

The Cassava Production and Exportation in Cambodia Driven by Chinese Transnational Corporations from 2010 to 2020

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Introduction

Cassava is one of the most drought-tolerant and utilization crops in the world. It is often used as staple food in Sub-Saharan Africa. Sub-Saharan Africa produces the largest amount of cassava and its production share reaches nearly 65% in total. The South-eastern Asia is the second largest producer (Figure 1).

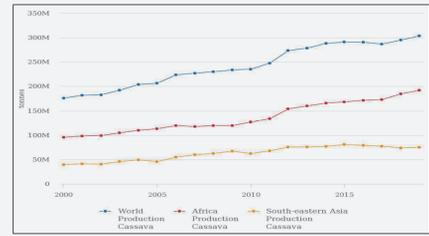


Figure 1. Cassava production in World in the period 2000-2019

In Southeast Asia, cassava is not only an important staple food and animal feed, but also serves as a significant type of agriculture export commodity. Cassava thus increases cash income for smallholders. South-eastern Asia serves as the largest cassava exportation globally, with Thailand as the largest export. (Figure 2)

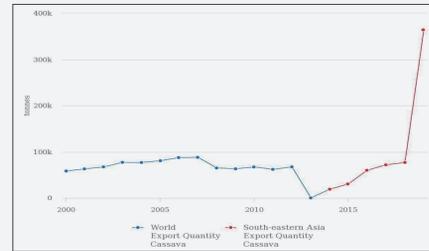


Figure 2. Cassava export comparison between World and South-eastern Asia in the period 2000-2019

Cassava cultivation and exportation have grown substantially in Cambodia from the middle of the 20th century. Since 2009, Cambodia has been the country with the highest productivity level, even higher than previously high-level exporters like Thailand. Cambodia's cassava yield per unit area is 3 times more than global average. (Figure 3, Figure 4, Figure 5)

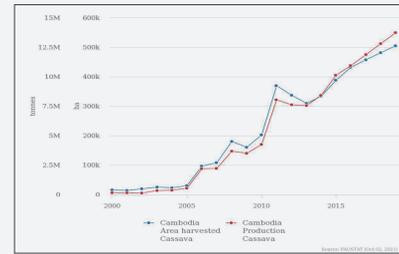


Figure 3. Extend of Cassava cultivating area and production in Cambodia in the period 2000-2019

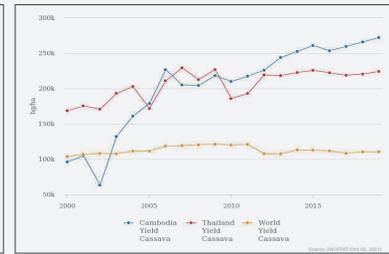


Figure 4. Improvement of cassava productivity in Cambodia in the period 2000-2019

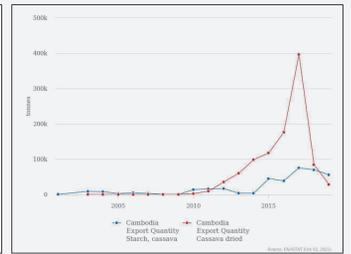


Figure 5. Expansion of Cassava exportation in Cambodia in 2010s

Background for Cassava Production and Exportation Expanded in Cambodia from 2010 to 2020

Chinese transnational corporations (TNCs) invested in export-oriented cassava production through **Economic Land Concessions (ELCs)** in Cambodia in 2010s. Through ELCs, foreign companies can acquire land no more than 10,000 ha in Cambodia and max last for 99 years. Tariff reduction of cassava export by **ASEAN-China Free Trade Area Agreement (ACFTA)** in 2015



Literature Review and Research Gaps

Previous studies on cassava production

Cramb et al (2017) used the case study method to analyze cassava smallholders in Tbong Khmum province. Findings suggested that compared to large-scale production entities of income agriculture crops, smallholders' high engagement with agricultural commodity chains is associated with more inclusive patterns of rural development, thus benefiting more local economic development.

Most of current studies on cassava production concentrate on the reality smallholders have to face. **Very few studies focus on the performance of large-scale production players, like Chinese TNCs.**

Studies on ELCs

Amaury Peeters (2015) discussed the key players and spatial distribution of ELCs in Cambodia, and pointed out that Chinese TNCs are ELCs key players.

These ELCs studies mostly focus on land grabbing of transnational corporations but ignored what these companies really invested in reality.

