DISKUSSIONSPAPIERE

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The Making of Wooden Furniture in Mosambique

A Short Overview of the Industry Based on Observations in Mid 1989

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14

Das Arabische Buch - Knesebeckstrasse 16 - 1000 Berlin 12
ISSN 0942-3052

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Berlin 1991

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*) Research leading to this paper was conducted as part of a study within the framework of the (formerly West) German ASA Programm 1989. Special acknowledgement has to be made of the staff of both MINED (notably Baiane Eugénio Langa and Felizardo Cremildo Samuel) and IDIL (in particular Henny Matos) at Maputo for their cooperation as well as of Klaus Ebeling (WFD, Berlin) and Wolfgang Stiebens (FFE, Maputo) for their invaluable support. Though unwonted in this type of a paper, my then five-year-old daughter Ligia Adriana deserves mention for having acquiescently accompanied her father to both Maputo and Pemba -- an essential precondition for the field work undertaken.

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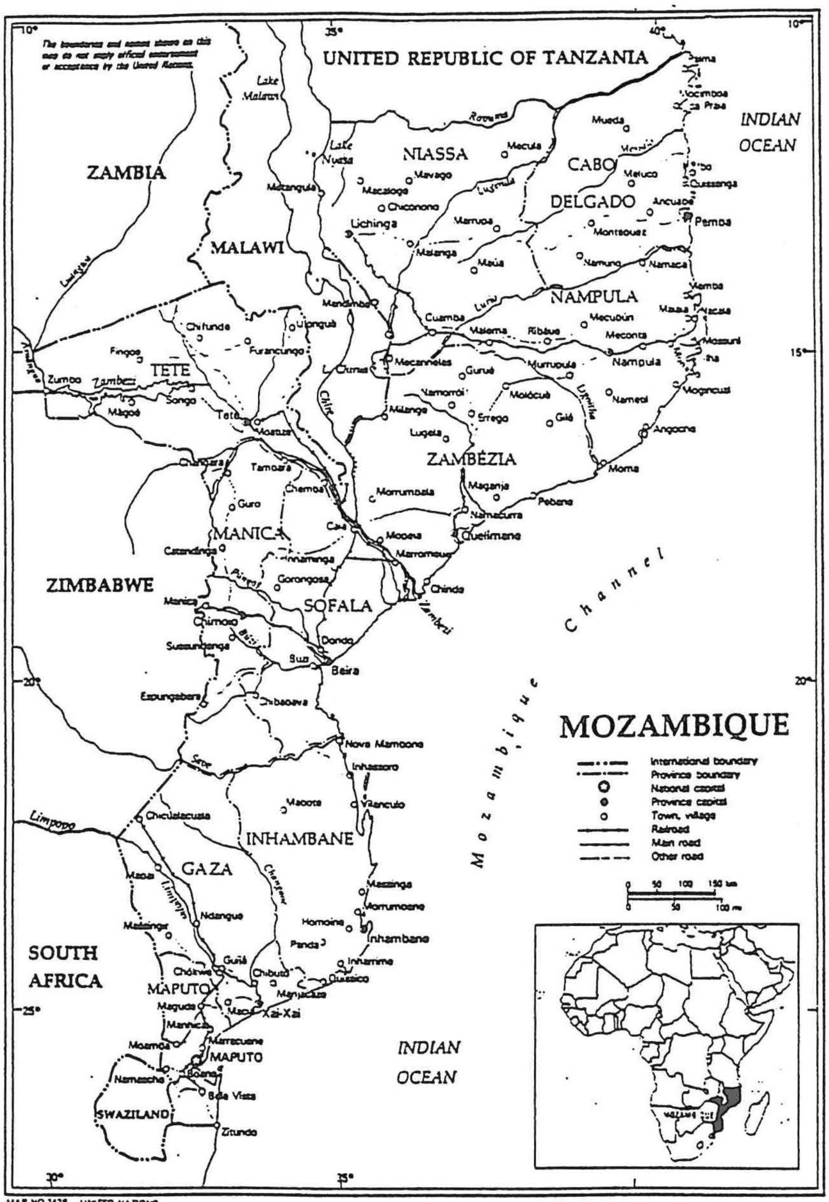

Table 1: Official exchange rates for MT per US $ 1980 - September 1989			
1980	32.4	Jan. 1989	645.00
1981	35.35	Feb. 1989	663.00
1982	33.77	March 1989	682.00
1983	40.18	April 1989	702.00
1984	42.44	May 1989	715.00
1985	43.18	June 1989	728.00
1986	40.43	July 1989	742.00
Jan. 1987	200.00	Aug. 1989	756.00
June 1987	400.00	Sept. 1989	800.00
Jan. 1988	450.00		
July 1988	580.00		
Oct. 1988	620.00		

Sources: Banco de Moçambique, quoted in *Supplement to Mozambiquefile No. 156*, July 1989, and in various exchange rate bulletins in *Notícias*.

Abbreviations

bn	billion
cbm	cubic meter
CNP	Comissão Nacional do Plano
DFC	Direcção de Finanças da Cidade (Maputo)
DIEC	Direcção de Indústria e Energia da Cidade (Maputo)
DNE	Direcção Nacional de Estatística
DNFFB	Direcção Nacional de Florestas e Fauna Bravia
DPA	Direcção Provincial de Agricultura
DPE	Direcção Provincial de Educação
DPIE	Direcção Provincial de Indústria e Energia
EEMM	Empresa Estatal de Mobiliário de Madeira
Esc	Escudo
FAO	Food and Agriculture Organization
FFE	Fundação Friedrich Ebert
IDIL	Instituto Nacional de Desenvolvimento da Indústria Local
ILO	International Labor Organization resp. Office
ha	hectare
MINAGRI	Ministério da Agricultura
MINED	Ministério da Educação
MINIFIN	Ministério das Finanças
mn	million
mt	metric ton
MT	Metical
PRE	Programa de Reabilitação Económica
RENAMO	Resistência Nacional Moçambicana
SADCC	Southern African Development Coordination Conference
sqm	square meter
UDM	Unidade de Direcção do Mobiliário
UN	United Nations
UNDP	United Nations Development Program
UNIDO	United Nations Industrial Development Organization
US $	United States Dollar
WFD	Weltfriedensdienst

Mozambican and Portuguese terms

ajudante	helper, unskilled worker
aldeia	village
caniço	reed hut, reed hut district
candonga	parallel market
candongueiro	parallel marketeer
emergência	emergency (relief program)
machamba	farming plot or field

I. Introductory Remark

Mozambique remains now, for over a decade, one of the world's poorest countries. Shattered by a -- meanwhile to a certain degree self-perpetuating -- externally implanted war incessantly rekindled within the realm of South African destabilization policies,[1] natural desasters, and about 3 mn refugees therefrom; a tough colonial heritage consisting of an economy capsized, heeling southwardly, with an absolutely undersize stock of human capital and a frail structure for international waters; deteriorating terms of trade; and a number of probably inevitable policy failures or deficiencies, the prospects for recovery do not look too bright at all. Even assuming a basis of US $ 150 for 1989, an annual growth of GDP of 5 % will merely raise GDP per capita to US $ 190 by the end of the century.[2]

Fiscal and foreign exchange deficits from the continuous war and the economic decline forced the country to reconsider economic policies as of 1983. In 1987 it embarked upon a structural adjustment program (PRE),[3] and was the first country to be served by the respective IMF facilities. Given the low level of economic self-sufficiency, while reforms were inevitable, they also engendered considerable social malaise with increases of absolute poverty causing particular distress. One aspect of an extensive search for potentially helpful measures in this respect, obviously, is job creation in industry in order to reduce the level of absolute poverty. Among other necessities that can be inferred for the industrial sector, there is the need to identify artisinal and informal subsectors that are labor intensive, sell to poor households, and that may step up low-income employment opportunities.[4] Essentially -- and quite naturally so -- the main argument corresponds to the ILO concerns for employment generation as an objective in its own right, only on a more pressing and intricate scale.

It is against this background that the presentation of some findings of a field study carried out in Mozambique's furniture industry in mid 1989 may be of interest. Admittedly, the original aims of our research in 1989 were not congruently related to the question.[5] The furniture industry, however, usually is considered a branch that can work efficiently with labor-intensive methods in urban areas, and that, furthermore, contributes to the provision of goods satisfying basic needs.[6] It, therefore, also has been focussed on frequently for employment generation.[7] Moreover, little material is available on Mozambican industries, both within and outside the country.[8] The paucity of data in general, thus, may provide further warrant for submitting this paper to discussion.

1 For a short summary of the economic burden to the country levied by South African destabilization cf. UN Africa Recovery Programme [etc.], 1989: 19-23.
2 Taking into account a population increase of 2.6 % p.a. World Bank, 1990: 178, Table 1, rates Mozambique as the lowest-income country of all with US $ 100 per capita.
3 Cf. CNP, 1987, and World Bank Doc. SecM88-235, 1988.
4 Cf. MINIFIN / World Bank, 1989: 33, 63.
5 Unfortunately though, due to a lack of man-hours, we have to discourteously put forward a basically unrevised version of two chapters of ASA Programm 1989, 1989.
6 Cf. ILO, 1977: 32, 63.
7 As far as Kenya is concerned, House, 1981, is an example of such undertakings.
8 Despite the prominence attributed to industry in past and current FRELIMO perceptions of the way to development, there are few accessible or even "grey" sources on the sector; among the more accessible ones: Torp, 1979 and 1983,

II. Definitions and Scope of Field Research Undertaken

The research leading to this paper essentially was rather limited in scope. On one hand, only few resources were available for travel which limited field working to areas accessible by either informal transport or by foot. On the other hand, many areas of the country were not accessible due to the queasy security situation. Therefore, the paper inevitably contains a number of "guesstimates" and extrapolations which under better conditions could have been avoided without effort. Around 25 formal and informal firms were visited, nontheless, despite the aforementioned constraints. Further information was supplied by the authorities concerned.

