

Methodological paper Taiwan 1500 and 1650

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**Estimation of entire population**

Before the European and Chinese colonialization, Taiwan was exclusively settled by Austronesian (Malayo-Polynesian) peoples that lived in semi-permanent villages partly as hunter-gatherers, especially as deer hunters, and partly as agriculturalists who grew rice and millet.<sup>1</sup> Conventional wisdom until the 1990s held that after Chinese immigration soared from the 17th and 18th centuries onwards, those indigenous groups who lived in the plains were driven to the mountaineous regions in the center and east of the island.<sup>2</sup> Historical revisions since the last twenty years hold that this is an erroneous assumption which largely underestimates the relative economic autonomy of the so-called „plains aborigines“ and overrates the impact of the Chinese settlers.<sup>3</sup> Rather than being displaced, the plains aborigines rented out land to the Chinese migrants and remained in their original territories in the Western plains of the island.<sup>4</sup> Conversely, the mountain aborigines had lived there already for three centuries before the arrival of Chinese settlers.<sup>5</sup>

Before the sixteenth century, the head-hunting aborigine villages, lived in constant warfare with each other and occasional outside visitors. In the sixteenth century, however, trade with fishermen and pirates from China, Ryūkyū and Japan intensified. The items bartered were Chinese iron and salt against the local deerskins and antlers.<sup>6</sup> Thus in the course of the sixteenth century, Taiwan became more and more integrated in East Asian and international commerce of the legal and illegal kind. The Ming state variously imposed bans on sea trade, and prohibited all except official navigation, resulting in rampant piracy. In 1567 the ban on sea trade was relaxed, but after the Japanese invasion in Korea in 1592 it was re-imposed, and freebooters from all over East Asia again used Taiwan as an entry to the secret China trade<sup>7</sup>.

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<sup>1</sup> This and the following explanations are largely drawn from John W. Shepherd's study on Taiwan's sociopolitical and economic history between 1600 and 1800. Here p. 7.

<sup>2</sup> Shepherd, p. 2.

<sup>3</sup> Thanks to Harriet Zurndorfer, who in her comments to these notes pointed out that the use of the term „aborigines“ for the indigenous population may have „the effect that one may fall into the trap of judging the Taiwan indigenous population exclusively by the degree of its acculturation to Chinese ways, which is the way that Qing officials evaluated them.“ This, of course, is not the intention of the present author.

<sup>4</sup> Shepherd, p. 2.

<sup>5</sup> Shepherd, p. 2.

<sup>6</sup> Shepherd, p. 8.

<sup>7</sup> Shepherd p. 47.

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It was also in the course of the sixteenth century that the first Western colonialists took interest in the island, at first as an informal entrepot and sanctuary rather than a supplier of merchandise or raw materials. The figures 1522 or 1542 are transmitted as possible dates of the Portuguese discovery of the „beautiful island“ Ilha Formosa<sup>8</sup>; the Dutch invaded the Taiwanese Southwest in 1624, where they successively built two forts, Zeelandia and Providentia near modern Tainan, while the Spanish in 1626 set up fortresses in the North at present-day Jilong and Danshui. Dutch troops and their Chinese and aborigine auxiliaries expelled the Spanish in 1642, but the rule of the Dutch East India Company V.O.C. was not to last for long. A private navy and land forces under command of the Ming loyalist warlord Zheng Chenggong (also known as Koxinga (1624-1662), crossed the Taiwan Strait from Fujian province and forced the Dutch to leave in 1662.<sup>9</sup> Koxinga's successors held out until the island was eventually conquered by the Manchu Qing navy in 1683.

The relatively short duration of the Western colonial control on Taiwan coincided with a deteriorating socio-economic situation in the late Ming, and with the fall of the dynasty and the turmoil of dynastic transition. It was the Dutch encouragement of Chinese settlement on the one hand, and the necessity to escape from warfare on the Mainland that made Taiwan attractive for Chinese settlers.

No population figures before the colonial phase are recorded. The highest Dutch count was 68,000 for the plains aborigines in the regions under their control.<sup>10</sup> Shepherd maintains that the figure of the aborigines staid more or less the same while that of the Chinese immigrants soared from the Ming-Qing transition onwards.

The figures which Shepherd quotes for the Dutch era, into which the cross-section year 1650 falls, are relatively low, compared to earlier studies. Samuel Ho, for instance, claims that in 1624, the Chinese population in the Tainan area, which the Dutch had brought under their control, was 25,000, and in the 1650s, 100,000 persons. According to Ho, these figures are still underestimated, because they count only the Chinese living under Dutch jurisdiction, and

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<sup>8</sup> According to one website on Taiwan history, <http://members.shaw.ca/leksu/main1e.htm>, „Ilha Formosa“ seems to have been a generic name given by Portuguese sailors to several islands off the African, South American and Asian coasts.

