortage nor create economic land units where they did not exist, thus, the colonial government turned to the political necessity of resettling Africans in the Scheduled areas through the land ordinance of 1959 (Heyer, 1974, Thurston, 1987). Thus, the Land Development and Settlement Board (LDSB) was established in 1960 to deal with the land question (Thurston, 1987).

In summary, the African Land Development Board (ALDEV) and Swynnerton schemes of 1947 – 1960 settled more than 11,000 families on 130,700 hectares (Heyer, 1974). The LDSB operationalized slightly over 104 schemes {high-density (*Assisted-owner*) and low-density (*Yeoman*) schemes} and occupied over 872,927 acres (Shaffer, 1967) and between 1961 – 1963 settled 10,441 families on 105,300 hectares (Heyer, 1974) with Ndalat Settlement scheme being part of it (Belshaw, 1964). The British government funded all the land purchase on a basis of 33.33 % grant and 66.67 % loan while the development loan funds for the assisted owner (high-density) scheme were provided by the British and West German governments while the International Bank for Reconstructions and Development (IBRD) and the Colonial Development Corporation (CDC) provided the developments loan fund for the 'yeoman' (low – density) scheme at a 6.5% interest (Storarr, 1964). Beginning in 1964, the five-year 'one-million-acre scheme' was established from European-owned mixed farms (Leys, 1971).

Despite the government's expressed commitment to developing and assisting in the commercialization of smallholder farming in Kenya, the mixed farming systems continued to produce at a subsistence level, with no better prospects as manifested by low-quality milk and continued use of indigenous methods of husbandry. Since the Ndalat Settlement Scheme is a product of the colonial agricultural policy, the study sought to examine the economic impacts of the colonial policy on the agricultural development of the Ndalat Settlement Scheme in Nandi County from 1954 to 1992.

METHODOLOGY

The study was carried out in the Ndalat settlement scheme which is located in Ndalat Location of Nandi County. Ndalat location and employed a historical qualitative design to provide a historical description of the events that occurred during the establishment of the settlement scheme in 1961 and interrogate the changes of major economic transformations that occurred thereafter. The

study largely used interviews that were supplemented with archival documentary evidence. The study purposively sampled 32 respondents which include 18 farmers, four cooperative officials, five pioneering settlement officials, two Ministry of Agriculture officials and three retired agricultural officers. Other data sources comprised data from the Kenya National Archives (KNA) and libraries. Qualitative data were transcribed, evaluated, classified and presented into logical thematic categories.

RESULTS AND DISCUSSION

Much has been said about the land question in pre-independent Kenya between 1959 and 1962 (Leys, 1971; Van Arkadie, 2016; Kanyinga, 2000; Leo, 1984; Harbeson, 1967; Thurston, 1987; Heyer, 1974; 2011) among many others. Leys (1971), Harbeson (1967), and Leo (1984) focused on emergent land issues like social differentiation, Kanyinga (2000), and Harbeson (1967) critique the redistribution of the land in the scheduled areas but the closest to solving the land question and the general colonial land and agricultural policy is given a wider perspective (Thurston, 1987; Heyer, 1974; 2011).

The unqualified view from Thurston (1987) suggests that the land resettlement policy was an extension of the Swynnerton Plan of 1954 because of land limitations and population growth. Heyer (1974) focused on the evolving land policy in the early 1960s with a detailed view of the activities of the LDSB schemes. Both focused on the development of smallholding agriculture in independent Kenya and their historical accounts point to both the land question and the then-evolving colonial agricultural policy in 1959. The plan was halted by the land scarcities and the land ordinance of 1959 allowed Africans to acquire land in the scheduled areas while individualizing land tenure systems in African areas as prescribed by Swynnerton (1955).

Before 1954, there was no large-scale concerted effort to promote agricultural development in African areas (Anderson & Throup, 1985) but the ALUS of 1947 programme was just a reactive

activity to improve land use in the degraded lands in African areas (Heyer, 2011). As indicated by the Swynnerton Plan of 1954, the plan could only work with limitations posed by human, land and financial resources (Thurston, 1987). The plan accomplished its five-year plan in 1959 as the Agricultural output from African areas had significantly grown (Leys, 1971) but then the land and population growth stalled further developments (Thurston, 1987).

Swynnerton Plan represented a new phase of colonial African agricultural development policy and served as a policy in African areas even today. It expanded cash crop production, introduced new crop and livestock enterprises, and had a strong emphasis on increasing farming income (Heyer, 1974). The programme provided extension services, credit and growth of cash crops such as coffee. The plan had a significant impact on the small holders' output with the growth in coffee rising 55% between 1955 and 1964. In Nandi County, the Swynnerton plan had a pilot scheme in Ndalat which received a total of £ 12,960 and served as a basis for demonstrating agricultural land development to the Nandi tribe (Leys, 1971).

The Creation of Settlement Schemes in the Scheduled Areas in the 1960s

The first major influence of the colonial agricultural policy was the creation of settlement schemes in the scheduled areas as a successor to Swynnerton's plan in 1959. Thurston, (1987) and Heyer (1974), noted that the Swynnerton plan served as the foundation for agricultural development of the African areas but was constrained by the land resources. Because of land constraints, the land ordinance of 1959 enabled Africans to purchase land in the Schedule areas and by extension the next large-scale colonial agricultural policy was the creation of the Land Development and Settlement Board (LDSB) in 1960 to deal with the land question (Thurston, 1987).

