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PN-AAZ-532

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POPULATION AND WATER IN CENTRAL TUNISIA

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March 1987

Cooperative Agreement on Settlement and Natural Resource Systems Analysis

SUMMARY

The precise analysis of the present situation was made possible by the richness and quality of the source material. Censuses and surveys testify to a great sensitivity for demographic problems by the Tunisian government. A few difficulties remain in regard to the registration of deaths and population movements.

The Mid-West region of Tunisia has known changes of such magnitude that the transition from the old modes of life to the present modes has taken a different, and original, form. The transformation from a pastoral nomad society to a peasant society has included a switch from grain farming to dry and, later, irrigated arboriculture. From these changes, some still occurring, have derived a stabilization of land occupation, changes in morbidity due to increased population density, and a probable rise in fertility in comparison to past levels.

The principal aspects of the current demographic regime of the High Steppes are (1) high, slowly declining fertility; (2) poverty-based morbidity that is mainly water related and that affects children in particular; and (3) a low level of participation in migratory movements (whether international, inter-, or intra-regional), resulting in relative population stability. There are nevertheless changes in the making. Morbidity, according to some sources, may come closer to that of other Tunisian peasant groups and become more related to working conditions. Mobility, in all its forms, could become the main demographic phenomenon. With the arrival of new generations of fertile women, the reproduction strategies of couples will be radically modified.

Three sets of population projections were generated from the available quantitative demographic data. The first, and most probable, is an adaptation at the delegation level of the Institut National de Statistiques (INS) projections; it involves a continuous decline in fertility, rising life-expectancy, and migration held constant at the 1979-1984 level. The second projection completely eliminates migration while fertility rapidly declines and life-expectancy rises significantly. Finally, the third assumes stability in both mortality and fertility with an increase in migration from the region.

Calculation matrices of potable water requirements derived from the projection results complete the review. Two factors central to the calculations are variation of water consumption during an individual's lifetime, and the consequent importance of the population's age structure.

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INTRODUCTION

Workscope and Presentation of Report

This report represents the demographic component of a multi-dimensional development intervention in the central region of Tunisia. Geographically, the region is totally included in what is commonly called the "High Steppes" (Attia 1977, Fakhfakh 1979, Kassab and Sethom 1980, 1981). At the administrative level, the region includes the following delegations:[1]

Kasserine Gouvernorate:	Kasserine North, Kasserine South, Hassi El Ferid, Thala, Sbeitla, El Ayoun, Foussana, Haidra, Jedliane, Feriana, Majel Ben Abbes
Gafsa Gouvernorate:	Gafsa North, Sned

Unfortunately, the administrative setting changed over time, rendering the task of the demographer quite difficult. During the 1966, 1975, and 1984 censuses, as well as after the last census, the delegations were subdivided. This required many precautions and adjustments in the demographic analysis.

To establish new criteria for the selection of potable water wells, it was decided that an examination of the quantitative and qualitative aspects of the population variable were necessary to improve understanding of both present problems and future trends. The presentation of results in this report reflects the workscope. The first part examines the history of the High Steppes, especially the pastoral specialization that characterized it until recently, and the implications of this history for planning. The second part centers on the detailed analysis of demographic trends in the region, and examines all components (mortality, fertility, and migration). Finally, three views of the future are offered in the third part, consisting of three population projection hypotheses chosen for their pertinence and interest. Appended to the report is a set of tables with age distributions from the censuses of 1966, 1975, and 1984 (with adjustments for certain delegations) and the results of the projections (Appendix I); a set of more than 50 population pyramids, drawn on transparencies and then photocopied on paper (Appendix II); and, finally, calculation matrices for potable water needs for each delegation, incorporating the results of the projections (Appendix III).

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[1]The transcription of Arabic terms into English was done in the simplest, most common, form.

Methodological Difficulties

Compared to other Third World countries, Tunisia can boast of excellent sources of demographic knowledge: good to excellent censuses, efficient birth registration (95 percent efficiency; C. Tarifa, personal communication), and precise questions on migration in at least one census (1984). There remain, nevertheless, many problems. First, there is inadequate registration of deaths, and a very low level of knowledge on mortality and, to a certain extent, morbidity. Second, and notwithstanding the considerable progress noted above, we know little about migration, especially internal migration. Attention has been focused on international migration and the urbanization of Tunis. Other phenomena have not yet attracted sufficient attention from researchers, despite the fact that internal migration (both inter- and intra-gouvernorate) appears destined to become a major component of the Tunisian demographic regime. Third, the intervals between censuses (10 years between the first two, then 9-year intervals for the others) renders analysis by age groups or five-year cohorts difficult.

A fourth problem is related to the lack of a consistent geographic reference unit. Table 1 lists the delegations into which the gouvernorates of Kasserine and Gafsa were divided at each census point. The gouvernorate of Kasserine was further subdivided after 1984, as indicated in Table 1. Fortunately, SCET had asked INS to produce adjusted population data for Kasserine in 1985, thus permitting the use of the current geographic configuration in the population projections produced for this report. It should be stressed that when a delegation is attached to, or detached from, another administrative unit, it is more than a simple bureaucratic manipulation; the whole reference environment is reset. How, for example, do we compare the gouvernorate of Gafsa in 1966, when it included the present gouvernorates of Tozeur and Sidi Bou Zid, with the 1984 gouvernorate of the same name? Other problems arise when a delegation is subdivided into new delegations with different socioeconomic characteristics, such that generalizations concerning the original unit do not apply to the new ones. For example, the 1975 delegation of Kasserine included the urban delegation of Kasserine North and the rural delegations of Kasserine South and Hassi El Ferid.

The final methodological difficulty derives from the fact that the results of the 1975 and 1984 censuses were not fully analyzed. The age structures for the delegations were generated from a 10 percent sample of the census population, which may be statistically acceptable at a global level, but it becomes a constraint at the lower levels of analysis because the margin of error increases as the reference population decreases in size. It was thus necessary to make appropriate adjustments to the

Table 1.
List of Delegations by Census Year.

Gouvernorate of Kasserine

1966	1975	1984	After 1984
Kasserine	Kasserine	Kasserine North	Kasserine North
Sbeitla	Sbeitla	Kasserine South	Kasserine South
Sbiba	Sbiba	Sbeitla	Sbeitla
Thala	Thala	Sbiba	Sbiba
Feriana	Feriana	Thala	Thala
	Foussana	Feriana	Feriana
	Jedliane	Foussana	Foussana
		Jedliane	Jedliane
		Haidra	Haidra
		Majel Ben Abbes	M. Ben Abbes
		El Ayoun	El Ayoun
			Hassi El Ferid

Gouvernorate of Gafsa

1966	1975	1984
Gafsa	Gafsa South	Gafsa South
Redeyef	Gafsa North	Gafsa North
Nefta	Redeyef	Redeyef
Tozeur	Tozeur	Om Laries
Degueche	Degueche	Belkhir
Metlaoui	Metlaoui	Metlaoui
Guetar	Guetar	Guetar
Sned	Sned	Sned
Maknassy	Nafta	M'dhilla
Regab		
Sidi Bou Zid		
Ben Aoun		

data, especially for the age group categories used to create the population pyramids.

Despite the constraints placed on this analysis by the above mentioned problems, we must nonetheless salute the effort made by various authorities to complement our sources of information.

Sources of Information

Tunisia is one of the rare non-Western countries where one finds a great diversity of demographic sources, due to the proliferation of surveys and studies since independence. In the mass of documentation (see Bibliography), a few sources stand out, especially the censuses of 1966, 1975, and 1984 that permit one to view changes over time. Although they are of respectable quality, and are based on tested methodology and a basic coherence in definitions, the censuses nonetheless suffer from shortcomings common to societies with limited literacy. These include false age declarations, under-declaration of certain groups (especially women, and, in the older censuses, children), and difficulty in finding an adequate measure for migration.

Surveys carried out in 1978 and 1983 improved knowledge in the area of fertility and generated a large number of publications by the Revue Tunisienne des Sciences Sociales and Famille et Population (edited by the Office National de la Famille et de la Population). Other demographic information is contained in a very well documented and useful study of the High Steppes delegations ordered by the Office de Developpement de la Tunisie Centrale (ODTC) and carried out by the consulting firm SCET (Ministère de l'Agriculture/ODTC/SCET, Vols. 1-13, 1986). Finally, volume 4 of the Schéma régional d'aménagement du teritoire, a regional planning program, provides essential socioeconomic and geographic information on the region.

TECHNICAL NOTES ON THE STATISTICAL ADJUSTMENTS

Problems

Two problems related to the age structure had to be resolved before using the population statistics for the different delegations, because they are fundamental to the population projections: (1) The results of the 1984 census (tables giving the age structures by sex) were published from a 10 percent sample. There were therefore distortions at the level of each delegation and of each sex. (2) The delegation of Hassi el Feri did not exist in 1984.

Solutions

(1) We used the classic demographic method to solve the problem of differences between the global numbers (census volumes of results by gouvernorate) and the totals of the distribution by age structure (census volume of national results): proportional distribution of differences. This method was used for the 1975 and 1984 censuses. The underlying hypothesis, generally accepted in demography, is that the differences in population numbers (more or less) are distributed in each age group as the age group distribution of the total population. This technique is in general statistically satisfactory.

(2) The documents ordered by the Ministry of Agriculture and CTDO to the consulting firm SCET (see Ministry of Agriculture/ODTC 1986) gave a collapsed age structure of the 1986 delegations including Kasserine North, Kasserine South, and Hassi el Ferid (the last being a part of the old Kasserine South delegation). This age structure did not satisfy the population projection program, and a 20 age group set had to be devised. All three delegations were involved, Kasserine North having been also modified in the 1985 redrawing of delegations. The age structures of the 1984 census for the two existing delegations were utilized. We submitted the 1986 (SCET) populations to the age structures of the 1984 census in the following manner: the structure of Kasserine North was kept, the Kasserine South delegation was also allowed to be exposed to its census structure, but Hassi el Ferid was exposed to the complete age structure of Kasserine South. The hypothesis related to this choice is that both Hassi el Ferid and Kasserine South are rural delegations.

HISTORICAL BACKGOUND

From Predominant Mobility to Relative Stability

Two studies, separated by a few years and with very different goals (Attia 1977; Ministère de l'Equipement et de l'Habitat/DGAT 1985)[a], nonetheless agree in their conception of the social evolution of the High Steppes region: a poorly endowed region traditionally dedicated to pastoralism that transformed itself within a century into an arboriculture country. Let us set aside generalities in order to better summarize the important changes undergone by these societies. This digression, though limited to a few important facts, is intended to clarify a few aspects of the demography of Central Tunisia.

One need not walk hundreds of kilometres in Thala or Sbeitla to find imposing Roman ruins, for the high steppes are full of the remains of cities more impressive than the contemporary villages built on their sites (e.g., Fedj Terbah), and rain water basins on the slopes of hills. Written testimonies also indicate that the region was blessed with a stability and a population density characteristic of a peasant society (Attia 1977:125ff). The role of the central administration was fundamental and guaranteed the normal circulation of goods and persons. The Hilalian invasions (Ben Soulaim and those following), themselves consequences of the disintegration of the Ziride power (Laroui 1970), created a completely new social landscape. Pastoral nomadism replaced labor-intensive grain agriculture because the struggle against natural aridity must have been, as today, quite difficult.

> Since [the nomad invasions], the steppe has become the land of the 'Arouch', it remained that way until the turn of the century. Steppe and nomadism are not ineluctable; this regressive evolution could not have been; it happened, its a historical fact, it shows that in that environment, sedentarization implies a constant and organized struggle against aridity, or else it is mobility (Attia 1977:125; my translation).

The control and mastery of water was, and still is, the centre of the struggle for survival.

A long period of mobility followed, dominated by the pastoral way of life. Valensi (1969, 1985) notes the absence of towns as the most important characteristic, stating that "From Kairouan to Gafsa there was not a single village" (Valensi

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[a]Attia's text is his thesis and therefore has a theoretical tone, while the Ministère text is a regional development plan.

1985:10). In the 17th and 18th centuries this trait was most apparent. Can we deduct other, more subtle, traits related to demography? It is difficult to explore intellectually unknown provinces without humility and scepticism. Nevertheless, it is relevant to ask whether we have solid reasons to think that the pastoral nomads of the high Tunisian steppes behaved differently from the Twaregs of the desert or the Fulani of the Sahelian steppes. Their way of life was very similar in terms of herd organization, social circulation, the strength of family ties, nomadization towards the pastoral grounds, participation in interregional trade, and part-time agriculture. The literature on this type of society indicates specific demographic behaviors: mobility as a means of survival, dispersed occupation of the land, morbidity less related to population density than to environmental constraints (e.g., water related diseases, caloric malnutrition), and, the best documented aspect, a fertility level notably lower than in peasant societies.

Preceding colonization in the High Steppes, there appeared a new migration pattern unrelated to the search for grazing grounds. Ferchiou (1980, 1985:11) mentions movements to seasonal work sites, including those to the north for grain and to Sfax for the olive harvest. The conquest radically modified the direction and logic of traditional transhumance. The creation of political borders made participation in traditional commercial ventures difficult, and further imposed new fiscal obligations that forced constant recourse to the market. The twentieth century opened an era of transition that has not yet ended. The colonial policies of sedentarization produced the individual allotment of common lands. The demise of the traditional exchange system pushed nomads practising part-time agriculture into becoming peasants. Sedentarization in nomadic corridors is not without problems, especially in a region lacking solid village traditions. Families partially solved such problems by adopting a dispersed form of settlement, but the 'open' space of the pastoralists is increasingly becoming the 'closed' environment of the peasant. Demographic changes cannot otherwise be explained in the High Steppes. Let us examine all aspects of the production units' reproductive strategies or, put more simply, the components of the new demographic regime.

The 18th and 19th centuries were trying times for the whole of North Africa in terms of mortality.[3] A nearly continuous

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[3]This question was brillantly analyzed by L. Valensi (1969, 1985) who established a list of periods of high mortality (1969:21-25). She maintains that it was during that period that the process of underdevelopment appeared, accelerated by the imposition of colonization. "Finally, we can guess the social effects of this deflation. Man, production factor and consumer, remains rare. The number of men does not act as an economic

series of epidemics and famines swept over the Arab-Berber societies, adversely affecting the vitality of the populations. Can we assume, as is often the case, that the societies developed compensation strategies? High fertility would have brought renewed stability to domestic units, and slowly declining mortality may have accelerated the process; the evidence certainly suggests that such was the case at the turn of the century. The health measures imposed by the colonial administration lowered mortality levels and consequently increased life-expectancy, with the result that fertility and mortality combined to favor a global population increase.

Little can be said about fertility that does not reflect contemporary preoccupations with the success or failure of family planning programs because other questions have only recently been asked. For the moment it is impossible to assess the historical stability of the present fertility rates or to establish the validity of the fertility schedule for the last century or more. We can only put forward the corollary questions: can we prove that there was no increase in fertility with the change of life style? Empirically, is it inaccurate to say that a radical modification of the mode of production implies changes in the fertility schedule? Is the demographic transition model, so often used to isolate changes from a traditional society to an industrial society, unidimensional, unilateral? Are there not other forms of transition that agree better with real situations? It is not unwarranted to reject the supposed traditionalism of the societies of the High Steppes, for in this specific context high fertility was, and still is, a specific form of modernity, if one considers the actual history of the social groups (Laroui 1974).

Finally, migration has also experienced many transformations. Population movement was transformed from transhumance based in the requirements of pastoralism and inter-regional exchange, to migration centered around wage-earning. The intensity of the phenonenom is of paramount importance. This is the sector where contemporary evaluations will offer startling insights: the formerly transhumant nomads now display a relative penchant for stability! We must understand the significance of this change, for the determination of these societies to occupy fragile lands can only be understood within the context of the long process of the creation of a peasantry with uncertain land claims. Under such circumstances, transition is characterized by a state of expectancy unfavourable to migration.

Can we speak, therefore, of "traditionalism" in societies that have gone from pastoralism to agriculture, from grain production to dry arboriculure, and from classic arboriculutre to

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stimulant" (1969:25).

irrigated and motorized arboriculture, in less than 80 years? Can we assume "stability" for demographic phenomena through all these changes? Consideration of these questions broadens our view of certain particularities observed in the recent censuses and surveys.

RECENT TRENDS

The basic demographic characteristics of the High Steppes today are a scattered, low density population (Tables 2 and 3) and a slow urbanization process that has only recently accelerated. Population density is constrained by the region's ecology which is incapable of supporting a large population. Currently, the annual rate of increase is 2.5 percent for Kasserine and 2.7 percent for Gafsa. This increase is in great part due to fertility as the migration balance is negative. Reliable rates of increase are difficult to compute at the delegation level because the borders tend to change with every census.

Fertility

The literature on Tunisian fertility is considerable (INS 1974; ONFP 1982, 1985; Aloui 1985; Ameb 1984; Ayad 1980; Ayad-Zouchlami 1985; Azouz 1985; Baraket 1985; B'chir 1982, 1984, 1985; Belloumi 1985; Bouraoui 1985; Brown-Daly 1968; Charmes 1981-82; Fourati 1980; Lapham 1970; Lapham-Vallin 1969; Povey-Brown 1968; Sahli 1985; Tarifa 1985; Vallin 1968). The Mid-West, including the gouvernorate of Sidi Bou Zid, exhibits the highest fertility levels in the country, as shown by surveys done in 1978 (ONFP 1982) and 1983 (ONFP 1985), and by research with registration files (Bouraoui 1985).

Fertility in the High Steppes seems to be decreasing, though at a slower rate than in other parts of Tunisia. The total fertility rate was 6.7 in 1978, and has declined to an estimated 6.0 in 1986. The age-specific general fertility rates show that the fundamental changes in fertility are occurring at the lower ages, especially in the 15-19 age group. These changes are due mainly to the combined effects of a later age at marriage and a longer period of schooling for many women in this age group. The decreased fertility of the younger women can be expected to affect the future population structure. Nonetheless, a rapid decrease in fertility is unlikely as the labor requirements of the new peasantry of Central Tunisia are considerable. Reproduction strategies centered less around the needs of the labor force and more around a qualitative betterment of the production/consumption unit must be developed before a substantial fertility decline can be expected.[4]

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[4]See the analyses by Ferchiou (1980 and 1985) and Salam-Murdock (1985) on production strategies of domestic units.

Table 2.
Population Size and Annual Rates of Increase
by Gouvernorate and Delegation, 1975-1984.

	Population Size 1975	Population Size 1984	Annual Rate of Increase
Tunisia	5572193	6975450	2.53
Gouvernorates			
Kasserine	238499	297959	2.50
Gafsa	237844	236090	-0.08[1]
Gafsa	184968	236090	2.70[a]
Delegations			
Kasserine North	25071	50290	8.04
Kasserine South	18244	17181	-0.66[1]
Hassi El Ferid	11157	11987	0.80
Sbeitla	38051	48536	2.74
Sbiba	22084	27954	2.65
Jedliane	10655	11051	0.41
El Ayoun	9553	13483	3.90
Thala	32506	34959	0.81
Haidra	9347	9750	0.47
Foussana	25099	31409	2.52
Feriana	22356	26048	1.71
Majel Ben Abbes	11891	15311	2.85
Gafsa North	9900	14421	4.27
Sned	19010	22950	2.11

[1]Administrative changes.

[a]In 1975 the gouvernorate of Gafsa included delegations that were later detached from it in 1984. The first number is the one found in the 1975 census, the second is an adjusted number to make the two censuses (1975-1984) comparable.

Table 3.
Population Densities, 1966-1984.

1966

	Population	Area (km^2)	Density
Gouvernorate of Kasserine			
Kasserine	39310	1917	20.51
Sbeitla	52593	2131	24.68
Sbiba	30152	871	34.62
Thala	59319	2164	27.41
Feriana	30361	2047	14.83
Total	211735	9130	23.19
Gouvernorate of Gafsa			
Gafsa	50604	2623	19.29
Sned	15243	656	23.24
Total	65847	3279	20.08

1975

	Population	Area (km^2)	Density
Gouvernorate of Kasserine			
Kasserine	54472	1924	28.31
Sbeitla	38051	1102	34.53
Shiba	22084	450	49.08
Thala	41853	1191	35.14
Feriana	35093	1789	19.62
Foussana	25099	883	28.42
Jedliane	21847	727	30.05
Total	238499	8066	29.57
Gouvernorate of Gafsa			
Gafsa North	13593	1071	12.69
Sned	19015	693	27.44
Total	32608	1764	18.49

Table 3 (cont.)
Population Densities, 1966-1984.

1984

	Population	Area (km^2)	Density
Gouvernorate of Kasserine			
Kasserine North	50290	92.6	543.09
Kasserine South	17181	853.4	20.13
Hassi El Ferid	11987	1028.4	11.66
Sbeitla	48536	1134	42.80
Sbiba	27954	462	60.51
Jedliane	11051	281	39.33
El Ayoun	13483	412	32.73
Thala	34959	812	43.05
Haidra	9750	472.5	20.63
Foussana	31409	845.7	37.14
Feriana	26048	912	28.56
Majel Ben Abbes	15311	954.6	16.04
Total	297959	8260.2	36.07
Gouvernorate of Gafsa			
Gafsa North	14421	905	15.93
Sned	22950	710	32.32
Total	37371	1615	23.14

Table 4.
General and Total Fertility Rates for Tunisia by Gouvernorate.

	General Fertility Rates, 1975 (per 1000)	Total Fertility Rates, 1979-1981
Tunis	131.0	4.45
Tunis-sud	166.9	n.a.
Bizerte	146.8	4.79
Jendouba	141.0	4.89
Le Kef	140.2	4.40
Beja	143.8	4.83
Kairouan	195.6	6.99
Siliana	168.7	5.51
SIDI BOUZID	206.1	7.30
KASSERINE	195.7	6.90
Medenine	190.5	6.53
Gabes	178.2	6.53
GAFSA	192.9	6.33
Sfax	143.7	4.67
Mahdia	171.6	5.60
Monastir	158.5	4.97
Sousse	162.3	4.90
Nabeul	157.8	4.80
TUNISIA	159.6	5.33

Sources: General Fertility rate: BOURAOUI 1985.160
Total Fertility rate: TARIFA 1985:4

Mortality and Morbidity

Mortality is the least developed branch of Tunisian demography. The reason it has not attracted as much attention as fertility and migration is primarily institutional. It is a well known fact that the registration of deaths in Tunisia has not been as complete as the registration of births; the registration rate is around 65 percent, and even less in some gouvernorates (C. Tarifa, personal communication). Given this situation, our view of mortality is largely based on: (1) an examination of age pyramids derived from the census materials (see Appendix II), and (2) an analysis of morbidity statistics collected by the regional sector of public health.

The base of the population pyramid for the gouvernorate of Kasserine shows an imbalance in the sex ratio in favor of males, the intensity of which varies between delegations. Given the administrative pressures to register births, it is unlikely that underregistration of females is a significant contributor to this imbalance. Thus, the most likely cause is a slightly higher rate of female infant and child mortality.

The population pyramids for all three censuses show clear traces of the famines and epidemics of 1940-1946. The impact is seen in the 20-30 age group in 1966, the 25-35 age group in 1975, and the 35-45 age group in 1984.

High sex ratios after age 50 suggest that female mortality in the fertile age groups (15-49 years) have been high. Women in the older age groups were exposed to greater health risks than the younger cohorts, who entered their fertile years with improved health conditions. The older women also began their reproductive careers earlier and thus experienced a higher level of risk in terms of mortality related to childbearing. The narrow apexes of both halves of the pyramids indicate that both sexes have been exposed to high levels of mortality.

The incidence of diseases related to water in Kasserine and Gafsa is striking (Tables 5-8; also, see Desjeux 1985). The hardest hit are obviously the young children with rates of 1774 per 10,000 in Kasserine and 1171 per 10,000 in Gafsa. The information in Tables 5-8 require two methodological observations. First, the accuracy of the numbers is related to the efficiency of the health care system. In spite of enormous efforts in harsh conditions, much remains to be done, as indicated by the absence of a complete series of statistics for El Ayoun. This constraint does not diminish the impact of the figures, for any adjustment would only increase the rates. We may state without hesitation that the available information underestimates the problem. Second, the disease classifications are not always reliable (A. Banani, personal communication)

Table 5.
Incidence and Rate Per Thousand for Diseases Reported in the Gouvernorate of Kasserine, 1985.