Purpose of this Study

The purpose of this study is:

- To explore the behavior of Chinese TNCs obtaining the agriculture land through ELCs to produce export-oriented cassava in Cambodia;
- To clarify how this movement boosted the expansion of cassava production and exportation in Cambodia.

Approach of this Study

Data Source 1:

FAO, Un-comtrade cassava production and trade data
To show the current situation of cassava production and exportation in Cambodia.

Data Source 2:

Chinese government reports, related organizations release

- To illustrate that Chinese TNCs invested in ELCs to produce cassava
- To suggest that Chinese TNCs boosted the expansion of cassava production and exportation in Cambodia.

Discussion

Why has cassava cultivating area sharply increased in Cambodia?

Chinese TNCs acquired agricultural land by ELCs and produce export-oriented cassava.

- ELCs in Cambodia:** Chinese TNCs played the major part. (Figure 7)
- Many Chinese TNCs are producing cassava and cassava products through ELCs. (Figure 8)
- Cassava planting areas are covered by ELCs in Cambodia. (Figure 9 & Figure 10)
- Cassava cultivating area has increased with the growth of ELCs certified number during the period of 2005-2012 in Cambodia. (Figure 11 & Figure 12)

Nationality	Certified ELCs numbers	ELCs area(ha)	ELCs Average Area(ha)	Ratio (%)
Cambodia	123	1,133,297	9,214	49
China	37	373,981	10,108	16
Vietnam	47	313,554	6,671	4
Malaysia	12	109,129	9,094	5
Singapore	4	86,387	21,597	4
Thailand	9	71,297	7,929	3
South Korea	6	61,832	10,305	2
Others	42	151,908	3,617	6
合計	280	2,301,385		

Figure 7. ELCs in Cambodia

Company Name	Location	Certified Date	Area (ha)
China Dynamic Investment	Kratie Province	2010/01/29	6,600
Brightway	Kratie Province	2007/02/14	1,000
C&V Group	Kratie Province	2010/01/29	7,000
Holy Ykko-Industrial (Cambodia)	Ratanakiri Province	2011/8/17	7,497
Wuzhishan L.S Group Co. Ltd.	Monduikiri Province	2005/12/30	10,000
Grand Land Agricultural Development (Cambodia) Co. Ltd.	Stung Treng Province	2006/01/23	9,854
Great Wonder Agricultural Development (Cambodia) Ltd.	Kratie Province	2006/08/11	8,231
Asia World Agricultural Development (Cambodia) Co. Ltd.	Kratie Province	2006/03/15	10,000
Phea Phimek Co. Ltd.	Pursat Province	2000/01/28	315,028

Figure 8. List of Chinese cassava production ELCs companies in Cambodia

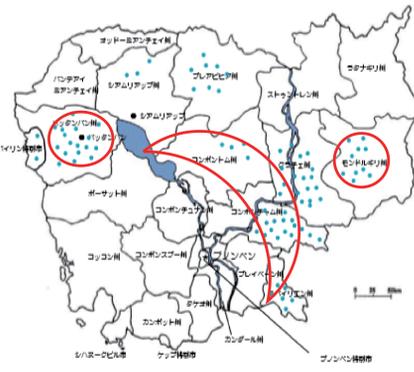


Figure 9. Cassava planting spatial distribution in Cambodia



Figure 10. ELCs & Cassava planting spatial distribution in Cambodia

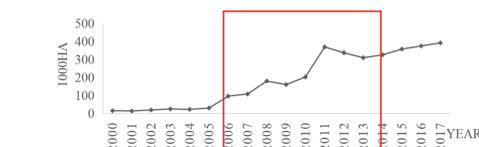


Figure 11. Expansion of Cassava cultivating area and in Cambodia in the period 2000-2017

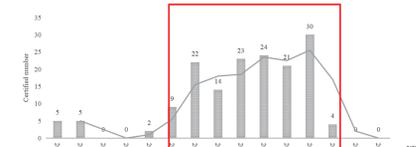


Figure 12. Certified ELCs number in Cambodia in the period 2000-2014

Why has cassava productivity increased in Cambodia since 2000?

