Historical Evaluation of Agriculture Settlement Schemes in Sri Lanka: Development Lessons

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Abstract: Agriculture settlements have been the mainstream of Sri Lanka’s development agenda since the 1930s to 1980s. It has rich experiences, particularly in the planning and implementation stages, which later resulted in many issues in the schemes. Thus, this study aimed to review existing knowledge on developmental experiences during the planning and implementation stages of the agriculture settlement schemes in Sri Lanka. Here, the study applied the content analytical technique. The review commenced under four areas of the subject – 1) errors in settlement planning, 2) errors in the administrative mechanism, 3) problems related to economic returns, and 4) issues in the land legislation. In the concluding point of the review, the study exposed the importance of considering developmental experiences in the future planning of agriculture settlement schemes in the country.

Keywords: Agriculture settlement schemes, Economic return, Land legislation, Settlement planning, Sri Lanka

I. INTRODUCTION

Agriculture Settlement Schemes are the main agriculture development program implemented in the dry zone of Sri Lanka since the 1930s. The primary objectives of settling people in the country’s dry zone under the Settlement Schemes at the early stage were to enhance food production, address the land scarcity issue arising due to the high population pressure in the wet zone, eliminate the land issue among the poorest of the poor, protect peasant farmers, generate employment opportunities using unused land resource-base in the dry zone, resolve the potentially serious political problems resulting from the existing agrarian structure, upgrade the gross national product, and accelerate economic growth (Farmer, 1952; Farmer, 1956; Dunham, 1982). Later, the generation of hydropower, promotion of industrial based –agro-based industries in particular– and promotion of export crops were the added objectives to the settlement schemes (Chandrasiri, 2010). The contribution of the Agricultural Settlement Schemes to the national economy is massive and could be viewed differently. According to the Department of Land Commissioner (2006), 1,166,762 people were settled in various settlement schemes, allocating 2,042,336 acres by 2006. As a result, the country could increase paddy production from 604 mt in 1952 to 3,341 mt in 2006, contributing to strengthening the food security status of Sri Lanka (Department of Census and Statistical Department, 2014). By the 1970s, 35% of total paddy production existed in the major irrigation schemes, and the settlement schemes provided livelihood opportunities for many land hunger families, particularly in the wet zone.

During the colonial period, the concept of agriculture settlement schemes in the dry zone of the country emerged initially, mainly due to food security requirements that occurred after World War I. The British recognized the importance of establishing food security status to support the smooth functioning of the country’s colonial activities. Moreover, the increased population in the wet zone puts pressure on the per capita food availability in the country and existing land in the wet zone. It made colonial attention over domestic agriculture in addition to plantation agriculture.

Specifically, under the Crown Land Ordinance of 1840, the crown was given the authority to acquire any unused land and grant, sell, or lease such land to individuals or institutions (Law & Society Trust, 2015; ayawardena, 1990). It increased the plantation economy in the wet zone, limiting the land available to local inhabitants. According to Madduma-Bandara (1990), the Crown Land Ordinance of 1840 led to converting 90% of the total land extent of the country to Crown property. This later led to high population pressure over land, increasing the number of land hunger people in the wet zone. From a colonial perspective, an increased number of land hunger people in the wet zone could be a threat to the colonial plantation agriculture sector centered in the wet zone. Thus, the provision of settlement opportunities for land hunger people in the wet zone was recognized as a measure to address predicted threats to the colonial based plantation sector.

On the other hand, since the Polonnaruwa Kingdom decline, civilization was shifted respectively from the Rajarata region to the South—West and Central parts of the country over the centuries, beginning from the 13th century to the 18th century (Siriweera, 1993). As a result, the dry zone, particularly the Rajarata region, became a sparsely populated zone, and since the 15th century, the economy was transformed into a Western demand-led agriculture product supply management system (Irangani & Prasanna, 2017). During the British colonial era, agriculture in the dry zone was largely neglected as their primary attention was to promote plantation agriculture.

The first agriculture colonization scheme of the country was established in Kalawewa under direct government intervention as an experimental project in 1891/92, and 26 families from the Jaffna district were settled. The program did not materialize its expected outcomes due to the spread of diseases among the settlers and the settlers’ poor desire to
cultivate. Nevertheless, the settlement schemes established during the 1930s to 1980s contributed immensely to national economic development with quite inspiring experiences, but have made mistakes at different stages of the settlement schemes.

The scholars must perform detailed studies to provide development experience-based guidance to settlement planning in the agriculture regions of the country and developing the nation at large (Zubair, 2005). These mistakes specifically relate to the settlement planning, administrative structures, land development ordinances, economies of scale, economic returns, etc. As a result, a series of issues appeared and persistently continued in these schemes. Informal land fragmentation, agrarian poverty, low income, out-migration, and administrative issues have been most cited in the literature (Prasanna, 2020; Prasanna, 2019).