Many informations presented herein were obtained by means of a series of interviews conducted on a conversational basis with entrepreneurs and state officials involved with the sector. Some of the interviews with informal carpenters in Cabo Delgado province required an interpreter because of our own inability to master Makua during the little time spent there.[9] The other interviews were personally conducted in Portuguese.

In order to enable a more general delineation of the making of wooden furniture in Mozambique, we will distinguish between a formal and an informal sector. Since concepts of the informal sector in economic literature vary considerably due to the fact that the sector constitutes more of a residual category than an analytical one,[10] the delimitation chosen here requires brief discussion before we proceed with the presentation of our findings. For our purposes, we will define furniture makers of the formal sector as being those who are keeping accounts, i.e. who are resorting to some form of written documentation of their activities, on a more-or-less regular basis. Other firms will be considered part of the informal sector.

Both in theory and practice, four main approaches to the (African) informal sector thus far are prevailing: a labor market, a capital size, a family orientation, and a legal conformity approach.[11] In our case, had the level of education or qualification on the labor market served as the distinguishing characteristic, this would have implied that almost *any* type of industrial activity had to be considered informal. While such a qualification of the Mozambican situation itself may have been quite depictive or emblematic, it was not really informative either. Similar difficulties, unfortunately, would have occurred had capital size and/or capital employment of the firms been the criteria. The question of family orientation, for certain discussions, evidently would have been of great interest. Within the scope of this research it remained doubtful, though, whether such a distinction could have been made adequately operational for the rather rapid appraisal that needed to be pursued,

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and, within the SADCC context, also UNIDO Doc. IS.570, 1985. Darch, 1987: 186, appropriately classifies the domain of industry in Mozambique as seriously underresearched.

9 We are heavily indebted to Mr. Marquima, extension officer of the Provincial Directorate for Agriculture (DPA) of Cabo Delgado, for his patience in locating carpenters and interpreting during our visits in the vicinity of Pemba and in the district of Metuge.

10 Cf., *inter alia*, the methodological discussion in Sethuraman, 1981: 10-20.

11 Cf. ILO, 1989: 65-66.

notably because there are always some difficulties in seperating economic activity from family orientation in an African environment. Furthermore, there were at least a number of similarities between the "private" enterprises, "family oriented" businesses, and "cooperatives" visited that suggested that the family criterion was not necessarily the cardinal one. With respect to the compliance of the individual firms with legislation, the borderline between formal and informal enterprise would have been some measure of illegality (e.g., informal firms being unregistered ones) or noncompliance. The problem with this, however, essentially lay with the fact that while comparatively many firms were, in the end, registered, there was no up-to-date register of industrial activity. Besides that, for the overwhelming majority of the firms there was no practical way of complying with legal construction or sanitation standards etc. either.[12] Therefore, the most practicable criterion appeared to be whether the firm was keeping accounts on a more-or-less regular basis. For one, it indicated some qualitative difference in the running of the individual enterprise, and, secondly, it was rather easily observable.[13]

Most of the assertions we will come to formulate in this paper also require the observation of the following remarks with respect to the figures reported. While all researchers are used to the mishaps of statistics bearing certain errors, and while the majority of the data we are working with is faulty, attention should be raised, nevertheless, to the quality of the data here presented and discussed. All of the figures reported -- unless resulting from our own research -- come from official sources. This, unfortunately, does not save them from contestability though. A fundamental problem we are facing thus far in Mozambique is that the National Statistics Directorate (DNE) does not have the capacity of tracking down all activities, especially what concerns activity outside greater Maputo. What is even more venturous in this respect is that all figures reported have to be treated with utmost caution due to the generally low level of education even within the firms' managements.[14] DNE officials stress that errors (e.g., in placing the decimal point) are not at all an exception, and it is, of course, only in grave cases in Maputo that statisticians can check and correct the data.[15]

The overall recommendation for the reading of the data, therefore, is that they may be suited for the identification of trends as well as the appraisal of proportions. The assessment of magnitudes already implies more caution though than usual. Obviously, there is no need to infer from the aforementioned that this diminishes the value of any conclusions derived in this presentation as such. On the contrary, it neither provides any excuse for our own possible misinterpretations.

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12 As in the colonial days, and certainly not maintained with bad intentions, the legal basis for the establishment of any industrial enterprise are the standards of the *Diploma Legislativo Nº3057* of 12 December 1970.
13 Presumably it is for the very same reason that such a criterion is being applied since 1987 as far as collecting trade tax is concerned. The formal sector, in this case, would, hence, correspond to trade-tax Group A, and the informal sector to Groups B and C. Cf. the *Código dos Impostos Sobre o Rendimento,* Título II, Capítulo I, in: *Primeiro e Segundo Suplementos do Boletim da República* (I Série, Nº4, of 30 January 1987): 103-106.
14 We recall that at independence in 1975 the country was faced with an illiteracy rate of 93 %.
15 Pers. com. 1989.

III. Overall Characterization of the Sector

With respect to prices, the making of wooden furniture represents approximately 1-2 % of registered industrial activity in Mozambique, i.e. when the figures of the DNE are consulted.[16] The particular characteristics of the sector can be summarized as follows: the sector processes national resources, primarily produces consumer goods that to a significant proportion serve satisfying basic needs, and its orientation is the domestic market. The production of wooden furniture is spread over the whole country, notwithstanding substantial differences in levels of production.

Table 2: Industrial production by main sectors 1985-1987 in running prices (MT 100,000)

Sector	1985	1986	1987
Foodstuffs and fodder	3,744.2	4,990.1	13,088.6
Beverages	601.1	1,159.9	3,689.0
Tobacco	952.2	2,372.1	8,479.9
Textiles	2,212.6	2,070.7	10,471.9
Clothing excl. shoes	2,440.6	1,954.3	4,227.2
Electric appliances	620.0	664.4	3,289.4
Wooden furniture	361.3	429.1	742.8
Total industrial production	15,662.0	19,436.1	62,181.7

Source: CNP, DNE, 1988: 40. *Note:* Figures do not add up to total because several minor sectors are left out for this presentation.

The activity of the whole sector is intimately linked with the availability of its primary and local resource: wood. Therefore, the industry as such is not too dependent on imports. However, the sector is strongly influenced by the effects of the war situation tormenting the country notably since 1981.[17]

Most of the firms in the sector are small private enterprises. The sector holds interventioned,[18] state-owned enterprises, and cooperatives, though, as well. A minor portion of the firms consists of larger plants. Activities of the formal sector concentrate quite strongly in Maputo city, although a number of formal sector enterprises are located in provincial capitals.

Of the 38 enterprises supervised by the State Directorate for Furniture (UDM) 20 are located at Maputo.[19] The typical regional concentration or imbalance of industrial activity regarding Maputo (and Beira), in this sector, is wholly opposed to the nationwide

16 See Table 2, p.8.
17 See also the comments under *V. Material Resources.*
18 Interventioned enterprises are enterprises the state was forced to take over in the wake of independence (for both legal reasons as well as in an attempt to maintain production) due to their sudden abandonment by the colonial owners.
19 See Table 3, p.9.

distribution of the primary inputs (resources) the industry takes. It is exactly in the South of the country that exploitable forest stocks are the lowest. Such a constellation brings about a number of decisive problems for the wood furniture industry.[20]

Table 3: Regional distribution and property regimes of enterprises functioning under supervision of the State Directorate for Furniture (UDM) for August 1989

Province	State-owned	Interventioned	Mixed	Private	Cooperative	Total
Niassa				1		1
Nampula	2			3		5
Zambézia	1			1		2
Tete				1		1
Sofala	2	2	1			5
Manica				2		2
Inhambane	1			1		2
Maputo	2	6	2	9	1	20
Total	8	8	3	18	1	38

Source: UDM, 1989: Appendix (taking into consideration remarks made on pp.2-5). *Note:* The UDM (pers. com. 1989) raises attention to the fact that data concerning the provinces are not reliable in all cases because communication with the district authorities underlies difficulties.

Quite contrary to the state of the transit routes through the country, the national transport net is totally undeveloped. Due to the war situation the utilization of this weak infrastructure is, furthermore, connected with high risks, frequent delays, and a series of losses as well. This situation, linked with a series of inefficiencies incurred from the exodus of skilled Portuguese manpower, became noticable already shortly after independence.

The most cost efficient means of transport is shipment by seagoing vessels along the coast. Capacities thus far are very limited though. Supplies from the North of the country, therefore, are insufficient for satisfying demand, i.e. wood cut cannot be hauled away adequately. Overland transport is the most expensive, considering the security risks involved only. Furthermore, in a sector of bulky goods, as both forestry products and furniture, a problem with transportation is of higher significance than in other sectors. In fact, because of the long distances involved, a sector like wooden furniture that actually is not salient in terms of dependence on imports easily becomes as intense in imports as other branches of industry because fuels and vehicles need to be imported.[21]

The formal sector includes a number of furniture manufacturing plants as well as larger carpenter shops. Using the term "manufacturing" in this context may create confusion though. Strictly speaking, the overwhelming majority of the enterprises are

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20 It also leads to paradox cases, like where a firm in Maputo fabricates furniture it sends to clients in Nampula by container from wood coming from Cabo Delgado.