<sup>9</sup> Wills, p. 371-373.

<sup>10</sup> Shepherd, p. 40 (table 2.1), 394. Blussé/van Luyn, p. 70. The 68,675 persons lived in 315 villages. According to Blussé, these figures refer to 1649.

the Chinese most likely tried to evade registration.<sup>11</sup> If we rather apply Shepherd's lower figures, it is because Ho does not take the indigenous population into account at all, and because the figure Ho cites for 1650 is a conversion of 25,000 households to 100,000 persons. However, this does not seem plausible in view of the low rate of Han Chinese women and children present on the island. Rather, many of the households must have consisted of single males.

Year	Aborigines Figures not available, assumption: max. 100,000 <sup>12</sup>	Chinese (village traders) Max. 1,000 as in 1624, but probably much less <sup>13</sup>	Chinese (agricultural settlers in the VOC-controlled territory)	Dutch	Spanish and Filipinos
c. 1500	100,000	1,000-1,500 <sup>14</sup>		---	---
1624	100,000	1,000-1,500 <sup>14</sup>		Less than 700 <sup>15</sup>	
1628:					200 Spanish, 400 Filipino soldiers at Jilong (Keelung) <sup>16</sup>
1630s	100,000	1,000-1,500	700-800 <sup>17</sup>		
					Spanish soldiers in Danshui (Tan-shui) reduced, only 400 left: 50 Spanish, 30 Pampangans, 200 slaves, 130 Chinese soldiers <sup>18</sup>
1636					
1639	100,000	Min. 1,000-1,500	8,000-11,000 <sup>19</sup>	1,000 in garrison, traders, missionaries, administrators <sup>20</sup>	
1640	100,000	Min. 1,000-1,500	3,568 taxed population* First Han Chinese women arrive from mainland <sup>21</sup>		
1646	100,000	Min. 1,000-1,500			
1648			Famine refugees		

<sup>11</sup> Ho, p. 9.

<sup>12</sup> Shepherd, p. 8, refers to the largest Dutch count of the aborigines under their control, which was 68,000. The figure of 100,000 allows for the uncounted mountain aborigines.

<sup>13</sup> According to Meskill, p. 18 „the island was a no-man's land“ –except for the aborigines – which had become a „pirate's lair“, and since 1560, bands of specific leaders on Taiwan could be identified.

<sup>14</sup> Shepherd, p. 83. Meskill, p. 21, quantifies the Chinese presence as „at the at most a few thousand at the beginning of the Dutch era“.

<sup>15</sup> Shepherd, p. 59.

<sup>16</sup> Wills, p. 371.

<sup>17</sup> Shepherd, p. 85.

<sup>18</sup> Shepherd, p. 58.

<sup>19</sup> Shepherd, p. 86.

<sup>20</sup> Blussé/van Luyn, p. 70.

<sup>21</sup> Shepherd, p. 85.

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				come from Fujian, but 8,000 return later. 10,811 tax-payers, total population about 15,000 <sup>22</sup>	
1650	100,000	Min. 1,000-1,500		Non-permanently present: crews of 200 fishing junks <sup>23</sup>	1,200 men in garrison
1653-55				Series of disasters: epidemics, locusts, earthquakes <sup>24</sup>	
1656	100,000	Min. 1,000-1,500		13,680 tax-payers <sup>25</sup> Zheng Chenggong attacks and conquers Amoy, from there a wave of migration to Taiwan. <sup>26</sup>	
1658-1659				25,000 able-bodied males; women and children no more than one third of the men. Total Chinese population between 35,000 and 50,000. <sup>27</sup>	
1661	100,000	Min. 1,000-1,500			

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<sup>22</sup> Shepherd, p. 86; Blussé/van Luyn, p. 70.

<sup>23</sup> Blussé/van Luyn, p. 70.

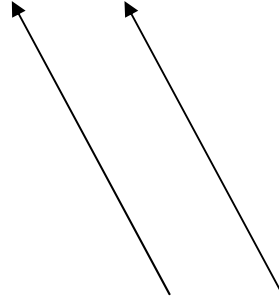
<sup>24</sup> Shepherd, p. 86.

