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## Historical Agrarian Change and its Connections to Contemporary Agricultural Extension in Northwest Cambodia

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### ABSTRACT

This historical overview uses a political ecology approach to examine agricultural change over time in Northwest Cambodia. It focuses on key historical periods, actors, and processes that continue to shape power, land, and farming relations in the region, emphasizing the relevance of this history for contemporary investments in agricultural extension services and research as part of the Zero Hunger by 2030 policy agenda for achieving the Sustainable Development Goals (SDG). Agricultural extension projects need to engage critically with historically complex and dynamic power, land, and farming relations – not only as the basis of social relations but as central to understanding the contemporary manifestation of farmer decision making and practice. Initiatives such as the SDGs replicate long histories of externally driven power-relations that orient benefits from changed practices towards elites in urban centers or distant global actors. Efforts to realize zero hunger by 2030 are endangered by neglect for the path-dependency of power-land-farming relations, which stretch from the past into the present to structure farmer decision making and practices.

### KEYWORDS

agricultural extension; agrarian change; political ecology; farmers; Cambodia.

## Introduction

Global initiatives like the United Nations' Sustainable Development Goals (SDGs) assume that increasing crop yields and intensifying commercial production are central to achieving food security.<sup>1</sup> To date, these approaches have proceeded with little consideration for the historical and social relations that constitute rural realities and situate farmer decision-making.<sup>2</sup> The global agenda giving rise to the SDGs prioritizes market-oriented policy reforms and rural development interventions that largely obscure questions of power. This assumes that “sustainable agriculture” is apolitical and ahistorical.<sup>3</sup> This framing privileges the entrenched economic interests of political and financial elites across multiple scales.<sup>4</sup> It also avoids the social complexities that

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<sup>1</sup>Blesh et al. 2019; Tomlinson 2013.

<sup>2</sup>Allahyari et al. 2019; Fraser et al. 2016.

<sup>3</sup>Kumi et al. 2014; Leach et al. 2020.

<sup>4</sup>Blesh et al. 2019; Hope 2020; Leach et al. 2020.

shape the political economy of agrarian change, thereby limiting the effectiveness of agricultural extension as the primary means of achieving change for the UN's second SDG, which is to "end hunger, achieve food security and improved nutrition, and promote sustainable agriculture."<sup>5</sup>

The Kingdom of Cambodia launched the "National Action Plan for Zero Hunger Challenge" with an aim to eradicate hunger and malnutrition by 2025. The plan relies on strengthening and expanding public and private agricultural extension services to increase productivity and sustainability.<sup>6</sup> This globally-oriented and state-led emphasis on agricultural extension positions farmers as the subjects of change, often taking the form of transfers of agricultural knowledge and technologies as prompts for changed farmer practices.<sup>7</sup> Those practices, though, are shaped by social relations as farmers navigate power structures that are neither fixed nor stable, but relational and emergent over time. Those structures are produced through encounters with place, human and nonhuman entities, institutions, knowledges, and practices, all of which temporarily destabilize and constrain the exercise of power.<sup>8</sup> If future modalities of agricultural extension are to make substantial positive contributions to farmer wellbeing, then they must recognize and negotiate such relations – including their historical path dependency – as central to supporting and empowering farmers.

In 2015, at least eighty percent of rural Cambodians relied on agricultural production as their primary source of income and food security.<sup>9</sup> The government's agricultural extension policies have positioned agricultural extension as central to addressing the agricultural challenges faced by farmers. The policy refers to power in terms of "empowering" farmers and extension workers; land in reference to land management and productivity; and farming primarily in terms of productivity, income, technology, and commercialization. It makes these references without considering the role of history or social relations. The policy acknowledges that farmers are facing low productivity, labor precarity, and poverty, with many rural people selling their land and migrating to find other labor opportunities.<sup>10</sup> These problems are, however, framed as the outcome of a "lack of or limited agricultural extension services, regulations, and system; lack of human resources, funding, techniques, and technology; lack of extension materials and packaging; and limited agricultural extension methodology and means."<sup>11</sup> However, this reading does not consider the multiple ways in which contemporary farming realities are shaped by past and present social, material, and economic relations that extend beyond the "farmgate."<sup>12</sup>

In contrast to the suggestion that agricultural issues can simply be resolved through the transfer of improved technologies, advice, and materials, we use a political ecology lens to attend to the shifting social relations that have influenced farmer activities over time in Cambodia. These shifts are inseparable from the complex and turbulent histories of Cambodia's northwest region. In what follows we emphasize the evolving relations

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<sup>5</sup>United Nations 2018.

<sup>6</sup>CARD 2016.

<sup>7</sup>Cook et al. 2021.

<sup>8</sup>Li 1999; Ahlborg and Nightingale 2018.

<sup>9</sup>MAFF 2015.

<sup>10</sup>Bylander, 2014, 2015.

<sup>11</sup>MAFF 2015, 1.

<sup>12</sup>See Hope 2020.

between politics and land in the context of agrarian change at multiple scales. Our analysis foregrounds a history of social relations to better understand the struggles and challenges facing Cambodian farmers today, expanding the scope of activities that can be considered within efforts to improve agricultural livelihoods and outputs.

Like many rural areas throughout Cambodia, Northwest Cambodia has experienced a boom in the production of cash crops.<sup>13</sup> This transformation has accelerated deforestation.<sup>14</sup> Often framed as the “last forest frontier” or a “borderland,” the region has undergone rapid agricultural expansion of annual crops, including sesame, soybean, mung bean, maize, and cassava.<sup>15</sup> The labor of demobilized Khmer Rouge soldiers and their families, as well as migrant farmers, has enabled these agrarian transitions, being connected to broader temporal and geographical political, capital, and market relations.<sup>16</sup> Agrarian expansion and intensified production are also turning land into a financial asset for trade and exploitation.<sup>17</sup> This makes farmers more susceptible to market fluctuations and to rapid environmental change, exacerbating challenges predicated on debt, migration, and food insecurity.<sup>18</sup> Together, these transformations reinforce the economic interests of a small number of powerful elites who control local capital and economies.<sup>19</sup>

To better understand these patterns of agrarian change, ecological degradation, financial insecurity, and exploitation, we examine changing relations of power, land, and farming across seven key historical periods since the Angkor Era (see [Table 1](#)). We contend that efforts to improve agricultural extension – exhibited most prominently in the global prioritization of SDGs – must recognize and engage with the historical foundations of rural inequalities if they are to positively contribute to farmers’ lives and livelihoods. Such a perspective is presently missing.

[Table 1](#) provides an overview of the seven historical periods examined in this article, allowing the continuities and changes across periods to be seen with a historical perspective. [Table 1](#) is organized around seven key drivers: spiritualities, materialities, labor and production, political and economic power, land control, mobility/isolation, and forest/ degradation. Notable continuities include Theravāda Buddhism, *wats* as centers of culture, the centrality of rice production, elite rule in its various forms, political intervention by foreign powers, and agricultural expansion through forest exploitation. Alongside these continuities there have been major changes to labor and land tenure regimes (including slavery, collectivization, and individual land tenure), taxation systems, and elites. While specific behaviors and thinking have evolved (i.e., divisions of labor) overarching forces and priorities have remained remarkably consistent (i.e., disempowerment of local farmers and externally-driven efforts to raise agricultural production). While there have also been major periods of war and rebuilding, including shifts in the prominence of major non-rice crops, there remain consistencies that deserve recognition in the context of contemporary efforts to influence the agricultural sector via agricultural extension.

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<sup>13</sup>Kem 2017; Mahanty and Milne 2016.

<sup>14</sup>Diepart and Dupuis 2014.

<sup>15</sup>Mahanty and Milne 2016; Kong et al. 2019; Milne 2015.

<sup>16</sup>Diepart and Dupuis 2014; McMichael 2008; Milne and Mahanty 2015a.

<sup>17</sup>Diepart and Sem 2016; Green 2019; Li 2014; LICADHO and STT 2019.

<sup>18</sup>Gyorvary and Lamb 2021; Montgomery et al. 2017; Touch et al. 2016; Green 2019.

<sup>19</sup>Diepart and Sem 2016; Gyorvary and Lamb 2021.

**Table 1.** Key historical drivers shaping agrarian change in Northwest Cambodia.

| Key historical drivers | Historical periods  |   |                               |   |   |
|------------------------|---|---|-------------------------------|---|---|
|                        | Angkor  | Post-Angkor   | French Protectorate           | Kingdom of Cambodia                           | New Kingdom of Cambodia   |
| Spiritualities         | Neak ta<br><i>Spirits of the dead/ territorial guardian spirits</i>   | Therevāda Buddhism<br><i>Moral King</i>   |                               | Democratic Kampuchea                          | Transitional period<br>Neak ta<br><i>Spirits of the dead/ territorial guardian spirits/ war ghosts</i><br>Therevāda Buddhism<br><i>Democracy</i> <sup>11,20,170P</sup> Please remove the grey shading of all cells in this table. I have deleted the explanation in the caption. It is too vague and does not add significantly to the paper. |
| Materialities          | From Shaivistic Hinduism/ Mahayana Buddhism to Therevāda Buddhism<br><i>Transition from God King to moral King</i><br>Wats<br><i>Places of encounter, spiritual protection, agricultural practices knowledge exchange</i> | Rice production and export<br>Cardamon, wax   | Rubber<br>Rice wine and sugar | Cash crops (maize)                            | Wats<br><i>Places of encounter, spiritual protection, agricultural practices knowledge exchange</i><br>Cash crops (maize, cassava, cashews, rambutan, fruit trees)  |
| Labor and production   |   | Rapid environmental change (flooding and droughts)<br>Complex irrigation and water management | Corvée labor                  | Landmines<br>Forced collectivization of labor | Collective labor  |

|                                 |  |   |  |   |   |   |  |
|---------------------------------|--|---|--|---|---|---|--|
|                                 | Customary and<br>served labor<br>Rice/labor tax  | Forced<br>labor<br>Rice tax   | Rice/labor tax                                   | Taxation/ Debt and<br>credit  | Rice tax  | Debt and credit   | Individualized and waged<br>labor                        |
| Political and economic<br>power | Caste system<br><i>King (Angkor)</i><br>Patron networks<br>War/military incursions from neighboring kingdoms<br>Champa | King<br>(Phnom<br>Penh)   | King / French                                    | King / communism  | Khmer Rouge<br>Allegiance to the Khmer Rouge<br>Internal armed conflict and war/<br>military incursions from<br>neighboring kingdoms<br>Thailand<br>Vietnam | UNTAC / Cambodian<br>government<br>Patron networks (ex-Khmer Rouge warlords /<br>elites)<br>Post-conflict<br>Thailand and<br>Vietnamese<br>Multilaterals<br>Donors<br>NGOs<br>UNTAC | Cambodian government                                     |
| Land control                    | King ownership<br>Kram, Paukeas<br>(possession)<br>Customary land tenure   | Paukeas   | Siam<br>France<br>Paukeas Kamaset<br>(ownership) | Thailand<br>Vietnam<br>USA<br>Agricultural<br>Department<br>State-centered<br>agricultural<br>extension | Forced re-education,<br>collectivization of land<br>Forced collectivization   | Market and project-based agricultural extension<br>Public-private partnerships<br>Collective agricultural<br>production   | Multilaterals<br>Donors<br>NGOs<br>UNTAC                 |
| Mobility/isolation              |  | War related in-migration and emigration                                   |  |   | Collectivization of land and<br>destruction of title<br>Separation of families, forced<br>migration   | In-migration,<br>emigration, and<br>resettlement  | In-migration and<br>emigration, debt driven<br>migration |
| Forest/degradation              |  | Accelerated agrarian expansion, rapid deforestation, and soil degradation |  |   |   |   |  |

## Methodology

Drawing from the work of different scholars,<sup>20</sup> we examine seven periods, organized by broad changes in national-scale governance structures: the Angkor era (eighth to the fourteenth century); the post-Angkor period (fourteenth to the nineteenth century); the French Protectorate era (1863 to 1953); the Kingdom of Cambodia (1953 to 1975); Democratic Kampuchea (1975 to 1979); the People's Republic of Kampuchea and transitional period (1979 to 1993); and the contemporary Kingdom of Cambodia (see Table 1). In each period we focus on changing power structures, shifting approaches to land, and how farming may have changed or been affected.