21 While we cannot provide specific figures to underline the above, price differences between Metuge and Pemba (a distance of roughly 30 km by road) may give an indication. See table A-6, p.33. For Nampula, one interlocutor reported the following price difference for 1st class roundwood per cbm: vicinities (forest) MT 6,000 vs. town MT 9,000. According to FAO Doc. UTF/MOZ/034/MOZ, 1987: 23, the delivery costs of wood raw materials represent about 60 % of total furniture production cost.

small-scale (at the utmost medium-scale). A larger portion of the formal sector enterprises are interventioned.[22]

Following the necessary intervention of the state, the State Company for Wooden Furniture (EEMM) was founded fusing the majority of the bigger firms of Maputo in an endeavor to streamline production and reap scale economies from producing uniform furniture.[23] This attempt, however, failed for a variety of reasons. Besides the adverse general circumstances of the sector already outlined in part above, badly defined and assigned responsibilities, by blurring the accountability of individuals or divisions, were significantly impeding better performance. Furthermore, the competition thereby eliminated had negative effects. Similar difficulties arose from the creation of the UDM. The fact that its competence was not clearly seperated from that of the EEMM led to shifting responsibilities and disputes.

Currently, this organizational structure is being revised. Serious efforts are being made to disentangle the EEMM in order to increase activity in the sector by providing new opportunities for specialization, and by installing both competition and the economic autonomy of enterprises. Work has also been initiated on redefining the function of the UDM in terms of turning it into an institution for economic and technical consultation in the sector. Furthermore, there is a strive to alter the ownership rights regarding interventioned enterprises. For a number of firms -- 14 years after independence -- this constitutes the first attempt at transforming them into state-owned or mixed enterprises with complete economic autonomy in order to alleviate them from the inherent difficulties that exist with running interventioned enterprises.[24]

IV. Employment and Human Resources

Employment figures for Mozambique only exist as estimates, if at all, and, furthermore, merely on a global basis. Notwithstanding these circumstances, based on our observations and on the extrapolation of some obtainable data concerning activities in Maputo city and Pemba, the assumption that about 15,000 persons are employed in the making of wooden furniture on a country-wide scale probably is not too far off the mark. This implies that about 0.2 % of the population are either self-employing themselves or being employed in this sector.[25]

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22 See n.18 above.

23 It also has to be seen in the light of socialist policies aiming at cutting the production of luxury goods in favor of mass consumption goods. Cf., *inter alia,* Torp, 1979: 33.

24 Since, legally, interventioned enterprises are still owned by their former proprietors, there is little incentive for management-level and other employees to run them efficiently.

25 I.e. about 3,000 persons in the formal sector, and somewhere between 11,000 and 13,000 in the informal sector. Reinold Schattenfroh (FFE, Maputo) was as kind as to discuss this "guesstimate" with us (pers. com. 1990). His judgement, based on a less elaborate first formulation of our view, was that 15,000 overall is probably too many because that would underestimate productivity levels. We are not sure whether our argument that a calculation in round numbers leading to a figure of, roughly, US $ 450 output per capita for formal sector employees (formal sector production taking the lion's share of overall production, divided by 3,000 employees; weighted exchange rate of MT 525 per US $ for 1988), considering the low level of capacity utilization, has convinced him as being reasonable.

In the city of Maputo an estimated 3,000 persons are working in approximately 120 wood furniture making firms. Half of them are employed by enterprises under the supervision of the UDM. About 60 % work in the formal and 40 % in the informal sectors, as we have defined them. The respective magnitudes can be estimated using the known employment figures of the UDM enterprises, and from multiplying calculated average firm sizes with an estimate of the current number of firms not under supervision of the UDM.[26]

Pemba, of course, is smaller and easilier surveyed. Thus, employment figures were easily derived from data supplied by the Provincial Directorate for Industry and Energy (DPIE) and additional counting of not registered carpenters. Including the suburbs of Mahate and Muchara, about 120 persons, corresponding to approximately 0.25 % of the economically active population, are working in furniture or joinery shops. Half of them are employed in the informal sector.

As far as rural areas are concerned, the situation of the village of Vinte-e-cinco de Julho, Metuge district, Cabo Delgado, may serve as a basis for some rudimentary appraisal.[27] The village has 2054 inhabitants, among them 5 carpenters or joiners. These craftsmen, however, are not exclusively devoted to carpentry and joinery. In fact, their primary occupation is peasantry. It is only in times when there is less or no work to be done on their *machambas,* i.e. basically during dry season, that they are working with wood. Also, they procure the lumber they need by themselves in the surrounding areas, implying that considerable working hours have to be discounted for felling and transport operations.

As in other sectors, the human capital of wooden furniture making is not very well developed. This can be attributed to both the exodus of the former colonists in the mid 1970s and the little training that has been provided for in the formal sector since independence.

As to the formal sector, the most serious deficiency is the scarcity of labor qualified for middle and top management positions. This had, and still has, fatal consequences for the whole industry. What happened actually was that unskilled workers (who, e.g., were not even capable of measuring the volume of wood) unexpectedly found themselves confronted with having to run, collectively or not, entire enterprises. The results perfectly matched the overall conditions: confusion of receipts with profits, bad stock keeping, deteriorated plant organization, deficient quality controls, and so forth.[28] In fact, of all the larger enterprises visited only one could be characterized as being efficiently run and

26 Because the Directorate for Industry and Energy of the City of Maputo (DIEC) did not possess an up-to-date register of firms in the sector, average firm sizes were calculated from 1986 data. Similarily the geographic distribution of the firms was recorded. Assuming that no major changes in size or shifts had occurred since then, the current number of firms was inquired at the Directorate of Finance of the City (DFC) for districts 2-5 presuming that this institution, according to the nature of its pursuit, was more up-to-date. The current number of firms was calculated therefrom. Evidently, such estimates cannot replace any more thorough survey, and are of a makeshift character only.

27 Agricultural extension officers considered it fairly "typical".

28 This shortage of management resources in absolute terms is maybe best illustrated by the fact that the few (10-16) carpenters trained annually at the Centro de Formação Profissional da Machava (CFPM) almost immediately after their training advance to middle and top management positions due to the simple fact that they are capable of reading and writing.

conveying an truly industrious working atmosphere. Its decisive feature was that it was run by a former Portuguese settler who has been making wooden furniture for all of his life.

Coming to the craftsmanship displayed, it must be recognized, in the first place, that carpentry in Mozambique is of considerable quality. A significant number of carpenters and joiners had been trained in vocational schools *(escolas de artes e ofícios)* during the colonial time. Many of them are employed in the larger enterprises or work independently in the informal sector. As far as these rather skilled laborers are concerned, it should be noted that they are aging, and will have to be replaced by younger qualified personnel within the next decade. The vast majority of the carpenters and joiners, however, has been trained in a nonformal way, i.e. as a relative or *ajudante* working with an informal producer. Nonetheless, and notably with respect to the informal sector, their training has provided them with adequate skills to exercise the profession.

The latter does not imply that training activities are of no use at all. Aside replacing well-qualified aged personnel of the formal sector,[29] there is nothing wrong with upgrading the knowhow of nonformally educated craftsmen. Nevertheless, the fact that relatively *many* training activities (particularly those of nongovernmental organizations and churches) currently focus on carpentry which, as pointed out, can draw on quite some tradition is striking in terms of importance attributed to the development of the craft (and thus probably points to some type of project gap).[30]

V. Material Resources

About 89 % of the landscape of Mozambique consists of areas covered by some form of woody vegetation.[31] The true stock of forests according to the latest inventory from 1979 runs at about 20 mn ha[32] which still corresponds to 24 % of the national territory. These forests hold a number of quite valuable species that in part are internationally renowned.[33] Albeit these advantages, and somewhat typical for African forests, there are comparatively few trees of adequate size for commercial exploitation (6-15 cbm per ha). Nonetheless, FAO reappraisals of 1986 and 1987 consider a possible annual yield of about 1 mn cbm of

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29 Attention will have to be paid to the form such training activities take. Unfortunately maybe, any training incorporating a more solid "theoretical" foundation, with the current scarcity of managerial personell, is not necessarily advisable. According to the director of the Centro de Formação Profissional da Machava, the carpenters trained there usually advance to management positions in no time at all after having completed their training merely because they are capable of reading and writing. The implication, obviously, is that good carpenter training becomes bad desk job training

30 As an example, it may be worthwhile noting that the assistance given to tinsmith cooperatives in Pemba presently enjoys much more success than supporting carpenter cooperatives simply since there were no local tinsmiths before, and because they furnish simple consumer goods like buckets, cooking pots, and other dishes which low-income households can pay for.

31 FAO Doc. UTF/MOZ/034/MOZ, 1987: 11.

32 FAO Doc. FO: MOZ/76/007, 1980: 89-90. Such inventories usually can be taken for reference over a period of ten years without having to presume major differences occurred – with the exception of extraordinary changes, of course.