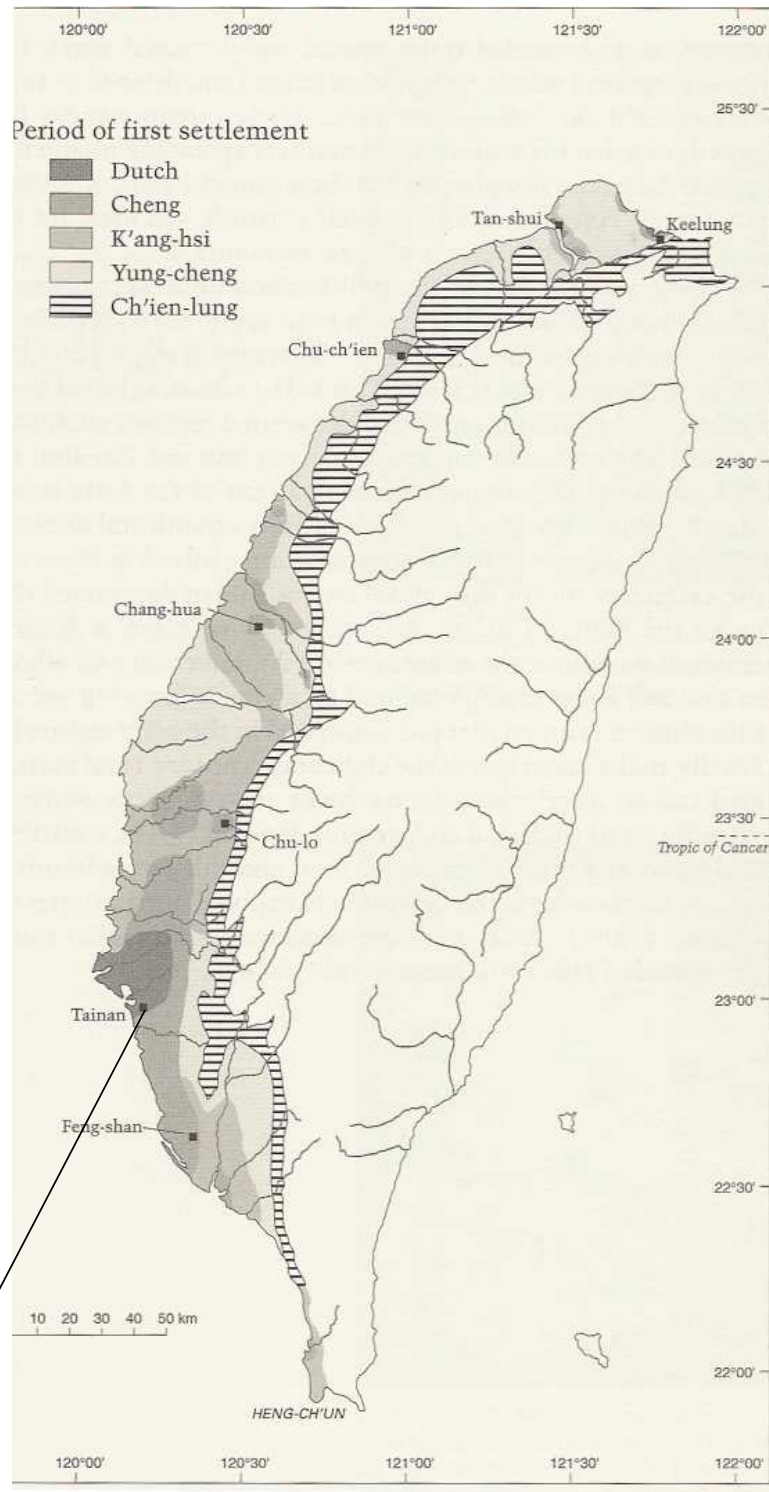
<sup>25</sup> Shepherd, p. 86.

<sup>26</sup> Shepherd, p. 86.

<sup>27</sup> Shepherd, p. 86.

Spanish Forts





Fort Zeelandia

Source: Shepherd, p. 174, The expansion of Han Chinese settlement  
Periods of settlement: Dutch, 1624-1662; Cheng, 1662-1683; K'ang-hsi reign (of the Manchu Qing dynasty), 1683-1722; Yung-cheng reign, 1723-1735; Ch'ien-lung reign, 1736-1795)

**Gender ratios and age groups**

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The only clue we have for the female/male ratio we have is the 1905 census. At F/M 104/100 for the plains aborigines and F/M 103/100, this reflects a much more balanced female/male ratio than for the Chinese population, which by 1905 was still at 112/100, but in the seventeenth century was extremely skewed, with a ration of 200/100. According to Shepherd, the first Han Chinese women arrived in 1646<sup>28</sup>, and for some decades to come, women were forced to migrate no Taiwan.