Sanitary Sectors	1984 Population	Compulsorily Reported[1] Incidence	Compulsorily Reported[1] Rate	Voluntarily Reported[2] Incidence	Voluntarily Reported[2] Rate
Kasserine	79458	46	5.789	15456	1945.179
Sbeitla	48536	49	10.096	5186	1068.485
Sbiba	27954	8	2.862	5586	1998.283
Jedliane	11051	0	0.000	931	842.458
El Ayoun	13483	3	2.225	n.d.	n.d.
Thala	34959	38	10.870	8223	2352.184
Foussana	41159	2	0.486	2986	725.479
Feriana	26048	45	17.276	5214	2001.689
Majel Ben Abbes	15311	20	13.063	657	429.103
TOTAL	297959	211	7.082	44239	1555.105

[1]in the case of Kasserine these are mainly:
cholera, hepatitis, typhoid, measles, diphtheria, meningitis, echinolocosis, rheumatism, leishmaniosis.

[2]In the case of Kasserine these are mainly:
mumps, child and adult diarrhea, pulmonary infection angina, dermatosis, digestive infection, varicella, amiboebiosis urinary infection, scabies, tinea, conjonctivitis, influenza gonorrhoea (see Table 6).

Table 6.
Incidence and Rate Per Thousand for Selected Water-Related Diseases in the Gouvernorate of Kasserine, 1985.[1]

Disease	Incidence	Rate
Child Diarrhea	8868	1773.990[a]
Adult Diarrhea	3826	163.165[b]
Digestive infection	1092	38.386
Amiboebiosis	166	5.835
Urinary Infection	5700	200.368
TOTAL	19652	690.814

[1]Excluding El Ayoun.

[a]Population aged 0-4 years.

[b]Population 5 years of age and over.

Table 7.
Incidence and Rate Per Thousand for Diseases Reported in Gafsa North and Sned, 1984 and 1985.

Sanitary Sectors	1984 Population	Compulsorily Reported[1] Incidence	Compulsorily Reported[1] Rate	Voluntarily Reported[2] Incidence	Voluntarily Reported[2] Rate
1984					
Gafsa North	14421	69	47.847	2187	1516.538
Sned	22950	48	20.915	2724	1186.928
1985					
Gafsa North	14421	64	44.380	2118	1468.691
Sned	22950	91	39.651	2556	1113.725

[1]In the case of Gafsa these are mainly:
tuberculosis, hepatitis, typhoid, measles, syphilis meningitis, echinolocosis, bilharziosis, leishmaniosis, polio.

[2]In the case of Gafsa these are mainly:
mumps, child and adult diarrhea , pyodermia, otitis whooping-cough, varicella, amiboebiasis, scabies, tinea, conjonctivitis, gonorrhoea, influenza (see Table 8).

Table 8.
Incidence and Rate Per Thousand for Selected Water-Related Diseases in Gafsa North and Sned, 1984 and 1985.

Disease	1984 Incidence	1984 Rate	1985 Incidence	1985 Rate
Child diarrhea	1064	1540.243	809	1171.106[1]
Adult diarrhea	460	150.904	338	110.881[2]
Amiboebiosis	70	18.731	31	8.295
TOTAL	1594	426.534	1178	315.218

[1]Population aged 0-4 years.

[2]Population 5 years of age and over.

because the conditions for diagnosis are far from ideal. The health care centers are often overtaxed by clients who do not understand Western medicine practices and requirements, such as the identification of symptoms of specific diseases, or their developmental history. Whatever the situation, one certainty remains: a child born today in Kasserine is sure to drink contaminated water in the first five years of his or her life. We may not know if he will die from it but we do know that he will be exposed to that risk. Will the future see, as suggested by Dr. Hamzaoui, Regional Director of Public Health in Kasserine (personal communication), a profound change from a morbidity based primarily in poverty to one derived from the change to irrigated cultivation, including an increase in enkylosotomiasis, parasitic diseases, and allergies caused by the use of fertilizers? If fertility is becoming increasingly defined as "peasant", then it is reasonable to expect that morbidity will also.

Many professionals have mentioned the existence of a population contraction phenomenon after the construction of a well (Hamzaoui, Reguigui, and Kouzana, personal communications), as opposed to the historically dominant tendency towards dispersion. Effects beyond the restructuring of rural areas derive from this movement, especially in the realm of infectious disease. Increased population density around the wells multiplies the risk of water contamination and the consequent infection of water users, particularly if no infrastructure exists to implement and maintain preventive controls. There are therefore links, which must be confirmed empirically, between the presence of wells, increased population density, and the emergence of water-related pathology. Population contraction may also lead to the drying up of superficial underground water sources through overexploitation of the well, further amplifying the risks.

Migration

The Mid-West has generally been considered a relatively stable region with regard to migration (Attia 1970; B'chir 1970; Fakhfakh 1981; Findlay 1982; Kassab-Sethom 1981; Miossec 1985; Picouet 1970, 1971; Pirson, 1976; Taamallah 1977, 1980; Tarifa 1975, n.d.). Migration strategies have not involved large movements to Tunis, such as those found in other parts of Tunisia (e.g., the gouvernorates of Bizerte, Beja, and Siliana). In fact, sedentarization on agricultural land, its development, and the organization of marketable production may have appeared to nomads of the High Steppes as an improvement from the preceding transition period where pauperization was the only option.

Nevertheless, one may question the utility of subscribing completely to the conclusion of the Direction générale de l'aménagement du territoire:

> . . . the Mid-West region escapes (or has escaped) from this logic that considers the demographic retention capacity of a region to be intimately tied to its level of social and economic development. The key to the comprehension of the paradox is not in fact in the 'economics', it lies rather in the 'anthropologic', in the strength of precapitalist family and social structures and the persistence of tribal solidarity (Ministère de l'Equip. et Habitat/DGAT, Vol. 4 1985:20).

Men and women in the High Steppes have experienced changes that allow them to pursue totally new economic activities. Given this fact, it is probable that the High Steppes are also on the verge of important changes in the pattern of migration. As seen in Tables 9-11, the gouvernorate of Kasserine is intermediate in its level of migration, which may be indicative of a transition from a low to a high level of migration. It is important nonetheless to acknowledge that Tunis does not seem to attract people from Kasserine at a rate comparable to other regions, and that, in relation to other regions of Tunisia, or even North and West Africa, a migration deficit of 4000 individuals between 1979 and 1984 for a population of nearly 300,000 is a sign of quasi-stability (in demographic terms).

Societal choice is most apparent upon examination of the landscape: a recent embryonic urbanization, and urban sprawl checked only by some local regrouping (Tables 12 and 13). The urban infrastructure of the city of Kasserine is not extensive enough to attribute to it the stature of <u>regional center</u>, despite the evident need. An overdeveloped service sector per se has never brought about the creation of a regional economic capital. Urban sprawl will continue, most likely, until it is modified by major land reform, well construction programs, migration of specific age groups (which results in a dwindling pool of labor), or any other social changes the magnitude of which may transform into problems what were originally considered solutions.

Table 9.
International Migration Rates by Gouvernorate, 1976.

Gouvernorate	Rate of Emigration (Percent)[1]
Medenine	9.7
Gabes	8.9
Jendouba	7.0
Bizerte	6.4
Sousse	5.5
Tunis	5.1
Le Kef	3.9
Beja	3.9
Nabeul	3.6
Sfax	3.4
Kasserine	3.0
Kairouan	2.0
Gafsa	1.4
Tunisia	4.8

[1]Percentage of emigrants estimated on 1 January 1976 in relation to the total population in the May 1975 census.

Source: TAAMALLAH 1980:367.

Table 10.
Interregional Migration by Gouvernorate, 1984.

Gouvernorate	Arrivals (A)	Departures (B)	Diff. (A-B)	Population	Percent Difference
Tunis	47880	85460	-37580	775600	-48.45
Ariana	66410	12680	53730	370130	145.17
Ben Arous	40760	11460	29300	245480	119.36
Nabeul	10640	9290	1350	464240	2.91
Zaghouan	3880	5200	-1320	118400	-11.15
Bizerte	6350	12890	-6540	394680	-16.57
Beja	4800	15080	-10280	274240	-37.49
Jendouba	4060	12280	-8220	360210	-22.82
Le Kef	4210	13150	-8940	246310	-36.30
Siliana	4220	13400	-9180	222400	-41.28
Kairouan	4630	10830	-6200	425030	-14.59
Kasserine	4630	9030	-4400	298740	-14.73
Sidi Bouzid	4210	6120	-1910	288340	-6.62
Sousse	12500	6710	5790	323270	17.91
Monastir	10130	6780	3350	281750	11.89
Mahdia	5270	6130	-860	270210	-3.18
Sfax	12040	11420	620	577200	1.07
Gafsa	4550	6290	-1740	236600	-7.35
Tozeur	2870	1840	1030	66380	15.52
Kebili	2260	1820	440	96280	4.57
Gabes	7080	6870	210	241820	0.87
Medenine	8430	6950	1480	298720	4.95
Tataouine	3050	3180	-130	99450	-1.31
Total	274860	274860	0		

Source: 1984 Census

Table 11.
Gouvernorates Ranked by Percent Difference in Arrivals and Departures of Interregional Migrants, 1984.

Gouvernorate	Percent Difference
1 Ariana	145.17
2 Ben Arous	119.36
3 Tunis	48.45
4 Siliana	41.28
5 Beja	37.49
6 Le Kef	36.30
7 Jendouba	22.82
8 Sousse	17.91
9 Bizerte	16.57
10 Tozeur	15.52
11 Kasserine	14.73
12 Kairouan	14.59
13 Monastir	11.89
14 Zaghouan	11.15
15 Gafsa	7.35
16 Sidi Bouzid	6.62
17 Medenine	4.95
18 Kebili	4.57
19 Mahdia	3.18
20 Nabeul	2.91
21 Tataouine	1.31
22 Sfax	1.07
23 Gabes	0.87

Source: 1984 Census

Table 12.
Population Distribution by Settlement Pattern for Tunisia and the Gouvernorates of Kasserine and Gafsa, 1966, 1975, and 1984.

	Urban Population[1]		Rural Population			
			Agglomerated[2]		Isolated[3]	
	Number	Percent	Number	Percent	Number	Percent
1966						
Tunisia	1819719	40.14	929555	20.50	1784077	39.35
G. Kasserine	29907	14.12	37441	17.68	144387	68.19
G. Gafsa	108139	33.67	41424	12.90	171597	53.43
1975						
Tunisia	2655788	47.52	1017104	18.20	1915317	34.27
G. Kasserine	49314	20.68	7158	3.00	182027	76.32
G. Gafsa	135120	56.81	37499	15.77	65225	27.42
1984						
Tunisia	3685470	52.83	3289980	47.17	n.d.[4]	
G. Kasserine	89270	29.94	26295	8.82	182614	61.24
G. Gafsa	148370	62.71	40800	17.24	47430	20.05

[1]Administrative centers.

[2]Settlements consisting of more than one compound.

[3]Settlements consisting of only one compound.

[4]The figures given in the "Agglomerated" columns refer to the total rural population.

Table 13.
Population Distribution by Settlement Pattern for Delegations, 1984.

	Urban Population[1]		Rural Population			
			Agglomerated[2]		Isolated[3]	
	Number	Percent	Number	Percent	Number	Percent
Kasserine North	47606	80.40	4288	7.24	7319	12.36
Kasserine South	0	0.00	1530	7.56	18715	92.44
Sbeitla	12022	24.77	2609	5.38	33905	69.86
Sbiba	3255	11.64	1020	3.65	23679	84.71
Thala	11767	33.66	3754	10.74	19438	55.60
Feriana	14400	55.28	614	2.36	11034	42.36
Foussana	0	0.00	6533	20.80	24876	79.20
Jedliane	0	0.00	1948	17.63	9103	82.37
Haidra	0	0.00	1870	19.18	7880	80.82
Ayoun	0	0.00	508	3.77	12975	96.23
M. Ben Abbes	0	0.00	1621	10.59	13690	89.41
Gafsa North	0	0.00	2105	14.60	12316	85.40
Sned	3887	16.94	2280	9.93	16783	73.13

[1]Administrative centers.

[2]Settlements consisting of more than one compound.

[3]Settlements consisting of only one compound.

VIEWS OF THE FUTURE

Three Working Hypotheses

Analysis of the three sets of population projections (Table 14) acquire their meaning and significance only if one examines the four following parts of the report:

(1) the tables displaying the results of the projection calculations in terms of the age and sex distribution of the population by delegation for each five year period and each hypothesis (Appendix I);

(2) the "Notes on Specific Hypotheses" that offer a synthetic view of the hypotheses underlying each of the projections;

(3) the "Views on the Implicit Contents of the Hypotheses"; and

(4) the calculation matrices for potable water requirements presented in Appendix III.

The matrices give meaning to the population projections by describing actual scenarios for potable water consumption.

Tables 15 and 16 summarize the projection results by delegation for the gouvernorates of Kasserine and Gafsa. The population density of a few delegations (e.g., Majel Ben Abbes, Feriana, Haidra) does not increase spectacularly because the baseline population is small. It would be more useful to calculate densities in terms of useful area, or surfaces that can be developed, rather than total area, but unfortunately that information is not available. The population density calculations are more pertinent for the urban environment of Kasserine, where they show an increase even in the absence of migration (Projection 2).

Not surprisingly, rural densities increase if there are no migrations, as assumed in Projection 2. If departures are numerous, as put forth in Projection 3, then the population in the rural areas is depleted, although this fact may not be readily seen in Table 15. For example, the population densities for Hassi El Ferid, Kasserine South, and Feriana are the same in 2004 as in 1984, suggesting population stability. However, a glance at the corresponding population pyramids shows a drastic depletion of the economically active age group (i.e., those aged 15-49).

With the high level of migration assumed in Projection 3, some delegations have negative annual rates of increase and even

negative population totals. This may represent a catastrophic scenario, but not a totally unrealistic one when one considers that between 1979 and 1984 an estimated 10 percent of the population of Gafsa North migrated to other gouvernorates.

The annual rates of increase within the gouvernorate of Kasserine (Table 9) show important variations from one delegation to another. Projection 1 and, to an even more marked extent, Projection 3, indicate the divergent effects of migration on the rates of increase resulting from the spatial differentiation between urban and rural environments. The isolated effects of natural increase are shown in Projection 2.

Table 14.
General Hypotheses and Characteristics of the
Three Series of Population Projections for Central Tunisia,
1984 - 2004.

	Projection 1	Projection 2	Projection 3
Sources of projections	Ministère du Plan	Created	Created
Population	Ajusted 1984 Census[1]	Ajusted 1984 Census[1]	Ajusted 1984 Census[1]
Mortality	Fall	Rapid Fall	Stable mortality at 1984 level
Fertility	Fall Slow until 2006	Rapid Fall	Stable Fertility at 1984 level
Migration			
General	Stable (?) Census data	No migration	High Level of migration
Intergov.	Estimates 1979-1984.	idem	Strong migration to Tunis.
Intragov.	n.a.	idem	Strong urbanization to Kasserine and Gafsa.
Internat.	n.a.	idem	No migration (See note on migrations)
CHARACTE-RISTIC	MINISTRY OF PLAN	LIMITED GROWTH	SEVERE MIGRATORY OUTFLOW

[1]See "Technical Notes on Statistical Adjustments."

Table 15.
Population and Density Results of the Projections by Delegation at Five Year Intervals, 1989 - 2004.

Population Size, 1989

Delegation	Projection 1	2	3
Gouvernorate of Kasserine			
Kasserine North	61229	58692	62517
Kasserine South	18267	19514	17652
Hassi El Ferid	12739	13610	11988
Sbeitla	56519	56000	56802
Sbiba	31391	31644	31288
Jedliane	12504	12591	12468
El Ayoun	14949	15216	14828
Thala	38698	40329	37879
Haidra	11379	11383	11379
Foussana	34866	35997	34313
Feriana	28250	30391	27187
Majel Ben Abbes	16987	17492	16737
Total	337778	342859	335038
Gouvernorate of Gafsa			
Gafsa North	14316	16520	13221
Sned	25608	26186	25289
Total	39924	42706	38510

Population Density, 1989

	Area (Km^2)	Projection 1	2	3
Gouvernorate of Kasserine				
Kasserine North	93	661	634	675
Kasserine South	853	21	23	21
Hassi El Ferid	1028	12	13	12
Sbeitla	1134	50	49	50
Sbiba	462	68	68	68
Jedliane	281	44	45	44
El Ayoun	412	36	37	36
Thala	812	48	50	47
Haidra	473	24	24	24
Foussana	846	41	43	41
Feriana	912	31	33	30
Majel Ben Abbes	955	18	18	18
Total	8260	41	42	41
Gouvernorate of Gafsa				
Gafsa North	905	16	18	15
Sned	710	36	37	36
Total	1615	25	26	24

Table 15 (cont.).
Population and Density Results of the Projections by Delegation at Five Year Intervals, 1989 - 2004.

Population Size, 1994

Delegation	Projection 1	2	3
Gouvernorate of Kasserine			
Kasserine North	74098	67802	77895
Kasserine South	19686	22182	17892
Hassi El Ferid	13712	15457	12314
Sbeitla	66257	64400	67102
Sbiba	35907	36056	35595
Jedliane	14252	14296	14160
El Ayoun	16824	17225	16475
Thala	43266	46297	40877
Haidra	13522	13357	13520
Foussana	39255	41272	37644
Feriana	30920	35188	27814
Majel Ben Abbes	19097	19994	18374
Total	386796	393526	379662
Gouvernorate of Gafsa			
Gafsa North	14153	18818	10205
Sned	28670	29738	27668
Total	42823	48556	37873

Population Density, 1994

	Area (Km^2)	Projection 1	2	3
Gouvernorate of Kasserine				
Kasserine North	93	800	732	841
Kasserine South	853	23	26	21
Hassi El Ferid	1028	13	15	12
Sbeitla	1134	58	57	59
Sbiba	462	78	78	77
Jedliane	281	51	51	50
El Ayoun	412	41	42	40
Thala	812	53	57	50
Haidra	473	29	28	29
Foussana	846	46	49	45
Feriana	912	34	39	30
Majel Ben Abbes	955	20	21	19
Total	8260	47	48	46
Gouvernorate of Gafsa				
Gafsa North	905	16	21	11
Sned	710	40	42	39
Total	1615	27	30	23

Table 15 (cont.).
Population and Density Results of the Projections by Delegation at Five Year Intervals, 1989 - 2004.

Population Size, 1999

Delegation	Projection 1	2	3
Gouvernorate of Kasserine			
Kasserine North	88119	77667	97072
Kasserine South	21460	25365	17966
Hassi El Ferid	14929	17662	12473
Sbeitla	77097	73790	79780
Sbiba	41111	41164	40945
Jedliane	16283	16285	16276
El Ayoun	19123	19662	18602
Thala	48176	52837	43761
Haidra	15861	15521	16061
Foussana	44230	47273	41383
Feriana	33630	40356	27559
Majel Ben Abbes	21529	22875	20278
Total	441548	450457	432156
Gouvernorate of Gafsa			
Gafsa North	14053	21384	4392
Sned	32261	33708	29959
Total	46314	55092	34351

Population Density, 1999

	Area (Km^2)	Projection 1	2	3
Gouvernorate of Kasserine				
Kasserine North	93	952	839	1048
Kasserine South	853	25	30	21
Hassi El Ferid	1028	15	17	12
Sbeitla	1134	68	65	70
Sbiba	462	89	89	89
Jedliane	281	58	58	58
El Ayoun	412	46	48	45
Thala	812	59	65	54
Haidra	473	34	33	34
Foussana	846	52	56	49
Feriana	912	37	44	30
Majel Ben Abbes	955	23	24	21
Total	8260	53	55	52
Gouvernorate of Gafsa				
Gafsa North	905	16	24	5
Sned	710	45	47	42
Total	1615	29	34	21

Table 15 (cont.).
Population and Density Results of the Projections by Delegation at Five Year Intervals, 1989 - 2004.

Population Size, 2004

Delegation	Projection 1	2	3
Gouvernorate of Kasserine			
Kasserine North	104337	88341	120925
Kasserine South	23972	29159	17854
Hassi El Ferid	16654	20290	12522
Sbeitla	89890	84109	95171
Sbiba	47363	46844	47305
Jedliane	18731	18513	18805
El Ayoun	22026	22492	21214
Thala	53751	59715	45979
Haidra	18367	17676	18802
Foussana	50201	53891	45332
Feriana	36672	45763	25908
Majel Ben Abbes	24607	26190	22512
Total	506571	512983	492329
Gouvernorate of Gafsa			
Gafsa North	14075	24222	-5855
Sned	36464	38122	31830
Total	50539	62344	25975

Population Density, 2004

	Area (Km^2)	Projection 1	2	3
Gouvernorate of Kasserine				
Kasserine North	93	1127	954	1306
Kasserine South	853	28	34	21
Hassi El Ferid	1028	16	20	12
Sbeitla	1134	79	74	84
Sbiba	462	103	101	102
Jedliane	281	67	66	67
El Ayoun	412	53	55	51
Thala	812	66	74	57
Haidra	473	39	37	40
Foussana	846	59	64	54
Feriana	912	40	50	28
Majel Ben Abbes	955	26	27	24
Total	8260	61	62	60
Gouvernorate of Gafsa				
Gafsa North	905	16	27	-6
Sned	710	51	54	45
Total	1615	31	39	16

Table 16.
Annual Rates of Increase by Delegation for the Projections, 1984 - 2004.

Projection 1

Delegation	Annual Rates of Increase 1984-89	1989-94	1994-99	1999-04
Gouvernorate of Kasserine				
Kasserine North	4.01	3.89	3.53	3.44
Kasserine South	1.23	1.51	1.74	2.24
Hassi El Ferid	1.22	1.48	1.72	2.21
Sbeitla	3.09	3.23	3.08	3.12
Sbiba	2.35	2.72	2.74	2.87
Jedliane	2.50	2.65	2.70	2.84
El Ayoun	2.09	2.39	2.59	2.87
Thala	2.05	2.26	2.17	2.21
Haidra	3.14	3.51	3.24	2.98
Foussana	2.11	2.40	2.42	2.56
Feriana	1.64	1.82	1.69	1.75
Majel Ben Abbes	2.10	2.37	2.43	2.71
Total	2.54	2.75	2.68	2.79
Gouvernorate of Gafsa				
Gafsa North	-0.13	-0.23	-0.14	0.03
Sned	2.22	2.28	2.39	2.48
Total	1.33	1.41	1.58	1.76

Table 16 (cont).
Annual Rates of Increase by Delegation for the Projections, 1984 - 2004.

Projection 2

Delegation	Annual Rates of Increase 1984-89	1989-94	1994-99	1999-04
Gouvernorate of Kasserine				
Kasserine North	3.14	2.93	2.75	2.61
Kasserine South	2.58	2.60	2.72	2.83
Hassi El Ferid	2.57	2.58	2.70	2.81
Sbeitla	2.90	2.83	2.76	2.65
Sbiba	2.51	2.64	2.69	2.62
Jedliane	2.64	2.57	2.64	2.60
El Ayoun	2.45	2.51	2.68	2.73
Thala	2.90	2.80	2.68	2.48
Haidra	3.15	3.25	3.05	2.63
Foussana	2.76	2.77	2.75	2.66
Feriana	3.13	2.97	2.78	2.55
Majel Ben Abbes	2.70	2.71	2.73	2.74
Total	2.85	2.79	2.74	2.63
Gouvernorate of Gafsa				
Gafsa North	2.75	2.64	2.59	2.52
Sned	2.67	2.58	2.54	2.49
Total	2.70	2.60	2.56	2.50

Table 16 (cont).
Annual Rates of Increase by Delegation for the Projections, 1984 - 2004.

Projection 3

Delegation	Annual Rates of Increase 1984-89	1989-94	1994-99	1999-04
Gouvernorate of Kasserine				
Kasserine North	4.45	4.50	4.50	4.49
Kasserine South	0.54	0.27	0.08	-0.12
Hassi El Ferid	.00	0.54	0.26	0.08
Sbeitla	3.20	3.39	3.52	3.59
Sbiba	2.28	2.61	2.84	2.93
Jedliane	2.44	2.58	2.82	2.93
El Ayoun	1.92	2.13	2.46	2.66
Thala	1.62	1.54	1.37	0.99
Haidra	3.14	3.51	3.50	3.20
Foussana	1.78	1.87	1.91	1.84
Feriana	0.86	0.46	-0.18	-1.23
Majel Ben Abbes	1.80	1.88	1.99	2.11
Total	2.37	2.53	2.62	2.64
Gouvernorate of Gafsa				
Gafsa North	-1.72	-5.05	-15.52	n.d.
Sned	1.96	1.81	1.60	1.22
Total	0.60	-0.33	-1.93	-5.44

NOTES ON SPECIFIC HYPOTHESES FOR PROJECTION 1

Sources

The principle source was a set of photocopies of population projections by gouvernorate ordered by the Ministry of Plan to the Statitics office (Institut national des statistiques). These projections for the next development plan concern the Gouvernorates of Kasserine and Gafsa. Unfortunately, though they are very rich in information, they are unpublished and therefore there are no documents that present their theoretical foundations. Hence, we are limited to an implicit rather than explicit view on them.