33 The most valuable species are pau preto *(dalbergia melanoxylon)*, umbila *(pterocarpus angolensis)*, chanfuta *(afzelia quanzensis)*, panga panga or jambire *(milletia stuhlmanii)*, and pau ferro *(swartzia madagascarensis)*.

valuable species to be viable on the basis of a 3 mn ha permanent forest estate with sound management.[34]

About 44 % of the forest resources are located in the three Northern provinces of Nampula, Niassa, and Cabo Delgado. Zambézia province alone, however, possesses 21 % of all forest areas while Sofala province contains 71 % of the most productive areas.[35] As far as the allowable cut is concerned, about 50 % may be cut in the Central, and 44 % in the Northern region of the country. Only 5 % of the permissible cut can be carried out in the South.[36]

Besides forest stocks, there are a number of plantations where mainly softwoods are grown (90 % consisting of eucalyptus and pine). They are distributed among 14 projects covering a total area of approximately 43,000 ha. Half of the area is located in Manica province. According to officials of the National Directorate for Forests and Wildlife (DNFFB), though, plantations for the purpose of reforestation of local hardwoods thus far have not yet been contemplated.[37]

In general, the country is well enough endowed with wood to be able to both supply its industries with lumber and export timber. The biggest part of forest production is consumed nationally, something which was cemented for considerable time by an overvalued exchange rate.[38] Obviously though, the supply of lumber is reduced by the effects of war, i.e. bandit activity, particularly in areas far-off the cutting zones.[39]

The effects of war on the forest stock have not yet been assessed, and the authorities concerned will not engage in any speculations on the topic. Nevertheless, the following considerations, while speculative, may not be too unreasonable. Usually, bandit activity has concentrated on industrial installations (sawmills, etc.), i.e. their main purpose was to obstruct production or to cause production breakdowns. At the same time, for tactical or even strategic reasons, bandits cannot have any interest in the destruction of forest areas as such since they can abuse them for their activities (both for hideaway and ambush). Hence, it may be supposed that what is so detrimental to the country and its population ironically preserves the country's forests to a certain extent. On the other hand, the regular cut must concentrate on areas safely accessible or protected, i.e. in regions not yet or less affected by the war, alongside railroad tracks and highways, and in the vicinity of urban agglomerations.[40]

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34 MINAGRI / FAO Doc. FO: MOZ/82/009, 1986: 29, Table 3, and FAO Doc. UTF/MOZ/034/MOZ, 1987: 12.
35 MINAGRI / FAO Doc. FO: MOZ/82/009, 1986: 27-28, Tables 1 and 2.
36 ibid.: 29, Table 3.
37 Pers. com. 1989.
38 For instance, according to figures furnished by the DPA of Cabo Delgado, in 1981 68 % of the forestry production of the province were consumed within the province itself, 3 % went to other provinces, and 29 % were exported. The proportions for 1988 were 63 %, 31 %, and 6 % respectively (pers. com. 1989). Cf. also FAO Doc. UTF/MOZ/034/MOZ, 1987: 26-27.
39 This is best illustrated by the declining figures for timber exports in table A-7, p.33.
40 These speculations, obviously, could not be verified in practice. However, they were confirmed in discussions with various interlocutors. The DPA of Cabo Delgado, for example, assumes that stocks in the North of the province (Macomia, Mocímboa, Mueda, and Nangade) are being decimated too fast because the areas are considered safe from bandit activity. If the overcutting continues, depletion of reserves in the area within ten years has to be anticipated (pers. com. 1989).

With respect to energy, about 80 % of gross supplies are derived from wood. According to a World Bank assessment, 13.5 mn cbm of wood fuel, harvested mostly in scrub and savannah forests, are consumed annually. While corresponding to the estimated annual overall increment, the implication, here as well, is that forests in the surroundings of larger towns are severely overcut because it is there the population will procure the fuel.[41]

Logging capacity of Manica, Sofala, Zambézia, Nampula, and Cabo Delgado provinces amounts to 85 % of total national capacity, the largest regional capacity remaining with Manica. More than half of the firms in this domain produce with a capacity inferior to 2,500 cbm p.a. On the other hand, a single state enterprise is concentrating 24 % of Mozambique's logging capacity (inbuilt capacity of 70,000 cbm p.a.).[42]

That enterprise, furthermore, is the only company in the forestry sector employing adequate modern equipment. The overwhelming majority of the firms utilizes truly obsolete technology. Normally, the trees are felled and crosscut by two persons working with a cross-cut saw. Sometimes power saws are used. Their usage, however, is hampered by difficulties in obtaining spare parts. With the exception of plantation logging, tractors are employed for skidding and for short-distance transport. For long-distance transport, trucks come into service. Most of the loading operations are accomplished manually.[43]

Besides primary raw material, the production of wooden furniture particularly requires adhesives. Furthermore, metal fixtures, padding, and cover materials can be of importance. Adhesives are produced at Maputo, and it is possible to obtain them without difficulty since 1988. According to interviews with various entrepreneurs, their quality, still, is varying occasionally. Hence, their utilization for exports cannot yet be recommended. Albeit this deficiency, they are good enough, though, for serving the domestic market, and producers are making ample usage of these glues due to their advantageous pricing.[44] As far as the supply of rural areas with adhesives is concerned, there are a number of infrastructural difficulties to be overcome. According to information of Cabo Delgado agricultural extension workers, efforts are being made, as far as capacities permit, to surmount such bottlenecks by training rural carpenters in the production of glues based on animal hides.[45] Metal fixtures partially are produced locally, however, neither in sufficient amount, nor in sufficient variation. Thus, considerable quantities are imported from both South Africa and Swaziland. Nails, springs, and screws are produced locally as well, screws, though, not always in sufficient amount. The primary material used for padding is cotton produced and exported from Mozambique, even though foam rubbers are used as well. Textiles produced locally could eventually provide for cover material. These are not being applied, though, because there is a distinct preference to be noted for imitation

41 FAO Doc. UTF/MOZ/034/MOZ, 1987: 1, 12, and 27-28.
42 ibid.: 17-18.
43 ibid.: 19, and own observations in Maputo, Pemba, and its surroundings.
44 September-1989 prices for adhesives with retailers in Maputo were MT 7,200 per liter; with retailers in Pemba MT 3,000 per kilogram; with parallel marketeers *(candongueiros)* in Pemba MT 2,500 per liter.
45 Pers. com. 1989.

leather. The latter is basically of South African origin although it appears that cheaper Portuguese imports come to play a role more recently as well.[46]

VI. Production

Figures on production are available for the enterprises strategically most important. Furthermore, the DNE reports figures on wooden furniture. The accuracy of the data, especially as far as the latter are concerned, is difficult to judge. As already mentioned above, their value certainly lies with giving us a little idea of trends, and maybe magnitudes.[47]

Total Mozambican production in 1988 ran at about MT 797 mn or US $ 1.5 mn respectively.[48] Analyzing the figures in time is complicated by the drastic recent devaluations the currency has undergone. Working with constant furniture prices poses difficulties as well because they would not reflect current rises in the prices for wood. Turning to quantities, UDM and DNE figures still display a production increase for the majority of the products from 1986 to 1987, a decrease, however, from 1987 to 1988. Only living room furniture, school furniture (writing desks), and office furniture are resisting this trend.

Production in the cities occurs either in furniture plants, or in carpentry shops of different sizes and machinery. The main products are eating room and bedroom furniture, as well as writing desks. Room furniture usually is produced and sold as a set, and not in single pieces. A typical eating room set comprises one eating table and six chairs; a typical bedroom set, one double bed, two bedside tables, and a chest of drawers. Living room furniture sets generally include one sofa, two armchairs, and a sofa table. The products usually are richly ornamented in a Portuguese colonial style, and contain a strong component of carving. The lumber most frequently worked are the local hardwoods chanfuta, jambire, and umbila. Softwoods, like pine and eucalyptus, are seldomly used.

With informal producers joinery work is more prominent in the range of products, i.e. they fabricate doors and windows more frequently. In fact, the worse equipped the producer, the more production shifts from furniture towards doors and windows. Also, pine, eucalyptus, and messassa,[49] as cheaper alternatives, are used besides the 1st class woods. Carpenters and joiners of the informal sector of Maputo who are working under marginalized conditions, and who do not have the financial resources for purchasing wood in advance, try to obtain wood from crates and packing cases sold by their (either legitimate or illegitimate) owners in order to maintain production. Thus, crates are transformed into doors and smaller items of furniture, like chairs, because the length of

46 Based on interviews with Mozambican entrepreneurs and on our own observations.
47 For the following, see tables A-2, A-3, and A-4, pp.30-32.
48 Employing a weighted exchange rate of MT 525 per US $ for 1988. Cf. table A-3, p.31.
49 *Brachystegiae spiciformis.*

the pieces of wood usually does not serve for bigger surfaces. In most cases, doors (and windows as well) are sold to intermediate dealers for about MT 10,000 each, so the producer may obtain cash as soon as possible. The intermediary, then, sells the same doors for approximately MT 20,000-25,000 to *caniço* dwellers.

Small-series and one-off production prevails in the formal sector establishments, the larger enterprises fabricating small series, and the smaller workshops both small series and job products. The firms produce furniture of their standard assortment or according to specification of the client. In the latter case, it is common for the client to either bring along a photograph of an item desired, or select one from a foreign furniture picture catalog which then is transposed into drawings and molds by the foreman. In many cases, the foreman furthermore marks the wood because most carpenters are not acquainted with reading drawings.

Generally speaking, the series usually are of too little scale to have any positive effect on the productivity of labor. The comparatively few repetitions of the same operations are not really sufficient for improving the routine of the individual workers. Hence, it is quite rational at plant level to produce the series as a number of unit productions of the same worker. This is not uncommon practice, and in firms where this is not observed there is an imminent danger of quality impair because of difficulties in tracing the origin of faults during quality control (if undertaken).

One-off production, almost exclusively, is the mode of production in informal firms. Therefore, all products are unit products which, however, does not imply there is too much product variation. Products usually are fabricated on order of the client only because building stocks is costly.