In 1650, the able-bodied males counted about 10,000, and women and children together about 5,000. It is with great reserve that we apply the gender ratios of 1905 to the situation in 1500, but we do so for lack of alternatives.

#### Estimated Taiwanese population in 1500

Total population		100,000
Thereof Aborigines		100,000
F/M according to 1905 ratio 103:100		
100,000/203		492.6108374
Female		50,700
Male		49,300
Age groups		
If similar to 1905 census		
Age 6-60	81%	81,000
Age 11-60	70%	70,000
Age 16-60	59.80%	59,800
If all over 6 are economically active		81,000
Female		41,000
Male		39,000
Chinese and other non-Aborigines (maximum)		1,000

#### Estimated Taiwanese population by 1650

Total population		117,000
Thereof Aborigines		100,000
F/M according to 1905 aborigine ratio 103:100		
100,000/203		492.6108374
Female		50,700
Male		49,300
Age groups		
If similar to 1905 census		
Age 6-60	81%	81,000
Age 11-60	70%	70,000
Age 16-60	59.80%	59,800
If all over 6 are economically active		81,000
Female		41,000
Male		39,000
Han Chinese		15,000
Male		10,000
Female and children		5,000
How many women and children?		
Children (if each woman takes one child over to Taiwan)		2,500
Women (above 16)		2,500
If 50% and 50% boys		

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<sup>28</sup> Shepherd, p. 85.

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Boys	1,250
Girls	1,250
Estimate of children above 6 years of age	1,000
Entire Chinese workforce, without semi-permanent fishers	13,500
Dutch and other non-Taiwanese soldiers and traders	2,000
Entire economically active population (Aborigines, Han Chinese, Foreigners)	96,500

### Occupations and labour relations, 1500

In 1500, the aborigine villages lived as largely self-sufficient, matrilineal hunter-gatherers and peasants. A gender division of labour is reported for those plains aborigine villages of the Siraya group that lay next to the Dutch sphere of impact in the Southwest.<sup>29</sup> Here, only women and elderly men (age 40-60) engage in agriculture. Younger men worked as hunters and fighters in so-called age grade service until age 34 or 35, living in men's dormitories – according to Dutch reports from the community of Soulang in 1623 or 1624, they did so starting at age 4.<sup>30</sup>

It is debatable whether the living and working conditions in these communities were free or to a certain extent, coerced. The younger men's long-term military and hunting service could be classified as Lab-rel 7 (Reciprocal labour within the community: Community-based redistribution agents) or Lab-rel 8 (Tributary labour: *Forced labourers*: those who have to work for the polity, and are remunerated mainly in kind). Since the occupational structures of other groups are less studied than those of the Siraya, extrapolation is difficult, especially regarding the differences between plains and mountain aborigines. Tentatively, I set a percentage of 25% of the economically active workforce as doing community-based service in Lab-rel 7.

So far, I could not trace forms of unfree labour done, for instance, by captives.<sup>31</sup> One of the texts from the Dutch period edited by Blussé and Roessingh explicitly states that “All and sundry are equally free of unfree, nobody being more master than the other, for they have no slaves, servants, or underlings, whom they sell, hire out or lend out.”<sup>32</sup>

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<sup>29</sup> Shepherd, p. 32.

<sup>30</sup> Blussé and Roessingh, p. 68.

<sup>31</sup> The Wikipedia article „Taiwanese aborigines“ mentions that „It was also customary to later raise the victim's surviving children as full members of the tribe“, referring (for the entire section on head hunting) to Hsu Mutsu (1991), *Culture, Self and Adaptation: The Psychological Anthropology of Two Malayo-Polynesian Groups in Taiwan*. Institute of Ethnology, Academia Sinica, p. 29-36, and Janet B. Montgomery-McGovern (1922), *Among the Head-Hunters of Formosa*. Boston: Small Maynard and Co. Reprinted 1997, Taipei:SMC Publishing. Shepherd does not mention this particular habit.

<sup>32</sup> Blussé and Roessingh, p. 76.