Population by Age and Sex

The March 1984 Census gives the population by age and sex taken from a 10 percent sample of census results. Adjustments had to be made to correct sampling errors (see "Technical Notes on the Statistical Adjustments").

Mortality

The survival rates of the partial mortality tables in the Ministry of Plan projections were used.

Fall of the number of deaths (in percent) by 5 year periods:

1986-1991: -6.7 %
1991-1996: -5.7 %
1996-2001: -5.7 %
2001-2006: -6.6 %

Fertility

The fertility rates in the Ministry of Plan documents were used.

Fall by 5 year periods of total fertility rates:
1986-1991: -1.5 %
1991-1996: -8.0 %
1996-2001: -1.5 %
2001-2006: -3.6 %

Fall of the general fertility rates:
1986-1991: -2.2 %
1991-1996: -5.4 %
1996-2001: -2.3 %
2001-2006: -2.0 %

Migration

Numbers by age and sex of migration were given in the same documents. These numbers are in fact those of the 1984 census (see vol. 4, p. 254 for Kasserine and p. 257 for Gafsa). The data do not consider inter-gouvernorate migration. It is not clear if the estimates were kept throughout the period on the Ministry of Plan projections. We considered migration as stable. We also tried to calculate intra-gouvernorate migration, as it appears (in global numbers) in the census table on migration (vol. 4, p. 219) (see "Notes Concerning Migration and the Construction of the Hypotheses").

NOTES ON SPECIFIC HYPOTHESES FOR PROJECTION 2

Population by Age and Sex

Same as in Projection 1.

Mortality

Use of the Coale and Demeny South tables (1966) included in the FIVFIV-SINSIN program. Levels:

KASSERINE:	Female	Male
1984	18	19
1989	19	20
1994	20	21
1999	21	22
2004	22	23

GAFSA		
1984	19	21
1989	20	22
1994	21	23
1999	22	24
2004	22	24

Fertility

Lowering of the total and general fertility rates by 10 percent every five years. No change in schedule.

Migration

This set excludes every form of migration (international, inter- and intra-gouvernorate). Let us repeat that these hypotheses are considered very optimistic.

NOTES ON SPECIFIC HYPOTHESES FOR PROJECTION 3

Population by Age and Sex

Same as in Projection 1.

Mortality

Use of the survival rates for 1984 in the Ministry of Plan projection. It assumes a total stability of mortality until 2004.

Fertility

Stable fertility at the 1984 level.

Migration

This set of projections assumes an increase of the migration flow of 50 percent by five year period. This excessive (but not totally unrealistic) increase allows us to measure the effects of inter- and intra-gouvernorate migration on the population distribution. The results commented on in the text show an excessive urbanization process and an often rapid decline of rural populations. In the case of Gafsa North a few age groups disappear completely! This set is therefore very pessimistic. The two forms of migration were found in the 1984 census (see "Notes Concerning Migration and the Construction of the Hypotheses").

NOTES CONCERNING MIGRATION AND THE CONSTRUCTION OF THE PROJECTIONS

Problems

How does one construct migration hypotheses without a breakdown by age of inter-gouvernorate or intra-gouvernorate migrations by delegation? First, a word of explanation concerning what was on hand for the projections: (1) the census, which was also used by I.N.S. for their own projections, gives a breakdown by age and sex of inter-gouvernorate migration (vol. 4, p. 254 and 257); (2) a global estimate of in- and out-movements by delegation for the same type of migration (p. 204 and 212); and (3) one figure for the whole gouvernorate of intra-gouvernorate movements (p. 219). To summarize, for each type of migration we have:

Inter-gouvernorate:
- -- breakdown by age and sex for the gouvernorate level
- -- global numbers at the delegation level

Intra-gouvernorate:
- -- global figures of movements inside the gouvernorate

Solutions

Inter-gouvernorate migration:

We assumed that the age and sex distribution inside each delegation reflected the situation in the whole gouvernorate, therefore in each delegation we distributed the migratory balances by age and sex in the same proportions as those of the gouvernorate level. There remained the problem of Hassi El Ferid; the distribution of migratory balances for the old delegations of Kasserine North and South were reallocated as follows:

- the positive balance for urban Kasserine North was kept;

- the balances for Kasserine North (rural part) and Kasserine South were readjusted considering the importance of Kasserine South and Hassi El Ferid as well as the rural parts of Kasserine North (1985).

Numbers are:

1984:	Kasserine North urban:	1800	(positive)
	Kasserine North rural:	1330	(negative)
	Kasserine South:	500	(negative)
1985:	Kasserine North urban:	unchanged	
	Kasserine North rural:	308	(negative)
	Kasserine South:	896	(negative)
	Hassie El Ferid:	625	(negative)

Intra-gouvernorate migration:

Two elements served as guidelines:

-- it was compulsory that the migration balance be equal to 0 since every gain of one delegation is a loss for another; and

-- the figure of 9900 found in the page 219 table was an evaluation of population movements in the gouvernorate, the number was therefore the arrivals and departures.

To establish emigration and immigration one had to start at 4950 entrees and departures. How could we distribute these global figures among the delegations? The hypothesis is that the capacity to attract or repulse of a given delegation is the same in both forms of migration (inter- and intra-). Using the table on inter-gouvernorate migration we created a table of intra-gouvernorate migration with a migratory balance equal to 0 for the whole gouvernorate. This table (intra-) was directly related to the 'performances' of each delegation in the sector of inter-gouvernorate movements. This internal migratory balance was added to the external migratory balance in the age-sex tables of migrations.

Comments

After our calculations it was discovered that Haidra had a balance sheet equal to 0.

These hypotheses may seem rather extreme to some but they do have the very important advantage of not eliminating completely this important phenomenon. They were used in the population projections supposing no change in sex or age until 2004. Finally the increase of 50 percent by five year period assumed in the third set of projections would bring the level of migrations in Kasserine (in percentage of total population) to that of Beja and Kairouan in ...1984!

NOTES ON THE IMPLICIT CONTENTS OF THE PROJECTION HYPOTHESES

General Criticisms

When looking at all sets of projections one must bear in mind a few important points:

-- Projections reflect the anxieties and fears of the societies that create them.

-- They distort the original population numbers, i.e. that all errors, false or erroneous declarations, are enlarged by projections and will produce an inflation effect on certain age groups in projection pyramids.

-- Some projections, though totally unrealistic per se, are used to illustrate an extreme situation so as to isolate fundamental elements of situations that are not as unrealistic. They serve to draw the outline of a scenario, a 'what would happen if...' These exercises can be as instructive as the multiplication of an infinite number of reasonable projections.

-- We deliberately chose to produce three very contrasting sets of projections that offer different possibilities of thought. The first, the most reasonable and most plausible but nevertheless optimistic, is the application at the level of the delegation of hypotheses used at the gouvernorate level by I.N.S. at the request of the Ministry of Plan. The second shows the effects of a rapid fall in the natural rate of increase in the absence of migrations, in a consciously optimistic point of view. The third, the most dramatic, supposes a stability of 'natural phenomena' (fertility and mortality) and a real flight with a doubling of migrations every ten years.

-- True for all three sets of projections, it is essential that one keep in mind this important point: a few hypotheses of projection (Projection 1) are related to the gouvernorates; others use indices suitable to large populations. In every case the scale of analysis (the delegation) may have caused important statistical distortions without the compensation effect one often finds in large scale analyses. This means that though our projections may be valid globally, in precise age groups or in small populations (less populated delegations) the margins of error may be large. We have used an aggregative method of constructing the projections but with global rates (global fertility and survival rates for the gouvernorate, tables of rates of survival), there is therefore a logical contradiction between the population statistics available and the global rates or indices. This contradiction is

insurmountable as there is no (to our knowledge anyway) regional data that account for local characteristics. We accept these constraints and their numerous consequences, among which the most obvious is that the adopted method hides partly what it was supposed to unveil. We wanted, for example, to measure the consequences of excessive urbanization (Projection 3) in the gouvernorate of Kasserine in 2004 and yet we have no data on intra-gouvernorate migration, except for general numbers without the necessary details, idem for differential rural-urban mortality or fertility. The experiment was nevertheless worth attempting and offers many insights.

First Projection

Realistic in spite of imprecisions in the field of migration, this set hinges on both a generation effect and the arrival at the fertility age of new types of women. Explicitly, the projections are built from a precise use of past tendencies:

-- They are presented as starting in 1986 but no statistical adjustments were made of the 1984 data. Furthermore, the sex ratios indicate that adjustments were needed at lower age groups; these were not done.

-- We were only given the survival rates by sex and age and not the complete life tables. This constraint did not allow us to calculate the estimates of life expectancy at birth or the rates of survival of the young (0-5 group); the FIVFIVSINSIN program uses these numbers in its structure; we therefore had to infer them from the life tables of Coale and Demeny (1983). The hypothesis of a lowering of mortality without being too optimistic does presuppose a few premises: foremost continued investments in the sector of public health, an increase in sanitary control, the setting-up of economic and social means which would make possible a true morbidity transition (continued fall in infant mortality, control of endemic disease etc.). This is not impossible but must be noted.

-- The generation effect, subtly discernible for mortality, becomes obvious for fertility because the remarkable fall between 1991 and 1996 holds with the arrival at fertile ages of women who have known a different system of education and information unknown to their mothers. The fall in absolute numbers (global and general fertility rates) is continuous but the yearly rates seem to draw a normal curve. This makes obvious the realistic perspectives used by I.N.S.

-- The position of I.N.S. vis-a-vis migration is less clear. We do not have a complete series of absolute figures for migrations by five year period. The projections use the

estimates of the last census with all the restrictions that are attached to it (see note). Furthermore, there is no mention anywhere of return migration though it may, in the near future, become the main form of migration, since Tunisia has signed an agreement with France for the yearly return of 10 percent of Tunisians in France, i.e. a minimum of 30,000 people (Hedi Jemmal, personal communication). Two points help us understand this I.N.S. 'oversight'. First, it is doubtful, when one analyzes the little success met by all plans of voluntary repatriation of Tunisian workers in France (less than 400 voluntary returns in the first 9 months of 1986), that the objectives of the lastest plan will be met. Second, the participation of the High Steppes in international migration during the '60s and '70s was never very high and consequently the return of the sons of the region should not induce any important errors.

Second projection

Quite optimistic, this set is meant to measure the effect of a moderate natural increase on a stable population (without migration). It is moderate in that we used quite positive mortality hypotheses. A 10 percent decrease in fertility is also assumed every five years.

-- Using the survival rates of the Ministry of Plan, we chose the mortality tables in the series included in FIVFIVSINSIN (Coale-Demeny 1966) in accordance to the 1984 situation: e(0) (life expectancy at birth): Females 62.5 years and Males 61.25 for Kasserine; Females 65 and Males 66 for Gafsa. With the changes in tables every five years, in 2004 e(0) should be: Females 72.5 and Males 71 in Kasserine; Females 72.5 and Males 73.5 in Gafsa. Exclusive use of the SOUTH series supposes the same mortality schedule which is most probably in accordance with forseeable changes in these projections, i.e. a fall in fertility. Indeed this fall will certainly bring about a notable increase in the life expectancy at birth of women and therefore a change in their mortality type; it might have been wise to use another series of tables like that of the WEST series. The choice was logical in that we wanted to attain a harmony between the mortality and fertility hypotheses by supposing a permanent calendar.

-- The 10 percent fall in fertility every five years is very optimistic. Nevertheless it allows comparisons with other more realistic results (Projection 1), based on past experiences, and very pessimistic hypotheses (Projection 3). Furthermore it suggests ways and means for the future.

Third Projection

In contrast to the last projection, this set assumes phenomena of such a magnitude that it is placed in our trio in the very pessimistic category. That scenario might start with the prophetic words: " At worst, this might happen...". Yet it is neither a sterile excercise in simulation or unrealizable: as the 'Direction generale de l'amenagement du territoire' has put forward in its regional plan for Kasserine (Ministère de l'équipement et de l'habitat/DGAT, vol. V 1985): "If emigration has been moderate up to now, chances are it will increase by the acceleration of the exodus, with the rapid increase of the population, mainly rural." We have attempted to quantify this fear.

-- One must not have any illusions concerning stable mortality at the 1984 level, the use of the same survival rates until 2004 implies (1) a stagnation of public health services; (2) in the short term, a breaking-down of the efficiency of the health services under the stress of an increased number of beneficiaries due to high fertility; (3) an increase in mortality risk related to endemic or epidemic diseases and famines; (4) a rise in specific forms of mortality (mortality at child-birth, infant or child mortality); and (5) a decline in the general conditions of life in the region related to increased urbanization brought by intra-gouvernorate migration. All these situations are quite improbable.

-- Stable fertility also has wide-reaching consequences. One must remember that Kasserine has one of the highest fertility rates in Tunisia, that its schedule is centered toward young women in the most productive age groups and that differential male-female mortality is due in part to this situation. Therefore this part of the scenario would bring about a considerable degradation of the condition of women, destined to bear nearly 6 surviving children during their fertile years.

-- The level of migration would double every ten years; the scenario illustrates a real exodus. This level of increase was chosen to push to the extreme the already existing risk. The failure in the next 5 to 7 years of fruit cultivation in the High Steppes is a possibility not to be overlooked, especially in view of the great logistic problems to be overcome in product marketing. Exodus to the cities of Kasserine and Gafsa, combined with the flight to Tunis or other more dynamic centres, is central to these projections. Gaps in our knowledge of migration hindered us from showing all the consequences. To assume that the age distribution of intra-gouvernorate migration is similar to that of inter-gouvernorate is to veil the subtleties of a complex

phenomenom. To take just one example: if we suppose that the migration to regional centres (eg., Kasserine City) is dominated by young men aged 20 to 40, then an acceleration of the process would empty the rural world of its labor; if it were women, then we could imagine an increase in rural single males, a change in the urban work market and a reduction in births in the rural area, but a possible increase in births per women. One of the results of this set of projections is to make clear the need for more knowledge of regional migration.

A Calculation Matrix for Potable Water Requirements

Human water consumption involves complex interactions between ecological, individual, and socio-demographic factors (see Figure 1). It is not possible to generate a predictive model of water consumption that incorporates all of the pertinent variables, if only because appropriately detailed information does not exist for most of the variables. Nonetheless, it is possible to develop general models that can guide planning efforts to meet potable water requirements.

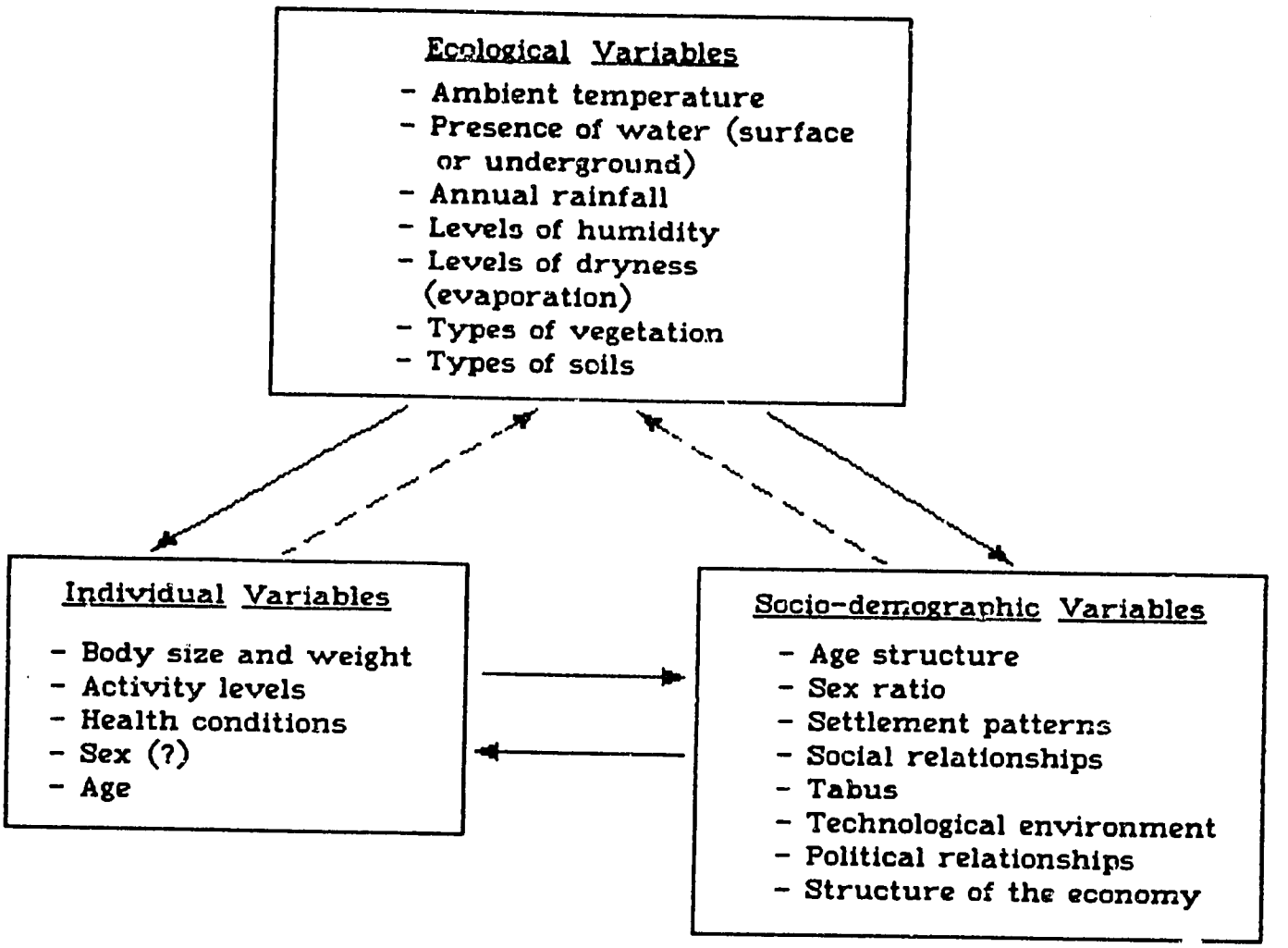
In Central Tunisia human water consumption is a function not only of the number of consumers but of specific demographic characteristics of those consumers. The model presented here is derived from the population projection calculations and offers a view of the socio-demographic demand. The age structure of the population is assumed to be the most accessible feature of this demand. Sex differences, assumed to be minimal, are not incorporated into the model. Age structure is incorporated in the form of a weighted average that assumes, for a given unit of water consumption, the following relationship:

Age in Years	Daily Rate of Consumption
0 - 4	0.50 units
5 - 14	0.75 units
15 - 49	1.00 unit
50 +	0.75 units

In the absence of household survey information on actual water consumption in the region, the model was used to calculate a range of potable water requirements for the projected delegation populations. The result is a series of matrices by delegation for each of the three projection hypotheses for assumed daily adult consumption rates ranging from 2 to 10 litres (Appendix III).

The model is unidemensional and centered on one variable, and as with all models it is limited by what it does not include. Other dimensions could have been integrated as dependent variables, such as the distance to the nearest well, the degree of urbanization, household composition, supply strategies, and access to animal transportation. But due to time and documentation constraints this was not possible. Nonetheless, the model does not completely eliminate variables such as the degree of urbanization, as it offers a large choice of calculation bases. For example, peasants in the region estimate that water hook-up to individual households causes an increase in water consumption from an average 2 or 3 litres per person per day to 5 or 6 litres. The effect of such an increase is found in the model.

Fig. 1
Factors influencing human water consumption.



— — — — — — — Relative interaction

——————— General interaction

CONCLUSION

The different time periods of the Mid-West region of Tunisia have been reviewed, from a past rich in social change to a present set in what is often termed "traditionalism" but is never clearly defined, and into a future totally embedded in the success or failure of current transformations.

The major demographic characteristics of the High Steppes include high fertility, morbidity linked to poverty conditions, and low, but rising, migration. However, major changes may occur in the not too distant future. Reproductive strategies must follow the evolution of socioeconomic changes, such as local integration into the national market, development of irrigated agriculture, and urbanization. Morbidity and mortality may change slowly from that characteristic of poverty to that of a "modern" peasantry. Finally, we share the fears of the "direction generale de l'amenagement du territoire" and believe that inter- and intra-gouvernorate migration is entering a period of expansion, and that the brief stability found in this transition from pastoral nomadism to contemporary labor migration is coming to an end.

In order to "measure" the impact and level of the important changes to come, three sets of population projections and a calculation matrix of potable water requirements were created. The projection hypotheses tried to cover the whole range of possible scenarios. Projection 1 closely follows the projections of the Institut National de Statistiques and applies them at the delegation level. It assumes a continued lowering of fertility, and improvement of morbidity conditions, and migration similar to the 1979-1984 period. Projection 2 limits itself to the analysis of natural increase. Projection 3, the most pessimistic, assumes stable mortality and fertility levels with a considerable increase in migration. The calculation matrix uses the projection results to establish the level of potable water consumption according to the number and structure of the population.

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APPENDIX I

Age Distributions for Census Populations and Projection Results

Population of the Gouvernorate of KASSERINE

A)- Censuses Results:

1966

A. Groups	Males	Females	Total
0-4	22330	21798	44128
5-9	16442	14704	31146
10-14	14842	13435	28277
15-19	7497	8412	15909
20-29	12473	14235	26708
30-39	13261	13434	26695
40-49	8807	7876	16683
50-59	7145	5987	13132
60-69	3606	2574	6180
70-79	1142	775	1917
80-89	436	309	745
90-99	87	70	157
100	21	19	40
Autres	5	13	18
Total	108094	103641	211735

1975

A. Groups	Males	Females	Total
0-4	23612	23629	47241
5-9	19569	19031	38600
10-14	15436	13516	28952
15-19	11857	11466	23323
20-24	9417	9874	19290
25-29	5434	6589	12023
30-34	5253	5763	11016
35-39	6059	6489	12549
40-44	6039	5852	11892
45-49	4880	4250	9130
50-54	3498	3085	6584
55-59	3115	2249	5365
60-64	3307	2498	5805
65-69	1734	1244	2978
70-74	1341	796	2137
75-79	444	328	772
80-84	181	129	311
85-89	151	90	241
90-94	91	60	150
95 +	30	10	40
Ind.	50	50	100
Total	121499	117000	238499

Population of the Gouvernorate of KASSERINE (end)

1984

A. Groups	Males	Females	Total
0-4	26978	25466	52444
5-9	24629	23048	47677
10-14	19461	17455	36916
15-19	15923	15992	31915
20-24	12154	12270	24424
25-29	9555	9952	19507
30-34	7876	9066	16942
35-39	5128	5434	10562
40-44	5078	5414	10492
45-49	5807	6180	11987
50-54	5278	5284	10562
55-59	3688	3413	7101
60-64	3288	2806	6094
65-69	2579	1612	4191
70-74	2159	1642	3801
75-79	920	647	1567
80-84	570	358	928
85-89	140	50	190
90-94	30	60	90
95 +	330	239	569
Total	151571	146388	297959

Population of the Gouvernorate of GAFSA

A)- Censuses Results:

Note: The Gouvernorate of Gafsa included in 1966 the present Gouvernorate of Sidi Bou Zid

1966

A. Groups	Males	Females	Total
0-4	33092	32140	65232
5-9	26428	24051	50479
10-14	21125	19065	40190
15-19	12546	12179	24725
20-29	19457	21356	40813
30-39	19984	19545	39529
40-49	13308	12021	25329
50-59	11051	9212	20263
60-69	5240	4183	9423
70-79	1826	1549	3375
80-89	761	563	1324
90-99	185	125	310
100	48	40	88
Autres	11	69	80
Total	165062	156098	321160

1975

A. Groups	Males	Females	Total
0-4	21221	20266	41487
5-9	18428	17739	36167
10-14	17072	15332	32404
15-19	13773	12414	26187
20-24	9411	10278	19690
25-29	6011	6478	12489
30-34	4847	5736	10583
35-39	6072	6488	12560
40-44	5900	5575	11475
45-49	4625	4482	9107
50-54	3724	3369	7093
55-59	3319	2868	6187
60-64	3400	2377	5777
65-69	1660	1294	2953
70-74	1154	822	1976
75-79	364	371	735
80-84	192	211	403
85-89	142	100	242
90-94	51	50	101
95 +	40	50	91
Ind.	71	70	141
Total	121474	116372	237846

Population of the Gouvernorate of GAFSA (end)

1984

A. Groups	Males	Females	Total
0-4	20501	19530	40031
5-9	17955	16373	34328
10-14	15051	13618	28669
15-19	13892	13127	27019
20-24	11078	11193	22271
25-29	8502	9089	17591
30-34	6609	6423	13032
35-39	4310	4649	8959
40-44	4251	4309	8560
45-49	4697	4840	9537
50-54	4380	3728	8108
55-59	2893	2385	5278
60-64	2219	2194	4413
65-69	1516	1353	2869
70-74	1764	1453	3217
75-79	604	461	1065
80-84	248	270	518
85-89	89	50	139
90-94	49	10	59
95 +	30	30	60
Total	120638	115085	235723

Population of the Delegation of KASSERINE

A)- Censuses Results:

1966

A. Groups	Males	Females	Total
0-4	3956	3870	7826
5-9	3056	2642	5698
10-14	2966	2398	5364
15-19	1871	1537	3408
20-29	2757	2771	5528
30-39	2578	2377	4955
40-49	1639	1401	3040
50-59	1106	842	1948
60-69	609	420	1029
70-79	189	142	331
80-89	82	58	140
90-99	14	14	28
100	1	9	10
Others	3	2	5
Total	20827	18483	39310

1975

A. Groups	Males	Females	Total
0-4	5100	5067	10167
5-9	4458	4321	8779
10-14	3745	3012	6757
15-19	2741	2589	5330
20-24	2399	2307	4706
25-29	1426	1904	3329
30-34	1476	1350	2826
35-39	1516	1380	2896
40-44	1355	1299	2655
45-49	1054	856	1910
50-54	783	625	1408
55-59	703	373	1075
60-64	532	655	1187
65-69	331	302	633
70 +	452	332	784
Others	0	30	30
Total	28071	26401	54472

Population of the Delegation of KASSERINE NORD

A)- Censuses Results:

1984

A. Groups	Males	Females	Total
0-4	5555	5243	10798
5-9	4679	4495	9174
10-14	4012	3384	7396
15-19	3275	3108	6384
20-24	2469	2557	5026
25-29	2131	2203	4334
30-34	1683	2026	3709
35-39	1125	1170	2295
40-44	1304	1062	2367
45-49	1065	1023	2088
50-54	926	944	1870
55-59	617	600	1217
60-64	548	462	1010
65-69	418	216	635
70-74	249	236	485
75-79	129	98	228
80-84	60	89	148
85-89	10	10	20
90-94	0	10	10
95 +	10	10	20
Total	30266	28947	59213

Population of the Delegation of KASSERINE NORD

1985

A. Groups	Males	Females	Total
0-4	4727	4444	9171
5-9	3982	3810	7792
10-14	3414	2868	6282
15-19	2787	2635	5422
20-24	2101	2168	4269
25-29	1813	1868	3680
30-34	1432	1718	3149
35-39	957	992	1949
40-44	1110	900	2010
45-49	906	867	1774
50-54	788	800	1588
55-59	525	509	1034
60-64	466	392	858
65-69	356	183	539
70-74	212	200	412
75-79	110	83	194
80-84	51	75	126
85-89	8	8	17
90-94	0	8	8
95 +	8	8	17
Total	25753	24537	50290

Note: see: MINISTERE DE L'AGRICULTURE, 1986.