The colonial agricultural policy infused the land question into its agricultural policy and thus the question of settlement activity in the scheduled

areas. Contemporary evidence shows that the Swynnerton Plan of 1954 continues to influence agricultural development in independent Kenya today (Heyer, 1974) and represents the African agricultural development policy as it is today (Heyer, 2011). As such, the LDSB and land reforms in 1960 were crucial elements in the colonial agricultural framework to manage the transition in Kenya in the decade leading up to independence and in the immediate post-colonial relationship (Van Arkadie, 2016).

During the initiation of the Ndalat Settlement Scheme, the Master plan indicated that the colonial administrators put this land under maize production as observed from the records:

It is estimated that some 2,500 acres will eventually be under crop on this scheme which will necessitate the LDSB to provide somewhere in the region of 8 Fordson major tractors until such time that some plot holders turn to contractors to plough land on a contract basis.. Approximately 350 acres are currently under maize but this could have been 800 acres had the settlement board commenced cultivation sooner (Ndalat Master Plan/TR/8/T572).

The historical accounts from the informants share similarities with the official archival records as detailed by several pioneering farmers Mr Daniel Chepsiror, Mr Kipkoech Rono and former cooperative officer, Mr Tarkwen.

The settlement scheme was initiated as the white settlers sought to exit Kenya. Ndalat settlement scheme originated from the land owned by three white settlers, Mr Bruce Tweedie, Mr John Tweedie and Mr Douglas Tweedie whose farms are considered to be 'compassionate' farms allocated to the veterans of the First World War in 1921. The exit of the British Settler Brothers; Mr Bruce Tweedie, Mr John Tweedie and Mr MacDonald Tweedie was funded by the Land Development and Settlement Board (LDSB) under the stewardship of the British and German Governments. Mr McDonald

Tweedie's farm (KapMakiton) was part of Donald Tweedie (Kaptigilis) which was 500 acres split into two; 100 acres for squatters and 400 acres for the Ndalat Settlement scheme (Oral Interview, Former cooperative officer Mr Tarkwen February 15th 2022).

The land was registered under three individuals; D. N Tweedie owned 2,003 acres registered as L.R. No. 9367/1; J. R Tweedie owned 2,003 acres registered as L.R. No. 9367/2 while B.C. Tweedie owned 1,000 acres registered as L.R. No 770/1, with an extra 920 Acres registered as L.R.No.5731/2. Because of the settlement operations, specific locations in the settlement scheme would later have pseudonyms: KapBruss (Bruce), and Kaptigilis (Douglas). Other pseudo-names included Kapsigiryo (John), KapSmith (Steinkamp and Smith Ltd), KapMakiton (McNewton) and KapNg'ombe (Hendrix) which later became the central yard for dairy cows for sale to the new settlers. Upon the relocation of the white settlers, all the land and equipment owned by the white settlers reverted to the LDSB (Oral Interview, Former cooperative officer Mr. Tarkwen February 15th 2022).

A former agricultural inspector, Mr Tarus, elaborated further on the nature and topography of the settlement scheme;

The plots differed in size based on the quality and topography of the land. The size of a good arable plot measured 15 acres (approximately six hectares) while plots in the marshy, hilly and lowlands measured 30 acres to even 100 acres depending on the quality of the land. There were also special plots that were allocated to government employees, civil servants and farmers with specific skills and know-how. These plots served as demonstration plots to spread agricultural technological know-how to the new smallholder farmers. The 15-acre smallholding plots were to be involved in subsistence farming to produce food for the family and surplus for generation of income

(Oral Interview, former agricultural inspector, Mr Tarus, May 5th 2022).

The Ndalat Complex scheme began with the plot numbers originating from 1 to 64 in 1962 with the size for these plots being 15 acres. The next phase had plots numbering 65 to 372 with a plot size of 15 acres. Later on, the next phase had plots numbering 373 to 572 and lastly, there were two large farms in Kaptebe with about two hundred acres each. The plots at the settlement schemes were sold for a Kshs. 4,000 cash basis or a loan amount of Kshs. 6,000 with a 10% deposit which was paid immediately. At the initiation stage in 1962 – 1963, the 15-acre plots were acquired at a deposit of Kshs 120, while in 1964, the 20-acre plots were acquired as a deposit of Kshs. 600. In 1964 at the Kapng'ombe (a pseudo name that arose because of the central location from which the farmers were able to acquire the dairy cows) the plots were going for Kshs 6,000 in 1964 and a development loan valued at Kshs. 3,000. The land loan was to be repaid over 30 years while the development loan was to be repaid over 10 years (Oral Interview, former agricultural inspector, Mr Tarus, May 5th 2022).

Mr Kipkosgei Butuk, a farmer commented on the financial arrangement during the initiation of the settlement scheme.

The settlement offices provided development loans in non-monetary terms in the form of agricultural and farming materials: two milk cans, rolls of barbed wire, a machete, nails, two milk cans (10 – Litre and 20 – Litre jerricans), two dairy cows and a calf depending on the loan. The developmental loan totalled Kshs. 3,000 and was repayable over ten years. The loan was supposed to be repaid every other six months through a direct cash payment to the settlement officer and later through the Ndalat Farmers' Cooperative Society through a check-off system where the cooperative society deducted the loan amounts from the farmers'

earnings (Oral Interview, Farmer, Mr Kipkosgei Butuk, May 9th 2022).

Based on the historical account of the pioneering farmer, Mr Nathan Koisir, the Ndalat Complex Scheme was launched under the following procedures and structures.

