

## **Capitalist Pigs: Governmentality, Subjectivities and the Regulation of Pig Farming in Colonial Hong Kong, 1950-1970**

Dr Kin Wing Chan  
Cardiff School of Planning and Geography  
Glamorgan Building King Edward VII Avenue Cardiff Wales CF10 3WA;  
Email: [Chank16@cardiff.ac.uk](mailto:Chank16@cardiff.ac.uk)

Dr Byron Miller  
Department of Geography 328 Earth Sciences Building,  
University of Calgary, 2500 University Drive,  
Calgary, AB T2N 1N4, Canada  
Email: [bavrmill@ucalgary.ca](mailto:bavrmill@ucalgary.ca)

**Post-print. Accepted in Environment and Planning D: Society and Space on 26<sup>th</sup> June 2015**

### **Acknowledgements.**

We wish to thank Alan Smart, Martha Cook, Maria Lam Lai Ling, Chris Bear, and Harriet Sansom for helpful comments on an earlier draft of this manuscript. Our thanks also to the University of Calgary for research grant support and to The Hong Kong Heritage Project for providing access to archival materials.

## **Capitalist Pigs: Governmentality, Subjectivities and the Regulation of Pig Farming in Colonial Hong Kong, 1950-1970**

**Abstract.** This paper analyzes the philanthropic governmentality of the Hong Kong colonial government during the Farm Improvement Program (FIP) (1950-70), focusing on the utilization of pigs, interest free loans, and the spatial constitution of pig farming as technologies to transform refugee farmers into “productive workers.” This research has three primary objectives: to 1) elucidate how the production of knowledge and governing *technologies*, including the spatial design of livestock production, facilitated the disciplining of pig farmers in a colonial context; 2) expand Foucauldian governmentality analysis into the realm of the *regulatory mechanisms of food production systems* by documenting how philanthropic pig donations, lending programs, and the distribution of material benefits promoted capitalist pig production; and 3) demonstrate how technologies—specifically the social construction of pigs and the spatial constitution of pig farming practices—molded the *subjectivities* of colonial pig farmers. Empirical analysis is based on archival research and in-depth interviews with 19 pig farmers and two pig farmers’ association leaders. We identify the provision of free pigs and pigsties, the demonstration of new spatial pig raising practices, and the establishment of interest free lending systems as the major technologies of governance employed under the FIP. Through these technologies refugee farmers from mainland China learned and internalized concepts of efficiency, productivity, farm management, and self-help. The technologies of the FIP were not just philanthropic activities, they were political tactics to confront the penetration of communism into the colony by changing the practices, productivity, and subjectivities of refugee farmers.

**Keywords:** Governmentality, Space, Pigs, Subjectivity, Farm Improvement Program, Hong Kong

## 1 Introduction

As Claude Levi-Strauss once commented, societies recognize an animal's status not because it is “good to eat”, but because it is “good to think” (Levi-Strauss, 1991, page 89). Beginning in the 1950s, the Hong Kong colonial government used animals and farming space to guide destitute farmers to think about productive ways of life, stable food supplies, and rejection of communism—the latter a central imperative created by the establishment of the People's Republic of China (PRC) in 1949 and the resulting influx of refugees into colonial Hong Kong.

In rural mainland China the PRC practiced top-down political control, projecting its power into every village. The PRC exercised control by: (1) creating tensions between landlords and tenant farmers, undermining the authority of the landed classes, and (2) giving land to destitute farmers in order to gain their support and recruit them into the “communist armies” (Schurmann, 1968, pages 430-431). In contrast to the PRC, the colonial government of Hong Kong<sup>1</sup> had long exercised control by regulating landholders through the Block Crown Lease System and through policies designed to win landholders' support. The Block Crown Lease System—enacted at the turn of the 20<sup>th</sup> century—transformed landholders' tenure from freehold to leasehold, weakening the economic power of the indigenous landholding classes in the rural New Territories (Chun, 1991; 2000) and making it an important disciplinary mechanism<sup>2</sup> for the consolidation of

---

<sup>1</sup> Hong Kong was subdivided into three parts – Hong Kong Island, Kowloon and New Territories during colonial rule. Hong Kong became a colony of British Empire after the Nanjing Treaty in 1842.

<sup>2</sup> Under the Block Crown Leases (BCL) system, all urban lands (Hong Kong Island, Kowloon, and New Kowloon) were delineated as crown lands, while the lands in New Territories were leased. Different land ownership systems in urban and rural areas created different physical and social settings, and set the stage for power struggles in agricultural space.

British rule. To control indigenous landholders, police forces<sup>3</sup>, rural committees<sup>4</sup>, and local representative groups (e.g., *Heung Yee Kuk*<sup>5</sup>) were established to promote political loyalty, geographical control, and quiescence (Chun, 2000; Kuan and Lau, 1981). The suppression of rural class struggle was among the more significant material benefits the British colonial government offered to indigenous landholders. Rather than challenging landlords' exploitation of tenant farmers, exploitation of tenant farmers was reinforced. Class exploitation provided economic benefits to landlords, helping to consolidate landlords' political support for the colonial regime (Watson and Watson, 2004). The effectiveness of these control mechanisms became tenuous, however, in 1949.

Fears of the communist PRC government triggered a massive influx of refugees from the mainland in 1949, despite exploitive conditions in colonial Hong Kong. The refugee surge increased Hong Kong's population from 600,000 in 1945 to 2.3 million in 1949 causing political instability, housing shortages, and welfare problems (Blackie, 1972; Hambro, 1955; Mark, 2007). Moreover, in the wider geopolitical context, Hong Kong found itself precariously positioned between the capitalist and communist blocs (Smart 2006). Integrating Mainland Chinese refugees, maintaining stability and food security were crucial to the survival of British colonial rule (Airriess, 2005).

While the interactions between the Hong Kong colonial government and the indigenous inhabitants of the New Territories (Chun, 1990; Hayes, 2006; Watson & Watson, 2004), as well as the lives of refugees in urban Hong Kong (Castells *et al.*, 1991;

---

<sup>3</sup> The establishment of police stations was a means to extend colonial force to the New Territories (Cheung, 1999).

<sup>4</sup> Rural Committees represented the local opinions and maintained close contacts with the District Officers (Kuan and Lau, 1981).

<sup>5</sup> In 1926, Heung Yee Kuk was established to promote the welfare of the indigenous groups and communicate their views to the colonial government.

Smart 1992), have been well researched, the Hong Kong colonial government's deployment of disciplinary techniques to govern rural refugee farmers has received little attention (Airriess, 2005). The significance of the present study lies in its examination of the spatially constituted disciplinary techniques of a philanthropic form of governmentality (Dean 2010), applied with the aim of guiding rural colonial subjects to adopt more productive ways of life and resist communism. Hong Kong's philanthropic governmentality was organized around the distribution of free animals, the provision of material support (e.g., pigsties), and combining western agricultural knowledge with traditional Chinese farming skills to promote and enhance capitalist food production and efficient farming behaviours (Guthman, 2008; Frumkin, 2003). Between 1954 and 1972 techniques of philanthropic governmentality resulted in the construction of 13,141 free pigsties, the capitalization and diversification of agricultural production by approximately 51,900 farmers, and the production of 46,265 pigs for refugee farmers (Blackie, 1972, pages 197-200). Hong Kong's refugee farmers became neither "drifters nor beggars, [but] wished to continue with... life through agricultural practices... mak[ing] their way in the capitalist world with a home" (Blackie, 1972, page 16).

Irving (1955) describes the objectives and efficacy of an early colonial government pig donation program:

Consider Kat-O, a small island which is about six miles from the Red border. The government authorities fearfully reported to the Kadoorie that the whole island was going Communist. They set up Operation Pig Sty there by erecting six double sites and stocking them with 12 sows and a boar as a breeding center. In addition, 100 pigs were given to the families on the island and interest-free loans were made to provide six months' food for the pigs. Within six months they saw the tide turning, and within 18 months they had created the most violent bunch of capitalists anyone ever saw (Irving, 1955, page 4).

The Hong Kong colonial government made use of pigs and pig-raising space to transform farmers' practices and subjectivities, in turn stabilizing colonial rule and effectively resisting the penetration of communism, despite left-wing organizations (e.g., The Graziers' Union) actively supporting anti-colonial activities in the 1950s and 1960s (Strauch, 1984).