A critical review of errors made in different stages of the settlement schemes is needed to broaden the understanding of the planning and implementation of the settlement projects in the country and developing countries at large. This historical review of agricultural settlement schemes in Sri Lanka attempts to critically review the existing knowledge to a broad current understanding on this topical subject to address this knowledge requirement.

II. COVERAGE OF THE REVIEW

This review used content analytical techniques over historical literature classified at the country level and global level. In this connection, an extensive literature search was performed on the review subject. Specifically, literature related to research subjects available in the Hector Kobbe kaduwa Agrarian Research and Training Institute and National Archives were accessed, in addition to a web search. Global level literature was accessed purely via web search. The key terminologies used in the primary search of the literature were Agriculture Colonization Schemes, Agriculture Settlement Schemes. Agriculture modernization and secondary stage agricultural issues and challenges were used as key terms. In the Sri Lankan context, inclusion criteria, studies, and reports done up to the 1980s were primarily used to focus on the research subject.

III. ERRORS AND ERROR-BASED ISSUES OF THE SETTLEMENT SCHEMES

3.1 Errors in settlement planning

Many problems have later been aroused in the Settlement Schemes due to the issues related to settlement planning at the early stage. Until the 1950s, the objective of dry zone settlement schemes was to settle people, at a maximum rate, without undertaking a proper feasibility analysis on economic, social, and physical conditions. Thus, most settlement schemes later became economically unviable and socially destructive because insufficient attention was paid to product maximization or the other related economic activities that support settlers to derive adequate income; this created specific social issues due to heterogeneity characteristics of the settlers. Specifically, as most settlers were from outside the scheme areas and behaved according to their norms and values, it created a mismatch between their own villagers and outside settlers. Thus, distributional inequality emerged as a critical issue in the settlement schemes. The pre-investment and farm budgetary analysis techniques have been poorly applied, and different social factors such as cast, region, age, education, and experience in farming were insufficiently considered while selecting settlers at the early stage of settlement schemes.

Specifically, a comprehensive, integrated approach in settlement planning was not practiced, and various components of the settlement scheme, such as irrigation, land, cooperative networks, and agriculture marketing, have been designed by various government agencies and departments. By considering this issue, the government established the Settlement Planning and Development Board in 1969 with the representation of the offices of relevant departments to make uniformity in settlement planning. Later it was reconstituted as Land Use and Settlement Planning Authority. However, some reports indicated the difficulty in achieving uniformity in the settlement policy even under the Settlement Planning and Development Board.

The literature cites many problems related to physical planning. In the 1940s and 1950s, the influence of political authority was critical to the settlement process, and thus, people were settled at a higher rate the planned. Soil type analysis before locating the farming systems, irrigation planning to highlands of the schemes, and the technological needs of large farms were not suitably viewed in settlement planning. Farmer (1957) reported the importance of providing irrigation facilities to highland by introducing a lift irrigation system. Specifically, literature has noted a cyclical trend of drought, occurring at high intensity in three- to four-year intervals (Prasanna, 2008). In 1956, initiatives were taken to provide irrigation facilities to the highlands of the settlement schemes through lift irrigation systems. For instance, lift-irrigation systems were introduced to the Rajanganaya Settlement Schemes in the 1970s.

The land size (Mud-land and Up-land) given to the settlers have not been decided with proper analysis over the scale of economies. Later, it was realized that less productivity and efficiency of the farming system were due to resource management difficulties in the settlement schemes due to the holding size. For instance, at the early stage of the settlement schemes, each settler received 10 acres of mud-land and 05 acres of upland for farming. This was not based on scientific analysis of the scale of economies or capability level of the settler in managing farm activities. Due to the resource management problems experienced in the settlements and land scarcity, land size allocated to the settlers was reduced to 2.5 to 3 acres of mud-land and 0.5 to 1 acre of upland by the 1960s to 70s.
Moreover, livelihood opportunities for second and third generations of the settlement schemes have not been adequately considered at the settlement planning stage. There were some considerations over agro-based industrialization in the agriculture region, thereby increasing the value-added to the farmer product and generate off-farm employment opportunities for the people in the agriculture regions. However, a good industrialization process has not started in the settlement regions, and later it resulted in higher demand for allocated land in the settlement schemes due to the population pressure resulting in informal land fragmentation, out-migration, and youth unemployment in the schemes.