The resettlement process took several stages and was preceded by a vetting process. In the first stage, a vetting committee made up of 20 individuals headed by Amai (Pseudo name for Headman) and Kiptaiyat (pseudo name for Chief) and African government officers drawn from the various locations in the Nandi District was established to vet all the Africans from local African reservation to ensure that they were landless. The criteria included: all squatters, individuals residing or natives in the district including other tribes such as Luhyas and all employees of the white settlers; cooks, foremen, farm workers herdsman and housekeepers. Women were also allocated land as long as they proved that they were landless. Women were curtailed by the lack of identification cards; however, some were able to access the plots through either friends or relatives.

In the second stage, applications were made to the district commissioner through the chief. Once received, all applications would be collated and vetted by the committee. Once, the process was complete, the district commissioner then liaised with the LDSB to establish the settlement office on the former white settler's farm and appointed a settlement officer. In 1962, Mr. Gibson was in charge of the settlement office in the whole Ndalat Complex Settlement scheme. The settlement office demarcated and numbered the plots and prepared ballots for the allocating land during the baraza. Once the settlement office was operationalized, the district commissioner set a date for a formal gathering (Baraza) through which the land allocation was to be initiated.

On the day, the DC presided over a baraza, where the applicants drew ballots representing the plot number for the scheme after which the individuals were taken to their plots. Once allocated land the individual was supposed to pay for the 10% deposit for the land immediately to be given the letter of allotment for the land. Once allotted the land, the smallholder farmer was given 24 months to fence the land, build a house, construct a dairy shed and sanitation facilities and acquire the dairy cows from the settlement office. These activities were mandatory and a failure to undertake these activities meant that the allotment letter was recalled and the plot given out in the next allotment (Oral Interview, pioneering farmer, Mr. Nathan Koisir, April 1st 2020).

As per the Department of Settlement annual reports 1962/63, the settlement planning started with the land use planning survey followed by a map of proposed settlement activity that split the farm into high-density, medium-density, low-density and unsuitable farming land. On the other hand, the Department of Agriculture prepared the funds and plans for the type of crops and stock and the targeted income for the particular settlement scheme or area. The plans were largely subsistence + £100 for IBRD schemes and subsistence + £25 for the H.M.G schemes (Department of Settlement/Annual reports/62/63).

Next, the sub-divisional plans set aside land for the villages, road network and other social amenities. As of June 1962, all the 301 plots for the Ndalat settlement scheme had been taken up. All plots purchased under the purview of the LDSB were done under the Land registration (special areas) ordinance by the LDSB for titling. The plot-holders were initially given a sales agreement known as the Letter of Allotment and were required to mortgage their land in favour of the LDSB for the land loan purchase and development loans based on the interest rate of the lending bodies; IBRD, CDC and HMG (Department of Settlement/Annual reports/62/63).

LDSB also provided land for the establishment of social infrastructural amenities such as hospitals and schools and was observed by farmer/pioneer headteacher, Nyigon Primary School, Mr Peter Keino (May 6th 2021).

The settlement offices provided for two locations as shopping centres at Kaigat and Ndalat township to cater for the welfare of the smallholders, the policing services as well as a three-acre plot for the cemetery at the Kaigat township. In terms of education, the settlement office planned for the two schools at Kaigat and Ndalat Township to cater for the education needs of the dependents of the smallholder farmers. Whereas the settlement offices provided and demarcated the plots for the educational infrastructure, the schools at Kaigat (Kaigat Primary School) and Ndalat (Kamulat Primary School) were built through the Harambee method where the smallholder farmers contributed in monetary and non-monetary terms. For the overall health and well-being of the smallholder farmers, the settlement office allocated a two-acre plot and mandated the Reformed Church of Eastern Africa to construct and house a healthcare facility at the Ndalat township and provide subsidized healthcare to the smallholder farmers in the scheme.

A pioneering farmer/former senior settlement officer, Mr John Kosgei also contributed to the discussion;

The initiation of the settlement scheme in 1962 was funded by the British Government and West German Government and operated under the LDSB scheme before being handed over to the Settlement Fund Trustees (SFT). The settlement fund trustees initially comprised three ministries; the Ministry of Finance, the Ministry of Agriculture and the Ministry of Economic Planning and later incorporated the Ministry of Land and Settlement in 1963. The SFT had four directors from the ministries who were tasked with the planning of the transfers of the settler's farms to the new African smallholder

(Oral Interview, pioneering farmer/former senior settlement officer, Mr John Kosgei, February 12th 2021).

This oral history has been validated by Von Pischke(1977) alluded to the fact that settlement agriculture was propped by international credit schemes from the British and German Governments and the IBRD and CDC and started in 1961. The land loans had a 30-year repayment period while the development loans had a 10-year repayment period at an annual interest rate of 6.5% but the land loans in the High-Density schemes catered for 100% of the purchase price and 90% of the purchase price in the Low-Density schemes. The repayments trends in 1963 were favourable with 90% repayment (IBRD schemes) and 70% repayment (HMG schemes) (Department of Settlement Annual Report/62/63). By 1966, loan repayments were significant but there was an average outstanding land settlement loan of 3,700 shillings per plot and 2,600 shillings in development loans (Department of Settlement/Annual report/65/66).