How were refugee farmers recruited to participate in the pig and pigsty donation projects? What rationales guided the colonial government's efforts to transform farmers' behaviours through pigs? We answer these questions within a governmentality framework, examining the colonial government's use of pigs and the spatial constitution of pig farming to increase productivity and shape farmers' identities through the internalization of productive norms and practices. Moreover, we build on Airriess' (2005) argument that agricultural programs nurtured farmers' loyalties to the colonial government, fostering resistance to the influence of communist China.

There are three major reasons for employing a governmentality perspective in this research: 1) Archival documents indicate that the rationality of the colonial government toward refugee farmers needs "to be tackled not only from the physical side but also from the psychological aspect" (Blackie, 1956, page 1). Understanding changes in refugee farmers' subjectivities fits well with the governmentality perspective, addressing how colonial government programs influenced farmers' self-regulation; 2) A governmentality perspective helps us understand how the colonial government employed different technologies<sup>6</sup> to transform pig farming practices and problematize<sup>7</sup> traditional pig

---

<sup>6</sup> Rose and Miller (1992) argue that governing institutions create apparatus, procedures and calculation to control all domains of people's lives.

<sup>7</sup> Dean (2010) details the process of problematization through analysis of materials (e.g. documents) and discursive forms (e.g. discourses).

farming activities; and 3) A governmentality perspective illuminates pig farmers' behavioural responses to the Farm Improvement Program (FIP).

To explore these themes, empirical research was conducted in 2009 and 2010, including archival research and in-depth interviews with 19 pig farmers, two pig farmers' association leaders, and one former government official<sup>8</sup>. Drawing from this research and the literature, we discuss the concept of governmentality and its implications for studies of pig farming in colonial Hong Kong in section two. In section three, we address the Hong Kong colonial government's use of pigs and pig farming spaces to transform refugee farmers into productive workers. Framing refugee migration from the Chinese mainland as a "problem," creating distinct material interests within the refugee population, and producing new pig raising knowledge and practices were key components of the colonial government's tactics. In section four, we discuss the production of productive worker subjectivities. Finally, we evaluate the effectiveness of the FIP in transforming pig farmers' subjectivities and make suggestions for future research.

## **2 Governmentality and Its Application to Pig Farming in Colonial Hong Kong**

In his lectures at the Collège de France in 1978, Michel Foucault defined governmentality as:

...the ensemble formed by institutions, procedures, analyses and reflections, the calculations and tactics that follow the exercise of this very specific albeit complex form of power, which has its target population, as its principal form of knowledge political economy, and its essential technical means and apparatuses of security (Foucault, 1991, page 102).

---

<sup>8</sup> All interviews were conducted by Kin Wing Chan.

Governing institutions develop procedures and statistical measurements to produce knowledge and tactics to discipline a population for purposes of socio-economic well-being and security. The concept of governmentality has been further developed by Nikolas Rose and Mitchell Dean, who examine how rules and regulations are internalized, transforming the subjectivities of the governed (Rutland and Aylett, 2008). Dean (2010, page 20) understands governmentality as means of calculation, forms of knowledge, and types of technologies that shape the “choices, desires, aspirations, needs, wants and lifestyle of individuals and groups.” Rose (2006, pages 147-148) conceives of governmentality as interaction between rulers’ practices and citizens’ ways of life, concomitantly produced and reproduced by different governing technologies, programs, and rationalities. The frameworks of both Dean and Rose suggest multifaceted governing practices, internalized in daily practices, both material and discursive.

Much of the research that adopts a governmentality approach has focused on the study of regulatory institutions such as prisons, hospitals, and schools (Dreyfuss and Rainbow, 1983; Foucault, 1979; Smart, 2001). Relatively few studies examine how disciplinary techniques are applied to farmers and farming spaces resulting in the internalization of rules, regulations, norms (Foucault, 1991; Dean, 1999; Rose and Miller, 1992). Elden (2007), in his discussion of Foucault’s lectures on *Security, Territory, and Population*, considers food production as a state apparatus for maintaining national security through control of crop production, prices, and distribution. The problematic procedure of food production “is a fundamental element of rational governmentality” (Foucault, 2007, page 443). Governing institutions discipline farmers to maintain a stable



and cheap food supply for the urban population through farming regulations, investment, and programs to enhance farmers' well-being (Foucault 2007, page 444).

Not surprisingly, faced with a large influx of refugees from communist mainland China the colonial government of Hong Kong viewed maintaining food security and colonial stability as its main priorities. The colonial government's concern with food security and political stability resonate with Foucault's (2007, page 52) argument that the scarcity (*la disette*) of food threatens state sovereignty because food price fluctuations increase the possibility of urban revolts. To address food shortages, states often control the price, movement, and cultivation of crops (Foucault 2007). Facing the threat of food scarcities in urban areas, the Hong Kong colonial government launched the Farm Improvement Program (FIP), 1950-1970, which sought to mold refugee farmers into productive workers, thereby providing a practical solution to the territory's food shortage and security problems (Blackie, 1956).

The internalization of rules and regulations shapes individual subjectivities as beliefs, values, and self-motivations become grounded in broader cultural and political ideologies (Warf 2006). To facilitate the study of changes in subjectivity, Dean (2010) proposes the concept of "regime practices," referring to the institutional practices and knowledge produced, combined and justified through classification, research, and archiving under particular governing regimes. Nadesen (2008) suggests the examination of the "regularities of existence that structure the conduct of conduct<sup>9</sup>," i.e., the conditions that produce specific regulatory mechanisms to discipline, regulate, and marginalize different

---

<sup>9</sup> The phrase "conduct of conduct" implies several meanings. The word "to conduct" means "to drive, guide, teach and lead individuals to self-regulate" in political calculations and agendas (Gordon, 1991:2). "Conduct" refers to our behaviours, intentions and actions. The process of conduct of conduct involves societal norms and value judgments of conduct which become ideal models for populations to follow.

individuals under different socio-economic conditions. Studying how farmers internalized the rules and regulations of the FIP provides insight into the relationships between colonial Hong Kong society and its food production spaces.

Crampton and Elden (2007, page 13) employ a Foucauldian perspective “to explore the [role] of spatiality” in the reproduction of subjectivities of social agents. A number of scholars have been inspired to look closely at the ways in which governmentality is constructed through and in space. Mitchell (1998), for example, examines how colonial rules and regulations are inscribed in peasants’ living and working space in Egypt through spatial confinement techniques used to discipline urban residents and make them docile; Miller (2007) examines state rescaling as a form of discipline and governmentality, shaping forms of resistance; and Neo (2009) shows how the Chinese dominated pig-raising community in a Muslim country triggered cultural politics and racial tensions that dialectically shaped institutional regulations and practices of pig farming. Elsewhere, Neo (2012, page 951) highlights how “the animal problematizes the power relationship” between governing institutions and farmers in matters of nationalism and religion. These studies provide insight into how pig farmers and pig farming spaces are “subjected, used, transformed, and improved” (Foucault, 1979, page 136).

Recent studies of governmentality and subjectivity can be divided into: 1) actor-network approaches considering human and non-human actors’ inter-subjectivity (Rutland and Aylett, 2008); and 2) psychological-spatial approaches emphasizing the psychological dimensions of behavioural change in space. The latter focus on how power and knowledge are exercised in social space to discipline individual lives (McConnell, 2011; Oakes, 2009; Rydin, 2007). In this paper, we extend the subjectivities discussion

by combining these two approaches to examine how the Hong Kong colonial government used the design and construction of pig farming space as a technology to transform farmers' practices and subjectivities for the sake of food security and colonial stability.

Scientific knowledge and statistics have often been used by colonial powers to transform local history, economy, and society (Kalpagam 2000a; 2000b). Western animal husbandry skills, veterinary knowledge, farm management, spatial design, and financial knowhow were imported and translated from the European context and applied in Hong Kong. Ip (2006) and Chun (2000a and 2000b) document the use of European discourses to justify the government's resettlement policies and systems, while Tang (1997) shows how Hong Kong's planning system was employed by the colonial government to control local practices.

The literature on colonialism highlights three key phenomena: 1) colonial governments generate particular problem-definitions to expand their control of territory and shape the subjectivities of the governed (targeting both tangible materials and discourse); 2) colonial governments spatially transform colonial territories, signifying the new colonial order, making it politically governable, and producing a visible hierarchy between the colonizer and colonized; and 3) colonial governments produce knowledge and practices at specific spatial and temporal scales as part of their regimes of governmentality. In the analysis to follow we explore the nexus between regulatory regimes and food production systems, and unpack how subjectivities and behaviours, in this case of pig farmers, were changed by the Hong Kong colonial government. By examining the FIP in detail, we illustrate how pigs and pig farming spaces became the

governing technologies through which refugee farmers were transformed into productive capitalist workers.