Most of the firms of both the formal and the informal sectors are working well below their capacities (frequently only at 20-40 %). This is attributable to two main reasons. One is the very high price of wood that ties up considerable capital between purchasing raw materials and selling the final product, and the scarcity of wood as such. The other is a rather low effective demand for furniture. On one hand, the country is totally undersupplied with basic needs goods (including furniture) which often has been grounds for assuming large markets in this respect. The apparent need, however, is not accompanied by adequate consumer purchasing power.[50]

In order to obtain a picture of production in rural areas, we may be able to draw upon the visit to the *aldeia* Vinte-e-cinco de Julho. Figures as such were not available, and the joiners interviewed also did not have any idea of how much they produce with respect to certain time periods. Therefore, production could only be estimated on the basis of approximate consumption of inputs.[51]

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50 See also *VIII. Markets.*

51 I.e. we tried to track down how much wood usually was cut over the year, and derived our estimates therefrom. There was no notion of the amount cut either (or, maybe, no willingness to report any figures, although we could not detect any specific reason for assuming the latter), but those figures could be approximated by questions concerning diameters, frequency of cut, etc.

For the village, we can assume an annual cut not exceeding 8 cbm of sawnwood. That assumption is derived from the fact that the joiners usually leave the village in search of wood about twice a month during dry season. They cut three trees of umbila with a diameter of about 30 cm each. Presuming 50 % of waste in the production process, we arrive at about 4 cbm of wood in the form of furniture or joinery products.

The joiners' basic products are doors and windows, and an occasional trunk or bed. The 4 cbm could represent, then, either 40 doors, 80 windows, or 10 beds, i.e. goods of a local market value of MT 400,000, 240,000, or 200,000 respectively. Weighing the frequency of the different products would lead to a total annual production of about MT 300,000 (in current prices) in the joiner trade of the *aldeia* Vinte-e-cinco de Julho, implying that every joiner produces goods worth approximately MT 60,000 (roughly US $ 75) per year aside what he reaps from his agricultural production.[52]

VII. Technologies

Technologies employed in the making of wooden furniture in Mozambique, i.e. as far as the most advanced are concerned, more or less reach a standard achieved in the late 1960s by industrial countries . Obviously, quite a number of earlier technological stages can be observed just as well, reaching from mere manual work with hand tools over work with mechanical equipment of the 1930/40s to fairly modern machinery, evidently blending with one another heterogeneously.[53] Due to the long colonial occupation by Portugal, according to UDM officials, about 65 % of the mechanical equipment are of Portuguese, and some 25 % are of Italian origin. The rest stem from various other countries.[54]

The country's biggest enterprises -- all located at Maputo -- are equipped with a substantial number of machines that do not merely possess general functions, but, in fact, special ones as well. Besides the ubiquitous sawing, milling, surface planing, thicknessing machines, turning lathes, etc., there are numerous machines for more special services testifying, in a way, that Mozambican furniture manufacturing in the 1960-1970s reached a rather advanced level of sophistication in African terms. Aside the necessary machines for rough mill work, e.g. high-speed routers with milling channels, chain mortisers, tenoning, dovetailing as much as automatic surfacing and molding machines can be found; and, furthermore, belt sanders, veneering presses, and so forth.

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52 There is a difficulty in assessing and comparing the income, as well as translating it into US $, though, because we had no opportunity to inquire into the general price level of the village. Still, we believe the Vinte-e-cinco-de-Julho income to be rather high in comparison because the village has been spared from so-called-RENAMO attacks until now (1989). It is "only" once (certainly, already too often) that a joiner was killed while out in search for raw material. On the whole, we believe average production figures, especially in rural areas, to be much lower (maybe about US $ 30-40 per capita).
53 Two of the best-equipped producers of Pemba, for instance, are using time-honored equipment from the 1930s driven mechanically (by means of diesel engines and driving belts).
54 Pers. com. 1989.

The "application" of this inventory, however, is rather limited due to a number of reasons. First of all, the Portuguese settler exodus in the wake of independence has deprived the whole sector of its technological knowhow. Since the former settlers had barely ever conceded to employing blacks in positions of skilled workers and foremen, their enterprises were basically left without any management at all (neither top, nor middle, nor lower). Furthermore, they had taken with them the overwhelming part of the operating instructions for the equipment, and purposely damaged many of the machines. Likewise, some demolition was most probably inflicted by workers during the period following immedeately after independence in a rather uncontrolled unleash of agressions accumulated under the colonial regime. In addition, there were considerable unchecked movements of machine inventory which resulted in almost few enterprises remaining with their original equipment. Other factors meanwhile include inadequate maintenance of equipment -- less due to unqualified personnel than to a scarcity of tools and spare parts. The maintenance crew of the EEMM, for example, is able to carry out repairs, but cannot follow up on maintenance and inspection at the same time because of an insufficient number of sets of wrenches. This apparently must lead to increased capital consumption (or, at plant level, depreciation). The repairs that need to be done in the larger enterprises, generally speaking, are normal though, and cannot be attributed to unqualified handling of machines (as it appears to be the case in other branches of industry).

Another reason for the little utilization of technological capacity lies with the fact that replacement investments have not been made since independence. More recently however, it appears that with the recent privatizations of interventioned enterprises and the legislation enabling enterprises to retain half of the foreign exchange reaped for purposes of investment new imports of equipment are commencing, and necessary replacement and expansion investments are being made. Still, it is not possible yet to assess whether this is being done meaningfully and on a mature basis. One of the biggest problems remaining in furniture manufacturing is the scarcity of qualified management-level employees. As far as technology is concerned, this inescapably impinges upon the choice of equipment as well as its combination and placement. Some manufacturers interviewed apparently are of the opinion that the only way of overcoming bottlenecks in their firms is the purchase of new machinery. Questions of enterprise lay out or product design usually do not form part of the overall considerations.[55] This is not always the case with the state owned enterprises where the UDM has the capability of identifying the underlying difficulties. Nevertheless, here as well, the scarcity of personnel qualified for such specific tasks implies that great improvements are not in near reach.

Apart from the larger furniture manufacturing units, there are a number of smaller manufacturers employing, roughly, between 15 and 70 persons, and possessing a less

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55 Certain bottlenecks can sometimes be overcome more easily by simplification of production techniques or altering the product than by further mechanization or automation. For the furniture industry in developing countries, cf. also UN Doc. ID/154/Rev.1, 1982: 10-16. For an application of value analysis in the furniture industry, cf. also UN Doc. ID/298, 1983.

extensive inventory of machines. Usually they are furnished with between 5 and 15 individual machines, depending on the size of the firm. Frequently they employ machinery purchased at sales of used equipment by interventioned or state-owned firms. Their equipment is less specialized also: commonly they use circular saw benches, band sawing, spindle molding, surface planing, thicknessing machines, and turning lathes only. What is not uncommon either is the employment of universal machines combining two or three of the aforementioned functions. The machinery is of comparatively older vintage, but it is working well actually, and, more important, it can be secured financially. As far as firm lay out is concerned, the equipment in general is placed more by sequence of purchase than anything else. While certainly not desirable, this nevertheless is rational for the small manufacturer because thus far purchases of equipment could not be anticipated or even planned.[56] Furthermore, the available space for the individual firms is rather limited in size: usually between 150 and 500 sqm, implying that vacant floor space is more attributable to chance than calculation.

Production in the formal sector, i.e. both in the case of the larger enterprises as the smaller ones, generally speaking, still involves a large amount of craftsmanship. Many operations are executed manually after mechanical rough mill. However, this must not necessarily be interpreted as some sort of backwardness because it actually is quite adequate to the situation in general. Even in industrial countries the production of furniture involved, and still involves, a strong component of craftsmanship. Mechanization of furniture manufacturing was not at all as intensive as in other industrial sectors. Furniture sectors, furthermore, due to the high transport costs of the products, are generally characterized by a large number of small-scale firms supplying local markets. Since a large amount of furniture is designed and produced to individual specification, real automation only makes sense where the latest production technologies are involved. Currently, however, there is no urgent need for the latter, and the level of technology thus may be characterized as appropriate. As far as the condition of a large part of the machines is concerned, evidently, some capital spending on replacement must be undertaken. The last time more substantial imports of machinery were made was in 1973.

One of the more important negative conditions for the production of quality furniture in the formal sector -- while in principle also applying to the informal sector -- is the absence of dry kilns thus far. It is only now that such equipment is being installed (by two firms in Maputo). While certainly the problem of timber dessication in tropical countries is not as grave as in, e.g., Northern and Central Europe, it nonetheless implies increased lumber storage costs in order to dry stocks, and reduces Mozambique's potential export capabilities because there is no way of realizing any export ambitions with an average moisture of 30-40 % on a world market requiring a moisture content inferior to 10 %.[57]

56 New legislation facilitating the import of machinery may now lead to improvements in planning and therefore plant lay outs as well.

57 North American and European firms usually reduce the moisture content from 60-70 % to 5-8 % to prevent warping and shrinking.

There is a rather big qualitative difference between the formal and informal sectors. Production in the informal sector is overwhelmingly performed manually. As far as machinery is employed, it consists of circular saw benches, spindle molding, and surface planing machines. A substantial part of the firms, however, is employing hand tools only. Many informal firms even are inadequately equipped with the latter. With such firms, naturally, product quality is quite inferior by comparison. In general, informal producers are dependent on retailers for their tool purchases. Although they may also fabricate some of the tools (e.g., planes) by themselves, even this requires some initial equipment for their production. Presently, though, it is not possible to purchase all necessary tools with retailers.[58] Therefore, many producers of the informal sectors of Maputo, Pemba, and Metuge have to rely on improvisation, i.e. chisels for metal working are being used in the place of mortise chisels, and so forth.