Our analysis also is informed by a review of articles, edited books, policy documents, and project reports from state-led agencies, multilateral and bilateral donors, non-governmental organizations, academia, farmer movements, and the private sector, replicating a methodology implemented in the global context of agricultural extension.<sup>21</sup> Where possible we have focused on the history of agrarian change in Northwest Cambodia and, if not available, limited ourselves to documents focused on Cambodia. This focus has made the analysis more manageable, although we acknowledge that our analysis is partial and predominantly shaped by English language materials, academic scholarship, and government sources.

## A brief history of agrarian change in Northwest Cambodia

Cambodian territory is formed by lowlands and rivers that flow into the Mekong River Basin or the Tonle Sap Lake (Figure 1). Monsoon flooding takes place in September and October each year, fertilizing rice plains and increasing the abundance of fish stocks.<sup>22</sup> However, upstream hydropower dams and climate change in recent years have altered Mekong flood patterns, disrupting the seasonal supply of fish and other flood-connected resources in the floodplains.<sup>23</sup> In response, rice farmers have increased their dry season rice production, but with uncertain long-term impacts. The highlands have a long history of smallholder farming and shifting cultivation.<sup>24</sup> Non-swidden farming (e.g., maize, beans, cassava, fruit trees) in upland areas of Northwest Cambodia is relatively new compared to lowland areas, where paddy rice cultivation has long been practiced.<sup>25</sup>

An Indigenous rural animistic belief system known as *neak ta* (land and guardian spirits) has remained widespread since ancient times. Water, forest, and land spirits serve as territorial protectors (*mcâs dÿk mcâs tî*, “owners of water and land”), while other entities known as *bralÿng* manifest as humans, corporeal, and nonhuman entities.<sup>26</sup> Misfortune and health issues are often associated with *bralÿng*.<sup>27</sup> This Indigenous ontology has mixed with Buddhism, shaping understandings of territorial guardian spirits and deceased ancestors, who are considered inseparable from the land.<sup>28</sup> The spirits of the

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<sup>20</sup>Chandler, 2018; Corfield, 2009; Diepart and Dupuis, 2014; Kong, 2019; Slocomb, 2010; Sothirak et al., 2012.

<sup>21</sup>Cook et al. 2021.

<sup>22</sup>Vickery 1989; Pillot 2007.

<sup>23</sup>Pokhrel et al. 2018; Sneddon and Fox 2012.

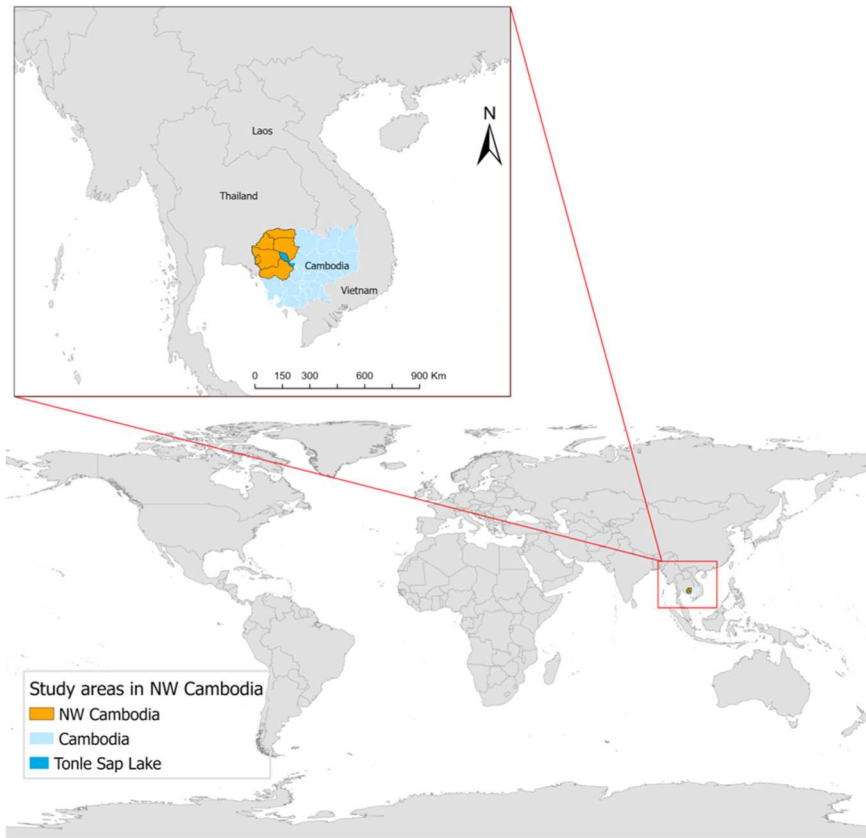
<sup>24</sup>Cramb et al. 2020.

<sup>25</sup>Montgomery et al. 2017.

<sup>26</sup>Gyallay-Pap 1989; Work 2017, 4.

<sup>27</sup>Work 2017.





**Figure 1.** Map of Northwest of Cambodia.

dead continue to inhabit rural landscapes, at times manifesting through different interlocutors and dreams while also shaping the transfer of knowledge.<sup>29</sup> *Neak ta* is at the heart of Khmer society and culture, shaping human and nonhuman interactions, including agricultural practices.<sup>30</sup> These beliefs and practices have retained meaning and significance for many farmers throughout the seven periods discussed below and in the present.

### **Angkor Era**

Battambang, the capital of the province of the same name, was founded in the eleventh century on the Sangker River.<sup>31</sup> The Angkor Kingdom was an agrarian civilization that relied on social hierarchies to maintain control of the population. The King of Angkor mediated between cosmological and worldly orders while also taking attributes from land spirits.<sup>32</sup> Social hierarchies were reinforced by royal institutions and patronage

<sup>28</sup>Baek 2010.

<sup>29</sup>Beban and Work 2014; Work 2017.

<sup>30</sup>Gyallay-Pap 1989; Baek 2010.

<sup>31</sup>Han and Lim 2019.

<sup>32</sup>Gyallay-Pap 1989; Work 2017.

networks. The power of the king was exercised by appointees called *okyas*, which included five ministers and provincial and district governors.<sup>33</sup> Both rice production and farming labor were subject to a ten percent tax. Periods of war with neighboring kingdoms located in present day Thailand and Vietnam increased demand for food reserves, which in turn required intensified modes of rice production and labor organization.<sup>34</sup>

During the thirteenth century, with the expansion of Theravāda Buddhism from Thailand to the area, the Angkor king evolved into the *dhammaraja* (a moral or righteous king). Rapid environmental changes during this period destroyed the complex water management system for which Angkor was famed, reducing irrigation capacity and limiting agricultural production.<sup>35</sup>

During the Angkor era, land was divided into three zones: *kampong*, the center of political and economic power; *srok* (*sruk*), the cultivated and domesticated world, which included *srae* – rice hinterlands along the Tonle Sap floodplain, shaped by complex water control and irrigation systems that enabled multiple harvests per year; and *prey*, forest land and remote villages, subjected to intensive resource exploitation and sometimes forced kidnappings for labor. *Prey* was often represented as a dangerous zone of threats, diseases, death, and outlaw practices, including spiritual power.<sup>36</sup> Central to Khmer culture were Hindu rituals and protocols, leading to contrasts between “wild and tamed ... dark haunted bushland versus inhabited open space.”<sup>37</sup> In this context, civilization was seen as “the art of remaining outside the forest.”<sup>38</sup> *Kram*, the traditional land tenure system, gave the king ownership, positioning him as the protector of land and custodian of human and spiritual peace.<sup>39</sup> Coexisting customary and collective forms of land tenure and management were widespread. Farmers had land possession rights (*paukeas*) which they could claim by farming the land.<sup>40</sup>

Agricultural production during the Angkor era was predominately collectivized and took place around temples, which had access to irrigation.<sup>41</sup> Although the distribution of labor during this period remains unclear, social hierarchical divisions positioned farmers as a lower caste.<sup>42</sup> Slave labor was central to agrarian production, with some enslaved groups periodically moving to new areas in response to agricultural labor needs.<sup>43</sup> This labor model supported the maintenance of networks of water reservoirs, which were central to the expansion of agricultural production across the Great Angkor region.<sup>44</sup> Buddhist temples, known as *wats*, played a key role as places of encounter and spiritual protection, where ceremonies, social gatherings, and government meetings were held.<sup>45</sup> *Wats* also served as gathering places for farmers to exchange

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<sup>33</sup>Chandler 1998.

<sup>34</sup>Mak 2001.

<sup>35</sup>Buckley et al. 2010.

<sup>36</sup>See Arensen 2012; Chandler 1998; Diepart and Dupuis 2014, 450.

<sup>37</sup>Scott, 2009, 112.

<sup>38</sup>Chandler, 2008, 125.

<sup>39</sup>Diepart and Dupuis 2014; Greve 1993.

<sup>40</sup>Diepart 2015.

<sup>41</sup>Hall 2011.

<sup>42</sup>Chandler 1998.

<sup>43</sup>Klassen et al. 2021.

<sup>44</sup>Pottier 2000.