Population of the Delegation of KASSERINE NORD

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	5078	6162	6896	8156
5	4480	5103	6164	6889
10	3862	4527	5146	6200
15	2931	3918	4579	5194
20	2745	3041	4023	4684
25	2297	2870	3166	4142
30	1924	2347	2913	3206
35	1713	1916	2333	2890
40	1003	1710	1910	2320
45	915	1016	1707	1904
50	878	926	1025	1697
55	786	862	909	1006
60	486	745	818	864
65	359	444	676	743
70	165	309	379	571
75	228	227	324	419
Total	29850	36122	42968	50886

- Males

Age	1989	1994	1999	2004
0	5266	6398	7165	8481
5	4690	5221	6331	7090
10	3989	4693	5221	6325
15	3500	4071	4771	5296
20	3005	3710	4277	4970
25	2309	3200	3897	4457
30	1936	2425	3303	3990
35	1492	1987	2468	3332
40	975	1498	1984	2455
45	1103	973	1481	1954
50	890	1080	956	1446
55	773	870	1051	935
60	495	724	815	984
65	419	446	648	730
70	300	352	375	541
75	238	328	409	466
Total	31379	37976	45151	53451
G. Total	61229	74098	88119	104337

Population of the Delegation of KASSERINE NORD

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	4737	5104	5494	5924
5	4319	4633	5017	5425
10	3788	4299	4617	5005
15	2850	3769	4283	4604
20	2611	2830	3749	4266
25	2144	2589	2811	3730
30	1845	2123	2568	2794
35	1694	1823	2103	2550
40	975	1670	1802	2083
45	881	957	1644	1779
50	842	859	936	1613
55	768	812	831	911
60	477	724	771	795
65	352	433	664	715
70	152	297	371	579
75	228	220	331	454
Total	28663	33141	37994	43226

- Males

Age	1989	1994	1999	2004
0	4996	5383	5797	6253
5	4615	4904	5309	5740
10	3960	4595	4888	5296
15	3393	3940	4577	4873
20	2762	3369	3918	4558
25	2078	2738	3346	3898
30	1790	2057	2716	3325
35	1410	1768	2036	2694
40	939	1387	1744	2014
45	1080	917	1360	1715
50	871	1042	888	1324
55	742	825	993	852
60	480	684	766	930
65	406	423	610	691
70	285	331	350	514
75	222	300	377	439
Total	30029	34660	39673	45114
G. Total	58692	67802	77667	88341

Population of the Delegation of KASSERINE NORD

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	5204	6553	8191	10199
5	4566	5365	6757	8445
10	3900	4680	5510	6938
15	2970	4026	4837	5712
20	2813	3195	4306	5189
25	2377	3072	3524	4713
30	1968	2500	3224	3721
35	1728	1985	2520	3246
40	1020	1755	2021	2563
45	936	1068	1802	2084
50	902	984	1131	1866
55	800	905	993	1149
60	493	768	871	960
65	366	460	709	807
70	173	329	412	623
75	234	246	361	474
Total	30450	37892	47169	58687

- Males

Age	1989	1994	1999	2004
0	5378	6775	8466	10541
5	4746	5418	6822	8526
10	4009	4780	5464	6880
15	3554	4187	5004	5748
20	3127	3980	4725	5678
25	2426	3527	4481	5353
30	2012	2672	3828	4854
35	1536	2137	2825	4010
40	994	1574	2179	2876
45	1115	1013	1587	2189
50	900	1108	1019	1582
55	788	903	1112	1045
60	505	750	861	1061
65	426	464	684	787
70	306	369	407	590
75	246	347	440	517
Total	32067	40003	49904	62238
G. Total	62517	77895	97072	120925

Population of the Delegation of KASSERINE SUD

A)- Censuses Results:

1984

A. Groups	Males	Females	Total
0-4	1963	2214	4177
5-9	2004	1777	3781
10-14	1360	1142	2502
15-19	961	963	1924
20-24	624	586	1210
25-29	573	695	1268
30-34	603	606	1209
35-39	307	288	595
40-44	358	447	805
45-49	399	318	717
50-54	440	457	896
55-59	225	99	324
60-64	174	119	293
65-69	61	89	151
70-74	112	119	232
75-79	51	30	81
80-84	51	10	61
85-89	10	0	10
90-94	0	0	0
95 +	0	10	10
Total	10276	9969	20245

Population of the Delegation of KASSERINE SUD

1985

A. Groups	Males	Females	Total
0-4	1658	1886	3544
5-9	1693	1514	3207
10-14	1149	973	2121
15-19	812	820	1632
20-24	527	499	1026
25-29	484	592	1076
30-34	510	516	1026
35-39	259	245	504
40-44	302	381	683
45-49	337	271	607
50-54	371	389	760
55-59	190	85	275
60-64	147	101	248
65-69	52	76	128
70-74	95	101	197
75-79	43	25	69
80-84	43	8	52
85-89	9	0	9
90-94	0	0	0
95 +	0	8	8
Total	8680	8492	17172

Note: see : MINISTERE DE L'AGRICULTURE, 1986.

Population of the Delegation of KASSERINE SUD

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	1273	1430	1619	2010
5	1743	1151	1306	1492
10	1463	1690	1103	1258
15	924	1411	1637	1054
20	745	849	1332	1558
25	416	659	763	1243
30	542	368	608	711
35	494	519	349	585
40	225	468	494	327
45	354	201	439	464
50	242	322	175	406
55	361	221	299	158
60	74	332	202	275
65	85	61	291	176
70	55	62	43	232
75	79	66	66	53
Total	9072	9812	10725	12001

- Males

Age	1989	1994	1999	2004
0	1349	1514	1711	2120
5	1557	1259	1422	1616
10	1663	1528	1233	1395
15	1088	1598	1465	1172
20	684	958	1463	1331
25	406	561	831	1329
30	405	328	481	746
35	459	355	280	431
40	233	429	328	255
45	281	214	404	306
50	313	259	196	379
55	336	281	231	171
60	165	299	249	203
65	122	137	256	213
70	35	91	104	201
75	101	63	84	104
Total	9194	9874	10736	11971
G. Total	18267	19686	21460	23972

Population of the Delegation of KASSERINE SUD

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	1369	1523	1775	2086
5	1833	1339	1498	1753
10	1505	1825	1334	1494
15	967	1498	1818	1331
20	813	960	1490	1811
25	494	806	954	1482
30	585	489	799	948
35	509	578	484	793
40	241	502	571	479
45	373	237	494	564
50	263	364	231	485
55	373	254	352	225
60	80	352	241	337
65	91	72	323	224
70	63	77	62	282
75	91	90	102	100
Total	9649	10963	12527	14391

- Males

Age	1989	1994	1999	2004
0	1444	1607	1873	2202
5	1619	1417	1584	1854
10	1684	1612	1413	1581
15	1142	1675	1605	1409
20	805	1134	1666	1599
25	521	798	1126	1657
30	478	516	791	1119
35	502	472	511	785
40	254	494	466	505
45	294	248	484	458
50	324	284	240	472
55	350	307	270	231
60	174	322	285	253
65	128	153	287	257
70	42	104	127	242
75	107	77	111	147
Total	9865	11219	12839	14769
G. Total	19514	22182	25365	29159

Population of the Delegation of KASSERINE SUD

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	1212	1272	1421	1629
5	1701	1017	1037	1130
10	1444	1615	919	914
15	906	1359	1510	794
20	712	772	1189	1302
25	378	561	582	952
30	521	296	456	454
35	487	484	258	407
40	218	444	436	205
45	344	178	391	371
50	233	299	127	319
55	354	203	261	90
60	69	318	174	226
65	80	50	267	138
70	50	49	22	194
75	77	56	44	16
Total	8786	8972	9094	9143

- Males

Age	1989	1994	1999	2004
0	1295	1366	1529	1759
5	1530	1161	1205	1332
10	1653	1483	1110	1143
15	1061	1541	1346	944
20	625	829	1245	979
25	349	404	551	890
30	367	205	227	325
35	439	282	106	101
40	224	392	231	49
45	273	192	350	187
50	308	242	160	306
55	331	265	195	112
60	165	289	223	159
65	119	132	238	179
70	31	82	91	171
75	98	54	67	76
Total	8866	8920	8873	8712
G. Total	17652	17892	17966	17854

Population of the Delegation of HASSI EL FERID

A)- Census Results:

	1984		
A. Groups	Males	Females	Total
0-4	1165	1308	2473
5-9	1190	1050	2239
10-14	807	674	1482
15-19	571	569	1139
20-24	370	346	716
25-29	340	410	750
30-34	358	358	716
35-39	182	170	352
40-44	212	264	476
45-49	237	188	424
50-54	261	270	531
55-59	134	59	192
60-64	103	70	174
65-69	36	53	89
70-74	67	70	137
75-79	30	18	48
80-84	30	6	36
85-89	6	0	6
90-94	0	0	0
95 +	0	6	6
Total	6100	5887	11987

Population of the Delegation of HASSI EL FERID

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	882	990	1121	1392
5	1207	795	902	1031
10	1014	1169	761	868
15	641	978	1133	728
20	518	589	924	1079
25	289	458	530	863
30	374	254	421	492
35	341	357	239	404
40	156	324	339	225
45	245	140	304	319
50	167	222	121	280
55	250	152	205	108
60	52	231	140	190
65	60	44	204	123
70	38	44	32	163
75	56	47	47	39
Total	6288	6796	7424	8303

- Males

Age	1989	1994	1999	2004
0	936	1050	1186	1469
5	1095	875	987	1121
10	1169	1075	856	967
15	763	1122	1029	812
20	482	673	1028	937
25	285	396	584	934
30	282	228	338	523
35	321	247	194	302
40	163	299	227	175
45	196	148	281	211
50	220	180	135	263
55	237	198	161	118
60	118	213	177	144
65	85	99	182	151
70	24	64	75	144
75	74	49	65	81
Total	6451	6916	7505	8351
G. Total	12739	13712	14929	16654

Population of the Delegation of HASSI EL FERID

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	949	1056	1231	1446
5	1271	928	1038	1215
10	1044	1265	925	1036
15	670	1039	1261	923
20	564	665	1033	1256
25	342	559	661	1028
30	405	339	555	657
35	353	400	336	551
40	167	348	396	332
45	258	164	343	390
50	183	252	161	336
55	259	176	244	156
60	55	245	167	233
65	63	50	224	155
70	44	53	43	195
75	64	63	71	69
Total	6692	7602	8686	9978

- Males

Age	1989	1994	1999	2004
0	1001	1114	1298	1527
5	1137	983	1099	1286
10	1183	1132	979	1096
15	802	1178	1128	977
20	566	796	1171	1123
25	366	561	791	1165
30	336	362	556	786
35	353	332	359	552
40	179	347	327	355
45	206	174	340	322
50	228	199	169	331
55	246	216	190	162
60	123	227	200	178
65	90	108	202	181
70	29	73	89	170
75	75	54	78	103
Total	6918	7855	8976	10312
G. Total	13610	15457	17662	20290

Population of the Delegation of HASSI EL FERID

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1984	1989	1994	1999
0	1308	840	883	989
5	1050	1179	706	719
10	674	1002	1120	636
15	569	629	942	1047
20	346	496	536	826
25	410	263	391	406
30	358	359	207	319
35	170	337	335	181
40	264	149	307	301
45	188	238	121	268
50	270	162	206	83
55	59	246	141	177
60	70	48	219	121
65	53	55	33	185
70	70	34	33	13
75	30	54	39	30
Total	5889	6091	6219	6302

- Males

Age	1984	1989	1994	1999
0	1165	897	948	1063
5	1190	1076	804	835
10	807	1164	1045	768
15	571	746	1085	950
20	370	441	581	878
25	340	246	286	385
30	358	258	145	161
35	182	307	199	76
40	212	158	275	164
45	237	193	136	247
50	261	217	173	113
55	134	232	188	141
60	103	113	203	163
65	36	83	92	168
70	67	22	58	63
75	66	68	37	46
Total	6099	6223	6254	6219
G. Total	11988	12314	12473	12522

Population of the Delegation of SBEITLA

A)- Censuses Results:

1966

A. Groups	Males	Females	Total
0-4	5882	5662	11544
5-9	4320	3855	8175
10-14	3515	3252	6767
15-19	1578	1965	3543
20-29	2914	3549	6463
30-39	3319	3313	6632
40-49	2201	1907	4108
50-59	1739	1410	3149
60-69	836	601	1437
70-79	279	231	510
80-89	113	94	207
90-99	23	24	47
100	8	3	11
Others	0	2	2
Total	26727	25868	52595

1975

A. Groups	Males	Females	Total
0-4	3291	3378	6669
5-9	3058	3060	6118
10-14	2511	2116	4627
15-19	2025	1937	3962
20-24	1539	1778	3317
25-29	922	983	1905
30-34	749	765	1514
35-39	1013	1192	2205
40-44	1195	894	2089
45-49	922	676	1597
50-54	547	447	994
55-59	547	457	1004
60-64	486	268	754
65-69	203	238	441
70 +	486	328	814
Others	30	10	40
Total	19524	18527	38051

Population of the Delegation of SBEITLA (end)

1984

A. Groups	Males	Females	Total
0-4	4616	4418	9034
5-9	4544	3700	8244
10-14	2975	2932	5907
15-19	2246	2443	4689
20-24	2000	2154	4154
25-29	1549	1676	3225
30-34	1169	1446	2615
35-39	954	848	1802
40-44	667	778	1445
45-49	954	898	1852
50-54	841	887	1728
55-59	585	399	984
60-64	574	569	1143
65-69	431	229	660
70-74	338	259	597
75-79	144	110	254
80-84	82	20	102
85-89	20	0	20
90-94	10	30	40
95 +	31	10	41
Total	24730	23806	48536

Population of the Delegation of SBEITLA

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	4480	5433	6093	7178
5	4316	4384	5317	5968
10	3688	4300	4367	5294
15	2929	3680	4288	4356
20	2447	2932	3679	4287
25	2158	2451	2933	3677
30	1668	2143	2433	2909
35	1424	1642	2110	2395
40	838	1402	1617	2077
45	768	827	1379	1590
50	879	754	812	1348
55	852	845	728	784
60	374	797	793	684
65	507	335	713	711
70	188	415	276	588
75	251	243	392	371
Total	27766	32582	37929	44219

- Males

Age	1989	1994	1999	2004
0	4672	5668	6358	7492
5	4499	4561	5538	6219
10	4517	4473	4536	5507
15	2977	4508	4465	4528
20	2276	3000	4515	4474
25	2023	2296	3010	4506
30	1555	2022	2292	2996
35	1154	1544	2004	2269
40	940	1146	1518	1968
45	651	916	1117	1480
50	919	630	885	1079
55	802	875	603	846
60	541	741	810	561
65	504	476	653	717
70	349	409	388	534
75	364	411	477	497
Total	28753	33675	39168	45671
G. Total	56519	66257	77097	89890

Population of the Delegation of SBEITLA

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	4345	4813	5304	5780
5	4294	4249	4732	5237
10	3678	4274	4234	4720
15	2913	3660	4258	4223
20	2421	2893	3641	4241
25	2130	2400	2874	3622
30	1655	2109	2381	2856
35	1426	1636	2089	2364
40	834	1405	1617	2069
45	762	818	1384	1596
50	873	742	801	1358
55	851	841	719	778
60	374	803	799	688
65	511	340	737	741
70	190	431	291	642
75	264	265	454	455
Total	27521	31681	36312	41370

- Males

Age	1989	1994	1999	2004
0	4582	5077	5596	6101
5	4506	4498	5007	5541
10	4519	4487	4483	4995
15	2957	4496	4469	4469
20	2226	2935	4471	4451
25	1978	2206	2915	4449
30	1530	1958	2188	2897
35	1151	1511	1938	2171
40	936	1133	1490	1917
45	649	914	1110	1465
50	917	626	886	1081
55	792	868	597	849
60	535	730	807	559
65	500	471	651	728
70	345	407	390	548
75	357	403	480	518
Total	28479	32719	37477	42738
G. Total	56000	64400	73790	84109

Population of the Delegation of SBEITLA

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	4509	5546	6769	8165
5	4338	4438	5459	6667
10	3697	4334	4441	5466
15	2936	3703	4342	4458
20	2462	2962	3735	4382
25	2177	2493	3004	3786
30	1680	2178	2499	3011
35	1429	1661	2152	2469
40	840	1413	1642	2128
45	771	833	1397	1625
50	883	760	826	1376
55	854	851	738	803
60	374	799	799	696
65	507	336	716	717
70	190	418	282	592
75	253	247	395	375
Total	27899	32974	39194	46716

- Males

Age	1989	1994	1999	2004
0	4698	5779	7053	8507
5	4511	4601	5658	6909
10	4522	4492	4583	5638
15	2989	4532	4514	4617
20	2302	3059	4610	4622
25	2047	2367	3135	4693
30	1572	2075	2403	3178
35	1176	1578	2080	2412
40	944	1164	1561	2057
45	654	925	1141	1530
50	921	634	896	1105
55	804	880	613	863
60	541	741	815	571
65	506	477	655	720
70	351	414	390	535
75	364	411	480	498
Total	28903	34128	40586	48455
G.Total	56802	67102	79780	95171

Population of the Delegation of SBIBA

A)- Censuses Results:

1966

A. Groups	Males	Females	Total
0-4	3343	3351	6694
5-9	2096	1877	3973
10-14	2195	1896	4091
15-19	919	1193	2112
20-29	1603	1898	3501
30-39	1793	1946	3739
40-49	1258	1032	2290
50-59	1176	1283	2459
60-69	549	378	927
70-79	173	104	277
80-89	47	30	77
90-99	6	5	11
100	0	1	1
Others	0	0	0
Total	15158	14994	30152

1975

A. Groups	Males	Females	Total
0-4	3291	3378	6669
5-9	3058	3060	6118
10-14	2511	2116	4627
15-19	2025	1937	3962
20-24	1539	1778	3317
25-29	922	983	1905
30-34	749	765	1514
35-39	1013	1192	2205
40-44	1195	894	2089
45-49	922	676	1597
50-54	547	447	994
55-59	547	457	1004
60-64	486	268	754
65-69	203	238	441
70 +	486	328	814
Others	30	10	40
Total	19524	18527	38051

Population of the Delegation of SBIBA (end)

	1984		
A. Groups	Males	Females	Total
0-4	2658	2374	5032
5-9	2239	2084	4323
10-14	1800	1573	3373
15-19	1278	1551	2829
20-24	1094	1176	2270
25-29	890	811	1701
30-34	777	689	1466
35-39	368	449	817
40-44	419	550	969
45-49	593	654	1247
50-54	501	402	903
55-59	378	359	737
60-64	327	298	625
65-69	276	247	523
70-74	307	207	514
75-79	92	92	184
80-84	61	31	92
85-89	21	10	31
90-94	0	0	0
95 +	184	134	318
Total	14263	13691	27954

Population of the Delegation of SBIBA

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	2363	2893	3255	3810
5	2285	2278	2797	3154
10	2060	2260	2253	2768
15	1554	2037	2236	2230
20	1523	1527	2008	2208
25	1146	1490	1496	1974
30	791	1122	1461	1468
35	674	775	1099	1433
40	435	655	754	1073
45	531	419	635	732
50	628	510	402	612
55	382	598	486	384
60	334	356	559	456
65	264	297	317	500
70	198	213	241	258
75	257	248	256	280
Total	15423	17676	20254	23338

- Males

Age	1989	1994	1999	2004
0	2471	3025	3403	3983
5	2568	2390	2933	3307
10	2217	2544	2368	2908
15	1776	2190	2515	2341
20	1241	1734	2144	2466
25	1055	1201	1687	2092
30	860	1023	1166	1645
35	755	837	997	1138
40	357	735	816	973
45	404	344	711	790
50	566	385	328	681
55	471	532	361	308
60	346	432	489	333
65	286	303	380	431
70	222	231	246	309
75	374	327	313	318
Total	15968	18231	20857	24025
G. Total	31391	35907	41111	47363

Population of the Delegation of SBIBA

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	2340	2655	2965	3233
5	2307	2288	2610	2928
10	2072	2297	2280	2603
15	1563	2062	2288	2274
20	1537	1552	2051	2279
25	1163	1524	1542	2040
30	801	1151	1512	1532
35	679	792	1141	1501
40	441	670	782	1130
45	538	433	659	772
50	635	525	424	647
55	386	612	508	412
60	337	364	582	486
65	268	306	334	539
70	205	226	262	291
75	272	280	307	358
Total	15545	17735	20246	23026

- Males

Age	1989	1994	1999	2004
0	2468	2800	3129	3412
5	2595	2422	2761	3098
10	2227	2584	2414	2755
15	1789	2216	2573	2407
20	1267	1776	2203	2563
25	1082	1255	1764	2192
30	879	1071	1245	1753
35	765	868	1060	1235
40	361	753	856	1049
45	408	352	738	842
50	570	394	342	718
55	472	540	375	328
60	346	435	501	351
65	285	304	388	452
70	221	232	252	327
75	367	320	316	338
Total	16099	18321	20917	23819
G.Total	31644	36056	41164	46844

Population of the Delegation of SBIBA

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	2351	2876	3464	4072
5	2276	2249	2750	3310
10	2055	2245	2215	2707
15	1549	2026	2212	2178
20	1518	1509	1977	2153
25	1142	1470	1456	1911
30	787	1109	1429	1414
35	671	767	1083	1395
40	435	652	746	1050
45	532	419	628	717
50	628	509	395	598
55	382	597	481	372
60	332	352	553	445
65	262	292	310	488
70	198	210	234	247
75	257	246	249	264
Total	15374	17528	20181	23320