### **3 Problematic refugee farmers**

Fearing communism, the colonial government used the Farm Improvement Program to nurture farmers' loyalty to the British government. According to the Director of the Department of Agriculture, Fisheries & Forestry, W.J. Blackie (1954, page 2), "there was an urgent need in the Colony to build up primary production to meet the demands for food of a large urban population." The FIP was created to provide a stable pork supply and help maintain political stability in the colony. This program was initiated by the Kadoorie Agricultural Aid Association (KAAA) and Department of Agriculture, Fisheries and Forestry (DAFF) in the early 1950s (Blackie, 1956). The KAAA was founded in 1951 by two businessmen, Lawrence and Horace Kadoorie, to help destitute refugees transform their lives through various agricultural programs. This association provided interest free loans, distributed free pigs and pigsties, and offered free animal husbandry training for refugee farmers. The KAAA and DAFF played complementary roles: the KAAA provided resources to support agricultural development and the DAFF assisted in the dissemination of agricultural production knowledge.

The Director of the DAFF believed that refugee farmers in the New Territories would create problems for the colony if aid were not available. As the director of DAFF commented:

there were other groups – farmers, farm labourers, and older folk who found it difficult to adjust themselves to a new environment. Without capital to acquire land or stock, with no source of loan money to assist them in the only way of life they knew, and without energy or experience to follow new vocations, *this group*

*of refugees created a problem for which there was no immediate and obvious answer* (emphasized added) (Blackie, 1956, page 3).

A 1956 letter to the DAFF from the KAAA informed the public:

The origin of this Association lay in the desire to *alleviate suffering amongst the very poor* and to give those who were willing to a chance to help themselves...*the problem had to be tackled not only from the physical side but also from the psychological aspect* (emphasized added) (Blackie, 1956, page 1).

The KAAA believed assistance for refugee farmers was a way to transform farmers both physically and psychologically. Problematizing destitute refugees as a threat allowed the DAFF and KAAA to put destitute farmers on the political agenda. Dean (1992) argues that government discourses of poverty alleviation legitimise government intervention and create the potential for state transformation and manipulation of the poor. “Threats of pauperism” provide room for governments to problematize the poor as unproductive and dangerous (Rose and Miller 2010), in turn rationalizing government intervention that may keep the poor docile. In the case of colonial Hong Kong, the provision of pigs fostered a self-help mentality among destitute refugees, supporting their development as self-governing market-oriented agents. According to the follow-up investigation of 729 self-help cases between 1965 and 1970 (Table 1), there were only 12 households that failed to increase their income after receiving assistance from the KAAA (Blackie, 1972, page 204).

**Table 1. Follow-up investigation of 729 self-help case between 1965 and 1970**

Increase of Income after KAAA assistance	Number of cases	Percentage of farmer households
Failure	12	1.6
1-50%	371	50.9
51-100%	179	24.5
101-200%	105	14.4
200% and over	62	8.6

*Note.* Kadoorie Association data, from “Follow-up investigation of 729 families, Table 47” (Blackie, 1972, page 204).

### ***3.1 Producing self-governing agents and nurturing a self-help mentality***

To convert “have not” to a “have”, [this] is an incentive to [the farmer to] see his capital grow because of his effort. The visual satisfaction to the recipient of seeing his capital grow was provided by the pig (Blackie, 1956, page 2).

The FIP regarded the possession of pigs as a means to transform a “have not” life to a “have.” The KAAA donated pigs to destitute farmers to help them initiate this transformation. “Property” and raising pigs became means to achieve personal satisfaction. As “a social relation that defines the holder with respect to something of value,” property is “a network of social relations that governs people’s conduct with respect to the use and disposition of things” (Blomley 2004, page 2). Receiving free pigs from the KAAA produced a new norm among peasants – if a destitute farmer received pig donations, it marked the possibility of new life; if a farmer did not succeed after such donations, it was seen as the fault of the farmer and not that of the government. Accordingly, poverty became “individualized” (Kalpagam 2000a, page 433). Similarly, a self-help mentality was produced through interest free loans from the KAAA to build pigsties and farm huts which, once in operation, enabled the farmers to help themselves out of poverty. This “self-supporting” approach typified the KAAA’s policies of the 1950s.

### ***3.2 The rule of experts and the actualization of the Farm Improvement Programme***

Agricultural Policy of the Colony is not a theoretical treatise filed in a library; nor is it confined to academic research work and exercises performed on agricultural

stations. It is being vigorously implemented *by the co-ordination of all activities* in a drive to get the maximum out of the small farming area of the Colony. The organization and administration are unique in its *business-like approach* to the problems of peasant farming (emphasis added) (Blackie, 1959, page 30)

The operation of the Farm Improvement Program was a territory-wide scheme coordinated by the DAFF, KAAA, and Public Works offices. The DAFF and KAAA produced animal husbandry knowledge, donated free animals, provided loans and resources, such as pigsties and building materials, to help refugee farmers establish pig and poultry businesses. The Public Works Department constructed roads, bridges, motorways, and village paths to increase refugee farmers' accessibility, allowing them to meet DAFF and KAAA officers, access free animals and reach markets. The FIP promoted crop cultivation and poultry and pig production for all destitute farmers, however, more emphasis was placed on pig raising for four major reasons: (1) "pigs grow more rapidly than other farm animals and there is a ready demand for pork in Hong Kong" (Blackie, 1956, page 2), (2) pigs provide "a greater order of self-sufficiency of the Colony in pig meat supplies" (Blackie, 1954, page 15), (3) pigs provide "better quality of protein" promoting labour health and reproduction (Blackie, 1956, page 27) and (4) "all Chinese farmers have some knowledge of pig raising." Even the handicapped, blind, widows and destitute farmers could successfully raise pigs to make a living (Blackie, 1954, pages 20-21; Blackie, 1972, pages 17 & 186).

While the operation of the FIP was "not a cold central organization... all decisions [were] made by the Committee<sup>10</sup> at its regular fortnightly meetings" and "decisions [were] reached after careful field work by officers of the Department (i.e. agricultural department staff) who [were] in close contact with farmers, thoroughly

---

<sup>10</sup> The director of DAFF, the Kadoorie Brothers, and other nominees comprised the committee.

acquainted with the problems, and fully informed on the character” of the refugee farmers (Blackie, 1960, pages 28-29). There were three levels at which expert rule steered philanthropic resources and changed the practices, productivity and subjectivities of refugee farmers to confront the threat of communist penetration: (1) the lowest level experts were qualified Chinese animal husbandry men who visited farmers regularly to inspect the practices of refugee farmers and make recommendations to senior officers; 2) farming problems and policy implementation were addressed by mid-level Chinese experts working at the Kadoorie Farm Headquarters; 3) top-level experts were FIP committee members who devised agricultural policies and approved loans (Blackie, 1960, pages 28-29). Additionally, FIP committee members visited refugee farmers irregularly to monitor the implementation of the animal donation and lending programs (Blackie, 1972) and were free to coordinate with administrators and senior officers at the Kadororie Farm headquarters. In fact, the Chinese agricultural technicians, demonstration farmers, and animal husbandry men became “surrogates” for the KAAF and DAFF, coordinating lending and pig donations.

The coordinated activities of the DAFF and KAAA in the FIP’s governance system directed the promotion of capitalist pig production in three major stages. Stage one introduced a “wide range of Western pig breeds<sup>11</sup>” to the colony and provided good stocks and interest-free loans for farmers to buy feed and materials to construct sties. Local pig breeds were crossbred “with exotic boars such as the Berkshire, Middle White, and Yorkshire for marketable slaughter stock” (Blackie, 1972, page 40). Stage two emphasized the extension of pig raising techniques through “controlled supervision of

---

<sup>11</sup> These western pig breeds include Berkshire, Middle White, Large Black, Tamworth, Wessex Saddle Back, Large White and Yorkshire.



[pig] breeding, feeding, and management” (Blackie 1960, page 22). “Visual demonstration of good pig raising practices” was used to teach farmers better farm management, disease control, and pigsty building techniques (ibid.). Stage three focused on increasing the efficiency of pig production and lending in two major ways: 1) The development of new governing institutions such as DAFF’s animal husbandry support, agricultural extension services, and KAAA’s credit program were established in the late 1950s to coordinate lending and the promotion of cooperative pig farming (Blackie, 1960, pages 22-23). The DAFF and KAAA encouraged pig farmers to organize co-operatives and establish similar lending programs to help farmers “purchase imported fodder crops collectively with discount prices (interview<sup>12</sup>, 2010).” Feeding pigs with fodder crops not only encouraged farmers to replace traditional ways of feeding pigs with swill and sweet potato vines, it was associated with increased pig production quality.