<sup>45</sup>Arensen 2012.

information and knowledge, as well as venues where Buddhist monks likely offered training on agricultural practices and rites.<sup>46</sup>

### **Post-Angkor period**

During the post-Angkor period (the fourteenth to the nineteenth centuries), the political economy continued to be shaped by the king and the *chovay srok* patronage networks, but with the addition of growing foreign interests.<sup>47</sup> Regional trade with the Kingdom of Ayutthaya enabled the expansion of Chinese maritime trade in Southeast Asia, and trade across the lower Mekong basin.<sup>48</sup> Phnom Penh became increasingly influential as a regional center.<sup>49</sup> The circulation of farming surpluses via trade reinforced the power of *chovay srok* through the rice taxation system and increased the influence of Chinese traders.<sup>50</sup>

Beginning in the Angkor period, tribal groups “collected the forest products that formed a major source of a monarch’s income and the bulk of the goods that Cambodia sent abroad.”<sup>51</sup> However, this period was also marked by political instability due to occasional territorial invasions by Siam and other neighboring kingdoms, including Champa and Dai Nam. In the seventeenth century there were also attempts by Dutch, Portuguese, Spanish, and French mercenary troops and Catholic missionaries to gain control of the Mekong Delta to influence trade.<sup>52</sup>

Between the eighteenth and nineteenth centuries, the Kingdom of Siam took control of Battambang, fueling conflicts between central and northwest provinces in Kampuchea.<sup>53</sup> In exchange for military protection, dissenting *chovay srok* gave the Siam king rights over forest resources and allowed the recruitment of labor for the Siam army.<sup>54</sup> In this way, northwest Kampuchea resisted the centralization of power, a trend that continues to influence contemporary relations in Democratic Kampuchea.<sup>55</sup>

During the post-Angkor period most of the population in the northwest were farmers who relied primarily on rice production. At least 2,000 endemic varieties of rice have been identified in Kampuchea.<sup>56</sup> However, the livelihoods of farmers and rural communities were regularly hampered by periods of environmental uncertainty, state taxes, forced labor, and warfare.<sup>57</sup>

### **French Protectorate (1863-1953)**

The Mekong delta came under French control in 1862 when King Norodom of Kampuchea requested protection, establishing the French Protectorate.<sup>58</sup> French colonial

<sup>46</sup>Gyallay-Pap 1989.

<sup>47</sup>Diepart and Dupuis 2014.

<sup>48</sup>Vickery 1977.

<sup>49</sup>Rungswasdisab 1995.

<sup>50</sup>Diepart and Dupuis 2014; Mak 2001; Rungswasdisab 1995.

<sup>51</sup>Chandler 2008, 121.

<sup>52</sup>Hall 2018.

<sup>53</sup>Chandler 1998.

<sup>54</sup>Rungswasdisab 1995.

<sup>55</sup>Diepart and Dupuis 2014; Rungswasdisab 1995.

<sup>56</sup>Cramb et al. 2020; Helmers 1997.

<sup>57</sup>Cramb et al. 2020.

<sup>58</sup>Chandler 1998.

authorities maintained the power of the royal family as well as social hierarchies. Farmers continued to be governed by a complex web of political and religious values and power relations.<sup>59</sup> Economic output focused on the production of rice, rubber, and timber.<sup>60</sup> Most royal revenues were derived from Chinese operated opium farms, gambling concessions, and rice products such as wine and sugar.<sup>61</sup>

During the French Protectorate period, land was privatized, creating a distinction between *paukeas* (possession rights) and *kamaset* (ownership rights).<sup>62</sup> The latter were used by French and urban investors to register ownership over forests and rubber concessions, with farmers' land rights rarely recognized.<sup>63</sup> The return of the northwest provinces by Siam during this time was followed by farmer migrations southward because of demographic pressure. Migration led to unequal distribution of land, which increased levels of insecurity and conflict.<sup>64</sup> Land titles and transfers intensified the role of patronage networks, which led to problems with land concentration along the northwest border.

Colonial forest reserves were established and agreements between logging companies and colonial forest administration authorities regulated logging, excluding people and their livestock. This contributed to the proliferation of illegal smuggling routes involving local authorities and Thai traders.<sup>65</sup> Farmers were required to pay their taxes in cash, which pushed farmers to sell their produce despite unfavorable conditions, increasing their debt, increasing land dispossession, and giving rise to wage labor.<sup>66</sup> *Corvée* labor in lieu of taxes was widely enforced to maintain public works, including transportation networks.

In the 1930s, the emergence of the Indochinese Communist Party (ICP) led to the expansion of an anti-colonial movement across the region. In the 1940s, progressive Buddhist groups and the *Khmer Issarak* (Free Khmer Movement) protested colonial plundering and control.<sup>67</sup> During World War II, Japanese forces weakened French power, resulting in Battambang falling under Thai control. In 1945 the Japanese declared a *coup de force*, which in the following years contributed to the end of French rule of Indochina. In 1946, the Thai government returned Battambang to France. Finally, King Norodom Sihanouk declared the independence of Cambodia in 1953.<sup>68</sup>

### ***The Kingdom of Cambodia (1953-1975)***

After King Norodom Sihanouk declared independence from France, foreign influence over the production of rice, rubber, and maize continued to expand.<sup>69</sup> Reflecting global priorities arising from famines and concerns over population expansion,<sup>70</sup> an

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<sup>59</sup>Vickery 2010.

<sup>60</sup>Chandler 1998; Diepart and Dupuis 2014.

<sup>61</sup>Chandler 1998; Cooke 2007.

<sup>62</sup>Diepart 2015, 8; Guillou 2006.

<sup>63</sup>Scurrah and Hirsch 2015.

<sup>64</sup>Diepart and Dupuis 2014.

<sup>65</sup>Diepart and Dupuis 2014.

<sup>66</sup>Cooke 2007; Diepart and Dupuis 2014.

<sup>67</sup>Chandler 1998; Diepart and Dupuis 2014.

<sup>68</sup>Chandler 1998; 1986.

<sup>69</sup>Chandler 1998; Diepart and Dupuis 2014.

<sup>70</sup>Boserup, 2014.

agricultural extension program was established in 1957.<sup>71</sup> An extension unit was created within the Ministry of Agriculture to increase rice, vegetable, and livestock production for export and to expand irrigation systems in the northwest. A top-down approach to extension was implemented, introducing cooperatives and a credit system while relying on radio and television campaigns to disseminate information.<sup>72</sup>

In 1955, the United States government signed a military aid agreement with Cambodia. However, in 1964 aid from the USA was rejected by King Sihanouk, who began a nationalization program.<sup>73</sup> From 1965 to 1973, the US Air Force repeatedly bombed rural areas in Cambodia, initially targeting Viet Cong forces operating within Cambodia and later Cambodian revolutionary forces. These aerial attacks killed at least 600,000 Cambodians and left thousands of unexploded bombs across Laos and Cambodia.<sup>74</sup>

In 1967, farmer uprisings in Samlout in the northwest marked the beginning of the Cambodian Civil War, which lasted from 1967 until 1975. In this unstable context, the royal government deployed the military to take control of rice production in Battambang, collect taxes, and halt trade with communist groups.<sup>75</sup>

Colonial land and forest tenure arrangements were sustained during this period.<sup>76</sup> While there was a halt to foreign concessions, the number of landless farmers increased from four percent to twenty percent between 1950 and 1970.<sup>77</sup> Incentives from the royal government designed to provide access to and expansion of agricultural land facilitated the migration of families from the southwest to the northwest. The influx of labor resulted in the expansion of rice production from 1.7 to 2.5 million hectares, growing from thirty-four percent of total exports in 1957 to fifty percent in 1963.<sup>78</sup>

Extension services were interrupted during the war as domestic consumption of rice decreased. The war's impact was amplified by high taxes and personal debt, which escalated the illegal trade of rice. Simultaneously, the government used military force to compel farmers to sell their rice to the state at below market rates.<sup>79</sup> As in present circumstances,<sup>80</sup> farmers relied heavily on credit to pay agricultural taxes. In response, beginning in the 1960s, farmers began mobilizing against corrupt government and military officials. As a result, the northwest region became a center for the Khmer Rouge.<sup>81</sup>

### ***Democratic Kampuchea (1975-1979)***

In 1975, Khmer Rouge forces took control of Phnom Penh. They forced approximately two million urban residents to relocate to rural areas.<sup>82</sup> The Khmer Rouge leader, Pol Pot, prioritized collectivized rice production<sup>83</sup> and the complete abandonment of past

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<sup>71</sup>Ke and Babu 2018.

<sup>72</sup>Heng et al. 2023; McNamara 2016; Ke and Babu 2018.

<sup>73</sup>Vickery 1989.

<sup>74</sup>Kiljunen 1984; Owen and Kiernan 2006; Vickery 1989).

<sup>75</sup>Diepart and Dupuis 2014.

<sup>76</sup>Ibid.

<sup>77</sup>Kiernan, 1996.

<sup>78</sup>Vickery 1989, 43.

<sup>79</sup>Vickery 1989, 43.

<sup>80</sup>Bateman 2018; Green 2022b; Green 2023.

<sup>81</sup>Diepart and Dupuis 2104.

<sup>82</sup>Vickery 1989.

<sup>83</sup>Diepart and Dupuis 2014.

cultural practices to enable the emergence of a new revolutionary order.<sup>84</sup> These actions included consolidation of land and destruction of land titles<sup>85</sup> and the execution of all people linked to the previous government, including teachers, university officials, and the elderly.<sup>86</sup>

During this period, dissident Khmer Rouge troops in the Northwest continued the cross-border timber trade with Thai merchants.<sup>87</sup> Alongside economic collectivization, the Khmer Rouge regime forcibly collectivized land and natural resources.<sup>88</sup> Schools, religion, money, and private property were abolished.<sup>89</sup> Forest concessions were terminated and access to forests was restricted.<sup>90</sup> Landmines were used to control and limit access to agricultural lands. An estimated six million landmines were deployed around the country during and after the war.<sup>91</sup> These explosives continue to shape contemporary land management practices and agricultural opportunities.<sup>92</sup>

All residents were organized in large collective farms. All production activities were performed by production groups, enforcing the separation of families and social networks, with some of these groups functioning as mobile brigades.<sup>93</sup> Rice production was intensified using compost as a fertilizer, natural insecticides, and irrigation. The resulting surplus was exported, continuing the practice of producing profits for those in power. Small paddy fields were transformed into larger, uniform one hectare plots, destroying the traditional system of rice paddy cells while contributing to the loss of seed varieties.<sup>94</sup>

Importantly, the killing of farmers, particularly the elderly, resulted in a fragmentation of traditional knowledge and practices predicated on sharing, learning, and passing on ecological knowledge to younger generations.<sup>95</sup> This loss contributed to the destruction of kinship relations, institutions, and moral norms.

### ***The People's Republic of Kampuchea and transitional period (1979-1993)***

In 1979, a Khmer-Vietnamese military coalition took control of Phnom Penh, leading to the collapse of the Khmer Rouge government. Throughout the 1980s and 1990s, the northwest region was a center of Khmer Rouge resistance.<sup>96</sup> Although the new government revoked forest use agreements signed by the Khmer Rouge with Thai military-aligned logging companies for their role in financing the insurgency, deforestation continued.<sup>97</sup> At the national level, Hun Sen, a former Khmer Rouge soldier who had joined the Vietnamese forces during the Cambodian-Vietnamese War, consolidated power, eventually serving as prime minister from 1985 to 2023.

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<sup>84</sup>Chandler, 2018; Clayton, 1998; Lunn, 2004.

<sup>85</sup>Clayton, 1998; Lunn, 2004

<sup>86</sup>Clayton, 1998; Kiernan, 2003; Raffin, 2012.

<sup>87</sup>Diepart and Dupuis 2014.

<sup>88</sup>Yang Saing 1999, 20.

<sup>89</sup>Chandler 1998; Scurrah and Hirsch 2015.

<sup>90</sup>Tyner 2008.

<sup>91</sup>Matthew and Rutherford 2003; Merrouche 2011.