- Males

Age	1989	1994	1999	2004
0	2461	3011	3626	4265
5	2563	2370	2898	3489
10	2217	2538	2344	2866
15	1771	2182	2496	2298
20	1231	1711	2108	2405
25	1048	1176	1638	2016
30	855	1005	1126	1573
35	750	824	969	1084
40	355	725	797	936
45	404	339	698	765
50	566	384	320	664
55	471	529	356	295
60	346	426	480	321
65	286	300	370	415
70	220	227	239	293
75	372	320	301	300
Total	15914	18067	20764	23986
G. Total	31288	35595	40945	47305

Population of the Delegation of JEDLIANE

A)- Censuses Results:

1975

A. Groups	Males	Females	Total
0-4	1928	1911	3839
5-9	1756	1688	3444
10-14	1421	1154	2575
15-19	995	1019	2013
20-24	1106	970	2076
25-29	477	524	1001
30-34	386	466	851
35-39	518	485	1003
40-44	548	572	1120
45-49	447	485	932
50-54	487	330	817
55-59	264	281	545
60-64	406	427	833
65-69	162	136	298
70 +	325	175	499
Others	0	0	0
Total	11225	10622	21847

1984

A. Groups	Males	Females	Total
0-4	987	869	1856
5-9	920	907	1827
10-14	594	697	1291
15-19	757	497	1254
20-24	479	372	851
25-29	259	363	622
30-34	297	344	641
35-39	144	239	383
40-44	182	210	392
45-49	249	229	478
50-54	211	229	440
55-59	144	143	287
60-64	153	96	249
65-69	96	67	163
70-74	125	105	230
75-79	29	19	48
80-84	19	0	19
85-89	0	0	0
90-94	0	10	10
95 +	0	10	10
Total	5645	5406	11051

Population of the Delegation of JEDLIANE

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	933	1103	1259	1489
5	836	899	1065	1219
10	897	826	889	1054
15	689	887	817	880
20	486	676	873	805
25	361	474	663	859
30	354	353	464	650
35	338	348	346	456
40	234	331	341	340
45	205	228	323	333
50	222	198	221	313
55	219	212	190	212
60	133	204	198	178
65	85	118	182	177
70	54	69	97	149
75	87	75	82	103
Total	6131	7001	8009	9218

- Males

Age	1989	1994	1999	2004
0	975	1152	1316	1556
5	954	944	1118	1279
10	913	947	938	1110
15	586	903	937	928
20	740	571	885	919
25	463	720	554	864
30	249	450	703	540
35	288	241	439	688
40	141	282	236	429
45	176	136	274	229
50	239	169	131	263
55	199	225	160	124
60	132	183	207	148
65	134	116	161	183
70	77	108	94	131
75	107	103	123	123
Total	6373	7251	8274	9513
G. Total	12504	14252	16283	18731

Population of the Delegation of JEDLIANE

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	923	1014	1149	1268
5	845	903	997	1134
10	902	841	900	995
15	693	897	838	897
20	493	688	893	834
25	368	488	683	888
30	359	364	484	679
35	339	354	361	481
40	235	334	350	357
45	206	231	329	346
50	223	200	226	323
55	220	214	194	219
60	134	207	204	186
65	86	122	190	189
70	56	73	104	166
75	93	85	97	129
Total	6172	7017	7998	9092

- Males

Age	1989	1994	1999	2004
0	974	1070	1212	1339
5	964	956	1055	1200
10	915	959	953	1053
15	590	910	956	950
20	750	586	905	952
25	474	744	582	901
30	256	469	738	579
35	293	253	464	732
40	141	288	249	459
45	177	138	282	245
50	239	171	134	275
55	199	227	163	128
60	132	183	211	153
65	133	116	163	190
70	77	109	96	138
75	106	102	125	131
Total	6419	7279	8287	9421
G. Total	12591	14296	16285	18513

Population of the Delegation of JEDLIANE

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	929	1101	1348	1607
5	832	888	1054	1291
10	893	819	875	1039
15	685	880	807	861
20	485	669	862	787
25	361	470	648	839
30	354	352	457	633
35	338	348	345	446
40	234	330	340	333
45	205	228	319	327
50	222	198	215	304
55	219	212	186	203
60	133	203	197	173
65	85	118	180	174
70	54	69	96	144
75	87	76	80	98
Total	6116	6959	8009	9258

- Males

Age	1989	1994	1999	2004
0	971	1154	1412	1681
5	951	937	1114	1359
10	913	944	927	1100
15	583	900	929	909
20	733	563	874	897
25	460	709	539	840
30	249	441	686	517
35	288	238	427	668
40	141	279	230	415
45	176	134	268	221
50	239	169	126	254
55	199	225	157	116
60	132	183	206	144
65	134	115	159	180
70	77	107	93	128
75	107	102	120	119
Total	6353	7201	8267	9547
G. Total	12468	14160	16276	18805

Population of the Delegation of EL AYOUN

A)- Census Results:

1984

A. Groups	Males	Females	Total
0-4	1240	1215	2455
5-9	1016	1111	2127
10-14	858	904	1762
15-19	755	603	1358
20-24	606	415	1021
25-29	373	424	797
30-34	308	330	638
35-39	298	339	637
40-44	233	226	459
45-49	289	283	572
50-54	242	226	468
55-59	140	160	300
60-64	130	132	262
65-69	131	94	225
70-74	121	151	272
75-79	37	28	65
80-84	47	9	56
85-89	9	0	9
90-94	0	0	0
95 +	0	0	0
Total	6833	6650	13483

Population of the Delegation of EL AYOUN

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	1054	1273	1497	1817
5	1160	1006	1221	1441
10	1095	1144	991	1205
15	890	1079	1128	977
20	585	869	1058	1108
25	395	563	846	1034
30	408	380	546	824
35	319	396	368	531
40	327	308	383	356
45	216	314	296	370
50	269	204	300	282
55	213	255	193	286
60	149	199	238	181
65	117	132	177	213
70	74	93	106	144
75	115	100	107	119
Total	7385	8316	9456	10888

- Males

Age	1989	1994	1999	2004
0	1104	1333	1567	1901
5	1190	1060	1285	1515
10	1003	1176	1047	1271
15	841	986	1158	1030
20	724	810	953	1123
25	575	691	776	917
30	352	550	665	749
35	292	335	530	643
40	286	281	323	514
45	223	275	270	311
50	274	212	262	257
55	226	257	198	246
60	128	208	236	183
65	114	112	182	208
70	105	92	91	148
75	125	130	125	122
Total	7563	8507	9667	11138
G. Total	14949	16824	19123	22026

Population of the Delegation of EL AYOUN

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	1059	1199	1401	1591
5	1181	1035	1178	1383
10	1105	1176	1032	1175
15	898	1099	1171	1029
20	598	892	1093	1166
25	410	592	886	1088
30	419	406	588	881
35	325	414	403	584
40	333	321	409	399
45	221	327	316	404
50	275	216	320	310
55	217	265	209	311
60	150	205	252	200
65	119	136	188	233
70	78	100	117	164
75	125	117	133	157
Total	7513	8499	9694	11074

- Males

Age	1989	1994	1999	2004
0	1117	1264	1478	1679
5	1211	1096	1247	1463
10	1010	1205	1092	1244
15	853	1005	1201	1089
20	748	847	1000	1196
25	599	742	841	995
30	368	593	736	836
35	303	364	587	730
40	292	298	359	581
45	227	285	292	353
50	278	219	277	285
55	228	263	209	265
60	128	210	244	195
65	113	113	187	220
70	105	92	93	158
75	123	129	126	130
Total	7704	8726	9969	11418
G. Total	15216	17225	19662	22492

Population of the Delegation of EL AYOUN

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	1043	1249	1551	1877
5	1152	978	1170	1452
10	1090	1128	952	1136
15	885	1066	1099	920
20	577	850	1022	1047
25	387	542	802	963
30	405	366	513	766
35	319	392	354	496
40	327	307	377	337
45	215	311	290	357
50	269	199	291	270
55	213	252	185	273
60	146	196	232	169
65	115	127	171	203
70	74	91	101	135
75	115	99	103	110
Total	7330	8153	9214	10510

- Males

Age	1989	1994	1999	2004
0	1095	1312	1631	1972
5	1187	1042	1249	1552
10	1003	1171	1027	1229
15	836	976	1136	988
20	711	785	908	1051
25	561	659	719	825
30	344	525	612	664
35	289	323	494	577
40	284	275	308	473
45	221	270	262	290
50	274	207	254	246
55	226	252	188	232
60	128	202	226	167
65	114	110	174	192
70	103	89	86	136
75	123	125	116	110
Total	7498	8322	9389	10704
G. Total	14828	16475	18602	21214

Population of the Delegation of THALA

A)- Censuses Results:

1966

A. Groups	Males	Females	Total
0-4	6014	5919	11933
5-9	4626	4231	8857
10-14	4023	3840	7863
15-19	1995	2419	4414
20-29	3397	3932	7329
30-39	3645	3847	7492
40-49	2495	2313	4808
50-59	2154	1733	3887
60-69	1126	811	1937
70-79	337	193	530
80-89	125	85	210
90-99	28	14	42
100	7	3	10
Others	2	5	7
Total	29974	29345	59319

1975

A. Groups	Males	Females	Total
0-4	3546	3532	7078
5-9	3283	3503	6787
10-14	2960	2780	5740
15-19	2172	2228	4400
20-24	1627	1780	3407
25-29	879	1228	2107
30-34	697	1000	1697
35-39	1000	1066	2066
40-44	1000	1000	2000
45-49	1081	828	1909
50-54	647	657	1303
55-59	596	381	977
60-64	748	409	1157
65-69	303	209	513
70 +	475	238	713
Others	0	0	0
Total	21014	20839	41853

Population of the Delegation of THALA (end)

A. Groups	Males	Females	Total
		1984	
0-4	2602	2419	5021
5-9	2512	2481	4993
10-14	2592	2055	4647
15-19	2003	1962	3965
20-24	1535	1661	3196
25-29	1127	913	2040
30-34	798	1173	1971
35-39	488	758	1246
40-44	588	612	1200
45-49	728	934	1662
50-54	598	779	1377
55-59	489	550	1039
60-64	479	374	853
65-69	429	280	709
70-74	419	176	595
75-79	169	83	252
80-84	70	83	153
85-89	20	0	20
90-94	0	0	0
95 +	10	10	20
Total	17656	17303	34959

Population of the Delegation of THALA

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	3113	3578	3791	4163
5	2237	2914	3371	3583
10	2412	2170	2842	3296
15	1988	2342	2103	2771
20	1856	1884	2237	2002
25	1542	1736	1766	2118
30	848	1467	1660	1690
35	1134	815	1424	1614
40	720	1089	777	1375
45	572	678	1039	735
50	879	530	634	984
55	729	827	494	594
60	502	671	763	453
65	315	430	582	666
70	210	239	334	460
75	189	218	253	335
Total	19245	21588	24068	26839

- Males

Age	1989	1994	1999	2004
0	3276	3762	3985	4374
5	2457	3116	3594	3817
10	2471	2416	3071	3547
15	2502	2382	2329	2979
20	1824	2317	2199	2147
25	1363	1648	2136	2020
30	1011	1244	1525	2005
35	728	938	1167	1443
40	452	687	893	1117
45	553	421	650	850
50	685	518	392	613
55	548	630	473	355
60	438	493	570	426
65	412	377	426	495
70	336	323	296	338
75	399	405	403	386
Total	19453	21678	24108	26912
G.Total	38698	43266	48176	53751

Population of the Delegation of THALA

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	3208	3525	3802	3967
5	2351	3138	3465	3754
10	2467	2340	3127	3457
15	2042	2454	2332	3118
20	1944	2028	2441	2322
25	1643	1928	2014	2429
30	902	1626	1912	2002
35	1157	891	1611	1898
40	745	1140	881	1596
45	599	732	1122	869
50	908	584	716	1101
55	747	874	565	696
60	516	705	831	541
65	336	468	647	770
70	233	283	401	564
75	208	269	345	484
Total	20004	22986	26212	29569

- Males

Age	1989	1994	1999	2004
0	3384	3718	4012	4188
5	2540	3321	3667	3972
10	2498	2529	3310	3658
15	2576	2486	2519	3300
20	1985	2558	2472	2509
25	1518	1968	2540	2459
30	1113	1503	1952	2524
35	786	1099	1487	1936
40	479	773	1084	1471
45	572	467	758	1066
50	700	552	453	738
55	563	663	526	434
60	447	519	615	493
65	417	394	463	555
70	344	340	326	390
75	404	423	441	453
Total	20325	23311	26625	30146
G. Total	40329	46297	52837	59715

Population of the Delegation of THALA

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	3030	3367	3653	3764
5	2179	2729	3005	3215
10	2384	2067	2590	2831
15	1960	2266	1928	2418
20	1811	1777	2037	1657
25	1489	1602	1520	1720
30	818	1366	1450	1337
35	1124	770	1298	1369
40	710	1060	704	1209
45	560	645	977	617
50	865	492	565	871
55	722	798	436	498
60	500	657	723	381
65	320	429	564	618
70	212	241	323	426
75	184	209	236	296
Total	18866	20475	22009	23225

- Males

Age	1989	1994	1999	2004	
0	3201	3565	3874	4702	
5	2422	2977	3300	4391	
10	2458	2359	2900	3497	
15	2467	2308	2177	3534	
20	1746	2147	1918	3606	
25	1288	1441	1767	3277	
30	963	1086	1192	-2194	see
35	701	844	937	-3143	text
40	440	638	766	1151	
45	545	394	579	899	
50	678	498	346	679	
55	538	606	427	497	
60	433	474	531	482	
65	407	362	395	539	
70	331	309	271	404	
75	396	394	372	435	
Total	19013	20402	21753	22754	
G.Total	37879	40877	43761	45979	

Population of the Delegation of HAIDRA

A)- Census Results:

1984

A. Groups	Males	Females	Total
0-4	586	594	1180
5-9	721	674	1395
10-14	634	694	1328
15-19	692	733	1425
20-24	481	525	1006
25-29	308	287	595
30-34	250	238	488
35-39	106	119	225
40-44	125	168	293
45-49	67	337	404
50-54	211	178	389
55-59	192	218	410
60-64	144	109	253
65-69	125	59	184
70-74	86	30	116
75-79	29	10	39
80-84	0	20	20
85-89	0	0	0
90-94	0	0	0
95 +	0	0	0
Total	4757	4993	9750

Population of the Delegation of HAIDRA

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	954	1243	1374	1486
5	575	925	1207	1337
10	669	571	918	1198
15	689	663	566	911
20	725	682	658	562
25	518	716	675	651
30	283	510	706	665
35	234	277	501	694
40	117	229	272	491
45	164	114	223	266
50	326	159	110	217
55	170	312	152	106
60	203	158	291	142
65	97	180	141	261
70	48	79	147	116
75	34	47	75	134
Total	5802	6865	8016	9237

- Males

Age	1989	1994	1999	2004
0	997	1298	1435	1552
5	568	968	1263	1399
10	716	564	961	1254
15	629	710	560	954
20	684	622	702	554
25	474	674	613	693
30	303	466	663	604
35	245	297	458	652
40	104	240	291	448
45	121	100	233	282
50	64	116	96	224
55	199	61	110	91
60	176	183	56	101
65	126	154	161	49
70	101	102	125	131
75	72	102	118	142
Total	5577	6657	7845	9130
G. Total	11379	13522	15861	18367

Population of the Delegation of HAIDRA

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	936	1121	1224	1227
5	577	916	1102	1209
10	670	575	913	1100
15	690	667	573	910
20	726	685	663	570
25	519	720	680	660
30	283	514	714	676
35	235	280	509	709
40	117	231	277	504
45	165	115	228	273
50	327	160	112	224
55	171	316	155	109
60	204	161	300	149
65	98	186	148	278
70	49	83	159	129
75	35	53	88	167
Total	5803	6781	7845	8894

- Males

Age	1989	1994	1999	2004
0	988	1183	1292	1296
5	572	969	1166	1279
10	717	570	966	1164
15	630	713	567	963
20	686	626	710	565
25	476	680	621	706
30	304	471	674	617
35	246	300	466	669
40	104	242	296	461
45	122	102	237	291
50	64	117	98	231
55	199	61	112	94
60	176	183	57	105
65	125	155	163	51
70	100	102	128	138
75	71	102	121	153
Total	5580	6576	7675	8782
G. Total	11383	13357	15521	17676

Population of the Delegation of HAIDRA

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	954	1247	1485	1624
5	575	924	1208	1438
10	669	571	916	1198
15	689	663	566	909
20	725	681	656	560
25	518	716	672	647
30	283	510	704	662
35	234	277	500	691
40	117	229	271	490
45	164	114	223	265
50	326	158	110	216
55	170	311	151	105
60	203	158	290	141
65	97	180	140	257
70	48	78	146	114
75	34	47	73	130
Total	5802	6863	8112	9444

- Males

Age	1989	1994	1999	2004
0	997	1303	1552	1696
5	568	966	1264	1505
10	716	564	959	1254
15	629	710	560	952
20	684	622	702	553
25	474	674	613	691
30	303	466	662	602
35	245	297	457	650
40	104	240	290	446
45	121	100	232	281
50	64	116	96	222
55	199	61	110	91
60	176	183	56	100
65	126	154	159	49
70	101	101	124	128
75	72	101	116	137
Total	5577	6657	7950	9358
G. Total	11379	13520	16061	18802

Population of the Delegation of FOUSSANA

A)- Censuses Results:

1975

A. Groups	Males	Females	Total
0-4	2161	2342	4502
5-9	2026	2102	4128
10-14	1631	1270	2901
15-19	1143	1124	2267
20-24	966	989	1955
25-29	613	791	1404
30-34	592	593	1185
35-39	789	676	1466
40-44	467	708	1175
45-49	519	500	1019
50-54	364	479	842
55-59	405	271	676
60-64	467	208	676
65-69	280	187	468
70 +	270	167	437
Others	0	0	0
Total	12694	12405	25099

1984

A. Groups	Males	Females	Total
0-4	2831	2613	5444
5-9	2678	2553	5231
10-14	2036	1818	3854
15-19	1701	1679	3380
20-24	1151	1222	2373
25-29	1059	1083	2142
30-34	743	934	1677
35-39	570	517	1087
40-44	468	596	1064
45-49	764	596	1360
50-54	611	566	1177
55-59	468	377	845
60-64	244	228	472
65-69	295	129	424
70-74	163	189	352
75-79	143	70	213
80-84	92	70	162
85-89	31	20	51
90-94	20	0	20
95 +	51	30	81
Total	16119	15290	31409

Population of the Delegation of FOUSSANA

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	2685	3149	3476	4025
5	2455	2529	2984	3308
10	2498	2401	2475	2927
15	1769	2444	2349	2423
20	1602	1693	2364	2272
25	1137	1514	1606	2273
30	1029	1083	1455	1546
35	904	998	1051	1417
40	491	871	964	1016
45	564	462	833	924
50	557	527	429	789
55	531	523	495	402
60	346	490	484	459
65	197	303	432	428
70	98	154	241	348
75	205	154	168	235
Total	17069	19294	21806	24792

- Males

Age	1989	1994	1999	2004
0	2822	3307	3649	4223
5	2699	2695	3171	3510
10	2640	2662	2659	3132
15	1971	2571	2593	2590
20	1573	1840	2435	2457
25	1031	1447	1711	2298
30	975	947	1357	1618
35	692	920	893	1297
40	540	659	882	857
45	441	511	628	845
50	722	414	481	594
55	565	670	379	444
60	424	514	612	345
65	209	367	447	535
70	230	162	290	357
75	263	276	237	309
Total	17797	19961	22424	25408
G. Total	34866	39255	44230	50201

Population of the Delegation of FOUSSANA

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	2743	3052	3399	3708
5	2540	2682	3000	3356
10	2538	2528	2673	2993
15	1806	2526	2519	2666
20	1664	1794	2512	2509
25	1208	1650	1782	2499
30	1070	1196	1637	1771
35	921	1057	1185	1625
40	508	908	1045	1174
45	584	499	894	1031
50	579	569	488	877
55	543	558	551	475
60	354	513	530	527
65	205	321	470	492
70	107	173	275	410
75	223	185	221	324
Total	17592	20209	23179	26435

- Males

Age	1989	1994	1999	2004
0	2893	3219	3586	3914
5	2764	2839	3175	3551
10	2663	2752	2830	3167
15	2023	2650	2741	2821
20	1686	2009	2635	2730
25	1138	1671	1995	2622
30	1046	1127	1657	1983
35	732	1033	1115	1644
40	559	720	1019	1103
45	455	546	705	1002
50	734	440	529	687
55	576	696	419	507
60	428	530	646	392
65	213	377	473	583
70	236	173	312	398
75	259	282	256	353
Total	18404	21062	24094	27456
G. Total	35997	41272	47273	53891

Population of the Delegation of FOUSSANA

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	2630	3015	3460	3883
5	2417	2407	2741	3130
10	2480	2333	2304	2617
15	1749	2393	2229	2182
20	1572	1618	2227	2032
25	1104	1421	1434	1997
30	1012	1017	1312	1303
35	899	970	971	1250
40	484	853	917	908
45	556	439	794	845
50	552	504	385	714
55	526	507	459	339
60	341	479	460	412
65	193	293	413	393
70	93	143	222	315
75	203	144	148	197
Total	16811	18538	20475	22517

- Males

Age	1989	1994	1999	2004
0	2774	3182	3657	4107
5	2676	2604	2978	3411
10	2633	2626	2547	2908
15	1948	2523	2491	2385
20	1523	1725	2241	2147
25	980	1307	1459	1907
30	942	840	1131	1241
35	674	855	737	998
40	532	627	796	671
45	436	494	580	739
50	717	401	451	529
55	558	653	350	389
60	419	496	584	301
65	206	354	422	494
70	228	155	271	321
75	257	264	215	269
Total	17503	19106	20908	22816
G.Total	34313	37644	41383	45332

Population of the Delegation of FERIANA

A)- Censuses Results:

1966

A. Groups	Males	Females	Total
0-4	3135	2996	6131
5-9	2344	2099	4443
10-14	2143	2049	4192
15-19	1134	1298	2432
20-29	1802	2085	3887
30-39	1926	1951	3877
40-49	1214	1223	2437
50-59	972	719	1691
60-69	486	364	850
70-79	164	105	269
80-89	69	42	111
90-99	16	13	29
100	5	3	8
Others	0	4	4
Total	15410	14951	30361

1975

A. Groups	Males	Females	Total
0-4	3118	3103	6221
5-9	3293	3010	6304
10-14	1997	2052	4048
15-19	1894	1680	3574
20-24	1595	1412	3008
25-29	916	979	1895
30-34	679	959	1638
35-39	731	887	1617
40-44	937	959	1895
45-49	679	680	1360
50-54	494	485	979
55-59	370	412	783
60-64	453	351	803
65-69	268	165	433
70 +	278	227	505
Others	21	10	31
Total	17722	17371	35093

Population of the Delegation of FERIANA (end)

1984

A. Groups	Males	Females	Total
0-4	2105	1895	4000
5-9	1985	2016	4001
10-14	1815	1384	3199
15-19	1454	1645	3099
20-24	1113	1123	2236
25-29	802	963	1765
30-34	832	842	1674
35-39	491	431	922
40-44	511	511	1022
45-49	521	642	1163
50-54	481	371	852
55-59	231	321	552
60-64	401	271	672
65-69	191	160	351
70-74	160	130	290
75-79	60	70	130
80-84	70	20	90
85-89	10	10	20
90-94	0	10	10
95 +	0	0	0
Total	13233	26048	38863

Population of the Delegation of FERIANA

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	2328	2588	2639	2837
5	1691	2114	2370	2424
10	1934	1612	2032	2286
15	1305	1851	1532	1949
20	1512	1177	1720	1405
25	975	1360	1031	1570
30	878	890	1270	946
35	804	839	852	1225
40	394	759	795	807
45	466	352	709	744
50	586	416	307	653
55	334	541	379	274
60	289	302	496	345
65	231	247	260	434
70	116	174	188	200
75	126	124	164	193
Total	13967	15347	16741	18292

- Males

Age	1989	1994	1999	2004
0	2465	2737	2791	2997
5	1954	2307	2575	2632
10	1940	1910	2261	2528
15	1709	1834	1804	2153
20	1233	1486	1610	1581
25	902	1021	1271	1393
30	663	762	879	1126
35	745	580	677	793
40	448	696	535	631
45	473	412	654	498
50	482	437	379	612
55	430	431	389	335
60	197	381	383	345
65	339	161	323	326
70	140	260	117	249
75	161	159	241	183
Total	14283	15574	16889	18380
G.Total	28250	30920	33630	36672