For addressing the emerged concerns regarding the settlement planning, the Land Use and Settlement Planning Authority made specific criteria for introducing new settlement schemes and proposed to approve the new settlement schemes based on a comprehensive evaluation of those criteria. The derived criteria were,

- Design and present a comprehensive and realistic settlement plan based on physical, agronomic, social, and economic survey findings.
- Present a financial feasibility analysis to assure that the proposed settlement scheme could derive reasonable return over initial investment and sufficient income to the settlers.
- Present the details of funds – for capital and recurrent expenditure availability to complete the proposed settlement
- Present the competency of staff to guide and train the new settlers
- Present the implementation stages moving towards realizing the objectives of the settlement

### 3.2 Errors in the administrative mechanism

The administrative mechanism introduced to the major settlement schemes were the rigid and weighty system of management. This mechanism’s main functions were to supervise the settlers in each scheme and protect the government investments. This mechanism has specifically created a paternalistic attitude to the settlers and constrained to emerge potential colonies.

The specific feature of the administrative staff of the major settlement scheme was that most of the staff members lacked basic knowledge or training on agriculture activities and agriculture-related management matters. Thus, their administrative decisions were not mostly supportive of the development of these settlement schemes or moved to the next development stage, which is most important to address the needs of second and third generations of the settlers. It further resulted in suppressing the indigenous nature of the leadership in the farming system and thereby created individualistic thinking patterns among the settlers concerning farming and other matters.

Further, there was no centralized management system over the agriculture settlement schemes, and various government departments, i.e., irrigation, agriculture, land commissioner’s department, Mahaweli Development Authority, had the authority to handle the related matters in the schemes. Thus, the decision-making process over settlement scheme-related matters was neither effective nor supportive of the development.

By considering these administrative-related matters, the government took initiatives in the 1970s and 1980s to transfer some responsibilities of the administrative staff to the elected people organizations, later to the farmer organizations. This resulted in improving farmer participation in administrative matters and taking the farming level experience into the policymaking process.

The overuse of irrigation water at the beginning of the season led to water shortage during the latter part of the season. The result was the weakened economic returns of most settlement schemes due to less cultivation and the failure of the settlement schemes (Abeygunawadane, 1992).

### 3.3 Problems related to Economic returns

At the early stage of settlement schemes, the primary objective was to get the land developed by settling people as much as possible at any financial cost. It did not account for the economic returns or viability of settlement schemes adequately, which could be viewed at different stages.

First, while selecting settlers in the early stage of settlement, authorities have not sufficiently focused on the people who have experience in farming, interest in agriculture, or have the ability to derive maximum economic production. This was later realized as a factor which hinders the financial returns of settlement schemes and thereby a growth retarding factor. As a result, perception with regard to settlement schemes at the policymaking level was redefined that settlement schemes should be established as growth demonstrating centers of the economy. By the 1960s, new settlement schemes were established focusing on youth and educated people, and adequate training was provided on agriculture activities. By evaluating over 12 economically successful youth settlement schemes, Land Commissioner Department (1972) reported that youth earnings were above the expected and further noted the correct selection of settlers as a determinant of the success of settlement schemes. It revealed that these experienced and educated settlers come up with innovative ideas contributing to modernize their farming technically and economically.

Second, in the early state of the settlements, the economically feasible or manageable land size was not determined through a scientific analysis when the land was given to the settlers. Economically feasible land size would change according to a scheme based on various factors such as climatic conditions, weather patterns, soil conditions, and farmer-to-farmer on their resource management capability, financial capital strength, and farming experiences. Until the 1950s, in some
settlement schemes, each settler was given 10 acres of mud-land and 05 acres of upland. It was realized later that most farmers could not manage such a large-scale holding, and was later reduced to 05, and then 2.5 acres of mud-land and 01 acre of up-land, respectively. However, some reports highlighted that land size of 2.5 acres of mud-land was not sufficient to derive adequate farming income for the settlers. Thus, by the 1970s, new approaches were proposed to the farming systems in the settlement schemes, such as the cooperative or collective approach, new technologies for intensive farming, and cash crops to the farming in the schemes.

Third, it was recommended to introduce irrigation planning to up-land of the settlement schemes to promote short-, mid- and long-term cultivations of the farmers (Farmer, 1957). It was expected to make economic stability among the settlers in the schemes and derive sufficient income for settlers, particularly in the off-season. For instance, the lift-irrigation system was introduced to the Rajanganaya Settlement Scheme in the 1970s, which could be recognized as one of the most successful settlement schemes in the agriculture colonization history. Specifically, farmers in this scheme could access the export market in the 1980s, and most farmers in the Rajanganaya Scheme today grow vegetables, specifically in the off-season.