### ***3.2 Constructed hierarchical relations among farmers***

The KAAA donation scheme created hierarchical relations among pig farmers because those receiving the donation from the association often considered themselves poor. Kalpagam (2000a, page 433) calls this process a “self-test action”. We argue that a self-test action was inherent in the donation program, and that refugee farmers, by accepting free pigs from the KAAA, constructed themselves as a distinct group in need of help. The strong association between the donation program and the construction of “deprived” identities was evident in in-depth interviews, with interviewees recalling the program targeted “the poorest farmers<sup>13</sup> who may not have been able to maintain

---

<sup>12</sup> Interview No:20, Hong Kong, September, 2010.

<sup>13</sup> Interview No: 03, Hong Kong, September, 2010.

sufficient family income and relied on high interest loans,” and farmers “who were desperate to have a *tao ling* (five cent nickel),<sup>14</sup> living in a wooden hut without amenities.” For instance, a refugee farmer<sup>15</sup> commented, “I fled from China as a destitute refugee to Hong Kong in 1949 to start a new life. Mr Kadoorie provided HKD \$8,200 monetary support for me to construct pigsties and provided 6 gilts to start my pig raising business” (interview, 2010). Additionally, “orphans and widows<sup>16</sup>” were regarded as poverty-stricken. A widow with five young children received KAAA’s gifts of “two sows and pig feed” because “her main form of livelihood was market gardening from 3 *Dau Chung*<sup>17</sup> [0.5 acre] of poor land and she was finding it very difficult to carry on...the outlook was very bleak indeed” (Blackie, 1972, page 90). In contrast, some farmers<sup>18</sup> commented that they “were rich so they didn’t need any KAAA donations”. When interviewees were asked to define what defined rich or poor, most of them<sup>19</sup> indicated rich farmers were those who owned more pigs. These comments not only indicate the centrality of pig ownership to social position, but also the importance of the means by which pigs were obtained. Property (pigs) could be measured numerically, but pig donations also stigmatized the receiving farmers, heightening pig farmers’ awareness of differences in wealth and social position.

A hierarchical relationship was also established between the KAAA and destitute recipient farmers. When farmers received donations, such as pigsties and other farm buildings, the logo of KAAA was inscribed onto the buildings. This inscription not only

---

<sup>14</sup> Interview No:07, Hong Kong, September, 2010.

<sup>15</sup> Interview No: 20, Hong Kong, September, 2010

<sup>16</sup> Interview No:13, Hong Kong, October, 2010.

<sup>17</sup> *Dau Chung* is a local unit of area which is about 0.16 acre.

<sup>18</sup> Interview, No: 08, 14, 15, Hong Kong, September – October, 2010.

<sup>19</sup> Interview, No: 08, 14, 15 Hong Kong, September – October, 2010.

signified the benevolent actions of the KAAA, it indicated a relationship between the donor and receiver, revealing this relationship for all to see. Airriess (2005) argues that the British government sought to nurture loyalty and obedience of the refugee farmers through the provision of assistance, while Kuan and Lau (1981, page 192) assert that the British government used the tactic of “selective distribution of benefits and disincentives” to control refugee farmers. Our analysis supports both Airries and Kuan and Lau: pigs and pigsties were the material basis through which the relationship between the colonial government and pig farmers was constructed and the FIP played a significant role in the construction of a new social hierarchy, consistent with emerging capitalist property relations in rural Hong Kong.

#### **4 Governing technologies: Experimental pig farms and pig and pigsty donations**

Under the FIP experimental farms were established to demonstrate new pig raising knowledge, farm management skills, and pig production techniques. In particular, transforming the spatial order of pigsties created new bases for self-discipline because spatially transformed farm space required changes in farmers’ practices.

The experimental pig farm project was initiated in 1951 by the KAAA on a leased farm known as “Tack Sang Farm”. The KAAA provided 16 refugee families with newly opened land and squatter houses from which to raise pigs. Each family received an interest free loan of \$26.20 per person to build simple pigsties (Blackie, 1954, page 5) and free pigs were offered to those who participated, with repayment financed through the sale of young weaned pigs. Subsequently, the KAAA provided assistance to six

additional families giving them “a bungalow, 6 double farm sites and 3 pigs” in Lam Ti, Tuen Mum (Blackie, 1954, page 7). The Lam Ti experimental farm later became a model for farmers in the New Territories and for colonial officers and visitors. Even Richard Nixon, vice president of the United States, visited the Lam Ti experimental farm during his tour to the New Territories in 1953 (Blackie, 1954).

The experimental farms marked a new era emphasizing a “productive way of life” (Blackie, 1954, page 9) based on increased efficiencies achieved through new farming knowledge, improved pig breeding techniques, and a new spatial order rooted in standardized pigsty design.

The primary rationale for producing new pigsties was to facilitate the collection of agricultural productivity data. One could argue such data made pig farmers “visible” for social control. Mitchell (1988, page 46) argues that traditional architecture hindered colonizers from collecting “facts” because it was not conducive to standardized quantitative data collection. In this regard, the DAFF and KAAA considered traditional pigsties “unsuitable” for measuring the productivity of live pig production (Blackie, 1960, page 22). Transforming traditional pigsties into discrete standardized production units was a way to make live pig production measurable; measuring the productivity of the pig supply chain was a crucial element of the colonial government’s efforts to manage and plan the colony’s food supply. The spatial design was codified: every part of the pigsty was “numbered and priced” (Blackie, 1954, page 19) such that if parts of the sties needed to be replaced, farmers could quote the respective numbers to the KAAA suppliers for replacement. The spatial design also guided farmers’ practices, for example, by requiring farmers to separate pigs’ resting and feeding places. The new standardized, quantifiable

pigsty order facilitated adoption of the “modern Western practice of pig farming” (Blackie, 1954, page 20), rooted in economic notions of efficiency as well as “cleanliness and ease of management” (Blackie, 1954, page 19).

#### ***4.1 Pig farming: Western (calculable and precise) vs. Traditional (immeasurable and vague)***

To establish Western pig farming practices in the colonial territory, the DAFF and the KAAA depicted traditional pig farming as backward and unsuitable. In the Western model, uniformity, precision, and regularity of material usage and cost coverage make production inputs and outputs calculable. In the KAAA’s version of the Western model, the building materials of pigsties included “mud brick, burnt brick, reinforced concrete block, wood and concrete walls” (Blackie, 1954, page15). Each pigsty unit cost HKD \$320 which included the cost of a cement floor, drains and sump pump (ibid.). As illustrated in the KAAA’s pictures, traditional pigsties were typically made from wood, mud brick, and parts of broken billboards and were irregular in length, width, and height. The new pigsties, in contrast, entailed standardized input and output of pig production that was quantifiable and calculable.

Not only were pigsties standardized, but pigs as well. Traditional pig breeds (e.g., the Fa Yuen pig breed) were considered productively inferior compared to more exotic breeds (Blackie, 1972). With the support of DAFF experts and agriculturalists the KAAA introduced an artificial breeding program to crossbreed local with exotic pig breeds. The result was a new crossbred species called F2, which was introduced to local farmers in the 1950s. According to Blackie (1972, page 50), the crossbred pig was superior to the traditional Fa Yuen pig breed because its “sway back and sagging belly were gone, the

hams are good, growth is faster, the final product weightier, and the females are prolific”. Here the KAAA alters the traditional meaning of “productivity,” with the fat and sagging belly of the Fa Yuen pig breed redefined as inferior.

Importing Western modes of livestock production not only facilitated the planning and management of the colony’s food production, it produced refugee farmers who would act as “rational economic men,” measuring and calculating the inputs and outputs of production. The introduction of new standardized pigsties and pigs was a critical moment in the transition from pig production methods that were vague and difficult to measure, to production that was calculable, precise, and oriented toward maximizing output.