<sup>92</sup>Williams and Dunn 2003.

<sup>93</sup>Raffin, 2012.

<sup>94</sup>Himel 2007.

<sup>95</sup>Zucker 2008.

<sup>96</sup>Diepart and Dupuis 2014.

<sup>97</sup>Scurrah and Hirsch 2015.

From 1979 to 1989, agricultural production in lowland areas was collective, with ten to fifteen families forming solidarity groups (*Krom Samaki*) that shared ownership of land. Some regions allowed private land use rights beginning in 1982, but only in 1989 was the *Krom Samaki* system formally replaced with private land ownership.<sup>98</sup> Following the 1991 peace agreement between the government and the remnants of the Khmer Rouge, a new land law decreed state ownership of all land. This law granted individuals possession rights, yet in practice permitted some individuals to claim private land ownership while many farmers were unable to register their land claims.<sup>99</sup>

The World Bank and other international donors lobbied for the reintroduction of a forest concession system in the 1990s to fund post-conflict development via public-private partnerships.<sup>100</sup> A coalition between Hun Sen's Cambodian People's Party (CPP) and former King Sihanouk's royalist party, the National United Front for an Independent, Neutral, Peaceful, and Cooperative Cambodia (*Front Uni National pour un Cambodge Indépendant, Neutre, Pacifique, et Coopératif*, FUNCINPEC), enabled a forest concession system to be co-opted by political elites and used to appease potential insurgents, becoming an instrument for the accumulation of capital, land, and power.<sup>101</sup> Patronage networks facilitated this transition, while also enabling the expansion of elite land capture; by 2001, at least thirty-nine percent of all land in Cambodia was classified as forest concessions.<sup>102</sup> In addition, approximately five percent of the country's territory was reserved for the military, contributing to the militarization of natural resource management.<sup>103</sup>

As people began resettling along the northwest frontier following the cessation of violence, vast areas of forest were cleared and converted to agricultural land. Many people died or were injured from landmines while clearing forest areas.<sup>104</sup> Landmines have caused a dramatic health crisis, constrained rural mobility and farming practices, and had wide socioeconomic and environmental impacts. Clearance programs have been funded primarily by international donors and NGOs.<sup>105</sup> By 2003 at least 64,000 individuals had lost their lives and another 25,000 had had traumatic amputations from mine blasts.<sup>106</sup>

Following the 1991 peace accord many landless individuals sought opportunities in the country's northwest region, some returning to the villages where they had lived prior to the civil war.<sup>107</sup> In an effort to appease former insurgents, the state offered livelihood alternatives to demobilized soldiers, which has been central to the expansion of the agrarian frontier and increased productivity.<sup>108</sup>

In 1979, the new government reactivated extension services.<sup>109</sup> In 1980, a committee for extension development began disseminating technical agricultural knowledge to

<sup>98</sup>Yang Saing 1999, 20.

<sup>99</sup>Biddulph 2014a; Diepart 2015.

<sup>100</sup>Le Billon 2002; Barney 2010.

<sup>101</sup>Global Witness 2007; Jacobsen and Stuart-Fox 2013; Vickery 2007.

<sup>102</sup>Diepart 2015, 12; Le Billon 2002; Jacobsen and Stuart-Fox 2013.

<sup>103</sup>Diepart and Dupuis 2014.

<sup>104</sup>Matthew and Rutherford 2003, 48. Indeed, access to arable land has been limited with an estimate of at least twenty-five percent of potential agricultural land still littered with landmines and unexploded ordinance.

<sup>105</sup>Merrouche 2011.

<sup>106</sup>Rodrigues 2023.

<sup>107</sup>Diepart 2015.

<sup>108</sup>Biddulph 2014a.

<sup>109</sup>Yang Saing 1999.



farmers in rural areas, primarily using mass media, booklets, pamphlets, and posters.<sup>110</sup> Non-governmental organizations (NGOs) worked with government agencies to support the reactivation of agricultural extension and the training of extension officers.<sup>111</sup>

### ***The new Kingdom of Cambodia (1993-present)***

A flood of international aid and investment followed the 1991 peace accord, influencing and distorting local economies as they were reoriented towards global markets.<sup>112</sup> An emphasis on trade has continued to reinforce the political economies of former Khmer Rouge warlords and Thai military actors.<sup>113</sup> As part of adopting a liberal economic model, the government ended subsidies for agricultural inputs such as water pumps, seeds, gasoline, fertilizer, and pesticides.<sup>114</sup>

In addition, beginning in 1998, a strategy for political and territorial reintegration, *Samaharenekam*, gave former Khmer Rouge soldiers positions within provincial and district administrations. Integration into government effectively ended lingering conflicts while also reinforcing the political and economic power relations of the Khmer Rouge.<sup>115</sup> Integration also reinforced the power of lower-level Khmer Rouge representatives within newly created villages, resulting in land management that has continued to expand the agrarian frontier – a process that is pronounced across the northwest uplands.<sup>116</sup> The 2001 Land Law helped to legitimize market-driven land acquisition.<sup>117</sup> The Land Management and Administration Program (LMAP), a multi-donor project led by the World Bank and the Ministry of Land Management, Urban Planning, and Construction, supported the implementation of land reforms, strengthening institutional and legal frameworks.<sup>118</sup> However, land ownership was only granted to people who occupied land before the law was promulgated, leaving farmers who had settled on land after 2001 without land rights.<sup>119</sup>

The state banned logging in 2002, ended the forest concession system, and replaced it with an economic land concession (ELC) system.<sup>120</sup> As part of this process, over two million hectares of land were leased to private companies for seventy years.<sup>121</sup> Social land concessions (SLC) were used to redistribute land to landless farmers.<sup>122</sup> In response to escalating conflicts between concession holders and individual smallholders, many of whom had been forcibly evicted and dispossessed of their land, the state implemented a new ELC policy in 2012. This enabled the fast-tracking of land titles in areas that overlapped with Economic Land Concessions (ECL) but went much beyond as it also targeted areas identified as ex-forest concessions, protected areas, and production forests.<sup>123</sup> The

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<sup>110</sup>Heng et al. 2023.

<sup>111</sup>Ke and Babu 2018; Soeun 2012.

<sup>112</sup>Ear 2012.

<sup>113</sup>Diepart and Dupuis 2014.

<sup>114</sup>Yang Saing 1999, 19.

<sup>115</sup>Diepart and Dupuis 2014.

<sup>116</sup>Diepart and Dupuis 2014; Mahanty 2019; Mahanty and Milne 2016.

<sup>117</sup>CCHR 2013, 11.

<sup>118</sup>Scurrah and Hirsch 2015.

<sup>119</sup>Diepart and Dupuis 2014; Scurrah and Hirsch 2015

<sup>120</sup>Scurrah and Hirsch 2015

<sup>121</sup>Milne and Mahanty 2015b; Scurrah and Hirsch 2015.

<sup>122</sup>Grimsditch and Henderson 2009.

<sup>123</sup>Diepart 2015.



process was interrupted in 2013 after national elections.<sup>124</sup> The result has been the concentration of thirty percent of all arable land in the hands of one percent of Cambodians.<sup>125</sup> Importantly, communities have mobilized against this ELC, protesting and submitting petitions while also facing intimidation and violence.<sup>126</sup>

Although specific land control practices are diverse, the redistribution of land has exacerbated the divide between farmers and political elites, which in the northwest has been influenced by former Khmer Rouge soldiers turned warlords.<sup>127</sup> In some instances, former Khmer Rouge leaders have become members of government. This highlights some of the complexities of land struggles and contradictions between different forms of land control and state formation processes, often negotiated individually between elites and households at the intersection of former Khmer Rouge power structures and the neoliberal state.

Accelerated deforestation in the region has followed the diversification and expansion of cash crops such as maize, cassava, and fruit trees. These processes have increased migration from rice-growing provinces and from refugee camps.<sup>128</sup> Complex and changing land relations have shaped migration patterns, reflecting the need to access livelihood opportunities and secure land, as well as people's desires to live in proximity to family and social networks.<sup>129</sup> Local elites, including village chiefs, have acted as intermediaries between farmers and foreign industrial groups, working as vendors of agricultural inputs and in the commodification and trading of agricultural products.<sup>130</sup>

In 1994 the government created the Council for Agricultural and Rural Development (CARD) and the Credit Committee for Rural Development (CCRD) to facilitate policy development and coordination between ministries. In addition, the Ministry of Agriculture and Forestry was replaced by the Ministry of Agriculture, Forestry, and Fisheries (MAFF) in 1996. In this new institutional context, agriculture is governed by four national institutions:<sup>131</sup> the MAFF, the Ministry of Rural Development (MRD), the Ministry of Environment (MOE), and the Secretary of State of Women's Affairs (SSWA). Since the 1990s, multiple projects have been implemented to improve infrastructure and agricultural production. These projects have been funded by the Food and Agriculture Organization (FAO), International Development Research Centre (IDRC), the International Fund for Agricultural Development (IFAD), and a wide range of other aid agencies.

Central to the modernization of the Cambodian agricultural sector has been an orientation towards international markets. Agricultural extension programs have been positioned as the means for achieving national aims, including developing and expanding extension systems; improving management, including planning and evaluation systems; building capacity at all levels within extension systems; developing and

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<sup>124</sup>Müller 2013; Scurrah and Hirsch 2015.

<sup>125</sup>Neef et al. 2013, 1086. As an example, the Pheapimex Co., Ltd. ELC, established in 2000, controls 315,928 hectares of land in the provinces of Pursat and Kampong Chhnan, impacting the lives and livelihoods of over 100,000 people in 111 villages (Bandler and Focus on Global South 2018,14).

<sup>126</sup>See Bandler and Focus on Global South 2018; Guttal 2014; Lamb et al. 2019.

<sup>127</sup>Biddulph 2014b; Diepart and Dupuis 2014.

<sup>128</sup>Pilgrim et al. 2012.

<sup>129</sup>Diepart and Dupuis 2014.

<sup>130</sup>Diepart and Dupuis 2014, 456.