Population of the Delegation of FERIANA

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	2492	2733	2924	3058
5	1842	2437	2687	2888
10	2004	1833	2429	2680
15	1375	1994	1827	2422
20	1630	1366	1984	1819
25	1111	1616	1357	1974
30	951	1099	1603	1348
35	830	940	1089	1592
40	424	818	929	1079
45	500	416	806	917
50	624	488	407	791
55	356	601	472	396
60	301	336	571	452
65	244	273	300	530
70	133	205	234	268
75	144	166	236	300
Total	14960	17322	19861	22512

- Males

Age	1989	1994	1999	2004
0	2628	2883	3086	3228
5	2055	2580	2843	3055
10	1974	2046	2571	2836
15	1804	1964	2038	2563
20	1441	1791	1953	2030
25	1101	1428	1779	1943
30	792	1090	1417	1768
35	820	782	1079	1405
40	482	806	772	1067
45	497	470	790	759
50	501	480	456	769
55	453	474	457	437
60	211	417	440	428
65	349	186	372	397
70	153	284	154	314
75	171	184	290	253
Total	15430	17866	20495	23252
G. Total	30391	35188	40356	45763

Population of the Delegation of FERIANA

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	2225	2312	2283	2092
5	1618	1883	1901	1789
10	1897	1480	1713	1691
15	1268	1755	1308	1498
20	1455	1043	1469	962
25	911	1192	720	1068
30	844	765	1007	501
35	791	783	696	918
40	380	722	702	600
45	451	311	630	590
50	572	372	222	511
55	327	509	311	155
60	284	285	449	258
65	226	233	229	368
70	109	156	157	145
75	119	106	127	131
Total	13477	13905	13924	13278

- Males

Age	1989	1994	1999	2004
0	2374	2475	2463	2282
5	1909	2134	2194	2130
10	1923	1837	2046	2088
15	1662	1735	1606	1758
20	1130	1256	1233	984
25	802	745	776	640
30	598	552	435	394
35	708	453	373	217
40	430	632	366	269
45	463	378	561	290
50	472	412	320	486
55	418	402	333	232
60	193	359	340	267
65	334	149	290	266
70	136	246	93	199
75	159	143	208	127
Total	13710	13908	13636	12630
G. Total	27187	27814	27559	25908

Population of the Delegation of MAJEL BEN ABBES

A)- Census Results:

	1984		
A. Groups	Males	Females	Total
0-4	1824	1556	3380
5-9	1388	1255	2643
10-14	793	873	1666
15-19	764	813	1577
20-24	565	482	1047
25-29	496	522	1018
30-34	426	451	877
35-39	288	271	559
40-44	218	261	479
45-49	198	281	479
50-54	228	261	489
55-59	228	201	429
60-64	109	161	270
65-69	119	50	169
70-74	69	30	99
75-79	40	40	80
80-84	20	10	30
85-89	10	0	10
90-94	0	0	0
95 +	10	0	10
Total	7793	7518	15311

Population of the Delegation of MAJEL BEN ABBES

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	1240	1462	1653	2007
5	1472	1169	1386	1575
10	1230	1446	1145	1361
15	851	1206	1420	1122
20	777	816	1168	1382
25	443	735	775	1124
30	497	419	707	746
35	438	483	407	690
40	260	424	468	394
45	250	249	409	452
50	264	234	234	389
55	244	248	220	220
60	185	225	229	203
65	140	162	199	203
70	38	112	130	161
75	41	42	92	129
Total	8370	9431	10641	12156

- Males

Age	1989	1994	1999	2004
0	1305	1537	1736	2106
5	1750	1248	1476	1673
10	1370	1729	1232	1458
15	765	1338	1694	1201
20	709	710	1277	1630
25	513	655	656	1216
30	458	475	615	617
35	401	433	450	587
40	274	385	416	433
45	207	261	369	400
50	185	193	246	350
55	208	167	176	226
60	204	186	149	157
65	93	177	162	129
70	93	73	141	129
75	82	100	95	140
Total	8616	9667	10889	12451
G. total	16987	19097	21529	24607

Population of the Delegation of MAJEL BEN ABBES

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	1267	1417	1611	1836
5	1512	1239	1393	1591
10	1248	1505	1234	1389
15	867	1242	1500	1231
20	806	862	1235	1494
25	477	799	856	1229
30	516	472	792	851
35	445	510	468	787
40	266	438	504	463
45	256	262	432	497
50	273	249	256	423
55	250	263	241	249
60	189	236	250	231
65	145	171	217	232
70	42	122	147	189
75	45	52	117	172
Total	8601	9837	11250	12863

- Males

Age	1989	1994	1999	2004
0	1336	1494	1700	1938
5	1781	1311	1474	1683
10	1380	1773	1307	1470
15	788	1374	1766	1303
20	757	783	1366	1759
25	559	751	777	1359
30	490	553	744	772
35	420	484	548	739
40	282	413	477	542
45	212	276	405	469
50	190	205	267	394
55	215	180	195	256
60	208	198	167	183
65	95	184	176	151
70	95	77	152	149
75	82	104	104	162
Total	8891	10157	11625	13328
G. Total	17492	19994	22875	26190

Population of the Delegation of MAJEL BEN ABBES

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	1216	1407	1659	1976
5	1454	1117	1283	1510
10	1219	1413	1070	1228
15	841	1178	1364	1015
20	764	782	1105	1273
25	430	697	701	1004
30	491	391	648	644
35	435	472	371	619
40	255	413	447	344
45	244	234	385	414
50	262	222	206	349
55	244	243	202	183
60	185	222	221	181
65	140	159	192	189
70	36	109	122	145
75	38	37	83	110
Total	8256	9095	10059	11183

- Males

Age	1989	1994	1999	2004
0	1283	1484	1751	2086
5	1736	1207	1390	1637
10	1367	1711	1180	1357
15	757	1317	1647	1109
20	685	658	1189	1490
25	489	588	541	1038
30	442	423	510	446
35	390	402	378	451
40	269	366	375	347
45	204	251	343	349
50	185	188	230	316
55	208	165	165	201
60	204	186	146	142
65	91	174	157	121
70	91	66	133	120
75	82	96	85	121
Total	8481	9280	10219	11329
G. Total	16737	18374	20278	22512

Population of the Delegation of GAFSA

A)- Censuses Results:

1966

A. Groups	Males	Females	Total
0-4	4633	4659	9292
5-9	3902	3483	7385
10-14	3956	2905	6861
15-19	3250	2125	5375
20-29	3312	3298	6610
30-39	3096	2894	5990
40-49	2063	1799	3862
50-59	1631	1426	3057
60-69	760	602	1362
70-79	265	230	495
80-89	104	103	207
90-99	29	30	59
100	9	15	24
Others	5	20	25
Total	27015	23589	50604

Population of the Delegation of GAFSA NORD

1975

A. Groups	Males	Females	Total
0-4	1330	999	2329
5-9	967	1326	2293
10-14	871	831	1702
15-19	651	775	1426
20-24	632	579	1211
25-29	373	327	700
30-34	182	299	481
35-39	287	327	614
40-44	268	327	595
45-49	249	252	501
50-54	287	243	530
55-59	163	168	331
60-64	201	177	378
65-69	144	65	209
70 +	211	84	295
Others	0	0	0
Total	6814	6779	13593

Population of the Delegation of GAFSA NORD

1984

A. Groups	Males	Females	Total
0-4	1353	1376	2729
5-9	1363	1055	2418
10-14	899	854	1753
15-19	676	683	1359
20-24	404	593	997
25-29	606	562	1168
30-34	384	392	776
35-39	212	231	443
40-44	293	291	584
45-49	273	311	584
50-54	232	141	373
55-59	131	130	261
60-64	202	251	453
65-69	101	60	161
70-74	202	70	272
75-79	40	10	50
80-84	20	20	40
85-89	0	0	0
90-94	0	0	0
95 +	0	0	0
Total	7391	7030	14421

Population of the Delegation of GAFSA NORD

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	1052	1027	1051	1110
5	1187	872	849	874
10	913	1045	732	708
15	794	853	985	673
20	609	721	781	913
25	481	498	610	670
30	444	365	382	492
35	281	332	254	271
40	158	207	259	181
45	243	113	161	212
50	261	195	68	115
55	99	215	152	29
60	117	89	199	139
65	239	119	93	194
70	45	195	95	73
75	58	54	156	138
Total	6983	6900	6824	6793

- Males

Age	1989	1994	1999	2004
0	1091	1064	1090	1152
5	1181	926	902	929
10	1195	1014	760	736
15	715	1009	830	577
20	549	588	880	702
25	413	556	595	885
30	589	398	541	579
35	300	503	314	455
40	221	308	508	322
45	257	187	272	469
50	166	151	83	166
55	175	112	98	33
60	105	146	88	75
65	163	77	114	62
70	67	119	48	78
75	146	94	106	63
Total	7332	7253	7229	7283
G. Total	14316	14153	14053	14075

Population of the Delegation of GAFSA NORD

3)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	1190	1301	1428	1571
5	1346	1170	1285	1415
10	1050	1341	1167	1283
15	850	1046	1337	1165
20	678	845	1042	1334
25	588	674	841	1038
30	556	583	670	837
35	388	551	579	666
40	228	383	546	575
45	286	224	378	540
50	303	279	220	372
55	136	293	272	215
60	123	129	281	262
65	228	113	120	263
70	51	195	98	106
75	66	70	186	176
Total	8065	9199	10449	11817

- Males

Age	1989	1994	1999	2004
0	1272	1390	1525	1677
5	1334	1260	1381	1519
10	1359	1331	1258	1380
15	896	1355	1328	1256
20	672	892	1350	1326
25	401	669	889	1347
30	601	399	666	886
35	380	596	396	663
40	209	376	591	394
45	287	206	371	585
50	265	280	201	364
55	221	254	270	195
60	122	207	240	257
65	180	110	189	222
70	84	152	94	166
75	173	145	187	171
Total	8455	9619	10936	12405
G. Total	16520	18818	21384	24222

Population of the Delegation of GAFSA NORD

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

Age	1989	1994	1999	2004
0	937	717	312	-422
5	1078	517	102	-596
10	857	787	87	-545
15	763	724	589	-208
20	574	601	486	234
25	440	348	264	-17
30	401	203	-8	-267
35	240	176	-132	-505
40	133	93	-42	-450
45	226	39	-45	-245
50	244	129	-97	-247
55	87	157	7	-266
60	115	67	129	-20
65	243	128	99	173
70	43	191	88	54
75	56	45	135	99
Total	6435	4921	1973	-3226

- Males

Age	1989	1994	1999	2004
0	1004	782	378	-364
5	1109	658	281	-356
10	1111	735	108	-539
15	624	700	126	-798
20	489	347	284	-489
25	418	511	384	338
30	582	388	468	320
35	257	392	112	53
40	226	278	426	170
45	244	154	176	274
50	119	17	-178	-321
55	153	13	-138	-401
60	98	106	-46	-215
65	156	51	37	-126
70	60	94	-13	-51
75	136	57	13	-123
Total	6785	5284	2419	-2629
G. Total	13221	10205	4392	-5855

Population of the Delegation of SNED

A)- Censuses Results:

1966

A. Groups	Males	Females	Total
0-4	1639	1544	3183
5-9	1329	1160	2489
10-14	871	880	1751
15-19	450	617	1067
20-29	910	1020	1930
30-39	904	963	1867
40-49	636	653	1289
50-59	572	440	1012
60-69	244	178	422
70-79	74	73	147
80-89	35	31	66
90-99	8	6	14
100	2	4	6
Others	0	0	0
Total	7674	7569	15243

1975

A. Groups	Males	Females	Total
0-4	1465	1599	3064
5-9	1607	1405	3012
10-14	1384	1148	2532
15-19	1190	964	2154
20-24	763	789	1552
25-29	427	502	930
30-34	366	472	838
35-39	407	410	817
40-44	448	472	919
45-49	376	379	756
50-54	254	308	562
55-59	346	369	715
60-64	336	195	531
65-69	173	82	255
70 +	173	195	368
Others	10	0	10
Total	9726	9289	19015

Population of the Delegation of SNED (end)

1984

A. Groups	Males	Females	Total
0-4	2059	2120	4179
5-9	2080	1704	3784
10-14	1342	1309	2651
15-19	1113	1060	2173
20-24	883	956	1839
25-29	707	935	1642
30-34	520	571	1091
35-39	437	343	780
40-44	395	426	821
45-49	364	436	800
50-54	458	426	884
55-59	270	406	676
60-64	291	260	551
65-69	208	187	395
70-74	312	177	489
75-79	83	20	103
80-84	31	20	51
85-89	21	0	21
90-94	10	0	10
95 +	10	0	10
Total	11594	11356	22950

Population of the Delegation of SNED

B)- Projected Populations - 1989-2004

HYPOTHESIS 1

- Females

Age	1989	1994	1999	2004
0	1884	2123	2404	2738
5	2026	1799	2036	2316
10	1662	1983	1757	1994
15	1286	1638	1958	1733
20	1034	1260	1612	1933
25	922	1000	1227	1579
30	897	884	962	1187
35	537	860	847	925
40	321	513	831	820
45	406	303	492	806
50	413	385	285	470
55	401	390	363	266
60	381	377	367	342
65	237	347	345	337
70	153	195	288	287
75	138	169	215	304
Total	12698	14226	15988	18036

- Males

Age	1989	1994	1999	2004
0	1975	2225	2519	2868
5	1975	1896	2145	2437
10	2026	1922	1844	2092
15	1286	1968	1864	1787
20	1071	1243	1920	1818
25	877	1063	1234	1906
30	694	862	1047	1217
35	489	662	828	1011
40	433	484	655	820
45	379	416	467	635
50	326	341	378	428
55	425	300	315	350
60	246	391	275	290
65	254	215	346	242
70	167	206	174	280
75	287	251	263	248
Total	12910	14445	16272	18428
G.Total	25608	28670	32261	36464

Population of the Delegation of SNED

B)- Projected Populations - 1989-2004

HYPOTHESIS 2

- Females

Age	1989	1994	1999	2004
0	1876	2052	2249	2469
5	2073	1844	2026	2229
10	1696	2066	1840	2023
15	1303	1690	2060	1836
20	1053	1296	1683	2055
25	948	1046	1289	1677
30	926	940	1039	1283
35	564	917	933	1034
40	338	558	908	927
45	418	333	551	899
50	425	409	327	542
55	411	411	398	319
60	383	390	394	383
65	236	352	362	369
70	158	202	306	320
75	148	191	253	375
Total	12955	14697	16618	18739

- Males

Age	1989	1994	1999	2004
0	2005	2193	2402	2635
5	2031	1986	2178	2392
10	2073	2026	1982	2175
15	1337	2067	2021	1979
20	1107	1331	2061	2017
25	877	1101	1326	2056
30	701	872	1096	1322
35	515	696	866	1091
40	431	509	690	861
45	387	424	502	683
50	353	377	415	493
55	436	338	364	402
60	251	409	319	346
65	259	226	373	296
70	172	219	194	327
75	296	270	300	307
Total	13231	15041	17090	19383
G. Total	26186	29738	33708	38122

Population of the Delegation of SNED

B)- Projected Populations - 1989-2004

HYPOTHESIS 3

- Females

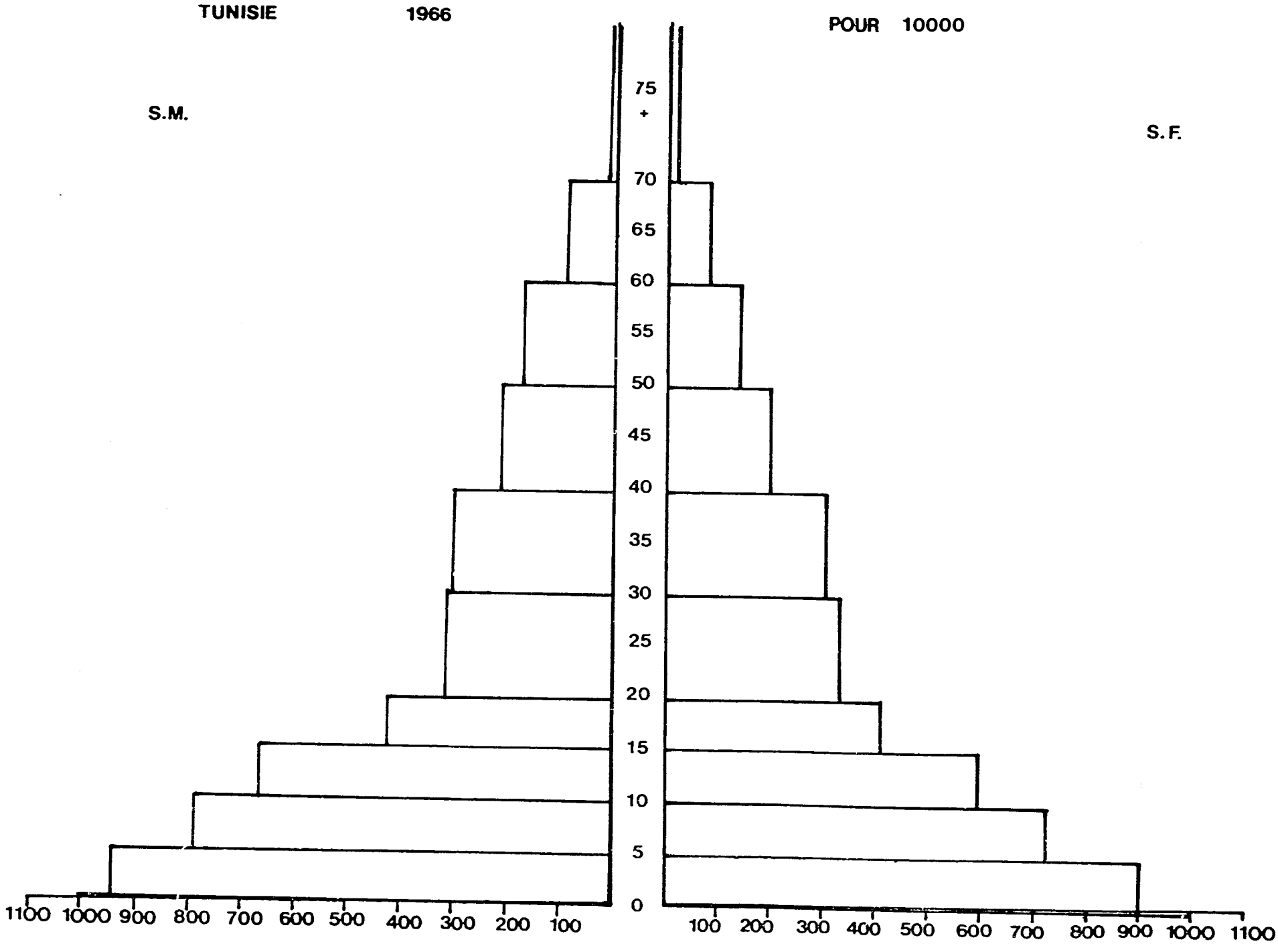
Age	1989	1994	1999	2004
0	1856	2110	2379	2631
5	1999	1702	1899	2074
10	1642	1907	1575	1708
15	1279	1597	1844	1486
20	1024	1226	1521	1734
25	907	953	1123	1367
30	882	833	846	963
35	522	809	729	694
40	311	475	736	627
45	401	281	427	666
50	408	367	235	360
55	397	374	320	177
60	381	372	346	294
65	239	351	345	329
70	153	197	287	280
75	138	168	210	290
Total	12538	13719	14820	15678

- Males

Age	1989	1994	1999	2004
0	1948	2218	2501	2776
5	1955	1816	2034	2243
10	2001	1841	1653	1792
15	1259	1877	1660	1388
20	1053	1173	1747	1473
25	879	1050	1174	1747
30	694	862	1028	1146
35	479	633	773	901
40	435	479	634	779
45	374	408	441	578
50	311	301	303	287
55	418	268	245	223
60	244	379	234	204
65	252	208	323	185
70	164	198	157	243
75	283	238	233	188
Total	12751	13949	15139	16153
G. Total	25289	27668	29959	31830

