Heritage rice in Surinam: tracing the history of rice as anti-commodity.

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Abstract: The global trade in rice is historically recent and its total quantity relatively small at the level of 5% and even today only amounts to 7% of total production. Colonial explorations and the industrialisation of north-west Europe in the eighteenth century triggered the emergence of rice as a global commodity. The idea that rice is an important commodity has persistent in the literature and formed the basis for colonial policies for rice improvement that extend till the present day. When governments offer subsidies or regulate prices, production increases are an attractive option for rice farmers. However, there is considerable variation in rice cultivation practices, a large diversity of types of rice produced, differences in productivity levels and unequal opportunities for productivity increases. Rice farmers often have other than commercial reasons to grow rice. The responses of locally produced products in response to global commercial enterprise is called an anti-commodity. Anti-commodity rice implies the capacity to switch between subsistence and market production. Historical sources from the Dutch colonial period are examined, in particular the small colony Suriname and its connections to Africa and Asia. Rice is a major staple crop for Maroon communities in Suriname. Existing information and a recent finding of African rice (Oryza glaberrima) suggest that Maroons grow a large diversity of rice varieties for food and ritual purposes, similar to African rice growing cultures. However, slave-based plantation owners overlooked the importance of rice as a food crop for the African slaves. Likewise colonial planners tried to develop the Surinam colony by importing Asian lowland rice cultivation practices, turning Surinam from a rice-importing country into a rice exporting country. An effective colonial apparatus created commodity rice production and ignored the anti-commodity status of rice in the shifting cultivation practices of the Surinamese maroons and similar indigenous cultures elsewhere.
1. Introduction

Heritage rice is a term to indicate the specific connection between culture and rice. In recent years the term has been used by organisations and small companies to capitalise on the increasing attention for locally grown food products by promoting and marketing particular rice varieties as heritage rice. A broader and older usage of the term refers to cultivation practices of rice in a particular landscape and the various varieties grown in this area. The landscape element is an eye catcher, as for example in the case of the rice terraces on Bali, Indonesia or the Ifugao rice terraces in the Philippines, sites that are both on UNESCO's world heritage list. Related but not restricted to specific sites is the use of heritage as an indicator for locally-specific plant genetic resources. An FAO resolution of 1983 states that "plant genetic resources are a heritage of mankind and consequently should be available without restriction." Portraying genetic resources as a freely available public good misjudges the historically grown global inequalities in wealth and technological capacity to make use of plant resources. More recent international treaties tried to anticipate this by creating legal protection of farmers' role in maintaining genetic diversity. The conservation and use of plant genetic resources is one of the most contested issues in the domain of agriculture and food.

The locally-specific features of farming practices and the legal issues around genetic resources are closely connected with the global exchange of plant material and the central role of commercial enterprise in these exchanges. These connections existed from the beginning of the colonial period. Protection of farmers' rights is not entirely new either. What is recent are the legal arrangements, granted by international treaties and implemented by notational governments, that safeguard rights and benefit sharing of farmers in the exploitation of genetic resources. Where such rights do not exist, today and in the past, farmers have developed other means to protect their plant resources and ensure economic benefits vis a vis commercial interests from global trade. These non-formalised and self-sustained practices that often developed as a form of resistance against global commercial interests is what constitutes an anti-commodity. This paper looks at the genetic resources of rice in Surinam, a small country in the north-east of South America. The country itself and the many different rice varieties that form the country's rice genetic resources are a result of colonialism in its various forms over a period of about three hundred years. The genetic pool for rice in Surinam is entirely man-made. Rice arrived at this part of the Americas on the ships carrying slaves and goods from Africa. There is no evidence that slaves on the plantations in Surinam were growing rice as a food crop nor were there any slave-based rice plantations like in the Carolinas and parts of Brasil. However, rice was an important crop for escaped slaves who created settlements in the rainforest hinterland of Suriname. These maroon communities still