<sup>131</sup>Yang Saing 1999, 15.

improving information communication technologies and strategies; developing provincial and district information systems; and supporting the development of farmer organizations.<sup>132</sup>

Interventions have remained largely crop-oriented, focused on pest management, variety improvement, and integrated nutrient management. However, in practice, few farmers have had access to these services. An estimated one percent of farmers had access to extension services in 2007, with ten percent being women; in 2013, just twenty-seven percent of households were able to access extension services.<sup>133</sup> Government efforts in agricultural extension have largely focused on increased rice production for export.<sup>134</sup> Despite this state focus on rice production, farmers have diversified their activities, seeking access to market opportunities for crops such as maize, cassava, cashews, rambutan, durian, and mangos. However, farmers continue to experience structural and institutional constraints linked to land tenure, market failures, the prevalence of an informal sector, and a limited transport infrastructure.<sup>135</sup>

Current national policy emphasizes diversification of agricultural production as a means to achieve the SDGs. This effort endorses the transformation from “family-owned cultivation to manageable agro-commercial production,” as emphasized by the Cassava National Policy 2020-2025.<sup>136</sup> The plan envisions increased market-driven agricultural production, enabled by the availability of microcredit.<sup>137</sup> This trajectory in the context of weak government regulations, the uncertainties and economic toll of the global COVID-19 pandemic,<sup>138</sup> and climate change<sup>139</sup> are likely to accelerate land loss, debt-driven migration, and food insecurity amongst smallholder families.<sup>140</sup>

## Discussion

Our review highlights the value of adding historical context to contemporary agricultural debates and exploring the path-dependent structures that situate contemporary power, land, and farming relations. Our political position foregrounds the rights and struggles of smallholder farmers in order to contribute to more sustainable and equitable agriculture livelihoods. Table 1 contextualizes seven key drivers of agrarian change in Northwest Cambodia, assembled from the literature to reflect the complex forces that have shaped farmer livelihoods. The table is an effort to guide perspectives on long-standing processes (spiritualities, debt and taxes, patronage networks, and migration) as well as more recent changes (increased cash crops, land privatization, and individualized labor). The table also highlights the destructive period of Khmer Rouge rule and the breakdown of social relations and knowledge that, like water and land spirits (*mcâs dyk mcâs tî*), haunt contemporary efforts to increase productivity and livelihood development. That the sustainable development goals aimed at combating hunger, food insecurity, and

<sup>132</sup>Soeun 2012, 1.

<sup>133</sup>Leapheng 2018.

<sup>134</sup>RGC 2010.

<sup>135</sup>ADB 2012.

<sup>136</sup>RGC, 2020.

<sup>137</sup>See Green and Estes 2018; Green 2023 for discussion of debt implications.

<sup>138</sup>Brickell et al. 2020.

<sup>139</sup>Frewer 2021; Marcaida III et al. 2021; Sok et al. 2021; Touch et al. 2020.

<sup>140</sup>Bylander 2014, 2015; Pilgrim et al. 2012.

poor nutrition remain central suggests that recent changes have been insufficient to grapple with longer term processes, such as financial precarity associated with taxes and debt, ongoing patterns of elite land concentration, and the exploitation of rural laborers.<sup>141</sup> Our analysis also suggests that institutions that have demonstrated longevity, such as Buddhist temple communities, continue to be integral to rural life and may provide a resource for collaboratively reimagining ways of supporting rural farmers to realize a good life.<sup>142</sup> In the following sections we discuss these historic trends as they relate to power, land, and farming below.

## **Power**

The prevalence and relevance of patronage networks in shaping power, land, and farming is central to the history of agrarian change in Northwest Cambodia. Complex histories of war, environmental change, and Indigenous and Buddhist ontologies have been at the heart of human and nonhuman relations in Cambodia.<sup>143</sup> These hierarchical, patron-client relations have historically benefitted the monarchy and provincial authorities as part of efforts to enforce the power of political elites across multiple scales.<sup>144</sup> Importantly, these relations have not been static, but have been shaped by foreign actors, development agencies, private investors, and farmer uprisings – often leading to war and violence. This history establishes a path dependency that is co-productive of what is presently possible.<sup>145</sup> A consistent theme, evident with regards to farmers' experiences, is the assertion of external power, which controls and profits from agricultural production and trade.<sup>146</sup>

For example, the emphasis on rice production during the Angkor period reflected a need to feed the military that enforced the power of the monarchy and *chovay srok*. The requirement for peasants to produce surplus rice organized agricultural practices as a way of fulfilling external interests and maintaining control of that very system of production. This model of production-consumption was, during the post-Angkor period, connected with regional and international trade, which benefitted elite interests. This pattern was retained by French colonial authorities, who facilitated the extraction of agricultural resources to maintain dependency relations. These relations were also central to strengthening anti-communist efforts in Southeast Asia, including the interests of the United States. Perhaps most surprisingly, the Khmer Rouge, despite their agrarian collectivization language, consolidated land for large-scale production, in service yet again to foreign markets. This pattern was covertly maintained by disenchanted Khmer Rouge warlords through illicit border trade and was later entrenched in the peace accords as a way of yoking former revolutionaries into government. During the more recent neoliberal turn, this pattern of elite capture of agricultural production has been a key structural challenge facing agricultural extension efforts to improve farmer livelihood development, as exemplified in the current policy for the promotion of paddy production and

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<sup>141</sup>Green 2022; Mahanty 2019.

<sup>142</sup>McKinnon, Healy, and Dombroski 2019.

<sup>143</sup>Beban and Work 2014; Work 2017.

<sup>144</sup>Chandler 1998; Diepart 2015.

<sup>145</sup>Pente et al. 2015.

<sup>146</sup>Mahanty and Milne 2016.

export.<sup>147</sup> In this light, from the perspective of smallholder farmers in Northwest Cambodia, initiatives such as the SDGs replicate long histories of externally driven power relations that orient benefits from changed practices towards elites in urban centers or distant global actors, with an assumed but tenuous link between productivity and improved wellbeing.<sup>148</sup> SDG advocates would benefit from recognizing and accepting these historical similarities to understand local interpretations of sustainability proposals, policies, and programs.<sup>149</sup>

## Land

The complex entanglement between land, social relations, and agricultural transitions in Northwest Cambodia is tied to patterns of migration to, through, and from the region.<sup>150</sup> While past migration patterns were predominantly shaped by war, conflicts, and settlement programs, recent migration trends have been more complex. For example, multiple modes of in-migration, including ex-Khmer Rouge resettlement, refugee repatriation, and voluntary in-migration by farming households from surrounding districts and beyond, have followed the expansion of agricultural land through deforestation. According to the 2008 Census, approximately sixty-eight percent of the population in four frontier districts in Pailin and Battambang were recent migrants.<sup>151</sup> At the same time, out-migration driven by debt, dispossession, and the cumulative effects of environmental shocks has become a dominant feature.<sup>152</sup> Out-migration of individual family members for wage employment – whether cyclical or more permanent – carries important implications for the age and sex composition of the left-behind agricultural workforce, smallholder farmers' investment decisions, and everyday social relations.<sup>153</sup>

Isolation is key to understanding farmers and land in Northwest Cambodia. For example, in the pre-Angkor period, *prey* lands were considered to be areas of danger and potential harm, encircling rural villages and limiting farmers' opportunities to forge connections. During the colonial period, authorities controlled trade networks and limited people's mobility. In the Khmer Rouge period, control over mobility was even stricter, including a forced mass exodus of urban residents into rural regions. In the present period, debt is driving new forms of isolation and mobility, as farmers lose their land or are left searching for wage labor opportunities to pay or flee their debts.<sup>154</sup> Farmers' isolation stands in contrast to the large-scale development and upgrading of provincial and national road networks in Northwest Cambodia during the last decade.<sup>155</sup>

Land is central to these agrarian transitions and to patronage networks that are sustained by the political economy of agrarian production.<sup>156</sup> It is in this context that agricultural extension has been promoted as a means of achieving the SDGs. With a state focus on diversifying agricultural production, crops such as cassava and fruit trees are

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<sup>147</sup>Green 2021.

<sup>148</sup>Ghosh et al., 2022.

<sup>149</sup>Touch et al. 2023.

<sup>150</sup>Bylander, 2015.

<sup>151</sup>Kong et al. 2019.

<sup>152</sup>Bylander 2015; Kong et al. 2019; Pilgrim et al. 2012; Diepart and Ngim 2020.

<sup>153</sup>Bylander 2015; Zimmer and Knodel 2013.

<sup>154</sup>Green 2022a; Green and Bylander 2021; Natarajan et al. 2021.

<sup>155</sup>See Kong et al 2019.

<sup>156</sup>Diepart and Dupuis 2014; McMichael 2008; Nam 2020.

being promoted, along with new materializations of patron-client relations. Transformations have been facilitated by loans and more efficient technologies to increase crop yields. However, as farmers struggle in response to environmental and financial uncertainty, many are migrating and/or working extended hours, thereby becoming more socially isolated and reliant on distant markets to sustain their livelihoods.<sup>157</sup> In the context of sustainable development, isolation affects the nature of farmers' market opportunities. The SDGs assume that farmers benefit from higher competition and will receive optimal returns on their activities, typically as a result of competition between actors and market connections. However, farmers in Northwest Cambodia experience extreme price variability at harvest because of market failures rooted in monopolistic relations grounded in production that is oriented towards external objectives and priorities.<sup>158</sup> These historically rooted social relations, which at once isolate farmers and force families to find additional sources of income, are pivotal issues to address in a reimagined program of agricultural production that would contribute to sustainable development and the SDGs.

### **Farming**

Historically, agriculture and food production have been utilized to control rural populations.<sup>159</sup> Food production has been used to feed the militaries that kept people in check during the pre- and post-Angkor periods. Similarly, food production was used to fuel the colonial protectorate, which was a way of keeping royal and military power satiated. Most starkly, agriculture was the basis of Khmer Rouge control. Throughout Cambodia's history, agricultural production has served the interests of external actors while simultaneously reducing farmers' agency and autonomy.

Agricultural production in Northwest Cambodia continues to be a means of control, now also shaping the exodus of rural populations to maintain the flows of labor needed for development activities in urban centers.<sup>160</sup> Seen in its historical context, agricultural production not only feeds urban populations and generates export revenue, it maintains patronage networks and keeps rural populations in check. The history of Northwest Cambodian agrarian change reveals a continuous commitment to external interests, often at the expense of farmers' livelihoods and wellbeing. The monarchy, *chovay srok*, Phnom Penh rulers, French colonialists, the US government, the Khmer Rouge, contemporary microfinance institutions, international elites, foreign hedge funds, international aid agencies and donors, and the nascent SDG consortium have framed Cambodian farmers as a means for achieving externally determined objectives. Evident throughout is a presumption of power resulting in a disregard for the lives and lived experiences of farmers.<sup>161</sup>

At present, the government continues to encourage agriculture production for export, equating surplus production with increased farmers' wellbeing.<sup>162</sup> This approach gives

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<sup>157</sup>See Bylander 2015; Mahanty and Milne 2016; Gyorvary and Lamb 2021; Green and Estes 2019; Green 2023.

<sup>158</sup>Newby 2018.

<sup>159</sup>Bartlett, 2008.

<sup>160</sup>Bateman et al. 2019.

<sup>161</sup>Frewer 2021.

<sup>162</sup>Ghosh et al., 2022.

little consideration to the uneven and unjust distribution of benefits and the socio-environmental impacts of industrial agriculture.<sup>163</sup> Farmers see very little of the profits from these activities, with agricultural extension primarily oriented towards national aims.

## Future directions

Our review suggests that the SDGs, and SDG 2 specifically (to “end hunger, achieve food security and improved nutrition, and promote sustainable agriculture”<sup>164</sup>), fit comfortably within a history of agrarian change in Northwest Cambodia. The similarities are striking and somewhat disconcerting. In this context, agricultural extension can be understood as the pointy end of a long-term, consistent orientation towards increased production, which has coalesced around the modernization of Cambodian agricultural production, now framed through the UN’s Strategic Development Goals. But like the historical periods reviewed above, extension-driven SDG2 activities privilege external objectives divorced from the daily lives of Cambodia’s farmers. Proposing solutions that are detached from the local context and the complex social, political, and economic dynamics that shape farmer decision-making produces unrealistic imaginaries of agrarian contexts. Engaging with these complex social and political relations is much more difficult than providing agricultural advice and equipment, but it is crucial if farmers in Northwest Cambodia are to emerge from patterns of intergenerational struggle and exploitation to tackle historically-rooted inequalities. Our review shows that while the traditional focus of agricultural extension in growing improved quantities of quality crops may be desirable,<sup>165</sup> its impact on smallholders will be constrained until historically uneven power relations are mitigated through farmer-oriented reforms.