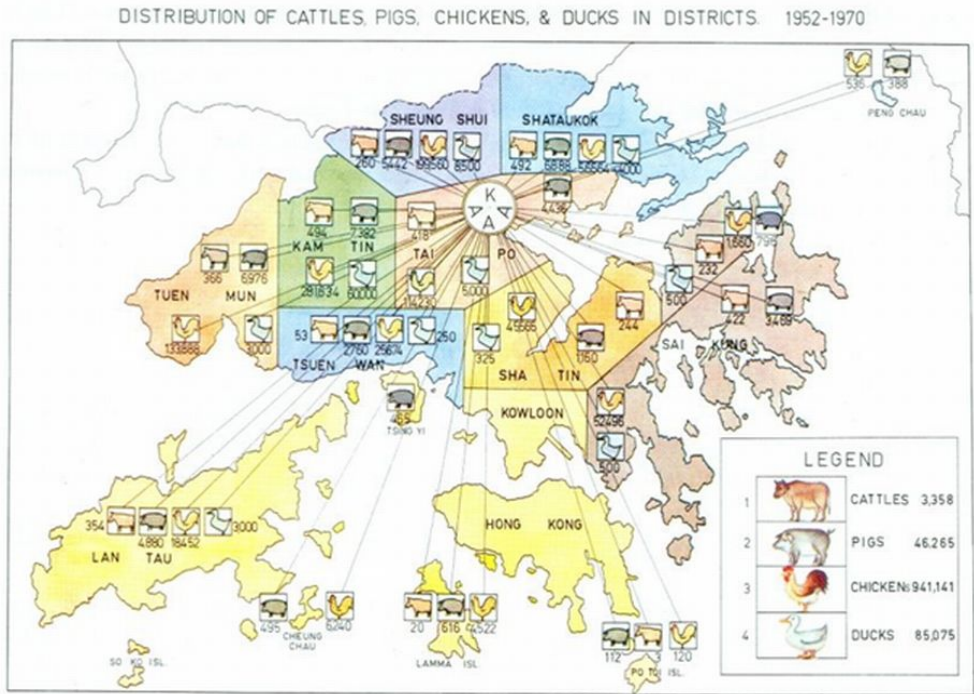
#### ***4.2 Pigs in (Territorial) Space***

The success of the experimental farm paved the way for the development of the Kadoorie Experimental and Extension Farm and Botanical Gardens (Kadoorie Farm, for short) in 1956. Through the Kadoorie Farm, the KAAA produced maps portraying the quantity and distribution of animals, the spatial relationships among donors and receivers, and the spatial deployment of animals and building materials—all facilitating the calculation and planning necessary to manage the colony’s food security (see Figures 1 and 2). The KAAA maps graphically illustrate the central role the KAAA played in the regime of practices that organized and guided the (unequal) spatial distribution of livestock, pigsties, building materials and houses among the districts of the colonial territory.

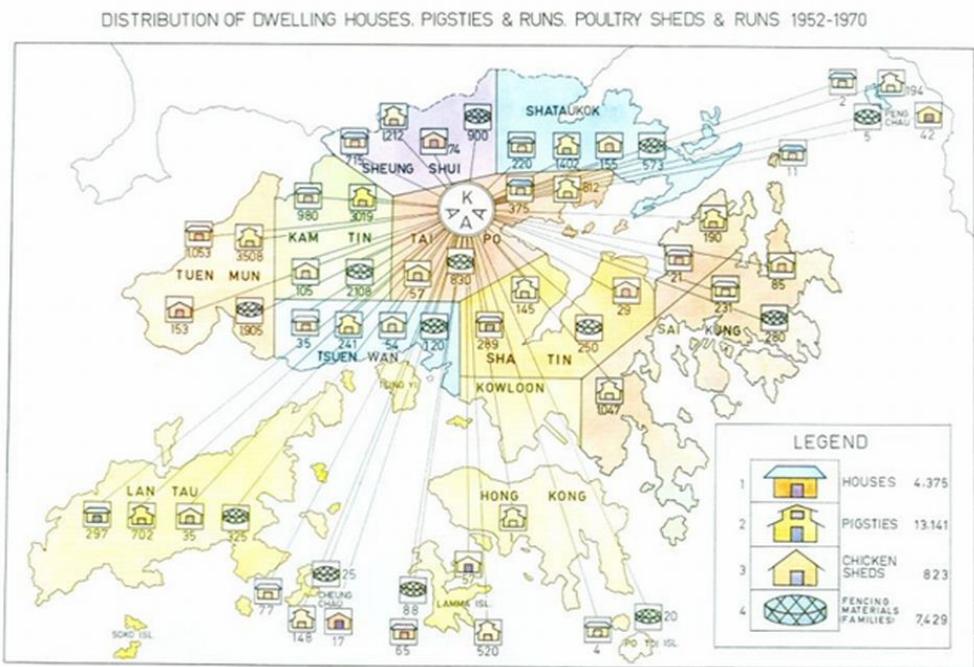
Figure 1 indicates that free livestock--pigs, cattle, chickens and ducks--were distributed to refugee farmers to enhance the “full capacity of the Colony’s soil in the interests of the Colony,” and expand and improve animal production (Blackie, 1954, page 3). To promote the production of pigs in the New Territories, two major approaches to distributing loans and free pigs were developed: 1) Chinese husbandry men conducted field visits to investigate the needs of villagers. When they found a location optimal<sup>20</sup> for raising pigs (i.e., with sufficient flatland and availability of building materials), pigs would be given to individual families as gifts and interest free loans made available; 2) If a location was not favourable to raising pigs due to insufficiently flat land or lack of building materials, pre-fabricated portable pigsties could be supplied through interest-free loans, enabling farmers to begin pig production (Blackie, 1972, page 44). The spatial distributions of pigs was supported by a network of technical extension services, animal disease control expertise, lending systems, and research and development resources which were co-ordinated by the DAFF and KAAA.

---

<sup>20</sup> The optimal geographical location included sufficient flatlands to establish an exercise yard, fenced with pig netting and angled iron bars (Blackie, 1972, page 43).



**Figure 1. The Central Role of the KAAA in the Distribution of Free Livestock\***



**Figure 2. The Central Role of the KAAA in the Distribution of Free Building Materials\***

\*Adapted from the Hong Heritage Project's website.  
<https://www.hongkongheritage.org/html/chi/index.html>.



[From 1952 to 1958] over 154,316 bags (7715 tons) of cement, in addition to iron bars, steel girders, wood have been distributed as free gifts under this program. Among the projects, the following have been completed: 112.25 miles of roads and paths, 20 miles of channels, 197 new dams and 71 repaired total 268 (Blackie, 1972, page 1).

The Kadoorie Farm produced and compiled up-to-date pig farming knowledge and managed the distribution of building materials to every corner of Hong Kong's territory. The primary rationale for the distribution of free cement and building materials was to improve farmers' accessibility to markets, and reduce "the problems of animal husbandry, in particular, lack of roads, water, and supplies for animals" (Blackie, 1956, page 1). A second rationale was to better utilize farmers' labour to improve working and living conditions in rural communities because there was an association between betterment "in village working and social conditions" and individual improvements which could trickle down in the form of "economic benefits" and "social and domestic amenities" (Blackie, 1972, page 32). Accordingly, the KAAA provided financing and building materials such as bags of cement, reinforcing steel, steel girders, timber and other building materials to help destitute farmers rebuild communities. Collaborative roles were played by the agricultural extension services' liaison officers, the KAAA loan fund officers, the PWD's engineering staff, district officers, and villagers in the housing development and pigsty construction projects in the New Territories. First, poor pig farmers would approach Chinese liaison officers to apply for development support, then liaison officers would channel development applications to the KAAA's loan officers for decisions. Once development decisions were made by the KAAA, engineers from the Public Works Department would commence development, using KAAA funds. Engineers provided

guidance and plans and villagers contributed their labour and skills in the house building and pigsty construction process (KAAA, 1972, pages 20-29).