For the lower-end informal producer, besides the reduction in product quality incurred, this situation also increases costs by augmenting the working hours per product. These increased costs usually have to be borne by the producers themselves because they only manage to sell their products at market price, or below due to the lower quality content. Better equipped firms of the informal sector, still, produce on a similar level of quality as enterprises of the formal sector.[59]

VIII. Markets

In Mozambique, the need for furniture and joinery products is very extensive. This goes for all types of furniture that provide basic furnishing, i.e. in the first place apartment (or dwelling) furniture, school furniture, and office furniture, but also doors and windows. Despite the fact that we were not able to undertake or consult any general household survey in this respect, the overall poverty level indicates that most households are not adequately supplied with even the most basic furniture. Most of the schools, if at all furnished, are in need, and many offices require better furnishing. Population growth of 2.6 % p.a. and the systematic destruction of schools and hospitals by bandit activity is exacerbating need.[60] The fact that a significant part of the population is displaced and, therefore, forced to reestablish itself, furthermore, creates an increased need for such

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58 Our own investigation with the retailers of Maputo and Pemba would lead to this conclusion. As far as Maputo is concerned, there was no way of obtaining G clamps, tenon, and frame saws, screw drivers, mallets, pincers, small screw drills or veneering tools. Planes were difficult to obtain. The supply is supposed to be fluctuating strongly though. As far as Pemba is concerned, besides the tools not available with Maputo retailers, there was an absence of planes, back hand saws, wood bits, screw drills of any size, triangular files, brushes, rule triangles, folding rulers and air levels as well. The one-and-only retailer there purchases in Maputo, but more recently from Portugal also. This retailer, too, is the only possible source for tools for the surrounding districts – aside occasional individual imports from Tanzania.

59 Therefore, based on the differences in technical equipment, it is possible to distinguish two levels of informal production in Maputo. This probably indicates that our pragmatic definition of the informal sector has its limits in qualitative terms.

60 According to Moiane, 1988: 6, by 1988 45 % of the elementary school network were destroyed partially or totally by bandit activity. Similarly, Ministry of Health [etc.], 1988: 1, reports that by 1986 31 % of the primary health care network had been destroyed, looted, or forced to close.

elementary goods as doors and windows. What remains rather difficult to assess, however, is the question whether any effective demand can result from that because this depends upon the individual survival territories of the households and the demand the state is able to generate in specific.

As far as households are concerned (and, in fact, almost without any distinction as to income because the overall wage level is so tremendously low) furniture items, basic needs goods as they may be, factually represent luxury goods simply because they are beyond the consumers' means. An average worker would need to save an entire annual wage in order to pay for a bedroom or eating room set -- no matter whether richly ornamented or in popular style.[61]

Table 4: Selected prices for wooden furniture at formal and informal markets for September 1989 in MT

Market	Product	informal	formal
Maputo	Table		125,000
	Chair	3,500-12,000	30,000
	Double bed	105,000	145,000
	Dining room	200,000	400,000-700,000
	Bedroom set	350,000	500,000-600,000
	Entry door	10,000-70,000	
Pemba	Chair	6,000	
	Double bed	30,000-200,000	
	Dining room	70,000-75,000	
	Entry door	12,000-35,000	
Metuge	Double bed	20,000	
	Entry door	10,000	
	Window frame	3,000	

Sources: Interviews with various producers.

Reasons for these extremely high prices primarily lie with the war affected and thus very costly cut of wood (extra costs, extra risks),[62] surcharges stemming from scarcity, long transport distances (bulky goods; transport costs being foreign-exchange costs), a low level of labor productivity, and, more recently, overall price increases from currency devaluations (many products have a strong component of foreign-purchased materials and services); at plant level, with increased fixed costs because of low capacity utilization, increased capacity costs from energy cuts due to bandit sabotage, and increased fixed and unit costs from deficient management.

61 See table 4, p.21, for furniture prices. For recent furniture price evolutions see table A-1, p.30. Basic monthly salaries for unskilled and skilled workers ranged, at the time, from MT 22,500 to MT 53,000. Cf. *Diploma Ministerial Nº29/89* of 19 April 1989, and *Diploma Ministerial Nº76/85* of 25 December 1985. Private firms were able to increase this salary by offering free meals, for instance, if they wanted. Wages of carpenters in cooperatives usually were lower than established by the above legislation.
62 For current and past wood prices see tables A-5 and A-6, p.32-33.

These adverse circumstances limit the national market, as far as recorded in 1988 by the national statistics, to a mere MT 797 mn or US $ 1.5 mn respectively.[63] The true market size, however, must be assumed somewhat superior to this since everything occurring outside the provincial capitals (and often enough: outside Maputo) is located in a statistical no man's land of sorts. How much larger the size, definitely, cannot be affirmed without further research. Nonetheless, a "guesstimate" that it would not be more than 15 % above the market size officially recorded is probably not too wide off. This would be based on the assumption that the larger part of the population resides in rural areas where productivity is low, where division of labor in the area of crafts is modest only, and where patterns of consumption are not as fastidious yet as in the cities because of a lack of communication (TV, etc.).[64] The rural markets have their peculiar limits due to the population being almost wholly engaged in subsistence activities, i.e. producing its own basic consumer goods, including beds and the like. Even migrants to the cities maintain their customs as far as the construction of simple furniture items is concerned because wooden beds and other furniture are totally beyond their means.

Thus, in rural markets, local joiners or carpenters are essentially confined to the production of doors and windows, i.e. as long as there is money or another accepted exchange medium, and a demand for wooden (as opposed to bamboo or reed) doors. Again, we can only judge from the situation observed in the village visited in Cabo Delgado's Metuge district. There, joiners could certainly not survive from the earnings the practice of their craft can generate. Hence, they are forced to continue cultivating their *machambas*.[65] The effective demand for well worked furniture or other types of wooden products is that low that it thus far has not even led to a real process of specialization of labor. Specialization, in fact, has to remain of a subsidiary character simply because the market is too small to support it.

The biggest submarket is the city of Maputo. The furniture sold here runs at approximately MT 400 mn, or close to US $ 800,000 respectively, corresponding to half of the sales in the whole country.[66] This is mainly attributable to the fact that the city not only is the place where all of the ministries and the larger part of the industrial establishments are located, but also all of the foreign diplomatic missions, as well as all international and nongovernmental organizations, which, solvent as they are, generate the strongest demand on the market.

Aside the market share of nationally produced furniture, imported furniture is selling in considerable quantities. During 1988 total imports add up to MT 2,332 mn or US $ 4.4 mn, i.e. a multiple of national production. Of the foreign furniture imported,

63 Employing a weighted exchange rate of MT 525 per US $ for that year. If we were to apply the parallel exchange rate obtainable, the market would shrink to half of that value.
64 "Fastidious" in a relative sense, i.e. as fastidious as we can be in a country at US $ 150 per capita where less than 0.2 % of the population are estimated to earn over US $ 1,000 a year from salaried employment. Cf. MINIFIN / World Bank, 1989: 8.
65 See also the remarks under *VI. Production.*
66 Own estimate based on data furnished by the DFC for urban districts 2-5 and the assumption that about 70 % of the production of the enterprises supervised by the UDM takes place at Maputo, and is generally sold there as well.

19.4 % comes from Finland, 18.0 % from Sweden, 14.2 % from Italy, and 13.2 % from South Africa and Swaziland. The largest part (over 50 %) of the imported furniture is wooden, and it is also this part, aside medical and surgical furniture, that is increasing most.

Table 5: Mozambican furniture imports 1974 in Esc, 1981 and 1986-1988 in MT 1,000 by different types and weight in mt

Type Year	1974	1981	1986	1987	1988
Wooden	836,089	6,531.5	29,142.0	329,383.4	1,198,828.3
Medical & Surgical	91,879	4,217.0	6,290.9	32,262.4	145,001.9
Wicker	20,992	51.5		689.3	2,497.8
Iron & Steel	814,789	5,659.5	22,026.4	167,015.4	498,297.3
Other	925,549	5,545.0	29,715.1	286,989.7	487,384.3
Total	2,689,298	22,004.5	87,174.5	816,340.2	2,332,009.6
Total weight	33	143	437	977	1,552

Sources: DNE import tables.

Imports of furniture also rose in absolute terms. While the country imported a mere 33 mt of furniture in 1974, that figure increased to 977 mt in 1987, and even 1,552 mt in 1988.[67] There are two possible explanations for this, though it is difficult to discern which is more significant (we believe that probably both holds). For one, due to the difficulties arising in supplying the national industries with wood, there must be insufficient satisfaction of demand. On the other hand, we can expect that a number of foreign representations and even nongovernmental organizations are bound by "accomodation-of-interests regulations" when undertaking purchases, and therefore are expected to import even furniture from their respective home countries. This seems increasingly so when observing that despite the recent devaluations of the national currency (which render Mozambican products comparatively cheaper), the import figures are still on the rise.

A segmentation of the Mozambican furniture market would lead to three important markets: one for house, apartment, or dwelling furniture, one for office furniture, and one for school furniture. Other possible classifications, as garden, or kitchen furniture, are of no relevance thus far.[68]

As far as the market for house furniture is concerned, its volume, as recorded by the national statistics in 1988, constitutes well over half of the overall furniture production. With respect to total volume, 19.6 % are upholstered furniture bearing a strong import component (imitation leather). The upholstery share of the market, aside from wardrobes, is the only one showing an upward tendency. Considering the recent increase in the cost

67 See table 5, p.23.
68 For the following see table A-3, p.31.

of living and the falling of real wages, this upward trend most probably reflects purchases by institutions of any type (for purposes of representation). In this sense, there is an overlapping with the office furniture market. Theoretically, it may also be possible that, with some tradeoffs between distribution and allocation functions of the state budget in the course of the current economic rehabilitation program, a new class higher up in the income brackets now manifests a different consumption pattern.[69] All other parts of the house furniture market, including bedroom furniture which is of particular importance to first-time purchasers because it forms part of the prerequisites for entering marriage, show a downward trend corresponding to the falling of consumer purchasing power with urban residents. As far as the sales figures of the individual firms are affected, the implications are building of inventories (in larger firms), cash flow problems, etc.