If governments and intergovernmental institutions like the FAO are to make progress on the Sustainable Development Goals and address trade-offs (e.g. SDG 2 on zero hunger and SDG 10 on reduced inequalities), more than improved seeds, equipment, and knowledge are needed. Our analysis suggests that there has to be a willingness to engage with more difficult social and political issues, including historic patterns of exploitation that situate and suppress rural development. Our review of agrarian change in Northwest Cambodia highlights the value of critically engaging with the history of farming and rural realities to work with farmers and authorities in developing agricultural extension interventions that do not exacerbate conflict and precarity.<sup>166</sup> For instance, migration no longer serves merely as a means to diversify the risks of farming; it has become a preferred route and strategy for households to attain income, food security, and social mobility, including to compensate for low agricultural returns.<sup>167</sup>

For agricultural initiatives to foster real benefits for farmers, the international community must prioritize the lived experiences of farmers to understand and transform the political economies of agricultural production, opening spaces for farmers to decide and negotiate what they consider constitutes a good life.<sup>168</sup> Such programs will require

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<sup>163</sup>Lichtfouse 2009; Mahanty and Milne 2016.

<sup>164</sup>United Nations 2018.

<sup>165</sup>Ghosh et al., 2022.

<sup>166</sup>Peluso 2012, 86.

<sup>167</sup>Bylander 2014; 2015.

<sup>168</sup>McKinnon et al. 2019; Dombroski et al. 2019.

moving beyond top-down technocratic approaches and an overreliance on short-term donor funding for market-based solutions. An integrated approach to farming that blurs the lines between agricultural extension and rural development is needed, one that is committed to working with farmers within their social networks. It is pivotal to nurture transdisciplinary pathways and alliances<sup>169</sup> between farmers and key actors within government, the public and private sector, donors, civil society organizations, and research institutions in order to foster collective action and open space for agrarian reform. Central to such an objective are approaches that recognize – and where needed refuse – historical path dependency, accepting that efforts to alter the power, land, and farming structures that shape farmer decision making in the present must include simultaneous appreciation for the past.

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<sup>169</sup>See Anderson and Leach 2019.



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## References

- Agricultural Development Bank. 2012. *Rural Development for Cambodia key Issues and Constraints*. Philippines: Agricultural Development Bank.
- Ahlborg, H. and Nightingale, A.J. 2018. "Theorizing Power in Political Ecology: The Where of Power in Resource Governance Projects." *Journal of Political Ecology* 25: 381–401.
- Allahyari, M.S., Sadeghzadeh, M., and Branch, R. 2019. "Agricultural Extension Systems Toward SDGs 2030: Zero Hunger." In W.L. Filho (editor), *Zero Hunger*, 1–11. Cham: Springer.
- Anderson, M., and Leach, M. 2019. *Transforming Food Systems: The Potential of Engaged Political Economy*. IDS Bulletin 50 (2). Brighton, UK: Institute of Development Studies.
- Arensenn, L.J. 2012. "Displacement, Diminishment, and Ongoing Presence. The State of Local Cosmologies in Northwest Cambodia in the Aftermath of War." *Asian Ethnology* 71 (2): 159–178.
- Baek, D.S. 2010. *Neak ta Spirits: Belief and Practices in Cambodian Folk Religion*. Deerfield, Illinois: Trinity Evangelical Divinity School.
- Bandler, K. and Focus on Global South 2018. *Pheapimex Land Conflict*. Case Study Report. Accessed December 18, 2023: <https://focusweb.org/wp-content/uploads/2018/12/Cambodia-PPM-Report-A4.pdf>.
- Barney, K. 2010. "Large Acquisitions on Forest Lands: Focus on Cambodia." Unpublished report. Accessed December 18, 2023: [https://www.researchgate.net/publication/352371705\\_Large\\_Acquisition\\_of\\_Rights\\_on\\_Forest\\_Lands\\_Focus\\_on\\_Lao\\_PDR](https://www.researchgate.net/publication/352371705_Large_Acquisition_of_Rights_on_Forest_Lands_Focus_on_Lao_PDR).
- Bartlett, A. 2008. "No More Adoption Rates! Looking For Empowerment in Agricultural Development Programs." *Development in Practice* 18 (4-5): 524–538.
- Bateman, M. 2018. "Cambodia: The Next Domino to Fall?" In Milford Bateman, Stephanie Blankenburg, and Richard Kozul-Wright (editors), *The Rise and Fall of Global Microcredit: Development, Debt and Disillusion*. London: Routledge, 2018.
- Bateman, M., Natarajan, N., Brikell, K., and Parsons, L. 2019. "Descending Into Debt in Cambodia. Window on Asia." *Made in China*. Accessed December 18, 2023: <https://madeinchinajournal.com/2019/04/18/descending-into-debt-in-cambodia%ef%bb%bf%ef%bb%bf/>.



- Beban, A., and C. Work. 2014. "The Spirits are Crying: Dispossessing Land and Possessing Bodies in Rural Cambodia." *Antipode* 46 (3): 593–610.
- Bennett, C. 2018. "Karma After Democratic Kampuchea: Justice Outside the Khmer Rouge Tribunal." *Genocide Studies and Prevention: An International Journal* 12 (3): 68–82.
- Bernstein, H. 2010. *Class Dynamics of Agrarian Change*. Hartford, CT: Kumarian Press.
- Biddulph, R., 2014. *Cambodia's Land Management and Administration Project*. WIDER Working Paper 2014/086. New York: World Institute for Development Economics Research.
- Biddulph, R. 2014. "Can Elite Corruption be a Legitimate Machiavellian Tool in an Unruly World? The Case of Post-conflict Cambodia." *Third World Quarterly* 35 (5): 872–887.
- Blesh, J., Hoey, L., Jones, A.D., Friedmann, H., and Perfecto, I. 2019. "Development Pathways Toward 'Zero Hunger'." *World Development* 118 (C): 1–14.
- Boserup, E. 2014. *The Conditions of Agricultural Growth: The Economics of Agrarian Change Under Population Pressure*. London: Routledge.
- Brickell, K., Picchioni, F., Natarajan, N., Guermond, V., Parsons, L., Zanello, G., and Bateman, M. 2020. "Compounding Crises of Social Reproduction: Microfinance, Over-Indebtedness and the COVID-19 Pandemic." *World Development* 136.
- Briggs, L. P. 1946. "The Treaty of March 23, 1907 Between France and Siam and the Return of Battambang and Angkor to Cambodia." *The Far Eastern Quarterly* 5 (4): 439–454.
- Buckley B, Anchukaitis K, Penny D, Fletcher R, Cook E, et al. 2010. "Climate as a Contributing Factor in the Demise of Angkor, Cambodia." *PNAS* 107: 6748–6752.
- Bylander, M. 2014. "Borrowing Across Borders: Migration and Microcredit in Rural Cambodia." *Development and Change* 45 (2): 284–307.
- Bylander, M. 2015. "Depending on the Sky: Environmental Distress, Migration, and Coping in Rural Cambodia." *International Migration* 53 (5): 135–147.
- Cambodian Center for Human Rights (CCHR). 2013. *Cambodia: Land in Conflict – An Overview of the Land Situation*. Phnom Penh: CCHR.
- Chandler, D. 1986. "The Kingdom of Kampuchea, March–October 1945: Japanese-Sponsored Independence in Cambodia in World War II." *Journal of Southeast Asian Studies* 17 (1): 80–93.
- Chandler, D. 2008. *A History of Cambodia* (fourth edition). Boulder, CO: Westview Press.
- Clayton, T. 1998. "Building the New Cambodia: Educational Destruction and Construction Under the Khmer Rouge, 1975–1979." *History of Education Quarterly* 38 (1): 1–16.
- Cook, B.R., Satizábal, P. and Curnow, J. 2021. "Humanizing Agricultural Extension: A Review." *World Development* 140.
- Cooke, N. 2007. "King Norodom's Revenue Farming System in Later-Nineteenth Century Cambodia and his Chinese Revenue Farmers (1860–1891)." *Chinese Southern Diaspora Studies* 1: 30–55.
- Corfield, J. 2009. *The History of Cambodia*. New York: Bloomsbury Publishing.
- Council for Agricultural and Rural Development (CARD), Government of Cambodia. 2016. *National Action Plan for the Zero Hunger Challenge in Cambodia (NAP/ZHC 2016–2025)*. Phnom Penh: Council for Agricultural and Rural Development.
- Cramb R., Sareth C., and Vuthy T. 2020. "The Commercialization of Rice Farming in Cambodia." In R. Cramb (editor), *White Gold: The Commercialization of Rice Farming in the Lower Mekong Basin*. Singapore: Palgrave Macmillan.
- Crenshaw, Kimberle. 2012. *On Intersectionality: The Essential Writings of Kimberle Crenshaw*. New York: New Press.
- Deth, S.U. 2009. "The People's Republic of Kampuchea 1979–1989: A Draconian Savior?" MA Thesis, Center for International Studies, Ohio University.
- Diepart, J.C. 2015. "The Fragmentation of Land Tenure Systems in Cambodia: Peasants and the Formalization of Land Rights." *Country Profile No.6: Cambodia*. Paris: Technical Committee on Land Tenure and Development, Agence Francaise Development.
- Diepart, J.C., and Sem. T. 2016. "Fragmented Territories: Incomplete Enclosures and Agrarian Change on the Agricultural Frontier of Samlout District, North-west Cambodia." *Journal of Agrarian Change* 18 (1): 156–177.