The Individualization of Land Tenure in African Areas

Individualized land tenure became an essential feature in agricultural development throughout the world but also which practices are relevant for development. A point for further elaboration is how this was linked to issues of land tenure(Hebinck, 1998). Thurston (1987) observed that the Swynnerton plan of 1954 had planned for the individualization of the titles within 15 years and with the progressive evolution of the agrarian revolution in the African areas. The debate on individualization of the land tenure systems in post-colonial Kenya has been overshadowed by the social stratification brought out by settlement schemes (Leo, 1984; Leys, 1971) and the politicization of land issues (Kanyinga, 2000). When all matters are taken into consideration, there is still some controversy that arose immediately after independence when politics overshadowed the economic development in nascent independent Kenya (Branch & Cheeseman, 2006).

A former cooperative inspector, Mr. Tarkwen also elaborated on the settlement activities during the initiation period.

The LDSB - settlement scheme introduced a private land tenure system where the land was allocated to individuals. This land tenure system aided the processing of financial capital for the development of the farms. For instance, the smallholder farmers in the settlement scheme were able to access 10-year development loans from the LDSB scheme based on their land allotment letters. To that effect, virtually all the development loans were repaid within the specified period as any defaulting smallholder was replaced by the settlement officials. Whereas the settlement activity began in the early 1960s, the land was largely held by the LDSB and then SFT as the creditors of the settlers. The land registration of the settlement land began in earnest in the early 1970s with the confirmation of the settler's title against the original letters of allotment but land titles were not issued to the settlers until they had settled fully all the loans that were accrued to settlement fund.

At the initiation, the new settlers were paid sixty shillings for the first three months to sustain them during their transition period. Originally, the farm financing arrangement was carried out by the LDSB who offered land and development loans which were to be repaid concurrently. Because of the collateralization of the land titles during the establishment of the settlement scheme, many farmers could not access AFC loans. The settlement store had an office which was run by Dalgety Company Limited and each smallholder was to acquire the items on credit and the transaction was recorded by the clerks (Oral Interview, former cooperative inspector, Mr. Tarkwen, February 15th 2022).

The Agrarian Revolution in African Areas Before Independence

Upon the initiation of the Swynnerton Plan, the agricultural output from the African areas tripled in between (Leys, 1971) and grew fourfold by 1968 (Thurston, 1987). The Swynnerton Plan initiated a shift in emphasis in Kenya's agrarian policy from large-scale European farming with subsistence African agriculture to commercial peasant agriculture and its programmes have continued to form the basis of policy for Kenya's small farms sector (Thurston, 1987). The colonial legacy of European settler agriculture formed the long-term economic and social development in Kenya (Fibaek, & Green, 2019). Since the Swynnerton Plan's inception in 1954 through the first decade of Kenya's independence, the official agricultural statistics show steady growth in farm output and income on smallholdings with an estimated gross farm revenue of African smallholdings rising from under eight million pounds to over 34 million between 1958 and 1968, an increase of 425% (Thurston, 1987).

In the Nandi region, cattle sales constituted a major agricultural activity and the earnings were about £204,382, with hides and skins recording remarkable increases topping up to £44,590 and £12,451 respectively. Sheep and goat rearing was diminishing because of the need for tethering and paddocking. Bush clearing and enclosures gradually killed apiculture on the traditional model (DCNAN/1/30/1957). By 1959, the Department of Agriculture gradually introduced exotic European cattle breeds to selected people in suitable areas and implemented in 1960 when some 300 farmers bought exotic cattle breeds (DCNAN/1/33/1960). Maize cooperative societies flourished in the Nandi district, delivering 49,279 tons of maize to the agricultural produce control depot in 1954 (Colony and Protectorate of Kenya Report, 1955). In 1955, 24 new cooperative societies were initiated in Nandi district and overall maize deliveries from the district stood at 77,588 bags— constituting 14.36% of the total maize deliveries for Rift Valley Province as a whole (Colony and Protectorate of Kenya Report, 1955).

Estimates of the national income earned by African producers of dairy products in 1960 was

£193,000 of the £4.9 million in sales. This was attributable to approximately 65% of the large-scale dairy farms being located in the scheduled areas (De Wilde et al., 1967). In 1960, the small-scale sector contributed to about 32% of the gross marketed agricultural output but by 1967, the small farm holdings contributed to approximately 50% of the total output. By 1966, the estimated real gross farm revenue from dairying on small farm holdings had risen by more than 60%. This tremendous increase in productivity resulted from the adoption of sound farming practices coupled with the strengthening and reorganization of institutions such as cooperative societies (Von Pischke, 1977).

The Agricultural Development of the Settlement Schemes in independent Kenya

Besides the agrarian revolution introduced by the Swynnerton plan, the settlement schemes were central to the agricultural development in post-colonial Kenya. First, the LDSB schemes were supported by agricultural extension services, supervisory mechanisms, loan facilities, and economic as well as social infrastructure facilities. The colonial agricultural policy was instrumental in overseeing the agricultural development in the settlement schemes as observed by a farmer, Mr Kiptalam Seurei (Oral Interview, March 22nd 2023).

The white settlement officials were instrumental in the economic development of the settlement schemes. The proximal and regular supervision and monitoring of the smallholder farmers in the settlement schemes were geared towards inculcating agricultural development in the settlement scheme by ensuring that agricultural productivity and technology transfer were achieved. Ndalat settlement scheme also provided a development recourse into the African reserves through trade in exotic cattle and hybrid seeds. The scheme only permitted a maximum of three dairy cows and calves and any surplus dairy cows and bullocks were not allowed and this enabled the farmers to trade

the extra stock with the individuals in the African reserves.