APPENDIX II

Population Pyramids for Census Populations and Projection Results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POUR 10000
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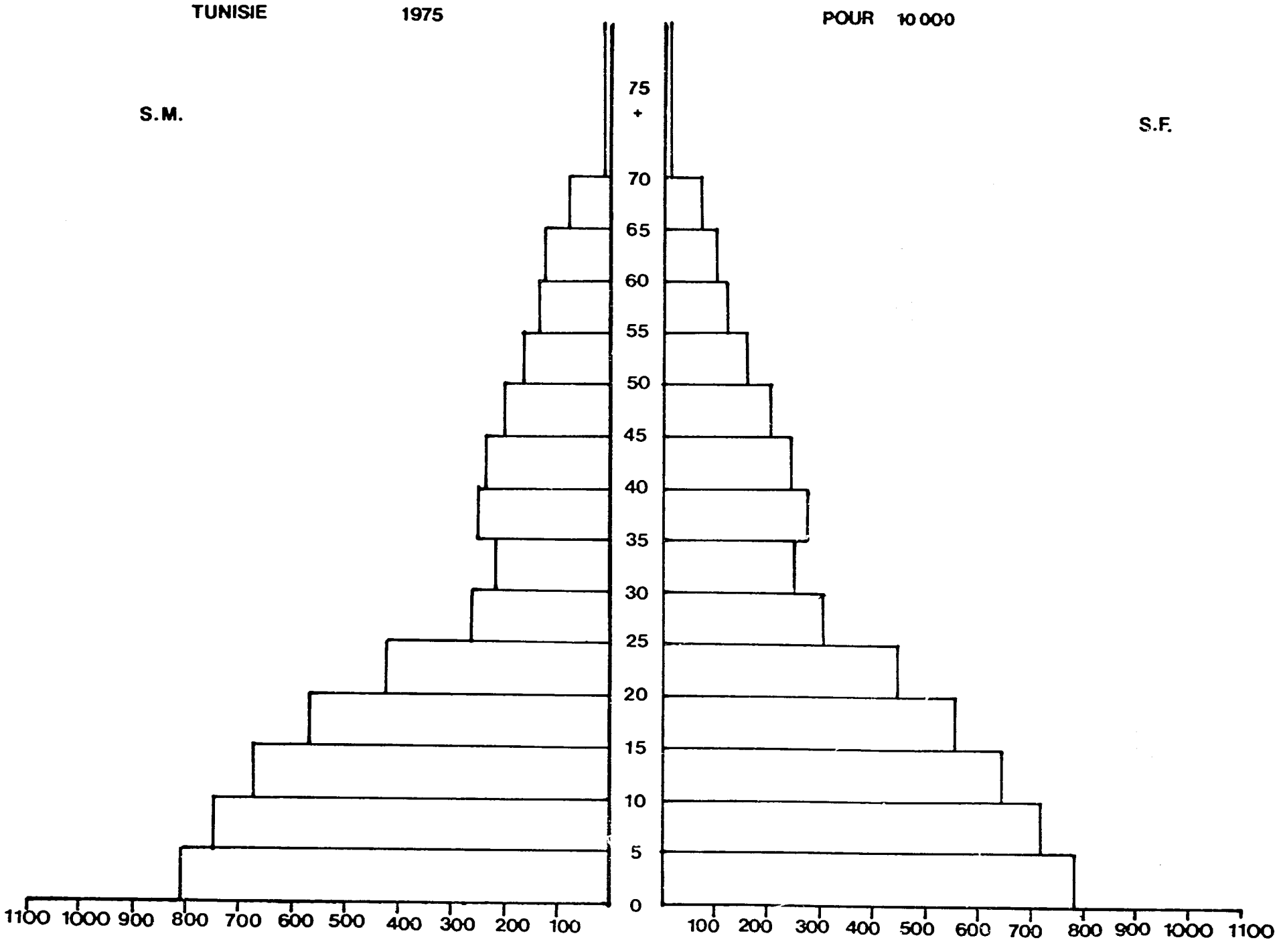
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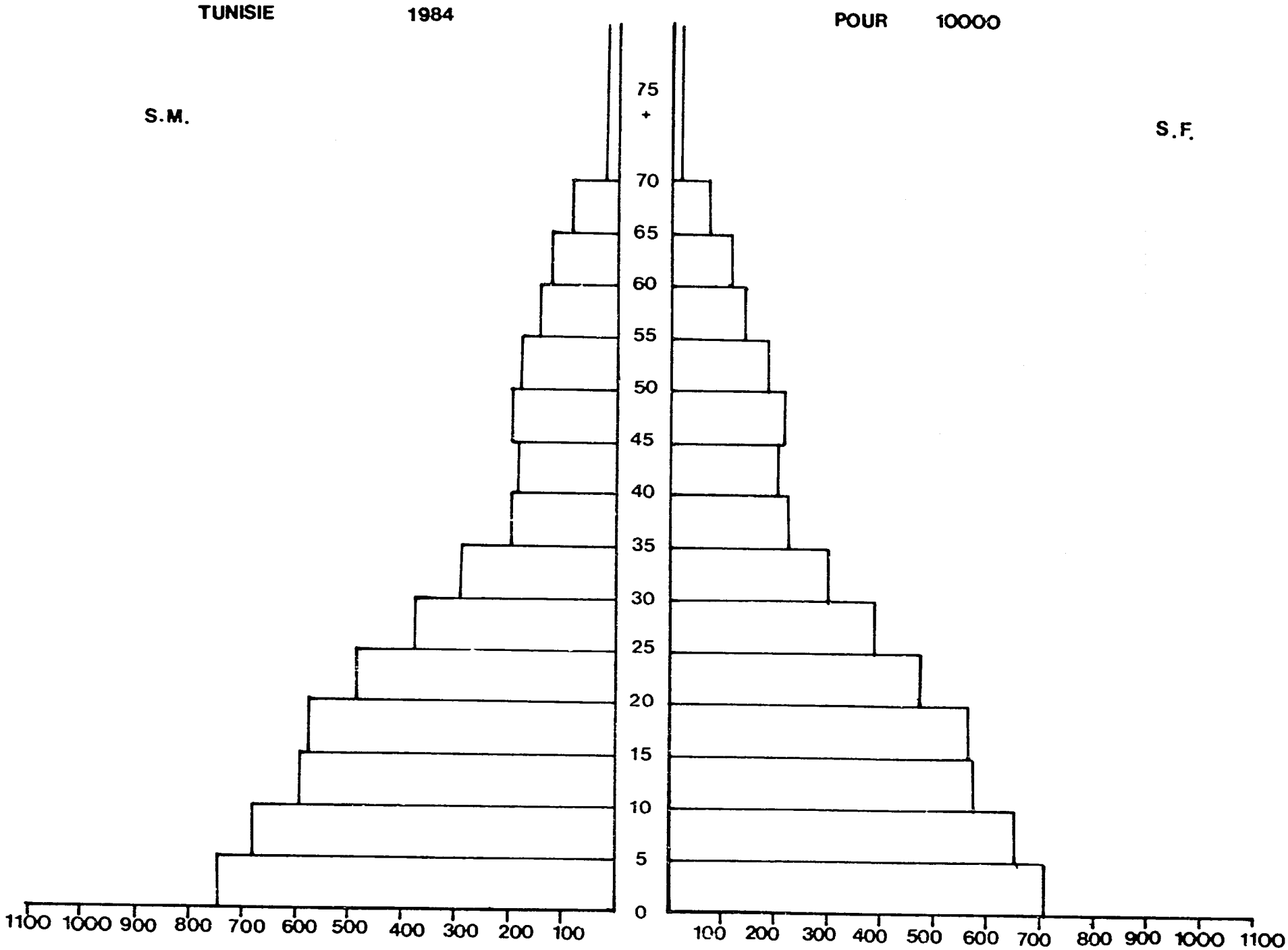
134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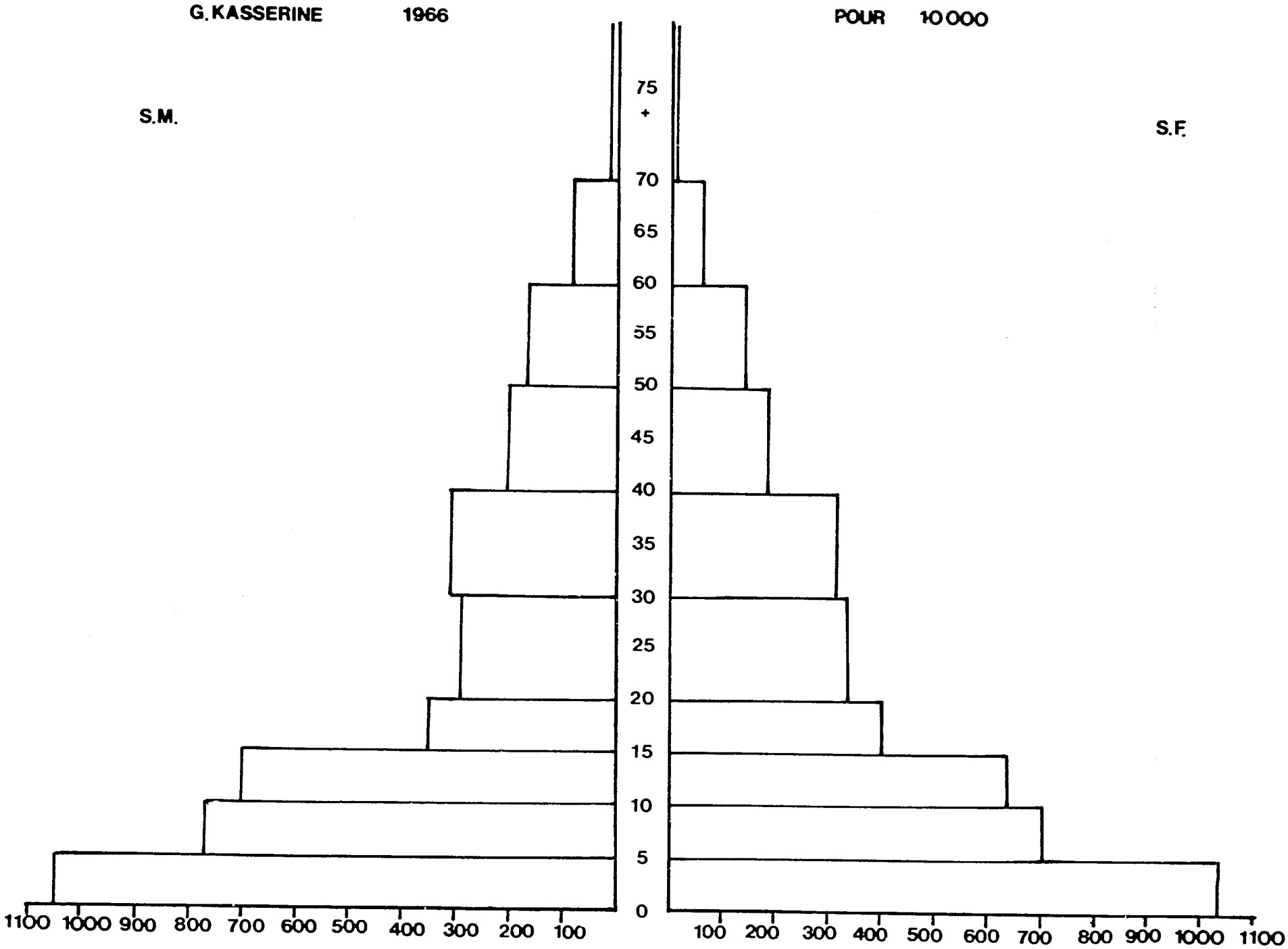
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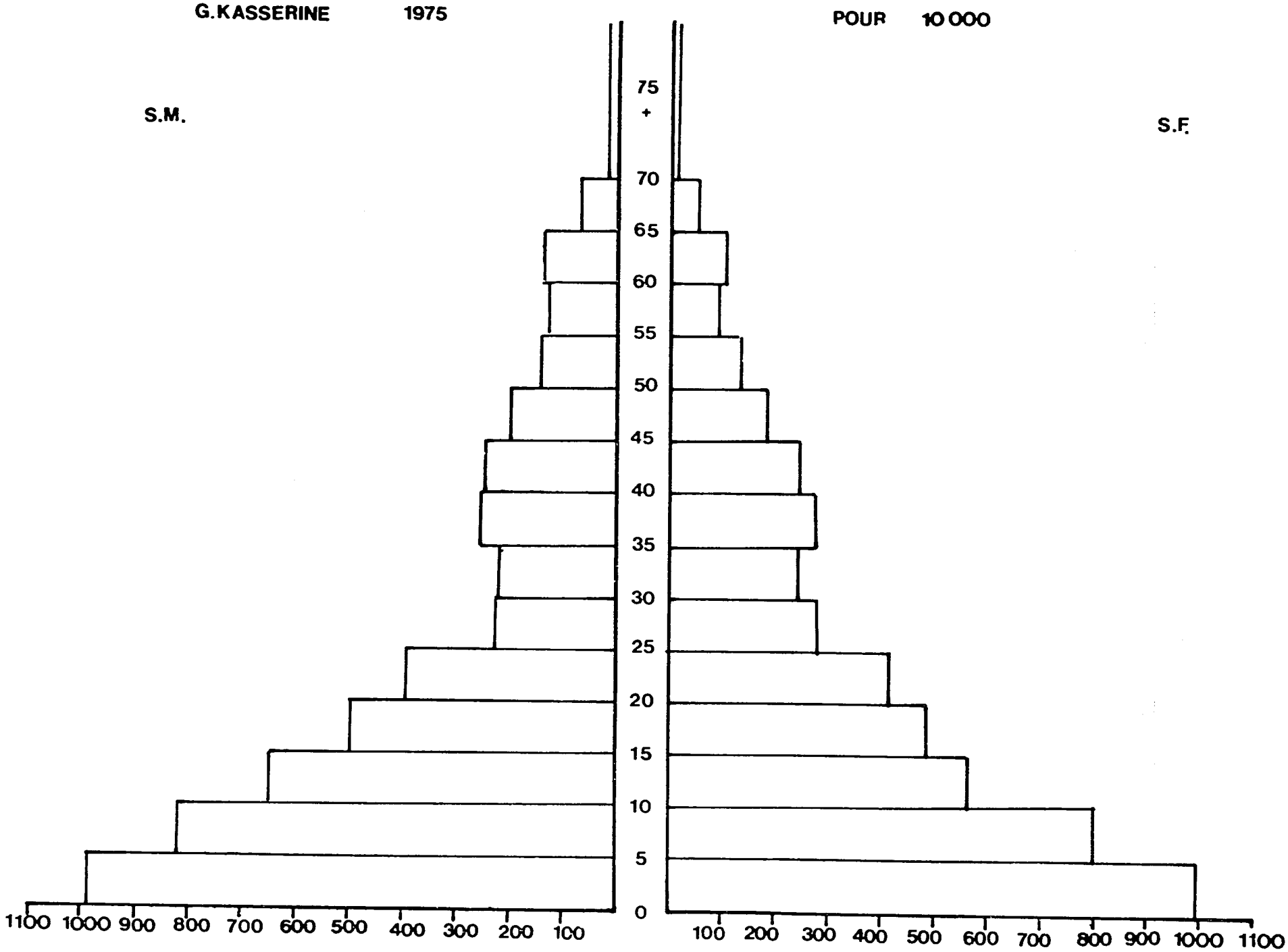
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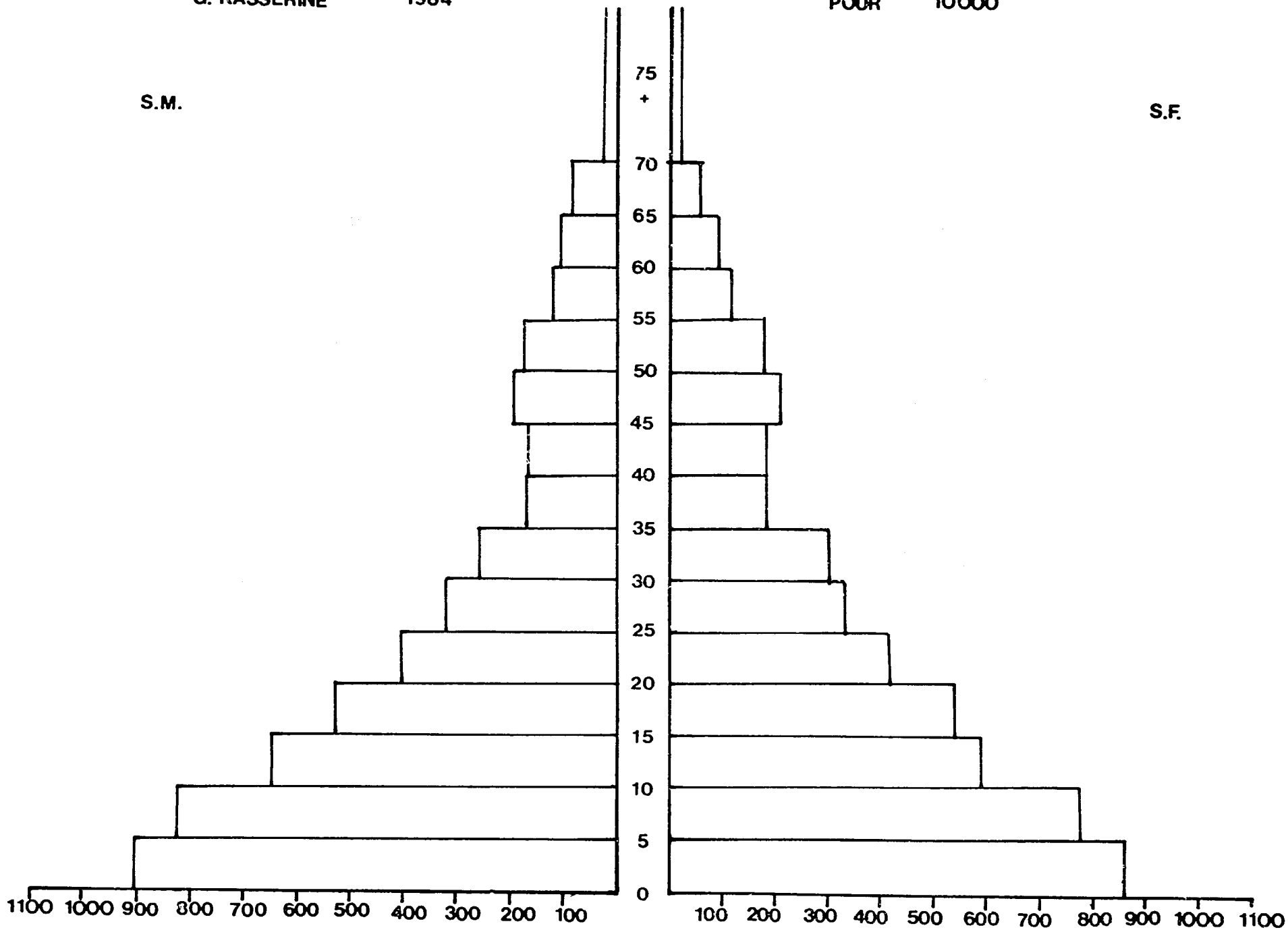
100 200 300 400 500 600 700 800 900 1000 1100

G. KASSERINE 1984 POUR 10000



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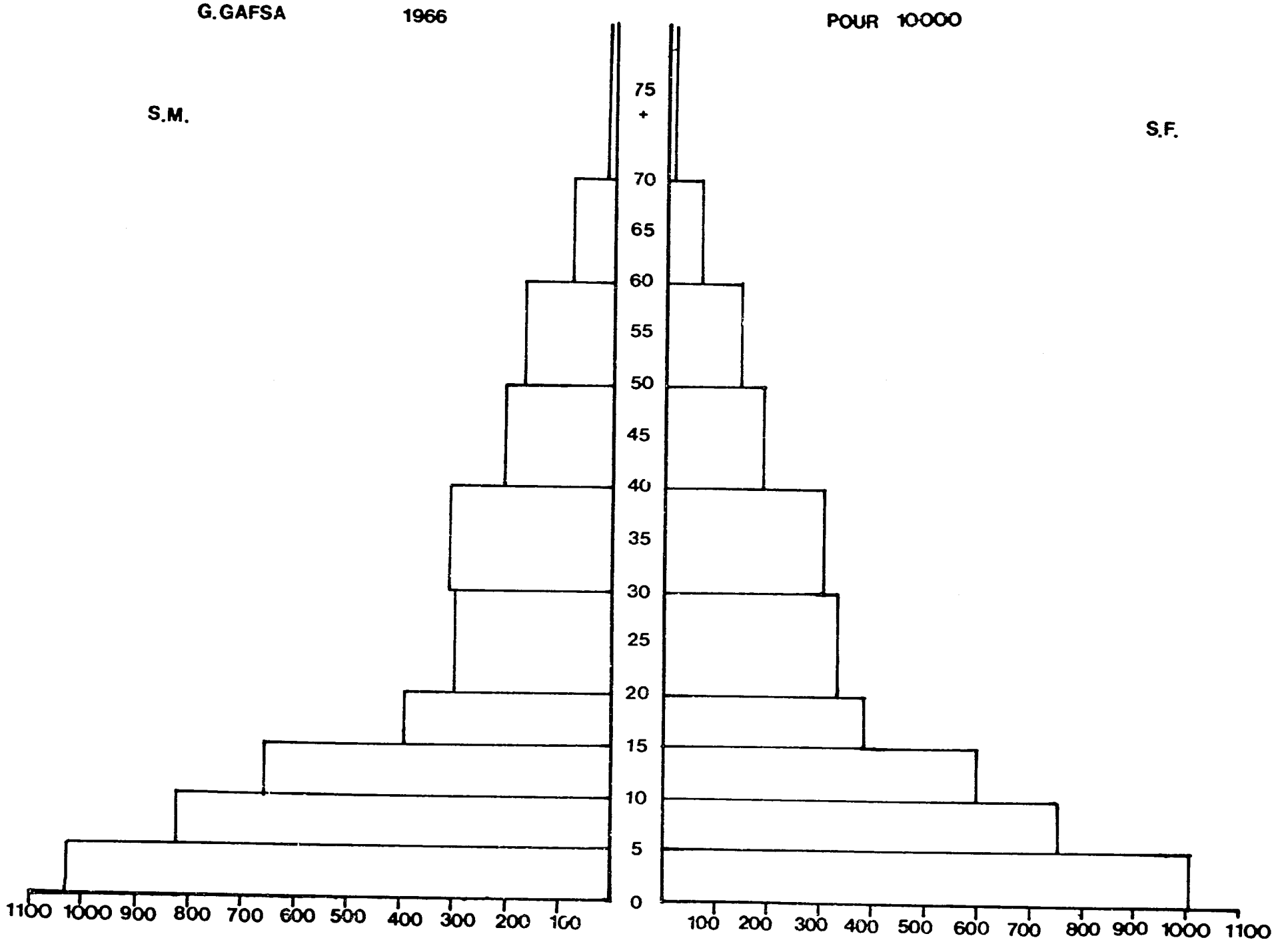
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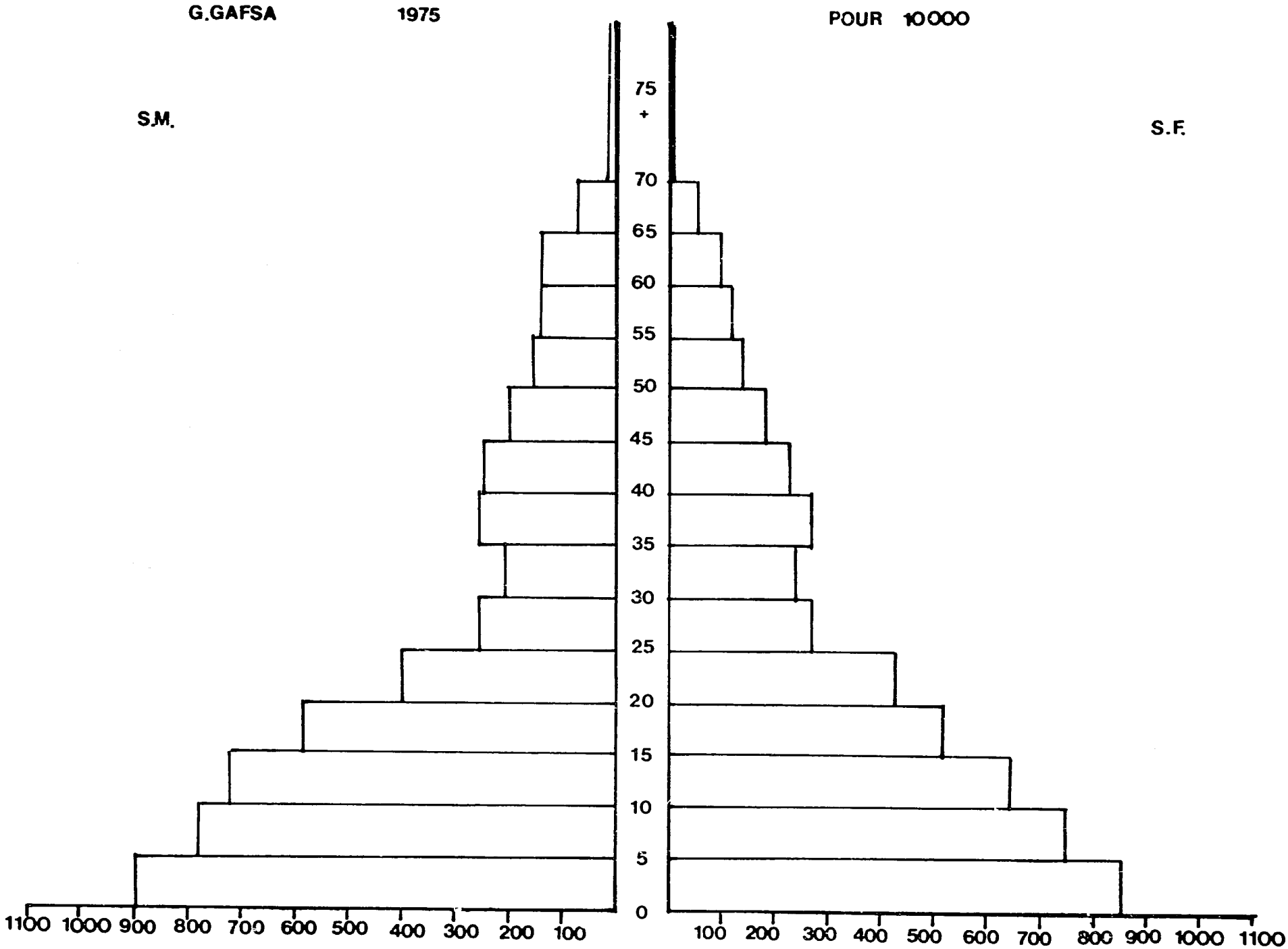
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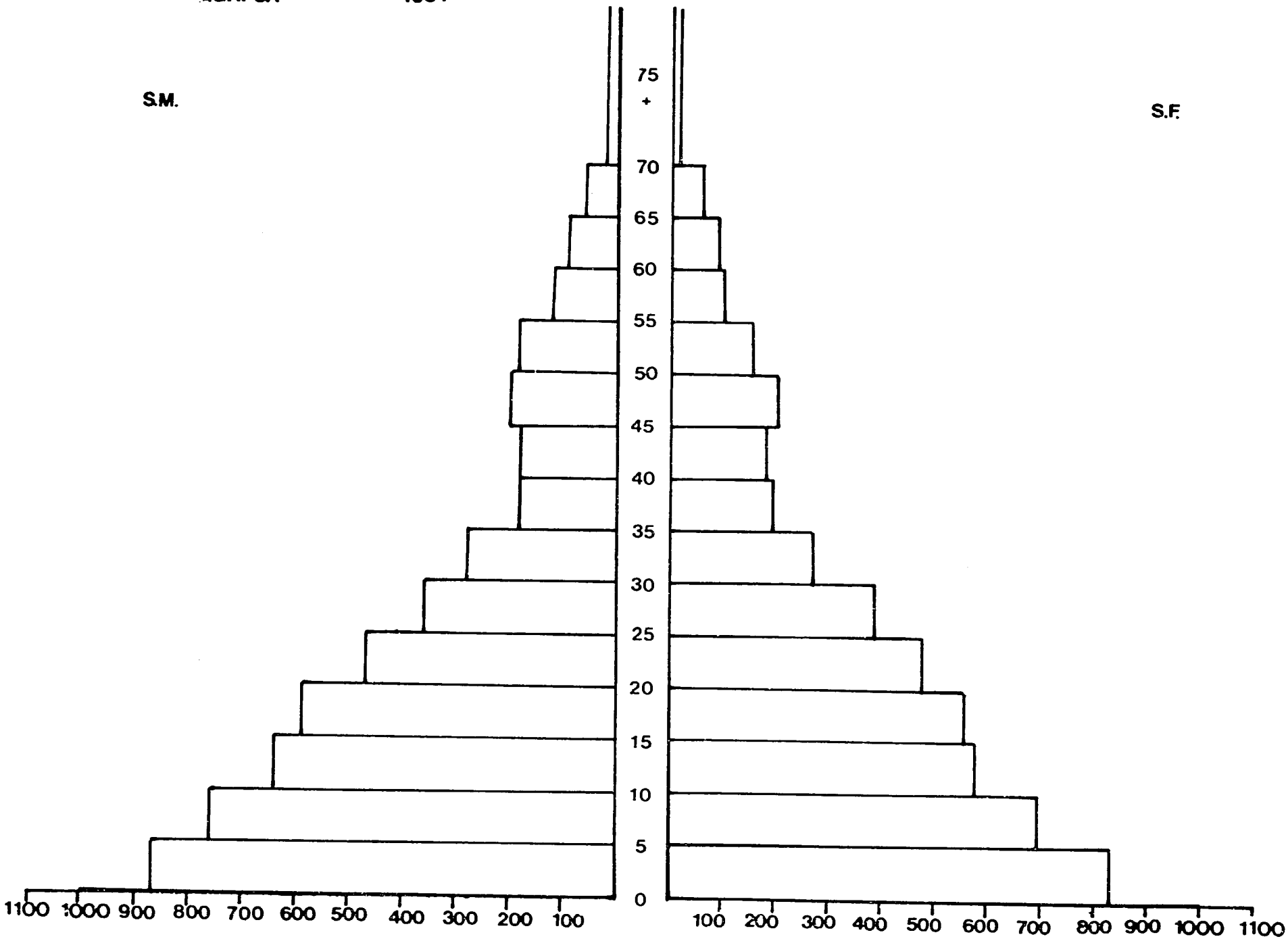
100 200 300 400 500 600 700 800 900 1000 1100