- Diepart, J.C., and Dupuis, D. 2014. "The Peasants in Turmoil: Khmer Rouge, State Formation, and the Control of Land in Northwest Cambodia." *The Journal of Peasant Studies* 41(4): 445–468.
- Diepart, J. C., and Ngim, C. 2020. "Internal Migration in Cambodia." *Internal Migration in the Countries of Asia: A Cross-National Comparison*. New York: Springer, 137–162.
- Dombroski, K., Healy, S., and McKinnon, K. 2018. "Care-full Community Economies." In Christine Bauhardt and Wendy Harcourt (editors), *Feminist Political Ecology and the Economics of Care*, 99–115. London: Routledge.
- Doss, C., Meinen-Dick, R., Quisumbing, A. and Theis, S. 2018. "Women in Agriculture: Four Myths." *Global Food Security* 16: 69–74.
- Ear, Sophal. 2012. *Aid Dependence in Cambodia: How Foreign Assistance Undermines Democracy*. New York: Columbia University Press.
- Fraser, E., Legwegoh, A., Krishna, K.C., CoDyre, M., Dias, G., Hazen, S., Johnson, R., Martin, R., Ohberg, L., Sethuratnam, S. and Sneyd, L., 2016. "Biotechnology or Organic? Extensive or Intensive? Global or Local? A Critical Review of Potential Pathways to Resolve the Global Food Crisis." *Trends in Food Science and Technology* 48: 78–87.
- Frewer, T. 2021. "Reconfiguring Vulnerability: Climate Change Adaptation in the Cambodian Highlands." *Critical Asian Studies* 53 (4): 476–498.
- Ghosh, R., Otto, I., and Rommel, J. 2022. "Editorial: Food Security, Agricultural Productivity, and the Environment: Economic, Sustainability, and Policy Perspectives." *Frontiers in Environmental Science* 10: 916272.
- Global Witness. 2007. *Cambodia's Family Trees Illegal Logging and the Stripping of Public Assets by Cambodia's Elite*. Washington: Global Witness.
- Gottesman, E. 2003. *Cambodia After the Khmer Rouge. Inside the Politics of Nation Building*. Chiang Mai: Silkworm Press.
- Green, W.N. 2019. "From Rice Fields to Financial Assets: Valuing Land for Microfinance in Cambodia." *Transactions of the Institute of British Geographers* 44 (4): 749–762.
- Green, N. 2021. "Placing Cambodia's Agrarian Transition in an Emerging Chinese Food Regime." *Journal of Peasant Studies* 49 (6): 1249–1292.
- Green, W.N. 2022a. "Financial Landscapes of Agrarian Change in Cambodia." *Geoforum* 137: 185–193.
- Green, W. N. 2022b. "Financing Agrarian Change: Geographies of Credit and Debt in the Global South." *Progress in Human Geography* 46 (3): 849–869.
- Green, W. N. 2022. "Duplicitous Debtscales: Unveiling Social Impact Investment for Microfinance." *Environment and Planning A: Economy and Space* 55 (3): 583–601.
- Green, W.N. 2023. "Financial Inclusion or Subordination? The Monetary Politics of Debt in Cambodia." *Antipode* 55: 1172–1192.
- Green, W.N. and Bylander, M. 2021. "The Exclusionary Power of Microfinance: Over-indebtedness and Land Dispossession in Cambodia." *Sociology of Development* 7 (2): 202–229.
- Green, W.N., and Estes, J. 2019. "Precarious Debt: Microfinance Subjects and Intergenerational Dependency in Cambodia." *Antipode* 51(1): 129–147.
- Greve, H.S. 1993. *Land Tenure and Property Rights in Cambodia*. Phnom Penh: United Nations Transitional Authority in Cambodia.
- Grimsditch, M. and Henderson, N. 2009. *Untitled: Tenure Insecurity and Inequality in the Cambodian Land Sector*. Bridges Across Borders Southeast Asia, Centre on Housing Rights and Evictions, Jesuit Refugee Service. Accessed December 18, 2023: <https://equitablecambodia.org/website/data/dw/untitled.pdf>.
- Guillou, Anne. 2006. "The Question of Land in Cambodia: Perceptions, Access, and Use since Decollectivization." In *Agriculture in Southeast Asia: An Update*, edited by Marie Dufumier. Paris: EDISUD.
- Gyallay-Pap, P. 1989. "Reclaiming a Shattered Past: Education for the Displaced Khmer in Thailand." *Journal of Refugee Studies* 2 (2): 257–275.
- Gyorvary, S., and Lamb, V. 2021. "From Sapphires to Cassava." *ACME: An International Journal for Critical Geographies* 20 (4): 431–449.

- Hall, K.R. 2011. "The Temple-based Mainland Political Economies of Angkor Cambodia and Pagan Burma ca. 889–1300." In Kenneth Hall (editor), *A history of Early Southeast Asia: Maritime Trade and Societal Development, 100–1500*. Lanham, MD: Rowman and Littlefield.
- Hall, D. 2011. "Land Grabs, Land Control, and Southeast Asian Crop Booms." *The Journal of Peasant Studies* 38: 837–857.
- Hall K.R. 2018. "The Coming of the West: European Cambodian Marketplace Connectivity, 1500–1800." In Tim Smith (editor), *Cambodia and the West, 1500-2000*. London: Palgrave Macmillan.
- Han, S. S., and Lim, Y. 2019. "Battambang City, Cambodia: From a Small Colonial Settlement to an Emerging Regional Centre." *Cities* 87: 205-220.
- Helmerts, K. 1997. "Rice in the Cambodian Economy: Past and Present." In H. J. Nesbitt (editor), *Rice Production in Cambodia*, 1–14. Manila: International Rice Research Institute.
- Heng, K., Hamid, M. O., and Khan, A. 2023. "Research Engagement of Academics in the Global South: The Case of Cambodian Academics." *Globalization, Societies, and Education* 21 (3): 322-337.
- Heuveline, P. 1998 "Between One and Three Million': Towards the Demographic Reconstruction of a Decade of Cambodian History (1970–1979)." *Population Studies* 52:1: 49-65.
- Himel, J. 2007. "Khmer Rouge Irrigation Development in Cambodia." *Searching for the Truth First Quarter* 42–49. Phnom Penh: Documentation Center of Cambodia.
- Hope, J. 2020. "The Anti-politics of Sustainable Development: Environmental Critique from Assemblage Thinking in Bolivia." *Transactions of the Institute of British Geographers* 46 (1): 208–222.
- Jacobsen, T. and Stuart-Fox, M., 2013. *Power and Political Culture in Cambodia*. National University of Singapore: Asia Research Institute (ARI).
- Ke, S.O. and Babu, S.C. 2018. *Agricultural Extension in Cambodia: An Assessment and Options for Reform*. IFPRI Discussion Paper 01706. DOI: [10.2499/1024320659](https://doi.org/10.2499/1024320659).
- Kem, S. 2017. "Commercialization of Smallholder Agriculture in Cambodia: Impact of the Cassava Boom on Rural Livelihoods and Agrarian Change." Dissertation, School of Agriculture and Food Sciences, The University of Queensland.
- Kiernan, Ben. 1996. *The Pol Pot Regime: Race, Power and Genocide in Cambodia Under the Khmer Rouge, 1975-79*. New Haven, CT: Yale University Press.
- Kiernan, Ben. 2003. "The Demography of Genocide in Southeast Asia: The Death Tolls in Cambodia, 1975-79, and East Timor, 1975-80." *Critical Asian Studies* 35 (4): 585-597.
- Kiljunen, K. 1984. *Kampuchea: Decade of Genocide. Report of a Finish Inquiry Commission*. London: Zed Books.
- Klassen, S., Ortman, S.G., Lobo, J. et al. 2021. "Provisioning an Early City: Spatial Equilibrium in the Agricultural Economy at Angkor, Cambodia." *Journal of Archaeological Method and Theory* (1) 1-32.
- Kong, R. 2019. *Landscapes and Livelihoods Changes in the North-western Uplands of Cambodia: Opportunities for Building Resilient Farming Systems*. Montpellier, France: SupAgro.
- Kong, R. Diepart, J.C. Castella, J.C. Lestrelin, G. Tivet, F. Belmain, and E. Bégué. 2019. "Understanding the Drivers of Deforestation and Agricultural Transformations in the Northwestern Uplands of Cambodia." *Applied Geography* 102: 84–98
- Kumi E, A. Arhin, and T. Yeboah. 2014. "Can Post-2015 Sustainable Development Goals Survive Neoliberalism? A Critical Examination of the Sustainable Development–Neoliberalism Nexus in Developing Countries Environment." *Development and Sustainability* 16: 539–554.
- Lamb, V., L. Schoenberger, C. Middleton, and B. Un. 2019. "Gendered Eviction, Protest and Recovery: a Feminist Political Ecology Engagement With Land Grabbing in Rural Cambodia." In Clara Mi Young Park and Ben White (editors), *Gender and Generation in Southeast Asian Agrarian Transformations*. London: Routledge, 113-132.
- Leach, M., N. Nisbett, L. Cabral, J. Harris, N. Hossain, and J. Thompson 2020. "Food Politics and Development." *World Development* 134: 105024.
- Leapheng, P. 2018. *The Important Role of Cambodian Women in the Agriculture Sector*. Phnom Penh: Parliamentary Institute of Cambodia (PIC).

- Le Billon, P. 2000. "The Political Ecology of Transition in Cambodia 1989-1999: War, Peace and Forest Exploitation." *Development and Change* 31: 785–805.
- Le Billon, P. 2002. "Logging in Muddy Waters: The Politics of Forest Exploitation in Cambodia." *Critical Asian Studies* 34 (4): 563–586.
- Li, T.M. 1999. "Compromising Power: Development, Culture, and Rule in Indonesia." *Cultural Anthropology* 14 (3): 295–322.
- Li, T.M. 2014. "What is Land? Assembling a Resource for Global Investment." *Transactions of the Institute of British Geographers* 39 (4): 589–602.
- LICADHO and STT. 2019. *Collateral damage. Land loss and Abuses in Cambodia's Microfinance Sector*. Phnom Penh: LICADHO. Accessed December 19, 2023: [www.licadho-cambodia.org/reports/files/228Report\\_Collateral\\_Damage\\_LICADHO\\_STT\\_Eng\\_07082019.pdf](http://www.licadho-cambodia.org/reports/files/228Report_Collateral_Damage_LICADHO_STT_Eng_07082019.pdf).
- Lichtfouse, E., M. Navarrete, P. Debaeke, V. Souchère, C. Alberola, and J. Ménassieu. 2009. *Sustainable Agriculture*. New York: Springer.
- Lunn, R. 2004. *Leaving Year Zero: Stories of Surviving Pol Pot's Cambodia*. Seattle: University of Washington.
- Mahanty, S. 2019. "Shadow Economies and the State: A Comparison of Cassava and Timber Networks on the Cambodia-Vietnam Frontier." *Journal of Contemporary Asia* 49 (2): 193–215.
- Mahanty, S. and S. Milne. 2016. "Anatomy of a Boom: Cassava as a 'Gateway' Crop in Cambodia's Northeastern Borderland." *Asia Pacific Viewpoint* 57 (2): 180–193.
- Mak, S. 2001. "Continued Innovation in a Cambodian Rice-based Farming System: Farmer Testing and Recombination of New Elements." *Agricultural Systems* 69: 137–149.
- Marcaida, M., Y. Farhat, E-N Muth, C. Cheythyrih, L. Hok, G. Holtgrieve, F. Hossain, R. Neumann, and SH Kim. 2021. "A Spatio-Temporal Analysis of Rice Production in Tonle Sap Floodplains in Response to Changing Hydrology and Climate." *Agricultural Water Management* 258: 107183.
- Matthew, R. A., and K.R. Rutherford. 2003. "The Evolutionary Dynamics of the Movement to Ban Landmines." *Alternatives* 28 (1): 29-56.
- McKinnon, K. 2020. "Framing Essay: The Diversity of Labor." In J. K. Gibson-Graham and K. Dombroski (editors), *The Handbook of Diverse Economies*. Cheltenham, UK: Edward Elgar, 116-128.
- McKinnon, K., S. Healy, and K. Dombroski. 2019. "Surviving Well Together: Post-development, Maternity Care, and the Politics of Ontological Pluralism." In Elise Klein and Carlos Morreo (editors), *Postdevelopment in Practice: Alternatives, Economies, and Ontologies*. London: Routledge, 190-202.
- McMichael, P. 2008. "Peasants Make Their Own History, But Not as They Please." *Journal of Agrarian Change* 8 (2/3): 205–228.
- McNamara, K., and G.E. Dahl. 2016. *Feed the Future Innovation Lab for Livestock Systems Cambodia: Animal-source Food Production and Marketing*. Gainesville: University of Florida.
- Merrouche, O. 2011. "The Long-term Educational Cost of War: Evidence From Landmine Contamination in Cambodia." *Journal of Development Studies* 47 (3): 399–416.
- Milne, Sarah. 2015. "Cambodia's Unofficial Regime of Extraction: Illicit Logging in the Shadow of Transnational Governance and Investment." *Critical Asian Studies* 47(2): 200-228.
- Milne, Sarah and Sean Mahanty. 2015a. "The Political Ecology of Cambodia's Transformation." In Sarah Milne and Sean Mahanty (editors), *Conservation and Development in Cambodia: Exploring Frontiers of Change in Nature, State and Society*. London: Routledge, 1-27.
- Ministry of Agricultural, Forestry, and Fisheries (MAFF), Government of Cambodia. 2015. *Agricultural Extension Policy in Cambodia*. Phnom Penh: MAFF.
- Montgomery, S.C., RJ Martin, C. Guppy, GC Wright, and MK Tighe. 2017. "Farmer Knowledge and Perception of Production Constraints in Northwest Cambodia." *Journal of Rural Studies* 56: 12–20.
- Müller, F.V. 2013. *Land Rights Program: Land Tenure and Access to Land – Essential Steps in Realizing Human Rights For Food and Shelter*. Bonn, Germany: GIZ.
- Nam, S. 2020. "Fiction, Fraud, and Formality: The Legal Infrastructure of Property Speculation in Cambodia." *Critical Asian Studies* 52 (3): 364-377.