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1 See for example http://www.heritageselectrice.com/, accessed 15/11/2015
3 Ibid.
5 S. Hazareesingh and H. Maat eds (2016), Local Subversions of Colonial Cultures; Commodities and Anti-commodities in Global History (Palgrave MacMillan).
exist today and have maintained a large portfolio of crops and crop varieties, including rice. The rice cultivation practices of the maroons in Suriname and how they established a specific gene pool for rice is developed in the first section of the paper. The next sections discuss developments that followed the abolition of slavery in the nineteenth century. The Dutch stopped trading slaves as late as 1863 and in following decades tried to maintain the plantation economy in Surinam by transferring contract labourers from India and Indonesia. The Indian labourers were primarily recruited from the north-west (the area today forming the states of Uttar Pradesh, Uttarakhand and Bihar) and most Indonesians came from Java. The recruitment of Indian labourers stopped in 1916, Javanese labour migration continued until 1939. These communities played an important role in the emergence of a commercial rice sector. From the late 1940s the Dutch increased the investments in commercial rice, including investments in plant breeding that, from the late 1960s, coincided with the Green Revolution.7

2. Maroon Rice

The plantation economy of Suriname was primarily run by the West Indies Company (WIC), created in 1621. The Dutch government granted the WIC with the exclusive rights to trade slaves from West Africa to the Americas and the company also controlled most plantations of Suriname.8 Food provision of the slaves was a central concern and the various regulations for food production provide evidence that prevention of food riots was a major driver for this concern. There were rules for plantation owners about which percentage of the field had to be reserved for food crops. And on coffee plantations banana trees had a double purpose as food crop and shade crop for the coffee shrubs. Fishing and hunting formed important additional food sources.9 The historiography of Suriname’s plantations shows few traces of rice before halfway the nineteenth century when some rice was imported from the USA or other parts of the Caribbean.10

Recent studies on the agricultural dimension of the transatlantic slave trade show the combined transfer of specific crops, cultivars and related agronomic skills from Africa to the new World.11 Because neither the indigenous population nor the European colonizers in the Americas were familiar with rice cultivation, most of the knowledge and skills required to grow this crop in the Americas is primarily attributed to Africans. 12 This ‘Black rice thesis’ is contested but would apply to Suriname when considering the early accounts of the maroon communities. In Suriname, like in other American colonies, marronage was a widespread phenomenon. Plantation owners organised military expeditions to trace the settlements and re-capture the escaped slaves. Reversely, maroons often attacked plantations to seize goods and liberate slaves. The dense rainforest offered a perfect shelter for the maroons and the

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8 Until 1815 the Dutch also controlled Essequibo, Demerary and Berbice, after that years British Guiana and now Guyana.
10 Stipriaan (1991): 374
Dutch ultimately had to change their strategy from military repression to peace negotiations.\textsuperscript{13} Details about what happened on the military expeditions have been recorded by a recruited Scottish soldier, John Gabriel Stedman.\textsuperscript{14} When attacking the maroon villages the people escaped into the forest and the soldiers destroyed the settlement and fields. Stedman mentions extensive rice fields and baskets of dehusked rice in these communities. The absence of rice on the plantations’ food plots and the presence of rice in the maroon settlements creates a bit of a puzzle. It may have been that slaves stored rice seeds and took it with them when escaping. But seeds do not last forever so a more likely explanation is that slaves grew rice secretly or legally but in small quantities ignored by plantation owners. There is some evidence to the latter explanation from an account of the Swedish botanist Rolander in 1755.\textsuperscript{15}

Further evidence to a rich rice culture among maroon communities comes from accounts in the twentieth century. For reasons explained in the next session, Dutch agronomists got interested to know more about the rice varieties grown by the maroons and accounts from the 1900s onwards mention various varieties in a range between 3 and 25.\textsuperscript{16} In the 1970s anthropological fieldwork among maroons in Surinam was done by Richard and Sally Price. Their work provides detailed information about the various agricultural practices, the social organisation and rituals connected to these practices and food items. Their observations show that the maroon rice farmers are mainly women who can distinguish and order the various rice varieties.

“I have elicited the names of seventy-four varieties (of which many have multiple names and twenty are further divided into named sub-varieties), but because I still encounter new varieties each time I ask, I have no reason to believe I have even approached a complete list. Each variety is classified as ‘red’ or ‘white’ (depending on the darkness of its grains), and associated with details of its appearance, the time it takes to ripen, the difficulty with which it is hulled, and the history of its introduction to the region.”\textsuperscript{17}