## Occupations of Plains and Mountain Aborigines, 1500

Occupations, age, gender	Total	Rounded off figures in database	Lab-rel 1
Female 81%	41,000		
Male 81%	40,000		
Female 70%	35,500		
Male 70%	34,500		
Agriculture, gathering, fishing, women, and men above 40 (81%)	15,200	15,000	Lab-rel 4
Agriculture, gathering, fishing, women, and men above 40 (81%)	45,550	46,000	Lab-rel 5
Agriculture, gathering, fishing, women and men above 40 (70%)	13,375		Lab-rel 4
Agriculture, gathering, fishing, women and men above 40 (70%)	40,125		Lab-rel 5
Hunting and military service, men 11 to 40 (25% of workforce) (81%)	20,250	20,000	Lab-rel 7
Hunting and military service, men 11 to 40 (25% of workforce) (70%)	16,500		Lab-rel 7

For disaggregating the figure for subsistence labour, I follow Shepherd's assessment of average household sizes among the Plains Aborigines as having on average 4.1 members.<sup>33</sup> Shepherd also mentions the inconsistencies in early (Dutch) censuses that record widely varying numbers of persons, but stagnant figures for the households. As a first approach, I suggest disaggregation at the ratio of 3:1 for Lab-rel 4 to Lab-rel 5 for the Taiwanese households.

### Occupations and labour relations, 1650

In 1650, under Dutch colonial influence and due to the turmoil in the dynastic transition from the Ming to the Qing, Chinese immigration from the mainland increased. Before the dynastic transition, Chinese were not supposed to stay longer abroad than three years,<sup>34</sup> but during the transitional phase this government order could hardly be enforced. Before the Dutch arrival,

<sup>33</sup> Shepherd, p. 45.

<sup>34</sup> Blussé and van Luyn, p. 63.

already about 1,500 Chinese were resident or semi-permanently settled on Taiwan as traders (Lab-rel 12). The Dutch promoted Chinese to come as contract workers for sugar plantations and rice cultivation. Some Chinese investors organized land reclamation on Taiwan<sup>35</sup> as well as the transfer of labour from the mainland (Lab-rel 14 or 15?).<sup>36</sup> However, by 1650 especially the Zhangzhou migrants may have started small-scale subsistence farming too. Moreover, in 1650 the Chinese worked in urban retail and service (Lab-rel 12). Some were employed as porters, auxiliaries, and sailors, coolies, and construction workers for the VOC (Lab-rel 18).

While little change occurred in the occupations of the Mountain Aborigines, the Plains Aborigines started to work for the VOC in especially as auxiliaries.

#### Estimate of Occupations and Labour Relations of Plains and Mountain Aborigines, 1650

Occupations, age, gender	Total	Rounded off in database	Lab-rel 1	Lab-rel 1%	Lab-rel 2	Lab-rel 2%
Female 81%	41,000					
Male 81%	40,000					
Female 70%	35,500					
Male 70%	34,500					
Agriculture, gathering, fishing, women, and men above age 40 (81%)	15,200	15,000	Lab-rel 4	90	12	10
Agriculture, gathering, fishing, women, and men above age 40 (81%)	45,550	46,000	Lab-rel 5	90	12	10
Agriculture, gathering, fishing, women and men above 40 (70%)	13,375		Lab-rel 4	90	12	10
Agriculture, gathering, fishing, women and men above 40 (70%)	40,125		Lab-rel 5	90	12	10
Hunting and military service, men 11 to 40 (25% of workforce) (81%)	19,250	19,000	Lab-rel 7			

<sup>35</sup> Shepherd p. 87, referring to Bencon, the most outstanding among them. See also Wills, p. 372, for Su Ming-kang, the first chief of the Chinese community in Batavia, who came to Taiwan in 1635.

<sup>36</sup> Blussé and van Luyn, p. 63.

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Hunting and military service, men 11 to 40 (25% of workforce) (70%)	15,500		Lab-rel 7			
Military auxiliary service for the VOC	1,000	1,000	Lab-rel 18			

#### Chinese occupations and labour relations, 1650

Occupation	Total	Rounded off in database	Lab-rel1	Lab-rel 1 %	Lab-rel 2	Lab-rel 2%
Agriculturalists for subsistence and export	3,000	3,000	Lab-rel 04	50	Lab-rel 12	50
Agriculturalists (contract workers)	3,500	3,000	Lab-rel 14			
Traders	1,500	2,000	Lab-rel 12			
Entrepreneurs	100	100	Lab-rel 13			
Hired hands	1,900	2,000	Lab-rel 14			
Women agriculturalists	2,500	2,000	Lab-rel 05	80	Lab-rel 12	20
Children above 6	1,000	1,000	Lab-rel 05	80	Lab-rel 12	20
Fishers on 200 junks	600	1,000	Lab-rel 12			
Total	14,100	14,100				

#### Dutch and other foreigners' occupations and labour relations, 1650

Occupation	Total	Lab-rel1
VOC soldiers	1,200	Lab-rel 18
VOC Administrators, missionaries	100	Lab-rel 18
Other foreign traders	100	Lab-rel 12
Other foreign sailors, porters etc.	600	Lab-rel 14

#### Sources

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