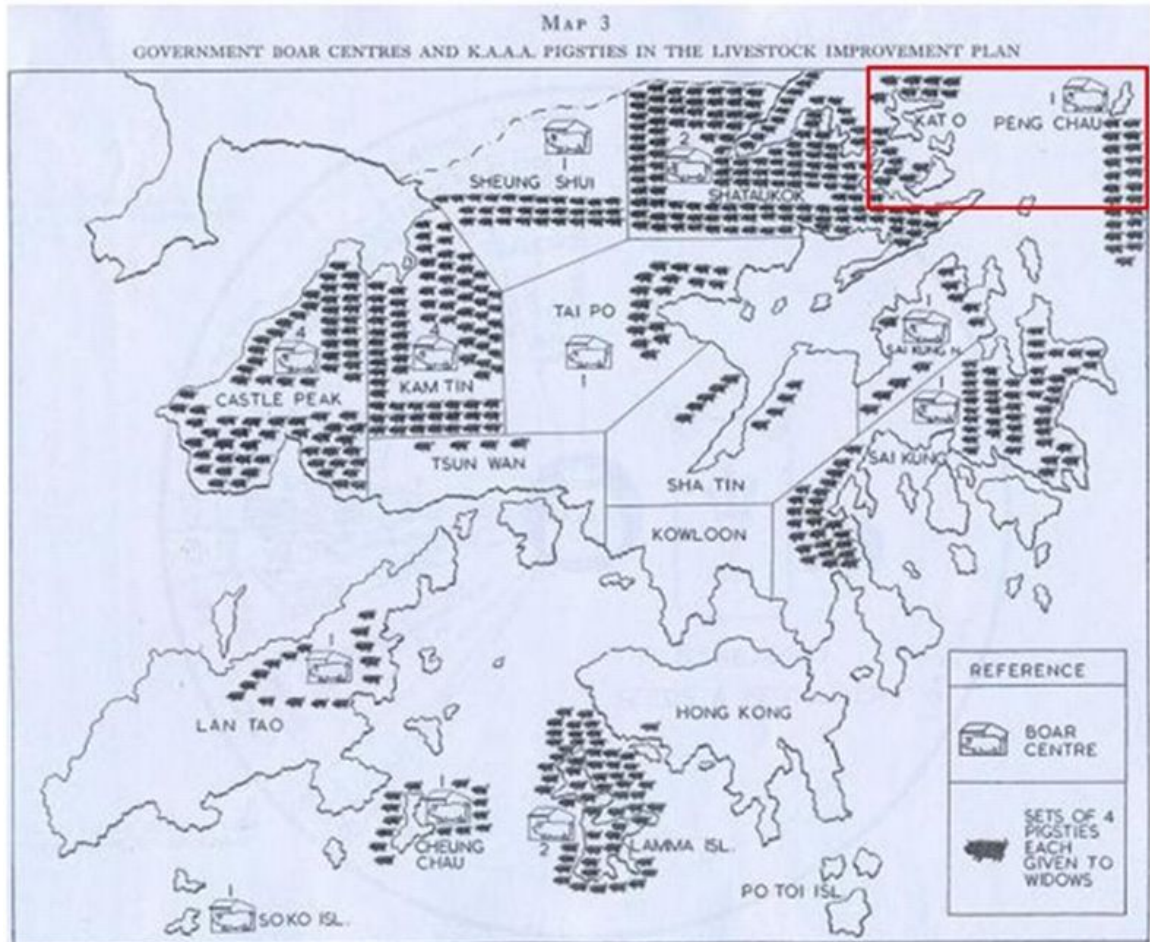
KAAA-sponsored pig breeding units became another means to diffuse new pig breeding practices and enhance productivity. Pig breeding units were established in many locations across the colony, acting as important sub-centers for the dissemination of DAFF/KAAA knowledge, practices, and pig raising skills. While these spatially fixed approaches to productivity enhancement were vitally important, more technologies of efficiency and enhanced production were to come.

#### ***4.3 (Mobile) Pigs in Space: the invention of portable pigsties***

With increased pig farming and pig production, more pigsties were needed to house the ever-growing number of pigs. To meet this need, and to further expand pig production, the KAAA and DAFF invented portable pigsties. The portable pigsty furthered the agenda of increasing pig productivity in two major ways: 1) it enabled the KAAA to distribute pigsties to small and medium size farmers more efficiently, 2) it enabled housing pigs in diverse locations, enhancing “field programs and extension operations” (Blackie, 1972, page133).

The invention of portable pigsties strongly reinforced the Hong Kong colonial government’s political strategy of enhancing pig production to confront communist influence from Mainland China. Kat O Island is a case in point. This island is located in the northeast corner of Hong Kong and is the island closest to mainland China (see Figure 3, red-color square). This island was perceived to be under threat from communist influence, but the portable pigsty program rapidly gave its destitute refugees a stake in capitalist food production, thereby turning the ideological tide against communist

influence. The threat of communist influence was thought to be greatest in the border regions, which is where the colonial government concentrated the donation of pigs and pigsties (Figure 3). There were “1,046 free breeding pigs and interest-free-loans to help the new settlers to buy pig feed to fatten their animals” (Blackie, 1972, page 38). In 1953, “590 families became pig raisers” and “443 pig sites” were developed in Kat O Island. The colonial government allowed pig farmers to occupy the crown lands to start their pig ventures. By 1954, 248 families had been given new prefabricated pig sties and “boar centers, stocked with 12 sows and a Berkshire boar, were established” to accelerate the pig production (Blackie, 1972, pages 38-39). When destitute farmers were equipped with the means of production and given access to crown lands, they could start their own businesses. “Credit facilities, marketing development facilities and other essential infrastructures which would in due course provide opportunity for capital accumulation for small rural farmers” (Blackie, 1972, page 197) became central weapons in the colonial government’s efforts to block the spread of communism.



**Figure 3. Distribution of Pigsties to Resist the Penetration of Communism**

Map 3: Government Boar Centers and KAAA Pigsties in the Livestock Improvement Plan”, by Blackie, W. J., 1960. The Kadoorie Agricultural Aid Association: Agricultural and Animal Husbandry Ventures (Third Report). Hong Kong: Cathay Press.

## 5 Transforming subjectivities, expanding production

Colony-wide, the number of pigs greatly increased from 40,000 in 1951 to 429,000 in 1962 (Wong, 1971, pages 41-42)—more than a ten-fold increase after the involvement of the KAAA and DAFF in the FIP. Colonial government studies provide extensive documentation of how farmers’ everyday lives changed as a result of the Program. One detailed study of six pig farms where the “ideal farm management model”

was adopted provides documentation through “progress reports including a covering note and a[n] inventory sheet, a balance sheet, a statement of profits or losses, a statement of annual farm receipts, a farm program and a farm plan” (Blackie, 1972, page 203). The results of the adoption of new farm management techniques and practices were clear: the six farmers’ households had improved sales of pigs, demonstrated “a productive way of life,” and earned considerable income between 1965 and 1966 (Table 2).

**Table.2 Financial Return from Selling Pigs, 1965-1966**

Farmers’ household	1	2	3	4	5	6
Total monetary returns (HKD)	\$2, 405	\$5, 073	\$1, 170	\$2, 090	\$2, 449	\$2, 718
Total expenses (HKD)	\$969	\$3, 232	\$688	\$1, 496	\$1, 819	\$1, 400
Net return (HKD)	\$1, 436	\$1, 841	\$482	\$594	\$630	\$1, 318

*Note.* Data from Kadoorie Association, from “Return from Pig Keeping, 1965/55” (Blackie, 1972, page 235).

According to the leader of the Pig Farmers’ Association<sup>21</sup>, the KAAA’s donations and loans helped farmers “alleviate poverty and transform their lives.” This reflects the political agenda of the FIP – to transform destitute farmers from “have nots” to “haves,” and to increase their satisfaction by showing them the growth of their own capital through the expansion of pig production. The FIP transformed the subjectivities of pig farmers from amateur to professional producers who continue to utilize imported inputs and

<sup>21</sup> Interview No: 20, Hong Kong New Territories, September, 2010.

western farm management practices to this day. According to the former leader of the Federation of the Hong Kong Livestock Association<sup>22</sup>

Since pig farmers received technical assistances from the KAAA, pig raising changed from a side production to professional production in the 1970s. Since then, pig farmers have been crossbreeding local pigs with western pigs and importing western drugs and fodder crops to feed their pigs. All these boosted the pig raising productivities by shortening the pig raising cycle from ten to six months.

Moreover, the philanthropic governmentality of the colonial government not only created more productive capitalist pig farmers, it produced a template for continued learning, entrepreneurship, and internalization of discipline. The leader of the Pig Farmers' Association, who had worked for Kadoorie Brothers for more than 50 years, illustrates the effect of this template on his own life:

I learned from Kadoorie brothers' philanthropic spirit of providing others with tools and training to improve their own conditions. This ideology drove me to establish a kindergarten to let more children to receive education. The Kadoorie brothers had so much influenced on my life.... In past few years, I kept borrowing money for young adults as starting capital to support their businesses.

In 1955 the Hong Kong Federation of Pig Raising Co-operatives mimicked and replicated the KAAA's low interest loan fund<sup>23</sup> by establishing the Pigsty Construction Loan Fund, with the help of the United States Foreign Assistance Office. According to the leader of the Pig Farmers' Association<sup>24</sup>

Our co-operative's loan system was learned from the KAAA mechanism which provided more financial resources for farmers to build pigsties and buy fodder crops. Thanks to the DAAF and KAAA for all that technical assistance because they taught pig farmers how to adopt high quality foreign pig breeds, western drugs and modern farm management concepts... We had close communication with the DAAF because every month officials came to our monthly meeting to guide us in how to organize meetings, inform us about the latest pig research and disease prevention methods.