In recent years Tinde van Andel and her team have collected several rice varieties among maroon communities with a closer eye on the botanical features. This confirms the richness of the maroon rice practices and the cultural importance of specific varieties. Remarkably, one of the collected samples is a variety of African rice (\textit{Oryza glaberrima}) a species that is only grown in Africa.\textsuperscript{18} Further botanical and genetic research is needed to trace the possible origin of these varieties and further analysis of historical sources is needed to trace the routes through which these varieties entered the country. The likely options for these routes are for the period of slavery direct transfer of seeds from Africa, exchange between maroon communities and acquiring seeds through exchanges with slaves on the plantations. In the nineteenth

\textsuperscript{15} T van Andel, T., et al. (2012). "Ethnobotanical notes from Daniel Rolander’s Diarium Surinamicum (1754-1756): Are these plants still used in Suriname today?" \textit{Taxon} 61/4, pp. 852-863.
\textsuperscript{16} I am currently collecting and comparing all the mentioned varieties in the sources but the database is not yet analysed well enough to present in this paper.
century exchanges with neighbouring British Guiana, where the abolition movement achieved full emancipation in 1838, and started experiments with commercial rice cultivation in the 1840s and 1850s. About the same time the Brits had transferred labourers recruited from India to Guiana and the Dutch followed this example in the late 1870s.

3. Asian Rice

With the recruitment of labourers from India and Indonesia the colonial government tried to revive the crumbling plantation economy in Surinam. The sugar plantations failed to compete with the larger and industrialised cane sector in other parts of the Carribean and other plantations did not perform any better. Attempts to switch to cocoa or banana were unsuccessful. After the three-year contract ended most of the Asian labourers started their own farm, receiving a piece of land from the colonial government. The recruited labourers may have taken seeds, fruits or other plant material with them that they grew on these farms. The labourers from India, named Hindustani, and the Javanese each maintained their own customs and routines up until today. Most families had one or more rice fields. The colonial Department of Agriculture, created in 1904 started monitoring the Asian smallholders and noted their success in rice farming. In 1904 a production of over 800 tons was calculated, rising to 2,000 tons in 1910 and over 12,000 tons early 1920s. In the 1900s The DoA started to support rice farming by bringing new rice varieties to Suriname. Stahel, director of the agricultural research station from 1919, recalls that in 1904 18 varieties were imported from Java and Demerara and again a number of varieties in 1907 and 1911 many more from the same regions and also from India and Indochina. These varieties were tested on fields in the various districts of Suriname. Stahel remarks that most of these varieties did not perform very well on the heavy clay soils in the coastal districts. The Javanese maintained some of the glutinous varieties and some more varieties were kept in villages with sandy soils.

The interest of the Dutch government was primarily focused on increasing the economic returns of the colony. The steady growth of rice production was well noted and activities in support of the rice farmers primarily focused on cost-efficiency and export opportunities. Besides testing the varieties on agronomic performance, they were also sent to a rice trader in Amsterdam for marketing potential. None of the imported varieties passed the agronomic and marketing test and the most promising varieties were the ones grown for longer. One in particular, named Skriviman, yielded very well and the rice was appreciated by traders and agronomists. The variety was most likely brought to Suriname by the Indian labour recruits and was called patarka dhān (‘slender rice’) by the Hindustani. With a focus on economic profitability, the colonial officials and experts had little eye for the rice that were grown on small plots for specific foods, like the glutinous rice grown by the Javanese, or cultural purposes. Although the various communities maintained their own identity, there was ample exchange between the various groups, including exchange of rice varieties. Moreover, similar developments took place in neighbouring British Guiana. Here too different groups maintained their own varieties next to the introduced and bred varieties of the British colonial DoA.

20 G. Stahel (1933), De rijstcultuur in Suriname. Mededelingen van het Landbouwproefstation, Suriname, nr.2.
21 Ibid., p.9. There are sources with details of these varieties and test results but these are not yet analysed enough.
22 Codd et al. op.cit. note 19.
4. Green Revolution Rice

A last phase in the creation of a Surinamese rice gene came with the emergence of a large mechanised rice scheme in the Nickery district. With the focus on economic profitability came the racists stereotypes of laziness and uneconomic mind-sets among the different groups in Suriname. What the colony needed most, the Dutch thought, was input of fresh, ambitious and active young Dutch farmers. In the late 1910s the idea of colonisation by young Dutch farmers was linked with the idea of mechanised rice farming. In 1922 the repatriated sugar manufacturer Pyttersen sent a report the Dutch government about the options for mechanised agriculture. Pyttersen had higher expectations from mechanised sugar cane farming than rice. However, the Dutch company Van Dijk, willing to experiment with mechanised farming, started an experiment with mechanised rice in 1933. After six years experimenting the company showed a positive net balance when scaled up, although they admitted that finding a market for the rice and transportation costs were relatively high.23