Introduction of hybrid varieties in Cambodia in 2000s (Figure 13)

variety	origin	Introduced year	Introducer	Starch ratio (%)	Average yield (t/ha)
Kasetsart 0 (KUS0)	Rayong1 Rayong90	1993	Kasetsart University, Department of Agriculture, Ministry of Agriculture and Cooperatives and Centro Internacional de Agricultura Tropical (CIAT)	25.80	33.62
Huay Bong 60	Rayong5 Kasetsart 0	2003	Kasetsart University, Department of Agriculture, Ministry of Agriculture and Cooperatives and Centro Internacional de Agricultura Tropical (CIAT)	25-30	35.93
SC3	CMR38-120	2004	Topical Crop Germplasm Research Institute of China	32.69	36.79
SC9	Native variety in Hui Nan, China	2005	Topical Crop Germplasm Research Institute of China	30-33	30

Figure 13. Introduction of Cassava varieties in Cambodia in 2000s

Implement of cassava planting working machines in Chinese ELCs (Figure 14)

Name of machine	Type	Expect Productivity
Two arrays cassava planter	2CM-2	0.04-0.06(ha/h)
Rotary tiller	1GL-180	0.06-0.08(ha/h)
Fertilizer ridge	1GFL-180	0.05-0.07(ha/h)
Cassava rod crusher	4MT-3	3(t/h)
Cassava rod crusher and collector	4JMW-200	0.06-0.08(ha/h)
Cassava rod crusher and collector	4JMW-150	0.06-0.08(ha/h)
Cassava rod crusher and collector	4JM	0.04-0.05(ha/h)
Cassava harvester	4UML-130	0.05-0.06(ha/h)
Cassava harvester	4UMS-140	0.06-0.08(ha/h)
Cassava transfer truck	4UY	

Figure 14. Implement of Cassava planting working machines in Cambodia since 2010

Why has the export expanded in Cambodia since 2010?

Great domestic demand for cassava in China since 2000 (Figure 15)

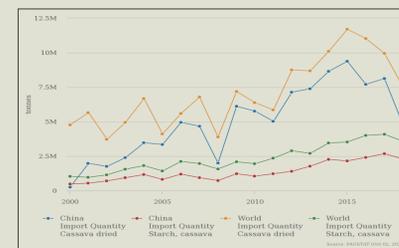


Figure 15. Cassava import in China in the period 2000-2019

Difficulty for China to expand domestic cassava production (Figure 16)

year	Guang Xi province		Guang Dong province	
	area (10,000ha)	production (10,000t)	area (10,000ha)	production (10,000t)
1995	27.29	124.5	9.56	174.7
2000	26.43	132.6	8.50	158.9
2005	26.95	173.6	8.34	155.4
2010	23.30	173.2	8.34	154.6
2011	23.75	180.3	8.29	155.0
2012	23.12	181.3	8.17	155.2
2013	22.80	182.8	8.23	159.8
2014	22.41	182.8	8.27	164.3
2015	21.33	175.9	8.22	168.0
2016	20.69	172.1	8.21	170.8
2017	20.10	172.1	8.07	169.1

Figure 16. Cassava production in Guang Xi and Guang Dong provinces in China

Zero tariff of cassava exportation from Cambodia to China base on ASEAN-China Free Trade Area Agreement (ACFTA) since 2015 (Figure 17)

Year	2005	2006	2007	2008	2009	2011	2013	2015	2018
Dried cassava	35%	35%	30%	30%	20%	15%	5%	0-5%	0%
Cassava starch	35%	35%	30%	30%	20%	15%	5%	0%	0%

Figure 17. Cassava export tariff of Cambodia-China

Zero tariff of cassava export from Thailand to China base on ASEAN-China Free Trade Area Agreement (ACFTA) since 2010 (Figure 18)

Year	2005	2007	2009	2010	2012	2015	2018
Dried cassava	20%	12%	5%	0%	0%	0%	0%
Cassava starch	20%	12%	5%	0%	0%	0%	0%

Figure 18. Cassava export tariff of Thailand-China

Conclusion

- This study discussed that Chinese TNCs acquired land in Cambodia through ELCs to produce cassava. This movement boosted expansion of cassava cultivating area in Cambodia.
- Chinese cassava transnational companies introduced **hybrid varieties of cassava and cassava planting machines** to improve productivity of cassava.
- Huge demand of cassava products in China and zero tariff of cassava exports in ASEAN (based on ASEAN-China Free Trade Area Agreement) strongly pushed the expansion of cassava exportation from Cambodia.

Future Perspectives

- How this movement and business behaviors of Chinese transnational cassava producers influence local smallholders and domestic cassava market in Cambodia?
- What is the process of Cambodia-Thailand-China cross-border cassava trade?

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