Office furniture sales, recording an upward trend, correspond to approximately 6.8 % of domestic furniture production. This trend may be attributed to a general increase in economic activity since the introduction of the PRE and respective new business starts. The largest part of the office furniture market, however, does not run under the heading of *wooden* furniture. There is a preference for lockable *metal* cupboards and office desks which are produced locally as well, but display a higher degree of durability and standardization. Purchases of office furniture, due to its long life span, are limited to demand resulting from the establishment of new businesses.

As far as durability is concerned, school furniture certainly cannot compete. Aside destruction by so-called RENAMO gangs, the state frequently tries to increase quantity by accepting reductions in quality, notably with respect to writing desks.[70] There are no returns from this, however, because of the particular stress school furniture usually is exposed to. Therefore, we can assume wear and tear to be of a significant extent in this part of the market that contributes a rather small portion of 2 % (indicating that available resources are far below what is needed). Figures supplied for 1988 by the national statistics still report an upward trend. Whether this can be maintained in the future, of course, is directly linked to decisions regarding the allocation of the state budget.

Despite their financial constraints, Mozambican buyers clearly display a strong preference for well finished furniture from local hardwoods.[71] Furniture made from pine still encounters difficulties in being accepted. Although this merely may be a question of

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69 Though it is certainly too early to assume this would have had any significant impact so far.
70 In Pemba for instance, closer research revealed that the opinion of officials of the Provincial Directorate for Education (DPE) that the local carpenters were not capable of supplying quality writing desks were unfounded, and that bad quality writing desks were merely furnished because the DPE itself had prescribed the exact specifications of the furniture it ordered. In fact, one firm even demonstrated a well finished model offered to the DPE that the authorities thus far had not even examined.
71 We have our doubts whether the assumption of House, 1981: 338, that lowest quality and lowest price furniture items are appropriate for low-income households really holds (at least with respect to the Mozambican case). Though, e.g., dwellers in Maputo *caniço* areas, purchase low quality furniture occasionally, this can merely be regarded as "second best." Quality and basic need satisfaction, at least up to a certain point, are closely related even if, as House correctly points out, there are difficulties in quantifying a minimum index of basic needs satisfaction for furniture. Informal producers simply cannot always attain that minimum level of quality (we imagine) because of the constraints referred to under *VII. Technologies*. Therefore, it may be rational for even low-income households to prefer furniture items embodying luxury characteristics because they, e.g., reach a minimum durability level (while some desperate poor consumers also will "waste their money" on lowest quality items).

becoming accustomed over time, furniture manufacturers have not yet conceived attractive pine wood models either implying that there is room for improvement also as far as sales are concerned.

While occasional items of (notably marquetry) furniture are exported, prospects for really entering export markets, currently, are not bright at all. In the long run, it would be possible to conceive of building a smaller niche for Mozambican products on some foreign market, probably in the Near or Middle East. The assets the country holds in this respect are its strong tradition of craftsmanship,[72] including carving, and a reservoir of appreciated local hardwoods (if it will be maintained or expanded in the future).[73] Disadvantages still to be overcome include the absence (or, meanwhile, insufficient number) of dry kilns; of a strong and regular production capacity for rapidly responding to shifts in demand (maybe the most significant factor of all for supplying foreign markets); of an efficient marketing agency, and possibly of some expertise in innovative design in order to be more flexible in responding to continuously changing markets. Without an efficient export structure of this type there certainly will be no way of gaining ground with the exception of acting as a stand-in within the regional context. There, however, South African competition usually always fills gaps more speedily and briskly.

IX. Development and Perspectives of the Sector[74]

Just as it holds for the bulk of economic activities, the development of the production of wooden furniture and the respective perspectives and strategies are strongly dependent on the course of the war. Prospects for peace certainly are better than ever (and thus better than in 1989), although there is no indication so far of an immediate or pending cessation of war activity. Here, we will merely be able to roughly discuss the future of the sector in qualitative terms. Any quantitative statement would be highly speculative. Nonetheless, with the help of two basic scenarios, possible strategies may be delineated.

A. Continuous Bandit Activity

The scenario of continuous bandit activity is quite critical in the short term, possibly so over the mid term as well, however, not so in the long run because of the untenability of the protraction of apartheid politics in South Africa. As far as the sector of wooden furniture is affected, this implies a similar situation as observed, or even worse.

72 This is confirmed by occasional prizes in other countries, as, e.g., in Paris, January 1984.
73 The very low wage level in international terms may be an advantage initially, however, should not be counted on for obvious reasons.
74 We do not attempt to go any further in the discussion than in 1989. There are two reasons: For one, given the scant material it is based on, the discussion is only feasible in rudimentary terms anyhow. The other is that a reassessment of the current situation from Berlin without any more recent information on the sector is rather unsound.

Such a scenario could, ultimately, lead to a situation where felling of wood in areas presently defended by Mozambican forces reaches physical limits, implying further increases in raw material prices due to reduced diameters of logs cut and heightened scarcity. Additional forestry production sites may be destroyed eventually, reducing the remaining export capacity as well.

The implications for the wooden furniture industry are that it will continue to work well below capacity. An inevitable and parallel process of capacity deterioration will augment prices. Firms run more efficiently may be able to draw upon themselves a larger portion of the orders while others close. Overall demand for furniture, both state and private, will have to increasingly turn to imports because supplies become totally insufficient. Thus, an increasing share in imports from South Africa and Swaziland is probable.

Many producers of the urban informal sector who are dependent on a poorer clientele and encounter more difficulties in obtaining raw materials than formal sector firms will be drawn over the subsistence margin at which they still are producing. In this respect, it certainly is of utmost importance to give institutional support to informal sector firms, e.g. by facilitating access to raw materials, tools, credit, etc., and by additional training (upgrading).

Applying strategic considerations to a continuous war situation, obviously, is not an encouraging task because it implies taking a dim view of prospects for the future. It is possible nevertheless. To speak of "development aims", in this respect, evidently is not justifyable. Furthermore, the war waged itself defies any purely economic approach. We will derive basic priorities, thus, by considering counterinsurgency strategies,[75] and not economic or development-oriented reasoning. While the design of any strategy (be it macroeconomic, sectoral, or regional) for a war situation involves numerous uncertainties, and is subject to constant reappraisal at the operational level, we suggest a general line for the wooden furniture sector under such circumstances should follow two basic priorities.

What is most elementary in insurgency situations is the promotion of rural areas. This is supported by the fact that the overwhelming part of the population is residing in these areas, and that bandit activity, for various reasons, is more prevalent there than anywhere else. In order to support the segment of the population strongest affected by the war, but also with the aim of not letting weariness of war turn into indifference, sustenance of rural areas is indispensable. This goes not only for health and education, but also for the supply of basic need goods, including joinery products.

Besides strengthening rural areas as far as possible, there is a need for upkeeping the urban furniture manufacturing structure. This is mainly because the war cannot be perpetuated endlessly, and there is no way for destruction to reach a significant extent in

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75 While, in our personal view, written for a deplorable purpose, Galula, 1964: 70-86, still, compactly outlines the technical essentials for counterinsurgency situations. Though we assume the government to be aware of the technical aspects due to FRELIMO's own liberation struggle experience, it may be useful to refer to them once in a sectoral study. Of course, there are arguments (morally and politically founded) far more sound for the justification of any similar or further priorities.

urban areas either. With an end to war, however, it will be essential for manufacturers to be able to respond swiftly to growing demand in order not to lose too much ground with respect to competition from imports.

The promotion of smallest-scale carpentry or joinery in rural areas would be the first priority, then, and the second would lie with maintaining the substance of urban furniture manufacturing. Given the prevalent security situation, the sectoral focus of support activities, i.e. aside, but similar to *emergência* measures, would lie with provision of tools, and other upgrading activities for already existing carpenters and joiners (probably via agricultural extension services) in order to supply the rural population either with or with better means of production. As far as urban manufacturing is concerned, the main emphasis should be given to maintenance of productive assets, and to training activities in order to maintain, if not improve, the human capital stock.

What could be looked into more closely also is whether there are no possibilities for training jobless or underemployed in the technology of bamboo or rattan. While bamboo is a cheap raw material widely and abundantly spread, it is not yet employed for anything else than the construction of *casas de pau-a-pique* (a traditional type of house) or the like, and even there only to a very limited extent. The price per cane, e.g., of a length of about 5 m and 3-4 cm diameter is MT 50 in Pemba (1989), and therefore far more accessible to low-income households than any type of wood. Furthermore, it implies activating one more possible local resource for rural residents. Before undertaking steps in this direction, however, it is advisable to check the inventory of bamboo and rattan stocks of the country with respect to technological, ecological and economic feasibility.[76] If it does turn out to be feasible, such a project may even lead to potential exports of, e.g., rattan furniture in the long run.

B. Cessation of War

A scenario of an end to war hopefully will be attainable over the mid term, and in the long run clearly is inevitable. The nature of such a scenario, to a large extent, depends on how much longer the war will continue. Therefore, the following picture may only represent one degree in a series of possible developments.

In the first place, raw material prices, i.e. for wood, will decline dramatically because a large number of cutting zones will become accessible once more; scarcity will whittle down; expenses for military or paramilitary defense will become superfluous;[77] selected diameters may be cut; and transport risks and delays are reduced. Falling raw material prices will eventually lead to falling prices for wooden furniture, and, thenceforth, encourage increases in effective demand for furniture products. Further rises in effective

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76 Up to now, according to DNFFB officials (pers. com. 1989), preparing such an inventory has not yet been considered.
77 A number of larger enterprises in the forestry sector provide for their own security.

demand will possibly result from the state then investing unlocked resources for purposes of education (assuming a similar attitude towards education as before), in this case school furniture. The ending of the war will also enhance the rebuilding of the tourist sector which may lead to further demand from hotels and restaurants.[78] The design of a feasible export strategy can be taken up as well.