---

<sup>22</sup> Interview No: 19, Hong Kong New Territories, September, 2010.

<sup>23</sup> The KAAA loan funds aim at nurturing self-help mentality among pig farmers and assists pig farmers to build better quality pigsties, and to buy veterinary drugs and fodder crops in order to boost the farm's productivity.

<sup>24</sup> Interview No: 20, Hong Kong New Territories, September, 2010.

The Federation of Pig Raising Cooperatives adopted conditions, requirements, and repayment structures for its loans that were similar to the KAAA's, not to mention its pigsty design and construction practices. The Federation promoted further expansion of pig production by:<sup>25</sup> 1) coordinating the collective purchase of fodder crops and veterinary drugs; 2) helping pig farmers apply for KAAA and Pigsty Construction Loan funds; 3) representing pig farmers in negotiations with colonial officials in monthly meetings. Farmers who received funds from the Pigsty Construction Loan Fund also learned crossbreeding techniques and how to use foreign veterinary drugs to increase productivity. Pig farmers began to import foreign piglets, veterinary drugs, and fodder crops—practices that remain common practice to this day (FPRCS, 2004).

By the time the Pigsty Construction Loan Fund was established, pig farmers were clearly well-organized, self-interested, and highly motivated—just as the colonial government had hoped they would become. The Federation of Pig Raising Cooperatives not only facilitated representation of pig farmers' growing sense of material self-interest, it also functioned as a body through which the colonial government could effectively negotiate with farmers. The pig farm cooperatives' growing distribution networks also served as conduits through which the colonial government could promulgate rules and regulations, provide material benefits, and influence the conduct of individual farmers. The Federation co-ordinated the activities of 55 pig raising cooperatives between the 1970s and 1994. Airriess (2005) argues that the establishment of cooperatives in rural Hong Kong strengthened the regulatory control and patriarchal governance of the colony in the 1970s. To that we would add that they played a significant role instilling capitalist

---

<sup>25</sup> Interview No: 20, Hong Kong New Territories, September, 2010.

ideology and self-help subjectivities through the promotion and regulation of practices that can be traced back to the FIP.

## **6 Conclusion**

In 1949, in the context of refugee migration from communist mainland China, the Hong Kong colonial government defined refugee farmers and traditional farming practices as “problems.” Under the Farm Improvement Program (1950-1970), the design and regulation of pig-raising space was used by the colonial government to nurture refugee farmers’ loyalty, increase food supply, and maintain colonial security. Free pigs and pigsties, interest-free loans, and new pig raising knowledge became governing technologies to achieve this agenda. These technologies were not just philanthropic activities; they were employed to confront the penetration of communism into the colony by changing the practices, productivity and subjectivities of refugee farmers.

The colonial state’s philanthropic governmentality was designed as a territory-wide system that targeted refugee farmers, seeking to transform them both physically and mentally to resist communism. Two major features characterized philanthropic governmentality in rural Hong Kong: 1) The establishment of refugee farmers’ animal and material possessions, the development of interest free lending, and the provision of access to Chinese technicians and agriculturalists, all of which allowed refugee farmers to adopt capitalist production practices. The concepts of self-help, financial calculation, property ownership, efficient farm management, and disease control were central to the ideological transformation of farmers into individualized productive actors who obtain satisfaction by seeing their capital grow; 2) The rule of experts and the actualization of



the FIP, facilitated and coordinated by FIP committee members (i.e., the director of the DAFF and founders of the KAAA) and Chinese intermediaries who worked in-between refugee farmers and the colonial government. Committee members did not rule at a distance but collaborated with Chinese animal husbandry specialists to implement the FIP both in policy and practice. Key actors included government officials, agricultural specialists, field officers, pig farmers' representatives, and veterinarians. These networked actors became the crucial medium through which the colonial government's favoured technologies and practices were spatially diffused.

Today, pig farmers in Hong Kong still practice cross-breeding, importation of composted pig feeds, and vaccination with western drugs, and have organized themselves into cooperatives. In 1978, however, China negotiated an open-door policy with the British government to allow the export fresh food to Hong Kong. Since then, Hong Kong has heavily depended imported fresh pork from China. Additionally, during the 1990s and 2000s, rapid urbanization in the New Territories drove the Hong Kong government to use bio-political tactics to regulate livestock waste discharge and buy back farmers' licenses. These measures have led to a dramatic decline in pig farming, from 1,114 pig farms in 1989 to 43 pig farms in 2014.

In the broader context, this research demonstrates a complex set of relationships among animals, space, and the governance of society, contributing to the governmentality literature in three ways: 1) it provides new perspectives on philanthropic forms of governmentality, knowledge production, and governing *technologies*, including the spatial design of livestock production, as they are employed in the disciplining of pig farmers in a colonial context; 2) it expands Foucauldian governmentality analysis into the

realm of *regulatory mechanisms of food production systems*; and 3) it examines the technologies through which the *subjectivities* of colonial pig farmers were shaped, specifically focusing on the social construction of pigs, pig farming spaces and pig farming practices.

Lessons from this analysis can be applied to questions of contemporary food productions systems. Every food production system necessarily involves regulatory mechanisms that rely upon the deployment of governing technologies. These technologies, if they are to be effective, must resonate to a greater or lesser degree with the subjectivities of those who are embedded in the system. To the extent the technologies deployed do not significantly improve productivity or foster accepting subjects, the regulatory regime may become vulnerable to challenge. The FIP, from this perspective, could be considered an “effective” governance project. Can the same be said of increasingly prevalent “factory farms”? A Foucauldian governmentality analysis can tell us much about “productive ways of life” that might otherwise be overlooked.

## References

- Abbas, A. (1997). *Hong Kong: Culture and the Politics of Disappearance*. Minneapolis: The University of Minnesota Press.
- Airriess, C. A. (2005). Governmentality and power in politically contested space: refugee farming in Hong Kong's New Territories, 1945–1970. *Journal of Historical Geography*, 31(4), 763-783.
- Allen, J. (2004). The whereabouts of power: politics, government and space. *Human Geography*, 86(1), 19–32.
- Blackie, W. J. (1954). *The Kadoorie Agricultural Aid Association: Agricultural and Animal Husbandry Ventures*. Hong Kong: Government Printer.

- Blackie, W. J. (1956). *The Kadoorie Agricultural Aid Association: Agricultural and Animal Husbandry Ventures* (Second Report). Hong Kong: Cathay Press.
- Blackie, W. J. (1960). *The Kadoorie Agricultural Aid Association: Agricultural and Animal Husbandry Ventures* (Third Report). Hong Kong: Cathay Press.
- Blackie, W. J. (1972). *The Kadoorie Experimental and Extension Farm and Botanical Gardens*. Hong Kong: Kadoorie Agricultural Aid Association.
- Blomley, N. (2004). *Unsettling the City: Urban Land and the politics of Property*. New York & London: Routledge.
- Castells, M., Goh, L., & Kwok, R. Y. W. (1990). *The Shek Kip Mei syndrome: economic development and public housing in Hong Kong and Singapore* (Vol. 4). Pion Limited.
- Cheung, S. C. (1999). The meanings of a heritage trail in Hong Kong. *Annals of Tourism Research*, 26(3), 570-588.
- Chiu, W. K., & Hung, H. F. (1997a). *The Colonial State and Rural Protests in Hong Kong*. Hong Kong: The Chinese University Press.
- Chun, A. (1990). Policing Society: the 'Rational' Practice of British Colonial Land Administration in the New Territories of Hong Kong. *Journal of Historical Sociology*, 3(4), 401-422.
- Chun, A. (1991). La terra trema: The crisis of kinship and community in the new territories of Hong Kong before and after "the great transformation". *Dialectical Anthropology*, 16, 309-329. doi: 10.1007/BF00301243.
- Chun, A. (2000a). *Unstructuring Chinese Society The Fictions of Colonial Practice and the Changing Realities of "Land" in the New Territories of Hong Kong*. Singapore: Overseas Publisher Association.
- Chun, A. (2000b). Colonial Governmentality in Transition: Hong Kong as Imperial Subject and Object. *Cultural Studies*, 14(3-4), 430-461.
- Crampton, J., & Elden, S. (2007). *Space, Knowledge and Power: Foucault and Geography*. England: Ashgate Publishing Ltd.
- Dean, M. (1992). A genealogy of the government of poverty. *Economy and Society*, 21(3), 215-251.
- Dean, M. (2010). *Governmentality: Power and Rule in Modern Society* (2<sup>nd</sup> Edition). London: The Sage Publication Limited.