This was further elaborated by a pioneering farmer, Mr Kipkosgei Butuk;

After land allotment, farmers were given 4 pedigree animals, and milking equipment (cans, buckets, etc). Other equipment provided included barbed wire, poles, and fencing apparatus. Farm planning as initiated by the settlement office called for $\frac{1}{3}$ of the land for crop production and $\frac{2}{3}$ for livestock production under the animal rotation (Oral Interview, Pioneering Farmer, Mr Kipkosgei Butuk, May 9th 2022).

The settlement scheme initiated significant changes in the agricultural activities as the white settlers had left some considerable land holdings untouched and this was maximized by the smallholder farmers. The settlement scheme was able to triple the milk production from 160 litres to over 500 litres per day and increased the land under agricultural production. This development was supported by the GMR – guaranteed loans were favourable to the farmers as it enabled the farmers to benefit from the insurance scheme as the farmers were able to undertake crop production without the fear of losses (Oral Interview, Farmer, Mr Kipkosgei Butuk, May 9th 2022).

The economic activities in the Ndalat settlement scheme revolved around mixed farming activities of maize and milk production as informed by Former Agricultural officer, Mr Nathan Koisir (Oral Interview, April 1st 2020 had this say on the developments brought about by the colonial agricultural policy;

Since the weather patterns in the Ndalat Settlement scheme were more favourable for maize production all over the year with minimal rainfall variation. The maize planted by the plough was spaced $2\frac{1}{2}$ feet by $\frac{3}{4}$ feet with a 50 Kg bag of imported phosphate fertilizer per acre. Weeding would be done by the family or the community would form

social groups also called 'moorik' where weeding was done by the community members at different farms on different days. The top dressing was not widely used as the lands were fertile. Harvesting was also done by the family members or community members and shelling was done manually by family labour before the introduction of a sheller. The only drastic climatic change was the drought in 1984 but was sporadic. Most farmers had access to tractors to assist farmers and government agricultural extension officers to ensure yields in maize were sufficient.

The colonial agricultural policy provided extension services to the farmers in the settlement scheme as elaborated by an Oral Interview, with former agricultural inspector, Mr. Kebenei (Oral Interview April 1st 2020).

The settlement scheme offered benefits from the agricultural extension services to the new smallholder farmer through the deployment of six extension officers who were headed by a white officer, Mr. Boader. The extension services were mainly in the form of farm training and management in the production of milk and maize in the scheme. The services were provided at the cost of the development loans but later the cooperative society took over.

The agricultural policy provided one extension officer for every location whose work was to induct farmers into modern agriculture methods. The extension officers regularly visited farmers and consulted them farmers on the most appropriate farming techniques and practices, in addition to holding regular farmers' meetings (barazas). Every farmer attended the field days and Barazas which enabled the information transfers and fostered higher productivity levels in the scheme. The extension officers also helped the farmers with agricultural advisory services and ensured that correct agricultural practices were adhered to such as the control of soil erosion, appropriate

farming techniques, and use of artificial insemination during breeding among others.

A pioneering farmer, Mr Nathan Koisir (Oral Interview April 1st 2020) also observed that the scheme initially provided veterinary services to the settlers.

Ndalat settlement scheme was supplied with sufficient veterinary services and agricultural services. The veterinary services were provided by the settlement office and was headed by Whiteman called Dr. Hansen. Dr. Hansen who was physically located in the scheme in the house of the former white settler was always on call at any time and was supported by four African veterinary scouts who transverse throughout the settlement scheme checking for any animal-related health issues and ensuring the adherence to the objectives of the scheme. There was to be no bull, bullock or ox in any plot in the settlement scheme and any smallholder farmer who had such was forced to relinquish it to the settlement office. The function of the veterinary scouts is to support the provision of veterinary services in the management of disease surveillance and the management of dairy breeds.

Technical expertise in tick control emphasized the application of the dipping method where cattle dips were constructed and operationalized within the scheme. To support the tick control, two individuals were recruited; a dip attendant and an animal health assistant to manage disease control. Sheep and goats were not allowed in the scheme to forestall pasture pressure on pasture. The settlement scheme officials also ensured that smallholder farmers were taken for a one-week training on agricultural best practices in a farmers training college in Lugari where they were trained on modern farming techniques.

The scheme also provided training to the farmers as indicated by former Mosop Agricultural

officer, Mr Lamai (Oral Interview, March 29th 2023)

The settlement scheme trained farmers in animal health and nutrition, and fodder preservation in the form of silage production. Farmers were trained through field days and agricultural tours. During field days, the farmers visited a productive and outstanding farm to learn about the best farm practices. Ndalat Settlement Scheme was recognized nationally for its contribution to agricultural development. In particular, one Farmer Mr. Lamai was recognized and awarded by the then President Kenyatta for being the national champion in the smallholder farming category.

Other avenues for training took the form of agricultural tours within the district, the Lessos Settlement Scheme and other districts such as the Kiambu and Nyeri Districts. Farmers were also taken to farmer training colleges such as Kaimosi and Chebororwa Farmers' Training College for one-week training on-farm practices and agricultural productivity. The farmer training was either general or specific and centred on specific objectives such as dairying and agronomy. Further, farmers also attended training in Eldoret Agricultural Training College at Chepkoiel (Currently University of Eldoret) for farm managers only and farm machinery purposes.