Most probably, current capacities, even after rehabilitation, would not be able to cope with the expected sudden upsurge in demand, and imports would not decrease rapidly right away. With the stabilization of the post war situation, though, furniture producers should increasingly be able to win back domestic markets lost to foreign suppliers. The slackening of the raw material supply also will restore the survival territory of urban informal producers, and therefore provide new employment opportunities.

A cessation of war, furthermore, wisll enable the government to seriously consider and implement strategies enhancing regional development. Due to the distribution of forest resources over the country and the peculiarities of furniture sectors in general,[79] it is notably in this sector (and forestry itself) that some economically viable decentralization of manufacturing activities may be undertaken in order to reduce the weight of both Maputo and Beira in the regional distribution of income generation. Needless to say that agricultural extension work can include conceptualizing the promotion of rural industries in specific.

Strategies for such a scenario can, to a certain extent, be of a diverse nature. What remains indispensable, though, in any case is the training of management-level employees and top and middle managers. Furthermore, the strategies should not exclude a serious search for promoting furniture exports as a measure to diversify the export product range of the country.[80] This implies turning away from a more domestically oriented policy especially as far as manufacturing is concerned. It also would have to go hand in hand with a reconstruction of the forestry sector.

X. Concluding Remark

Present conditions prevailing, developing strategies for the making of wooden furniture in Mozambique is not an easy task. Our rather sketchy overview of the industry attempted to point out both the constraints faced by the sector as well as its potentials. On the whole, it is to be recognized that the country possesses some strong tradition in carpentry. The

78 During the colonial days, Mozambique constituted a popular holiday paradise for upper and middle class South Africans and South Rhodesians. While earnings from tourism always were inferior to earnings from migration workers and transport, they were increasing continuously until 1973. Since then, the war activities have diminished the attractivity of Mozambique for tourists to a level close to zero. Reactivation of this foreign exchange earner, while dubious maybe from a cultural and ecological point of view, is of great importance to the country for economic reasons.
79 See p.19.
80 There is no need for assuming this can merely be done on a large-scale basis. For an interesting (though also fortuitous) example of entering export markets cf. Hart, 1991. See also the remarks made under *A. Continuous Bandit Activity* concerning the possibilities of furthermore developing a rattan industry.

urban industrial sector includes furniture manufacturing which, by independence in 1975, had attained a high degree of modernization in African terms. In rural areas, however, the carpenter's profession at least frequently has not yet emerged as disconnected from peasant activity which remains the basis of the carpenter's survival.

Coming back to the pressing question of what role this industry -- usually efficiently working while employing labor-intensive methods -- could play with respect to reducing the level of absolute poverty and social side effects of adjustment policies, clearly, any optimism is dampened by the effects of the war on the sector. In the current situation the sector neither is able to step up low-income employment opportunities, nor to provide poor households with basic needs goods. The key to its *potential* role lies with an end to war because of the strong backward linkage with forestry production. Therefore, other sectors capable of taking such a role now remain to be found, although the results of this study hint that prospects for a successful search are not overly bright for any industrial sector equally linked to the provision of local raw materials.

Once an end to the war is found, the outlook for making wooden furniture in Mozambique, however, is not bad at all. The sector, despite some serious deficiencies still, will both be able to provide low-income employment opportunities as to eventually, with some assistance, export furniture due to the strong tradition and the raw material resources the country can draw upon.

Appendix

Table A-1: Rates of price increase for selected wooden furniture 1985-1989 in MT

Product	1985	Sept. 1989	%
Desk	8,300	125,000	1,506
Chair	3,500	30,000	857
Double bed	9,600	145,000	1,510
Dining room	30,000	550,000	1,833
Bedroom	35,000	550,000	1,571

Sources: Average prices for 1985 calculated from global statistics furnished by UDM. Average prices for 1989 based on interviews with formal suppliers at Maputo.

Table A-2: Building joinery production 1986-1988

Year	1986		1987		1988	
Product	Q	P	Q	P	Q	P
Entry door frame	97	238	305	994	108	1,250
Window frame	479	1,148	362	1,040	269	1,298
Entry door	507	2,361	832	6,628	1,079	12,898
Sashes and the like	6,044	4,552	2,142	8,379	4,576	7,815
Door shades			4	42	8	32
Window shades			3	6	0	0
Total	7,127	8,299	3,648	17,089	6,040	23,293

Source: DNE (pers. com. 1989). *Note:* "Q" is for quantities. "P" is for prices. Prices in MT 1,000.

Table A-3: Production of wooden furniture 1986-1988

Year	1986		1987		1988	
Product	**Q**	**P**	**Q**	**P**	**Q**	**P**
Dining table	680	9,049	1,267	37,110	721	40,117
Sideboard	207	5,848	833	40,303	337	5,478
Chair	3,321	12,150	7,971	71,505	4,938	80,000
Armchair	461	4,253	469	13,760	941	46,284
Sofa (2 persons)			24	610	181	16,952
Sofa (3 persons)	275	7,499	462	24,665	586	71,555
Sofa (n.s.)	539	6,278	997	16,779	493	21,758
Bench	105	438	501	4,823	257	4,856
Double bed	599	13,345	724	37,939	474	46,020
Single bed	210	3,974	792	22,512	346	18,763
Bedside table	489	3,003	1,463	23,350	1,094	26,424
Working table	122	2,208	389	15,994	344	15,598
Sofa table	88	697	473	7,162	397	11,112
Writing desk	772	3,383	913	6,844	1,621	14,603
Office desk			11	630	27	1,965
Chest of drawers	327	5,988	794	32,697	545	36,053
Shelf	89	4,005	270	26,457	377	52,132
Trunk	40	1,102	85	4,615	47	3,800
Cupboard			23	520	5	219
Dressing table	38	448	13	578	18	831
Glass cabinet	4	77	38	1,253	22	2,035
Wardrobe	1	24	24	1,733	36	4,340
Bar counter	0	0	27	2,996	8	1,705
n.s. furniture		279,899		71,940		239,974
Marquetry	6	450	115	6,616	33	3,946
Total	8,373	364,118	18,678	473,391	13,848	796,580

Source: DNE (pers. com. 1989). *Note:* "Q" is for quantities. "P" is for prices. "N.s." is for "not specified." Prices in MT 1,000. Figures for total quantities excluding "n.s. furniture."

Table A-4: Furniture production of enterprises strategically most important 1985-1988

Year	1985		1986		1987		1988[a]	
Product	Q	P	Q	P	Q	P	Q	P
Eating room table	2,065	17,243	994	8,300	1,255	10,479	705	5,887
Sideboard	573	9,537	329	5,429	676	11,154	388	6,402
Chair	9,625	33,688	6,789	23,762	8,001	28,004	6,075	21,263
Sofa	683	4,092	368	2,208	383	2,298	730	4,380
Armchair	1,168	5,625	621	2,991	974	4,691	1,602	7,715
Bench	134	405	201	607	272	822	301	909
Double bed	1,122	10,779	1,324	12,720	762	7,321	550	5,284
Single bed	370	2,353	296	1,883	573	3,644	295	1,876
Bedside table	608	2,772	704	3,210	1,251	5,705	1,000	4,560
Working table	738	7,489	122	1,238	277	2,811	82	832
Sofa table	287	1,722	261	1,566	413	2,478	340	2,040
Chest of drawers	510	8,358	397	6,506	774	12,685	588	9,637
Shelf	331	10,522	107	3,401	225	7,152	357	11,348
Marquetry	261	7,790	144	4,298	126	3,761	65	1,940
Other furniture	6,953	35,298	3,930	19,951		122,232		172,050
Total	25,427	157,673	16,587	98,070	15,962[b]	225,237	13,078[b]	256,123

Sources: MIE and UDM (pers. com. 1989). *Note:* "Q" is for quantities. "P" is for prices. Constant 1985 prices in MT 1,000.
a) Estimate. b) Figures for total quantities 1987 and 1988 excluding "other furniture."

Table A-5: Evolution of prices for wood in MT per cbm 1974-1987

Year	1st class	Pine
1974	3,000-4,000	
1976	5,000-7,000	
1980	8,000-9,000	
1982	20,000	
1985	47,000	
1986	50,000	8,000
1987	125,000-145,000	65,000

Sources: Various articles in Mozambican dailies and weeklies *Notícias, Domingo,* and *Diário de Moçambique.*

Table A-6: Prices for wood in MT 1,000 per cbm for September 1989				
Type	1st class		Pine and eucalyptus	
Market	Roundwood	Sawnwood	Roundwood	Sawnwood
Maputo	150-450	260-680	64-250	130-160
Pemba	85-88	250-275		
Metuge	25			

Sources: Interviews with suppliers.

Table A-7: Mozambican timber exports 1973-1988					
Year	Q	P	Year	Q	P
1973	124.5	278.3	1981	23.0	260
1974	116.1	323.2	1982	11.4	123.7
1975	138.1	374.8	1983	1.6	24.4
1976	61.9	191.4	1984	2.3	50.8
1977	37.9	154.6	1985	1.8	37.6
1978	30.9	152.8	1986	2.0	38.8
1979	25.4	206.4	1987	2.4	453
1980	20.7	186.6	1988	2.0	420

Source: DNE export tables. *Note:* "Q" is for quantities. "P" is for prices. Quantities in 1,000 mt, except for 1982 in cbm. Prices in Esc respectively MT 100,000.

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Boltzmannstrasse 20
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