- Dryfuss, H. & Rainbow, P. (1983). *Michel Foucault: Beyond structuralism and hermeneutics*. Chicago: University of Chicago University.
- Elden, S. (2007). Governmentality, Calculation, Territory. *Environment and Planning D: Society and Space* 25(3), 562-580.
- Foucault, M. (1979). *Discipline and Punishment*. New York: Vintage Books.
- Foucault, M. (1991). Governmentality. In G. Burchell, C. Gordon, and P. Miller, (Eds.), *The Foucault Effect: Studies in Governmentality* (pp.87-104). Chicago: University of Chicago Press.
- Foucault, M. (2007). *Security, Territory, Population: Lectures at the College de France 1977-1978*. Basingstoke: Palgrave.
- Frumkin, P. (2003). Inside venture philanthropy. *Society*, 40(4), 7-15.
- Gordon, C. (1991). Governmental rationality: an introduction. In G. Burchell, C. Gordon, and P. Miller, (Eds.), *The Foucault Effect: Studies in Governmentality* (pp.1-51). Chicago: University of Chicago Press.
- Guthman, J. (1998). Regulating meaning, appropriating nature: the codification of California organic agriculture. *Antipode*, 30(2), 135-154.
- Hayes, J. (2006). *The Great Difference: Hong Kong's New Territories and Its People 1989-2004*. Hong Kong: Hong Kong University Press.
- Hambro, E. (1955). *The Problem of Chinese Refugees in Hong Kong: Report Submitted to the United Nations High Commissioner for Refugees*. Holland: Sijthoff.
- Hong Kong Farmers. (1974). Pig Farming Conditions in Hong Kong. ( HKS A27 H7 v.1-v.3 no.4 1968-1971). The Hung-On To Memorial Library - Hong Kong Special Collection, Hong Kong.
- Ip, Y.C. (2006). Welfare good or colonial citizenships? A case study of early resettlement housing. In A. S. Ku and N. Pun, (Eds.), *Remaking citizenship in Hong Kong: community, nation and the global city* (pp.37 – 53). London: Routledge,
- Irving, B. (1955). One publisher's view point [Brochure]. Cleveland, Ohio: The Industrial Publishing Co. Hong Kong: The Hong Kong Heritage Project.
- Kalpagam, U. (2000a). Colonial governmentality and the economy. *Economy and Society*, 29(3), 418-438.
- Kalpagam, U. (2000b). The colonial state and statistical knowledge. *History of the Human Sciences*, 3(2), 37-35.

- Kuan, H. C., & Lau, S.K. (1981). Planned Development and Political Adaptability in Rural Area. In Ambrose Y.C. King and Rance P.L. Lee (Eds.), *Social Life and Development in Hong Kong* (pp. 169-194). Hong Kong: The Chinese University Press.
- Levi-Strauss, C. L. (1991). *Totemism* (R. Needhan, Trans.). London: Merlin Press. (Original work published in 1962).
- Mark, C. K. (2007). The ‘Problem of People’: British Colonials, Cold War Powers, and the Chinese Refugees in Hong Kong, 1949–62. *Modern Asian Studies*, 41(6), 1145-1181.
- McConnell, F. (2011). Governmentality to practise the state? Constructing a Tibetan population in exile. *Environment and Planning D: Society and Space*. Advance online publication.
- Miller, B. (2007) Modes of Governance, Modes of Resistance, pp. in H. Leitner, J. Peck, and E. Sheppard (eds), *Contesting Neoliberalism: Urban Frontiers*, New York: Guilford Press.
- Mitchell, T. (1988). *Colonizing Egypt*. Berkeley: University of California Press.
- Nadesan, M.H. (2008). *Governemntality, Biopower, and Everyday life*. New York: Routledge.
- Neo, H. (2009) “Institutions, cultural politics and the destabilizing Malaysian pig industry”, *Geoforum*, 40(2): 260-268.
- Neo, H (2012) “‘They hate pigs, Chinese farmers...everything!’: beastly racialization in multiethnic Malaysia”, *Antipode*, 44(3): 950-970
- Oakes, T. (2009). Resourcing culture: is a prosaic “third space” possible in rural China? *Environment and Planning D: Society and Space*. 27, 1074-1090.
- Rose, N., & Miller, P. (1992). Political Power beyond the State: Problematics of Government. *The British Journal of Sociology*, 43(2), 173–205.
- Rose, N., & Miller, P. (2010). Political Power Beyond the State: Problematics of Government. *The British Journal of Sociology*, 61(1), 271-303.
- Rose, N. (2006). Governing “Advanced” Liberal Democracies. In A. Sharma and A. Gupta (Eds.), *The Anthropology of the state: a reader*, (pp.144-162). United Kingdom: Blackwell Publishing.
- Rutland, A., & Aylett, T. (2008). The work of policy: actor networks, governmentality, and local action on climate change in Portland, Oregon. *Environment and Planning D: Society and Space*, 26, 627-646.

- Rydin, Y. (2007). Indicators as a governmental technology? The lesson of community-based sustainability indicator projects. *Environment and Planning D: Society and Space*, 25, 610-624.
- Schurmann, F. (1968). Organization and ideology in communist China. *Berkeley: University of California Press*.
- Scott, D. (1995). Colonial Governmentality. *Social Text*. 43. 191-220.
- Siu, K. K. (1984). The Hong Kong Region Before and After the Costal Evacuation in the Early Ching Dynasty. In D. Faure; J. Hayes & A. Brich (Eds.), *From Village to City Studies in the Traditional Roots of Hong Kong Society* (pp.1-12). Hong Kong: Center of Asia Studies.
- Smart, A. (2001). Unruly Places: Urban Governance and the Persistence of Illegality in Hong Kong's Urban Squatter Areas. *American Anthropologist*, 103(1), 30-44.
- Smart, A. (2006). *The Shek Kip Mei myth: squatters, fires and colonial rule in Hong Kong, 1950-1963*. Hong Kong: Hong Kong University Press.
- Strauch, J. (1984). Middle Peasants and Market Gardeners, the Social Context of the "Vegetable Revolution" in a Small Agricultural Community in New Territories, Hong Kong. In D. Faure, J. Hayes, and A. Birch (Eds.), *From Village to City: Studies in the Traditional Roots of Hong Kong Society* (pp. 191-207). Hong Kong: Center of Asian Studies.
- Tang, W. S. (1997). The Foucauldian Concept of Governmentality and Spatial Practice: an Introductory Note, Occasional Paper No.139, Hong Kong.
- The Federation of Pig Raising Co-operatives Societies of Hong Kong (FPRCS). (1994). *The Federation of Pig Raising Co-operatives Societies of Hong Kong Magazine*. Hong Kong: The Federation of Pig Raising Co-operatives Societies of Hong Kong.
- The Federation of Pig Raising Co-operatives Societies of Hong Kong (FPRCS). (2004). *The Federation of Pig Raising Co-operatives Societies of Hong Kong Magazine*. Hong Kong: The Federation of Pig Raising Co-operatives Societies of Hong Kong.
- The Hong Kong Heritage Project. (2010). The Map of Distribution of Cattle, Pigs, Chickens, & Ducks in Districts in 1950-1970. (2010). Retrieved from <https://www.hongkongheritage.org/html/chi/index.html>
- The Hong Kong Heritage Project. (2010). The Map of Distribution of Dwelling house, Pigsites & Runs, Poultry Sheds & Runs in 1950-1970. (2010). Retrieved from <https://www.hongkongheritage.org/html/chi/index.html>

Warf, B. (2006). *Encyclopaedia of Human Geography*. Thousand Oak & London: Sage Publication Ltd.

Watson, J. L., & Watson, R. S. (2004). *Village Life in Hong Kong: Politics, Gender, and Ritual in the New Territories*. Hong Kong: The Chinese University Press.

Wong, C. T. (1971). *Vegetable Farming in Hong Kong: A Study in Agricultural Geography* (Doctoral Dissertation). Retrieved From the HKU Scholar Hub <http://hub.hku.hk/handle/10722/34570>

Yip, K. C. (2009). *Disease, Colonialism, and the State: Malaria in Modern East Asian History*. Hong Kong: Hong Kong University Press.