- Natarajan, N., K. Brickell, and L. Parsons. 2021. "Diffuse Drivers of Modern Slavery: From Microfinance to Unfree Labor in Cambodia." *Development and Change* 52 (2): 241–264.
- Neef, A., S. Touch, and J. Chienthong. 2013. "The Politics and Ethics of Land Concessions in Rural Cambodia." *Journal of Agricultural and Environmental Ethics* 26 (6): 1085–1103.
- Newby, J. 2018. *Cassava Market Update and Short-term Outlook*. Peru: CGIAR Research Program on Roots, Tubers and Bananas.
- Owen, T., and B. Kiernan. 2006. "Bombs Over Cambodia." *The Walrus*, October: 62–69.
- Peluso, N.L., A.B. Kelly, and K. Woods. 2012. *Context in Land Matters*. Bogor, Indonesia: Center for International Forestry Research.
- Pente, E., P. Ward, M. Brown, and H. Sahota. 2015. "The Co-production of Historical Knowledge: Implications for the History of Identities." *Identity Papers: A Journal of British and Irish Studies* 1 (1): 32–53.
- Pilgrim, J., C. Ngin, and J.C. Diepart. 2012. "Multiple Migrations, Displacements and Land Transfers at Ta Kream in Northwest Cambodia." In S.B. Hecht, S. Kandel and A. Morales (editors), *Migration, Rural Livelihoods and Natural Resource Management*. San Salvador: International Development Research Centre (IDRC) of Canada, 33–56.
- Pillot, D. 2007. *Jardins et Rizières du Cambodge, Les Enjeux du Développement Agricole*. Paris: Karthala Publishers.
- Pokhrel, Y., S. Shin, Z. Lin, D. Yamazaki, and J. Qi. 2018. "Potential Disruption of Flood Dynamics in the Lower Mekong River Basin Due to Upstream Flow Regulation." *Scientific Reports* 8 (1): 17767.
- Pottier, C. 2000. "Some Evidence of an Inter-relationship Between Hydraulic Features and Rice Field Patterns at Angkor During Ancient Times." *Journal of Sophia Asian Studies* 18: 99–120.
- Raffin, A. 2012. "Youth Mobilization and Ideology: Cambodia From the Late Colonial Era to the Pol Pot Regime." *Critical Asian Studies* 44 (3): 391–418.
- Robbins, P. 2012. *Political Ecology: A Critical Introduction*. New York: John Wiley and Sons, Ltd.
- Rodrigues, C. 2023. "Cambodia: Thousands of War-era Explosives Found Buried at High School." BBC News, August 13. Accessed December 19, 2023: <https://www.bbc.com/news/world-asia-66491920>.
- Royal Government of Cambodia (RGC). 2010. *Policy Document on the Promotion of Paddy Rice Production and Export of Milled Rice*. Phnom Penh: Royal Government of Cambodia.
- Royal Government of Cambodia (RGC). 2020. *National Cassava Policy 2020–2025*. Phnom Penh: Ministry of Commerce.
- Rungswasdisab P. 1995. "War and Trade: Siamese Interventions in Cambodia 1767–1851" (Dissertation.) Wollongong, Australia: University of Wollongong.
- Scott, J. 2009. *The Art of Not Being Governed: An Anarchist History of Southeast Asia*. New Haven, CT: Yale University Press.
- Scurrah, Natalie and Philip Hirsch. 2015. *The Political Economy of Land Governance in Cambodia*. Vientiane, Laos: Mekong River Land Governance. Accessed December 19, 2023: [http://mrlg.org/wpcontent/uploads/2015/12/Political\\_Economy\\_of\\_Land\\_Governance\\_in\\_Cambodia.pdf](http://mrlg.org/wpcontent/uploads/2015/12/Political_Economy_of_Land_Governance_in_Cambodia.pdf).
- Shalmali Gural, 2013. *Cambodia: The Curse of the Concessions*. World Rainforest Movement Bulletin 195, September. Accessed December 19, 2023: <https://focusweb.org/wp-content/uploads/2018/12/Cambodia-PPM-Report-A4.pdf>.
- Slocomb, M. 2010. *An Economic History of Cambodia in the Twentieth Century*. Singapore: NUS Press.
- Sneddon, C., and C. Fox. 2012. "Inland Capture Fisheries and Large River Systems: A Political Economy of Mekong Fisheries." *Journal of Agrarian Change* 12 (2/3): 279–299.
- Soeun, M. 2012. *Overview of Agricultural Extension System in Cambodia*. Paris: Réseau FAR, Atelier Yaoundé. Accessed December 19, 2023: [https://www.reseau-far.com/fileadmin/user\\_upload/Rencontres/Yaounde12/Atelier\\_FAR\\_Yaounde\\_2012\\_8c\\_Info\\_sur\\_les\\_pays\\_Cambodge\\_Agric\\_Extension\\_Overview\\_8\\_pages.pdf](https://www.reseau-far.com/fileadmin/user_upload/Rencontres/Yaounde12/Atelier_FAR_Yaounde_2012_8c_Info_sur_les_pays_Cambodge_Agric_Extension_Overview_8_pages.pdf).
- Sok, S., N. Chhinh, S. Hor, and P. Nguonphan. 2021. "Climate Change Impacts on Rice Cultivation: A Comparative Study of the Tonle Sap and Mekong River." *Sustainability* 13 (16): <https://doi.org/10.3390/su13168979>.



- Sothirak, P., G. Wade, and M. Hong. 2012. *Cambodia: Progress and Challenges Since 1991*. Singapore: Iseas-Yusof Ishak Institute.
- Springer, Simon. 2015. *Violent Neoliberalism: Development, Discourse, and Dispossession in Cambodia*. New York: Springer.
- Tomlinson, I., 2014. "Doubling Food Production to Feed the 9 Billion: A Critical Perspective on a Key Discourse of Food Security in the UK." *Journal of Rural Studies* 29: 81–90.
- Touch, V. R., C. Cross, F. Grünbühel, P. Van Ogtrop, T. Ampt, R. Yorn, R. Matin, B. Cook, and D.K. Tan. 2023. "Adaptation Constraints and Prospects for Future Research Priorities in Lowland Rice-based Farming Systems: Learning Experiences from Northwest Cambodia." *Environment, Development and Sustainability* 26: 1-32.
- Touch, V., RJ Matrin, F. Scott, A. Cowie, and D. Li Liu. 2016. "Climate Change Impacts on Rainfed Cropping Production Systems in the Tropics and the Case of Smallholder Farms in North-West Cambodia." *Environment, Development and Sustainability* 19 (5): 1–17.
- Touch, T., C. Oeurng, Y. Jiang, and A. Mokhtar. 2020. "Integrated Modeling of Water Supply and Demand Under Climate Change Impacts and Management Options in Tributary Basin of Tonle Sap Lake, Cambodia." *Water* 12 (9): 2462.
- Tyner, J. 2008. *The Killing of Cambodia: Geography, Genocide and the Unmaking of Space*. Hampshire: Ashgate.
- United Nations. 2018. *Global Indicator Framework for the Sustainable Development Goals and Targets of the 2030 Agenda for Sustainable Development*. New York, United Nations. Accessed December 18, 2023: [https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework\\_A.RES.71.313%20Annex.pdf](https://unstats.un.org/sdgs/indicators/Global%20Indicator%20Framework_A.RES.71.313%20Annex.pdf)
- United Nations Department of Economic and Social Affairs (DESA). 2022. *SDG Good Practices: A Compilation of Success Stories and Lessons Learned in SDG Implementation*. New York: The United Nations.
- Vickery, Michael. 1977. *Cambodia After Angkor: The Chronicular Evidence for the Fourteenth to Sixteenth Centuries*. New Haven, CT: Yale University.
- Vickery, Michael. 1989. "Cambodia (Kampuchea): History, Tragedy, and Uncertain Future." *Bulletin of Concerned Asian Scholars* 21 (2–4): 35–58.
- Vickery, Michael. 2007. *Cambodia: A Political Survey*. Phnom Penh: Funan.
- Vickery, Michael. 2010. *Kicking the Vietnam Syndrome in Cambodia: Collected Writings 1975-2010*. Phnom Penh: Funan.
- Williams, C., and Dunn, C. E. 2003. "GIS in Participatory Research: Assessing the Impact of Landmines on Communities in North-west Cambodia." *Transactions in GIS* 7 (3): 393–410.
- Work, C. 2017. "The Persistent Presence of Cambodian Spirits: Contemporary Knowledge Production in Cambodia." In *The Handbook of Contemporary Cambodia*, edited by K. Brickell and S. Springer, 389–398. New York: Routledge.
- Yang Saing, K. 1999. *Changing Acres: Sustainable Agriculture Country Profiles*. Phnom Penh: CEDAC and the Royal University of Agriculture.
- Zimmer, Z. and Knodel, J. 2013. "Older-age Parents in Rural Cambodia and Migration of Adult Children." *Asian Population Studies* 9 (2): 156–174.
- Zucker, E. 2008. "The Absence of Elders: Chaos and Moral Order in the Aftermath of the Khmer Rouge." In In D. Chandler and A. Kent (editors), *People of Virtue: Reconfiguring Religion, Power and Moral Order in Cambodia Today*, 195–212. Copenhagen: Nordic Institute of Asian Studies.