Fourth, the modernization of farming systems in the settlement schemes was brought into attention since the 1960s due to the less economic returns. This was mainly due to issues in the planning stage of the settlement schemes. The matters on the productivity and efficiency of the farming system were later concerned. Thus, the importance of the role of effective extension network, marketing cooperatives, agriculture credit provisions, and participation of farmers in the administration and policy-making levels were recognized to enhance the productivity and efficiency of the farming in the settlement schemes. Particularly, lack of formal sector agriculture credit provisions for farming activities is still a matter in the Agriculture Settlement Schemes, though, since the 1960s, it was recognized as a barrier to enhancing the productivity and efficiency of farming activities. This is evident from the most prominent role of informal money lenders in the agriculture credit market. Specifically, the highest number of suicide cases were reported in the agriculture colonization schemes during the 1980s and 1990s. For instance, in 1989, the highest number of suicide cases reported in Matale, Hambantota, Anuradhapura, Badulla, Monaragala, and Rathnapura, the agriculture-based districts, was due to the consumption of agrochemicals.

3.4 Issues in the land legislation

By the 1930s, there was a contentious discussion over domestic food production due to the increasing population in the wet zone. It was recognized that farmers underutilize farming resources. The Land Development Ordinance of 1935 was enacted to facilitate the government settlement schemes alienating Crown Land to the landless people. Under this ordinance, the land was allocated for the people, considering landlessness and social needs. Thus, it reflected the increasing concern for food production and protecting peasant farmer rights. The ordinance has established regulatory provisions with limitations by preventing transfer, mortgage, sale, or subdivision of holdings.

The colonial criticism over this matter was that certain provisions that limit transfer, mortgage, and sale or subdivision of holdings do not promote the free market conditions and economic individualism, which need to encourage efficient farmers. Another objective of giving a fixed quantity of land is to maintain equality among the settled farmers in the schemes (Abeygunawardhane, 1992). According to Tambias (1958), the conditions – colonists cannot lease, mortgage, or sell his land, and holding must pass one successor only – are contrary to the local customs and adversely affect the farming systems’ economic process. Due to the first condition, Ande and sharecropping systems were spread in the settlement schemes making the farming less efficient. This argument was raised because some farmers in the settlement schemes were not active, some were in a position to become large-scale farmers, while some were in a position to sell their part of holdings due to incapability in managing the holdings. Another argument is that this restriction leads to informal credit market activities in the settlement schemes, which is still visible in the schemes.

Further, the ordinance restricts the land fragmentation in the inheritance process. The economic rationality of this provision is the scale of economies. Also, non-impose of such restriction would result in small farmers becoming smaller and poorer, while a few large farmers becoming rich. Later it would widen the economic and social inequality in the settlement schemes even though all settlers were in a similar condition at the early stage. However, the lack of off-farm employment opportunities for the second and third generations of the settlement schemes put pressure on the existing landholding of settlers leading to information land fragmentations and transactions in the schemes. Informality in land ownership leads to deterioration of the return of investment in the long-term and creates farm management issues at the farm level (Chandrasiri, 2010).

IV. CONCLUDING REMARKS

This study aimed to review the existing knowledge of critical errors made in the establishing and implementing stages of the agriculture settlement schemes in Sri Lanka. The review discussed four areas of the subject – errors in settlement planning, errors in the administrative mechanism, problems related to economic returns, and issues in the land legislation.

First, the study identified non-undertaken feasibility analysis on social, economic, and physical conditions of schemes before settling the people, non-acknowledgment of heterogeneity characteristics of the settlers at the initial stages of settlement planning, lack of integration among key
institutions involved in settlement planning, non-designing of irrigation planning to the uplands of the settlement schemes, non-assessment of the scale of land holdings and inadequate attention to employment opportunities for the second and third generations of the schemes at the settlement designing stages as core issues, which later resulted in multiple issues in the agriculture settlement schemes in Sri Lanka.

Second, the study identified issues related to the administrative mechanism established in the settlement schemes. Specifically, it was a weighty management system that created a paternalistic attitude to the settlers and constrained the emergence of new potential colonies. There was no centralized management system to support the development of schemes and enhance efficiency and productivity of the farming system. Lack of knowledge of administrative staff regarding agriculture matters was recognized as a significant issue in the administrative mechanism.

The third review revealed the problems related to the less economic return of the settlement schemes. Lack of farming experience in settled families, non-determination of economically feasible and manageable land size for farmers, failure in designing irrigation facilities for upland in the settlement schemes, and lack of institutional support to the farming were recognized as significant concerns related to less economic returns of the settlement schemes. The increased number of suicide cases in the 1980s in the agriculture settlement schemes reflected the severity of these issues.

Fourth, the study identified specific issues related to the Land Development Ordinance of 1935. The literature provides different views over regulatory provisions with limitations preventing transfer, mortgage, sale, or sub-division of holdings. However, these provisions have resulted in informal land fragmentation, indebtedness among the farmers, spread of informal credit market activities in the market, and farm management issues in the scheme. The review results further presumed a wider spread of economic and social inequality in the settlement schemes if the imposed restrictions over land were removed.

REFERENCES