The agricultural development in the Ndalat Settlement Scheme took a notch higher when the post-independence government introduced smallholder farm competition. This was used to motivate the smallholder farmers to improve their farming practices as well as productivity. The initiative was the creation of the Ministry of Land and Settlement under the Department of Agriculture to encourage farmers to improve their productivity. One exemplary farmer, Mr. Lamai started the paddocking method in 1969 for rotation, grew Rhodes grass, oats and maize as required and kept farm records. He

started producing high quantities of milk such that in 1972, the settlement officials visited him and trained him in farming techniques. He entered the regional farming competition under the 'Angaine' Cup which was held in Eldoret for the North Rift Region. He won the trophy in 1972 and went to national competition and became national champion in 1972 and was rewarded by then President Jomo Kenyatta. In 1974, Araap Sang later participated in the competition and won in the North Rift region but lost the national competition. In 1977, Mr. Lamai participated again and won in the North Rift Region and became the national champion the same year.

The Economic Development of the Rural Areas in Independent Kenya

The outcomes of the agricultural development were evidenced in the 1970s as the economic transformation occurred in the settlement scheme.

In the late 1960s, a significant number of farmers were able to build houses using corrugated iron sheets, and educated their children at younger ages to high school level, while some bought farm implements such as tractors, ploughs, planters among others. The economic empowerment initiatives were partly driven by the developmental demands of the government officials who were tasked with monitoring the progress of all settlers.

In the 1970s, the agricultural development at the settlement scheme never encountered any significant challenge because SFT oversaw the agricultural transformation. The economic transformation occurred in the Ndalat Settlement Scheme with the support of the SFT as operations ran smoothly. The maize production increased three-fold in the successive years after the adoption of hybrid maize and the application of fertilizer. Overall, the living standard of the smallholder farmers improved greatly as the farmers were able to increase their consumption patterns and consume products that they could not consume before. Income

was earned at the household level and went to the land owner or the head of the household. The income earned was used for several uses such as investments in land, paying school fees and savings (Oral Interview, Pioneering farmer Mr. Kipkoech Rono, March 20th 2021).

The settlement scheme also promoted the economic infrastructural facilities such as roads as observed by the former agricultural inspector, Mr Kebenei (Oral Interview, May 28th 2022).

The road infrastructure within the Ndalat Settlement scheme was managed by the LDSB. All the farms had access to a feeder road which was murramed and well maintained. However, water was not accessible and thus farmers had to take their herd to either the Sosiani or Lemook rivers. However, there was a borehole at the 'Kaptigilis' and an elevated storage tank at 'Kapsigirio/KapBruce'. There was a hydra – pump that pumped water to a common trough for the animals. Later on, the Ndalat Farmers' Cooperative Society maintained the road infrastructure within the settlement scheme until it collapsed in the 1990s.

The farm economic survey was headed by Mr. Joshua Kiprotich Araap Too who safeguarded the farm settlement property such as jerrycans, chain among others, oversaw the farmers' schedules the farming arrangements and production schedules. He visited all the farms and documented all income sources from the farm, safeguarding the operations of the settlement scheme such as the production arrangements. The Ndalat settlement scheme was also facilitated by the local administrative systems under the sub-chief whose responsibilities included the overall security arrangements for the settlement scheme and coordinating the settlement activities in the settlement scheme. The sub-chief was assigned two tribal police (formerly the Administration police sections) to provide the security requirements.

The former chairperson of the cooperative society also highlighted the significant economic benefits attributable to the establishment of the Ndalat settlement scheme.

The agricultural development in the scheme ensured that farmers accessed good road infrastructure for ease of accessibility to the markets. On the converse, the Africans in the reservations were not able to access goods road networks or infrastructure to support agricultural development. Other important but significant benefits derived from the settlement schemes were reforestation activities where every other smallholder farmer was supposed to grow at least half – an acre of trees that were to be distributed all over the farm. However, it was only the exotic trees like the Cypress and pine that were encouraged as opposed to the indigenous types. This enabled the regeneration of forested areas in the settlement scheme while promoting the growth of tree cover countrywide.

The settlers embraced socio-economic transformation through education as they established three schools within the scheme; Kamulat Primary School (1962), Kaigat Primary School (1965) and Leseru Primary School (1968) where the descendants of the pioneering settlers were educated. Ndalat Secondary School was established in 1977 and is currently known as St. Teresa of Avilla Secondary School. The adoption of formal learning also saw the children from AIC-denominated households receive a secondary level of education at Kapsabet Boys' High School. Further, the scheme maintained the social-infrastructural facilities such as schools, churches and hospitals (Oral Interview, farmer/former chair, Ndalat Farmers' Cooperative, Mr Nathaniel Mengich, November 4th 2020).

The Department of Settlement 1965/1966 annual report indicated that the Ndalat Settlement scheme had over 1,975 heads of cows against the budgeted 1,658 heads with a total productivity of 51 gallons

of milk per head. The scheme underperformed in dairy cattle husbandry and production when compared to other schemes in Eldoret but had repaid over 90% of the annual part of the loans. Ndalat Farmers' Cooperative Society made a total of 332,639 shillings in sales in the 1965/1966 fiscal year of which milk sales contributed 271,001.60 shillings, 900.00 shillings in butterfat and 60,737 shillings in Maize sales (Department of Settlement /Annual report/65/66).

Further, the 1965/66 annual report observed that the production of milk and maize had been sustained as more than 30,000 acres were grown, while the number of dairy cows in settlement schemes had increased from 80,000 heads in 1964 to 100,000 heads in 1965 but there were shortages in the supply of dairy cows to farmers due to the ongoing operationalization of the Million – acre schemes. Further, the report indicated a double-digit increase in the uptake of the use of artificial insemination in settlement schemes but the settlement schemes faced challenges relating to disease control and clean milk production (Department of Settlement /Annual report/65/66).