After the war the Dutch government initiated a more structural investment plan for the Surinam economy. In 1949 the government created a fund to finance of semi-private company, the ‘Stichting Machinale Landbouw’ (SML). In 1950 the SML initiated the implementation of rice polders, starting with an experimental polder of 200 hectares, followed by the construction of several polders of 5,000 hectares each. In 1951 an experimental station for rice breeding was created in the experimental polder, staffed by J.J. Mastenbroek and J.G.J. van der Meulen, both having ample experience with rice breeding in the Netherlands Indies. They continued with the selection work done by the Van Dijk company. A selected line from a spontaneous cross between Rexoro, a variety introduced from the USA, and a local selection named D79, resulted in a variety named Aurora. Van Dijk also crossed Aurora and Rexoro with Skrivimanokoti. Mastenbroek was continued the selection work, leading to a line called Dima. Van der Meulen had brought seed of about 19 Indonesian varieties, which did not perform very well in Surinam conditions but two other Indonesian varieties, Bengawan and Mas, appeared promising. Furthermore, the SML breeders tested over ninety varieties originating from British Guyana, Italy and the USA. From 1966 the breeding division was headed by C.W. van den Bogaert. He established contacts with the International Rice Research Institute and used one of the IR8 parents, Taichung Native 1. In eight years’ time growth duration was brought back from 150 to 100 days and length from more than 1.5 meter to less than 1 meter. In following years more IRRI varieties were used in the SML breeding activities (figure 1).

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From 1960 the SML started to extend its technologies to the smallholder farmers in the region, mainly by offering them cheap seed of the SML varieties. The mechanisation and commercial objectives of SLM implied that the characteristics of the SML varieties, short growth duration to allow two harvests per year and short, rigid stems, were not very favourable to the smallholders. Especially the inflexible stems of the SML varieties resulted problems for transplanting. Furthermore, the SML varieties grew relatively slowly in the first weeks, meaning greater sensitivity to weeds and pests. The smallholder rice growers continued to use Skrivimankoti and a variety introduced from British Guyana. Rather than adjusting the breeding goals, SML and the DoA offered the farmers cheap inputs (fertiliser and pesticides) and free mechanised harvesting when export quality standards were met. Over the years the mechanised SML farming methods and the methods of the smallholder rice farmers merged into a form of semi-mechanised rice cultivation that now dominates the coastal zone of Surinam.
5. Counter circulation

Suriname, a small country in South America, has built up a pool of genetic material of rice, based on colonial activities in different periods. These colonial activities all focused on commercial production for global markets. Although the rice gene pool in Surinam is largely a product of the colonial commercial activities, it would be too simple to attribute all the agency to the Dutch and other European colonizers. In fact, much of the rice gene pool in Surinam emerged from resistance against the colonizers. Resistance comes in different shapes and forms. The most clear and prominent form of resistance is revolt and subversion, as visible in the history of the communities of escaped slaves in Suriname. These maroon groups have taken up rice cultivation in their villages, something they were not allowed to or were given no time for when living on the plantations. The anti-commodity notion widens the view on such forms of resistance by pointing out the acts of creation and of productive ingenuity that often accompanied episodes of defiance, and that went far beyond these moments of active resistance and endured over time. Like the maroons, the Asian labour recruits were not voluntarily engaging in commercial agriculture for the global market. They were free to go after their contract ended and most of them took up rice cultivation as their main source of food and income. The colonial government gradually acknowledged the importance of rice and included the crop in their plans to revive commercial agriculture. However, the story of the semi-private rice company SML reveals that a limited focus on commercial interests is a poor guidance in improving smallholder farming.

The history of rice as anti-commodity in Surinam also gives a new view on the role of commercial networks and global markets. Although the capacity to ship people and goods across the oceans is a necessary condition to establish frequent connections between countries in faraway continents, the aims of commercial enterprise was not the only factor determining what was transported and used at the country of destination. The practical knowledge of slaves and indentured labourers appears as important as commercially driven motives and scientific knowledge.