The Institutionalization of Cooperative Societies as Marketing Agents

The colonial agricultural policy called for the institutionalization of the cooperative society as vehicles for socio-economic transformation in the settlement schemes. The cooperatives were formed in the settlement schemes for bulking and sales of the produce for forward transmission to marketing bodies, supply of seeds, fertilizers and agricultural requirements to its members. The Department of Settlement's annual reports indicated that the first producer cooperative society was created in October 1962 and by 1963, their number had risen to 34 with the expectation of over 120 cooperatives to be established (Department of Settlement/Annual reports/62/63).

In line with the expectation of the SFT officers, the Ndalat Farmers' Cooperative was supposed to underpin the desired economic and social change in the Ndalat Settlement Scheme. As a former

agricultural inspector, Mr Tarus, (Oral Interview, May 5th 2022).

The SFT offices advocated for the socio-economic aspects of the settlement scheme in the form of the Ndalat Farmers' Cooperative Society which was established within two years of the establishment of the Ndalat Settlement Scheme. At first, the fiscal arrangement including marketing of the milk and maize produce from the settlement and the repayment of the loans was done at the local settlement offices headed by the white settlement officer called Mr Gibson and supported by an African assistant settlement officer with service providers being Smith and Steinkamp and Dalgety Ltd.

The cooperative society was oversight by a cooperative Inspector, Mr Tarkwen whose responsibilities ranged from overseeing the milk production levels, to overseeing the annual general meetings and special general meetings (for the special events such as the agricultural, veterinary and health challenges faced by farmers) for the cooperative society, liaise with veterinary doctor on the challenges faced by farmers, oversee the maize production levels, ensure proper recording of smallholder farmer production arrangements, undertake proper record keeping.

Once established, the Ndalat Farmers' Cooperative Society was operationalized by the settlement offices, all the farmers were to register with the cooperative and production quotas were allocated to each farmer. For instance, each smallholder farmer was supposed to deliver at least 50 litres of Milk daily and a minimum of 50 90-kg Bags of Maize annually.

In support of this arrangement, Leys (1971) observed that produce from the settlement scheme passed through the cooperatives as their marketing agents to ease the loan payments. The cooperatives in the settlement scheme were more like service organizations for the administration

facilitation of loans of payments and marketing and supply of limited services such as livestock dipping and artificial insemination (Leo, 1984).

Farmer/retired senior settlement officer, Mr John Kosgei (Oral Interview February 12th 2021) also highlighted the impact of cooperative societies in the Ndalat Settlement Scheme.

The Cooperative society also acted as an agent for the farmers in the acquisition of farm inputs and implements. The society would acquire farm inputs such as seeds, fertilizer, milk jerricans, milking tools, animal feed, farming implements and tools and many other equipment. This financial arrangement ensured that the farmers were able to efficiently access any requisite tool, implement, feed, seeds and fertilizer at low prices either on a credit or a financial arrangement with the seller. The bulk acquisition ensured that the farmers gained from this financial arrangement through low prices, accessibility and effectiveness.

The cooperative also acted as the clearing house for the settlement financial arrangements where the farmers' records for all the settlement and development loans were kept. The accounting clerk at the cooperative society maintained the ledger accounts for every farmer in the scheme, their outstanding settlement and development loans, their farm produce and total sales. In this manner, the settlement loans would be deducted every six months and transferred to the settlement authorities and later the Ministry of Lands.

Ndalat Farmers' Cooperative Society served another important function of supporting the farmers in their agricultural endeavours as elucidated by a former cooperative inspector, Mr. Tarkwen (Oral Interview, February 15th 2022).

The cooperative society also accessed extra animal health and nutrition requirements that were formerly provided by a white veterinary officer who was based in Eldoret. The veterinary officer provided the required advisory service on animal health and

productivity during the regular drenching days. For instance, the veterinary officer visited the different cattle dips on different days to examine the state of the animal's health and nutrition. During these days, each farmer brought all his/her herd to be examined and recorded and the officer would dispense advice on the state of the herd in terms of nutrition requirements for each cow among other things.

More information was drawn from farmers/elders, in Kapsigirio village) Mr Anthony Sitienei (Oral Interview, September 15th 2020) on the activities of the Ndalat Farmers' Cooperative scheme.

The cooperative society also supported technology infusion by providing subsidized AI straws for inseminating cows. The settlement offices initially provided AI straws for inseminating cows at Kshs. 2 per straw for all cows in the settlement scheme. The artificial insemination service was arranged by the veterinary scouts who were trained on the insemination technique and were to move around the scheme daily as they provided other services like animal disease surveillance. Later on, the cooperative society took over the AI services and was inseminating the cows at Kshs. 10 per straw.

The Ndalat Farmer's Cooperative Society was able to acquire three tractors which were used for land preparation and planting. This enabled farm mechanization within the settlement, a fact that enabled efficiency in ploughing, and planting of the main crop, maize. The cooperative was able to run the mechanization programme for as long as the farmer collectively 'sold' their produce through the cooperative society.

Kenyanjui (1992) noted that colonial agriculture dictated that smallholder farmers in settlement schemes form cooperative societies to pool and bulk their production to meet the processing and marketing arrangements that were roped into a monolithic arrangement with KCC and Kenya Farmers Association.

The Institutionalization of the Regulatory and Marketing Boards

Based on the Masterplan for the Ndalat settlement scheme (Ndalat Masterplan TR/8/T572), there were three marketing boards; the Kenya Meat Commission for the beef, the Kenya Co-operative Creameries for the Milk and the Kenya Farmers Association for the Maize. All the produce from the scheme was to be registered, transferred and collated at the Ndalat Farmers' Cooperative Society.

The smallholder farmers' produce, milk and maize were marketed through monopsonies in the form of Kenya Farmer's Association for the maize and Kenya Co-operative Creameries for milk. This process involved a specific arrangement where all the farmers were to collectively register as members of the Ndalat Co-operative Society at the initiation stage and buy an equal number of shares in the cooperative. Before, the establishment of the cooperative society, the settlement office was the main buyer of the farmers' produce and was the only person who handled the produce. There were to be no other buyers of farmers' produce in the settlement scheme. As per the settlement offices, the social function of the settlers in the Ndalat settlement scheme was undertaken by the Ndalat Farmers' Cooperative Society (former agricultural inspector Mr Tarus, Oral Interview, May 5th 2022).

The settler bodies such as the Kenya Cooperative Creameries (KCC), Kenya Farmers Association (KFA), the Kenya Coffee Producers Union (KCPU), and Kenya Nation Farmers Union (KNFU) dictated that marketing arrangements for the settler – agriculture through monopsonistic structures. This colonial relic has been largely maintained with no major tweak in post-colonial Kenya (Leys, 1971) and is supported and aligned to the nationwide strong cooperative sector at the local farm levels, whose alignment largely influences the farmer's returns.

Leys (1971) also noted that in the late 1960s, the African government continued with the institutional arrangements of the nationwide cooperative and marketing boards as opposed to the market liberation. The preference for marketing boards as opposed to free markets distorted pricing discovery and production efficiencies as marketing boards incurred large subsidies and treasury costs, and eventually contributed to fiscal crisis and agricultural policy failure (Jayne & Melinda, 2005)

Other important economic impacts of the colonial policy included land tenure systems through land registration and, technology transfer among other significant economic benefits as indicated by the former agricultural inspector, Mr. Kebenei (Oral Interview, May 28th 2022).

The smallholder farmers were able to benefit from the agricultural development brought by the settlement schemes. The varied benefits ranged from the individual ownership of the land which allowed them to commercialize the smallholding and generate substantial economic return from the production of maize and milk. In comparison, peasantry and subsistence farming were rife in the Cheptil reservation which bordered the scheme.

The technology transfer in the settlement scheme enabled the smallholder farmer to access extension services, keep exotic dairy breeds, plant hybrid seeds and use inorganic fertilizer which resulted in high returns. Smallholder farmers in the settlement scheme were able to produce over 20 to 30 litres from one dairy which was superior to the productive potential of indigenous cattle in the neighbouring African reservation in the Cheptil area. Most of the Africans in the reservation kept a large number of herds of cattle with the highest milk production of the indigenous cattle being one or two litres.

The Ndalat settlement scheme also promoted the development of the African reserves through attitudinal change in crop husbandry. The African reservations in Simat,

Kaigat, Kabyemit, and Cheptil benefited from the technological transfer in terms of the acquisition of modern breed cattle in terms of surplus bullocks and heifers which were disposed of by the smallholder farmers in the settlement schemes. The reservation also benefited from the adoption of input facilities such as hybrid seeds and fertilizers, and the adoption of AI services which spilt into the reservations. Individuals from environs would take their cows for AI serving which was based at 'KapBruss' (Former Mosop Divisional Agricultural officer, Mr Morton Lelei, March 22nd 2023).

At the macro-economic level, the agricultural development in independent Kenya stalled after independence due to several factors that included; a lack of critical capital outlay in terms of human technology and finances, the pursuit of the metropole ideals and the nascent industrialization bases. In essence, this limited the policy options and thus the developmental paradigms were modelled after the colonial economy which was orientated towards the export of primary produce. The metropole orientation meant that the country could not access other markets unless those were offered by the colonial master and thus the farmers could not benefit from a large market pool (Chune, 1997). At independence, Kenya turned into an agricultural economy, with a narrow focus on economic diversification (Oloo, 2020).

CONCLUSION

Based on the discussion and analysis, the paper makes the following conclusions.

The colonial agricultural policy embedded land redistribution and promoted agricultural development in the African areas shaped the political and socio-economic events in Kenya and laid the foundation for the Million – Acre schemes that succeeded the LDSB schemes. The policy contributed to the individualization of the land tenure systems in Kenya as it enabled Africans to register their smallholdings in the scheduled areas. The colonial agricultural policy holds the legacy of having initiated and institutionalized

smallholding mixed farming agricultural systems in Kenya and contributed to the commercialization of food production as opposed to high-value crops. The policy also suppressed the development of competitive market pricing structures for agricultural commodities as it preferred the use of marketing boards which operated under political influence.

Recommendations

Considering that the colonial agricultural policy has a legacy which cannot be undone because of the social, economic and political pressure on land and productive capital in Kenya, the study proposes the creation of alternative and viable efficient market structures through the use of information technologies to ensure that farmers are achieving maximum returns on the labour. Lastly, because of the limited land sizes, the prospects of diversification crop production in the Ndalat Settlement scheme offer economic alternatives. Either high-value crops such as coffee can be grown as they are suitable to the agro-ecological zone (coffee plantations were uprooted during the establishment of the settlement scheme) or prevalent subsistence diversification through the growth of dry weather-resistant crops such as bananas, cassava and potatoes.

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