GGAFSA 1984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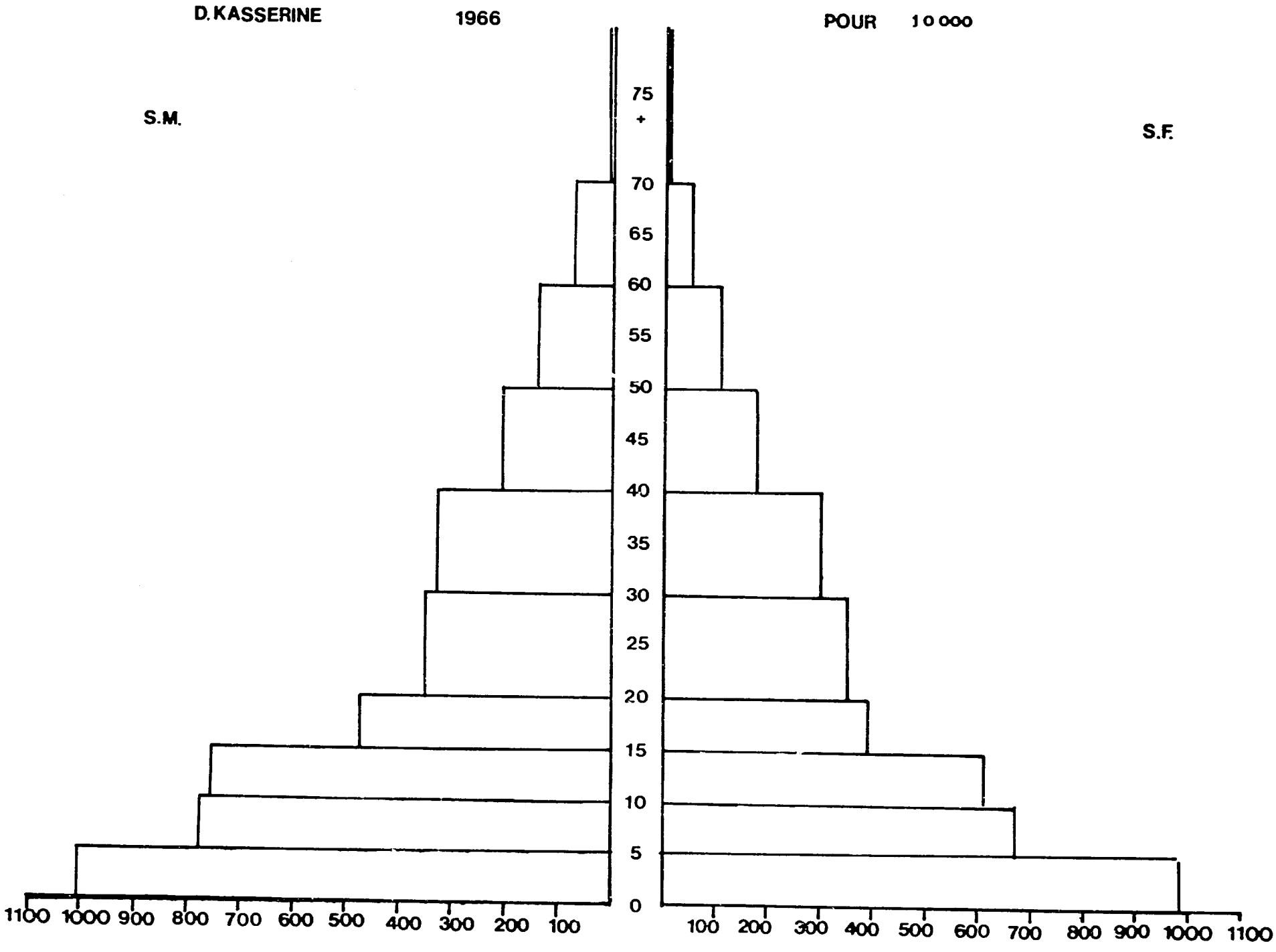
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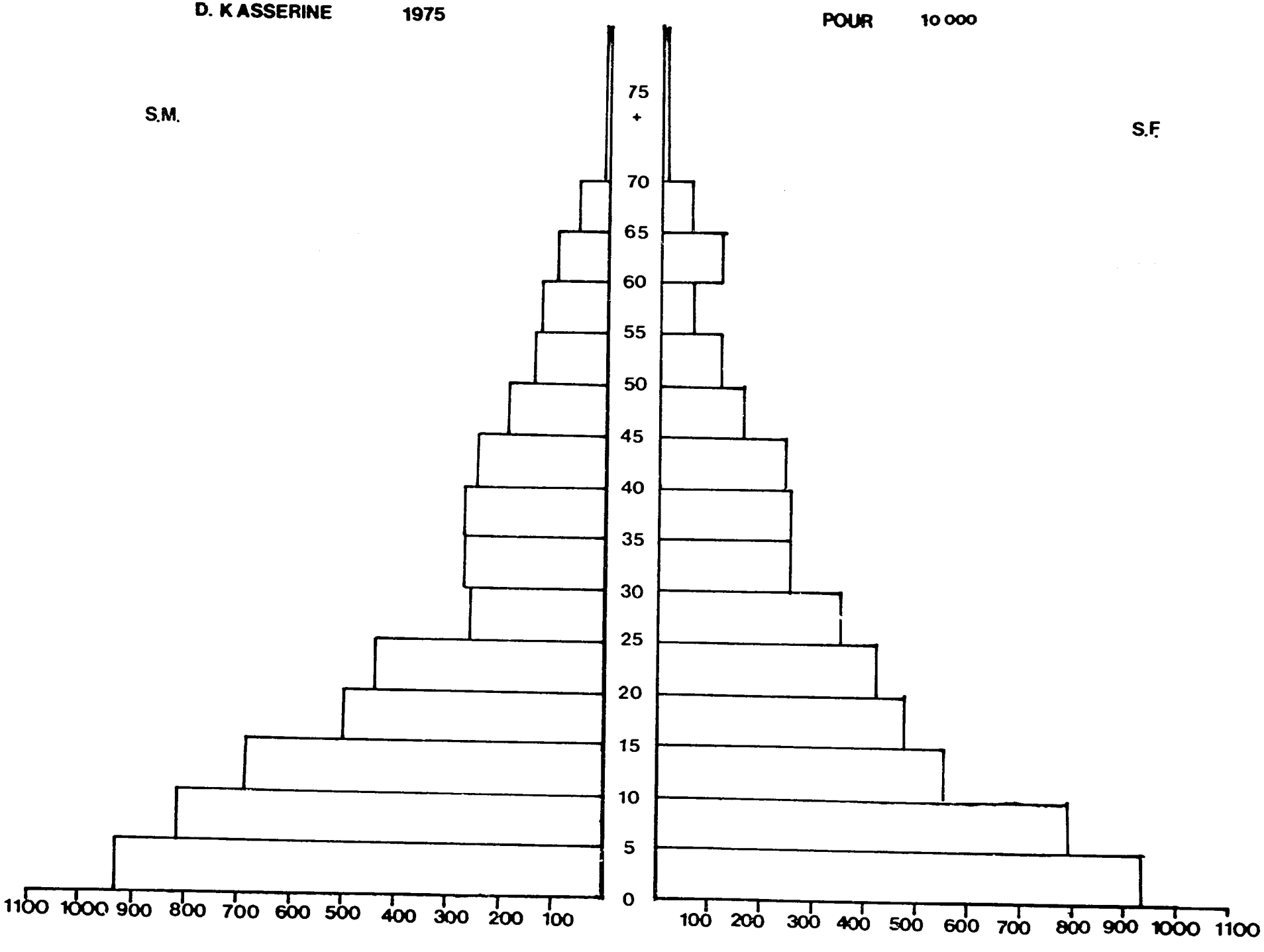
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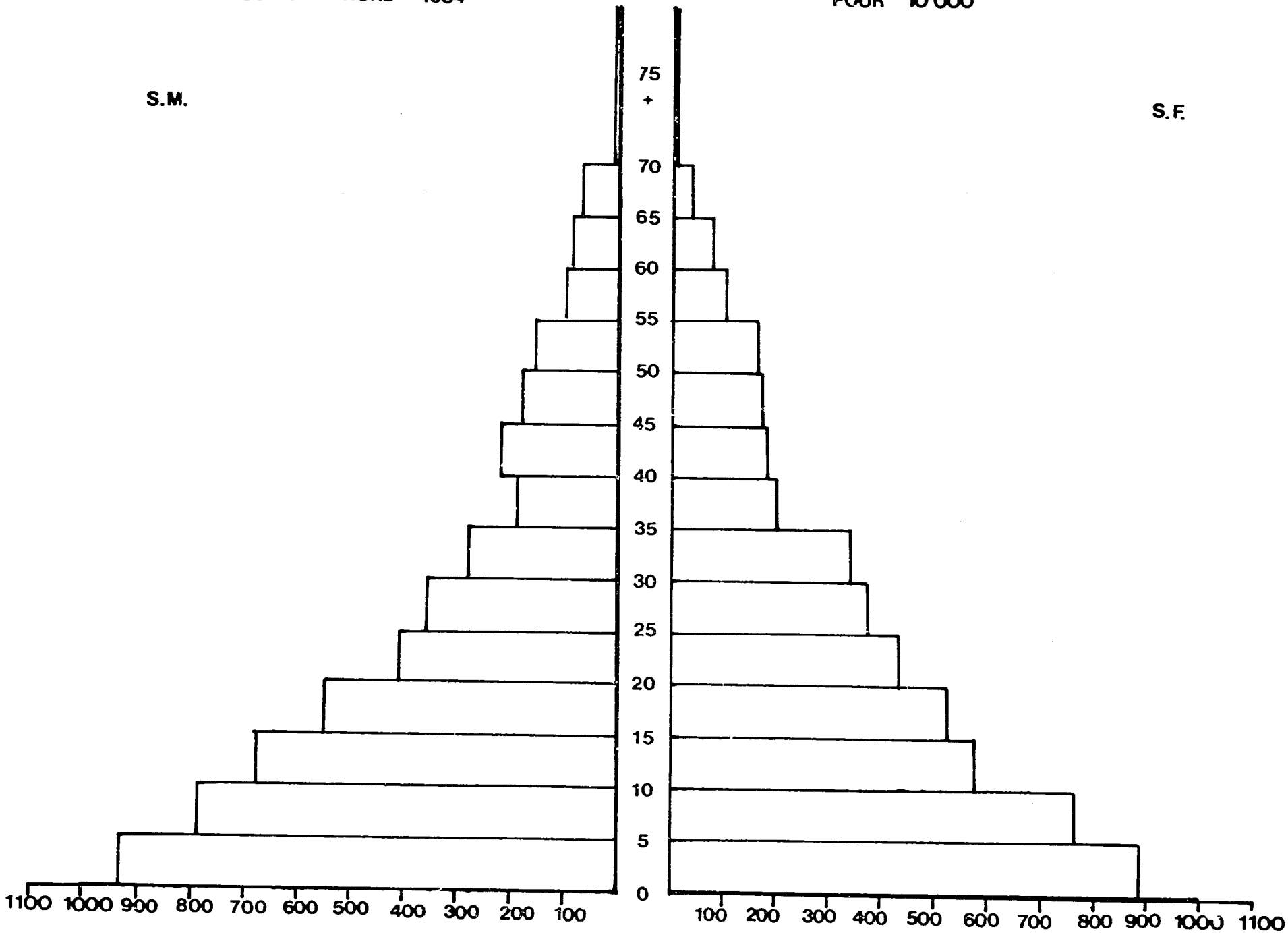
D.KASSERINE NORD 1984

POUR 10 000



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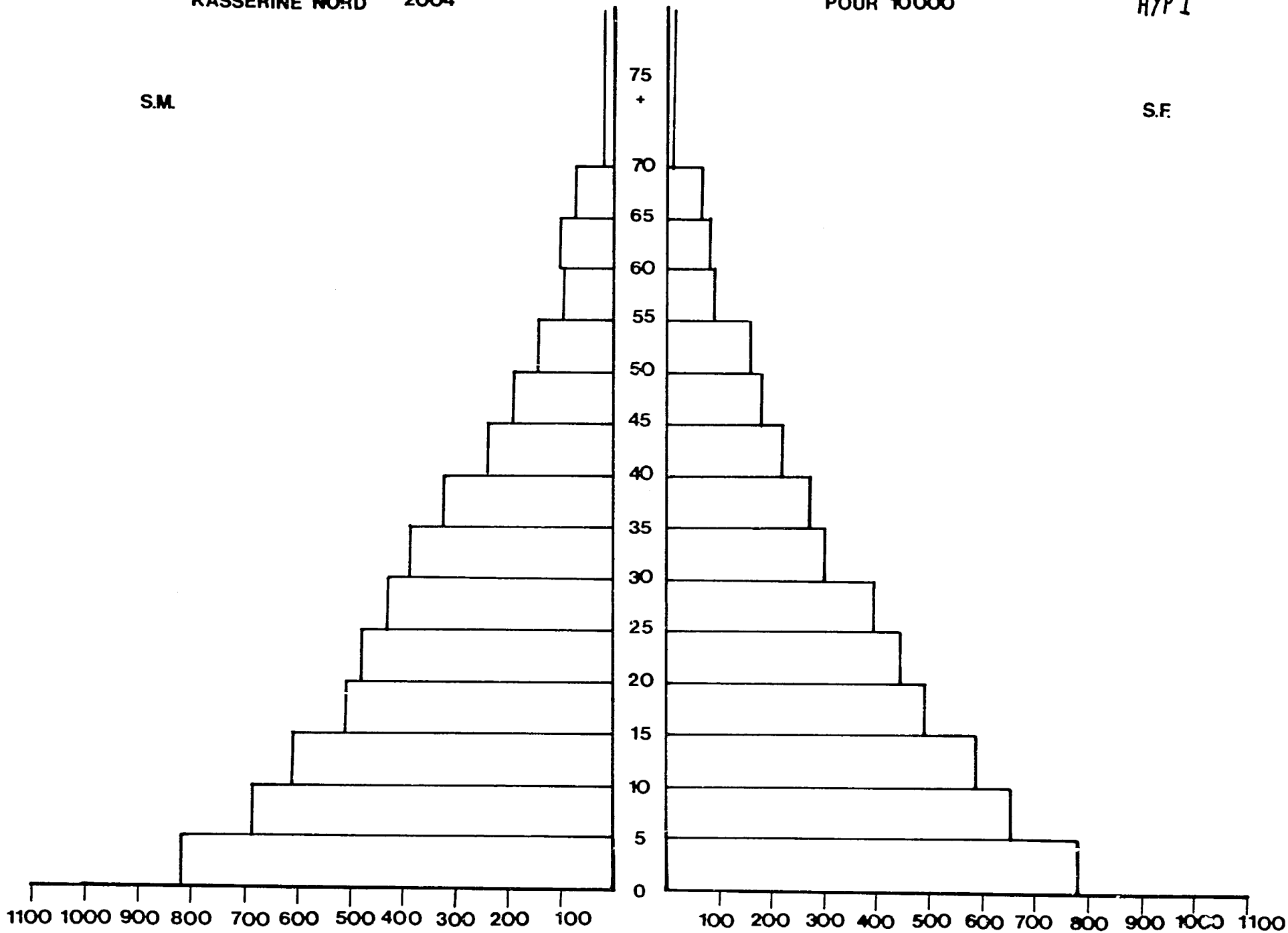

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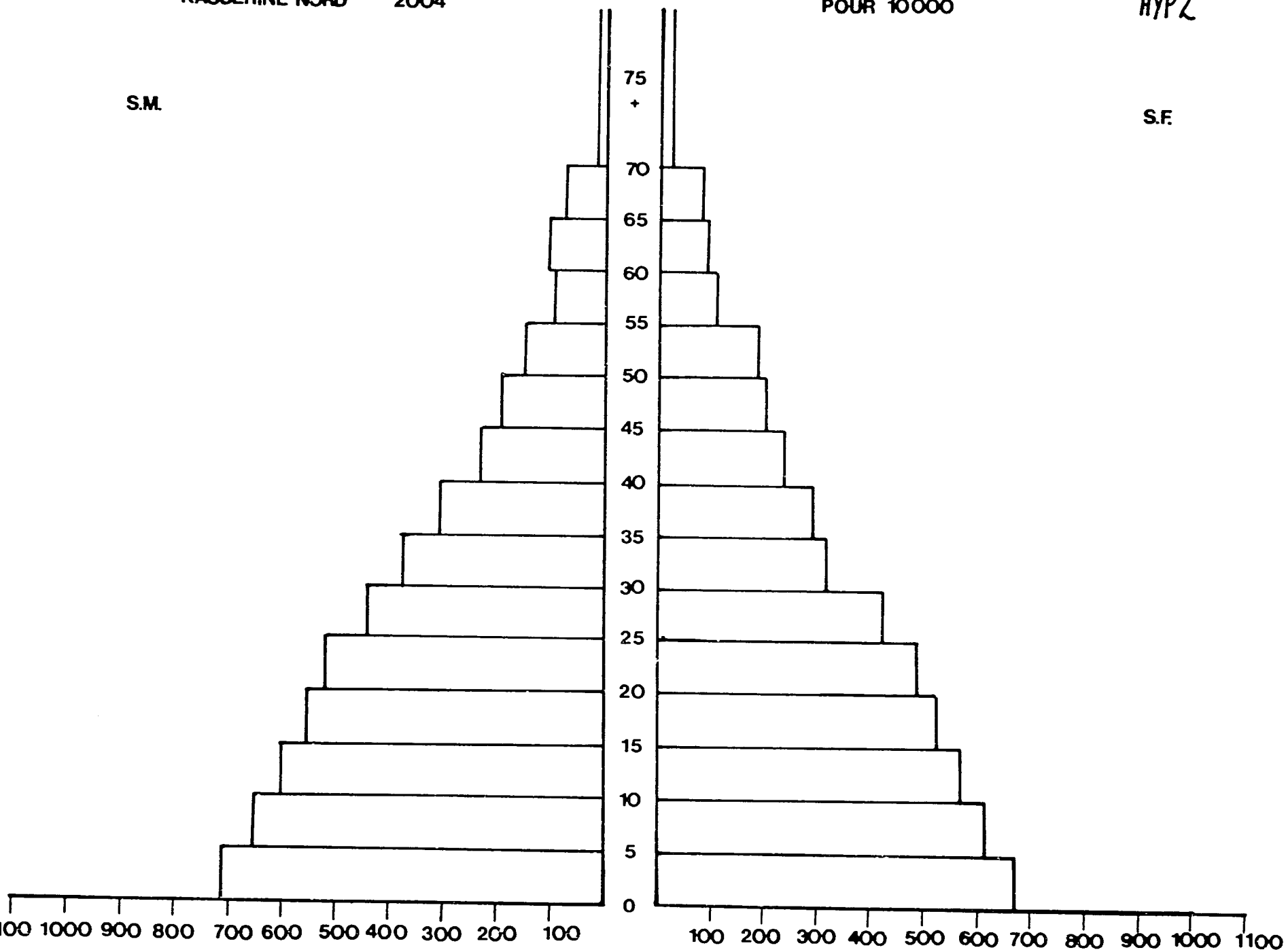

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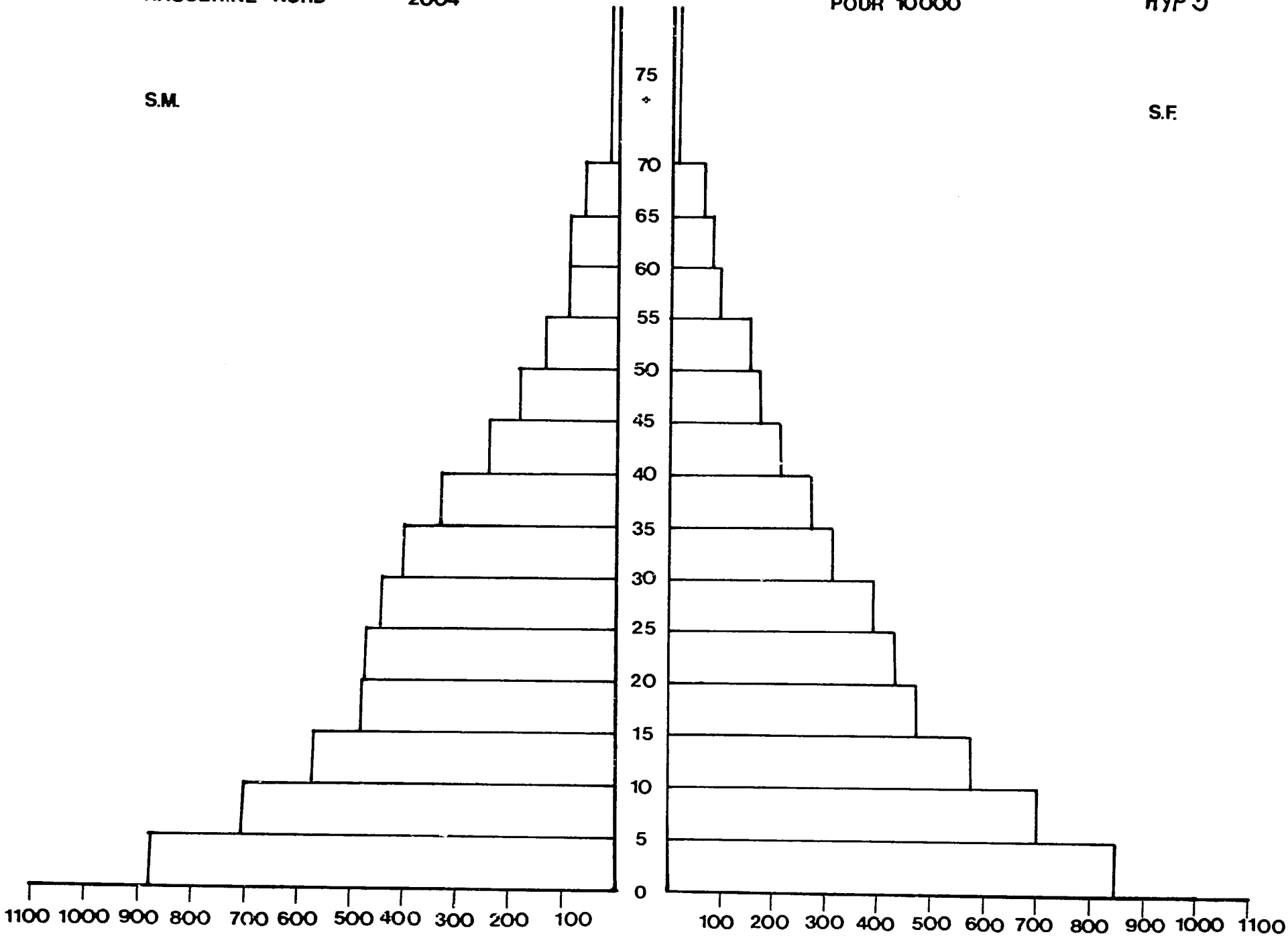

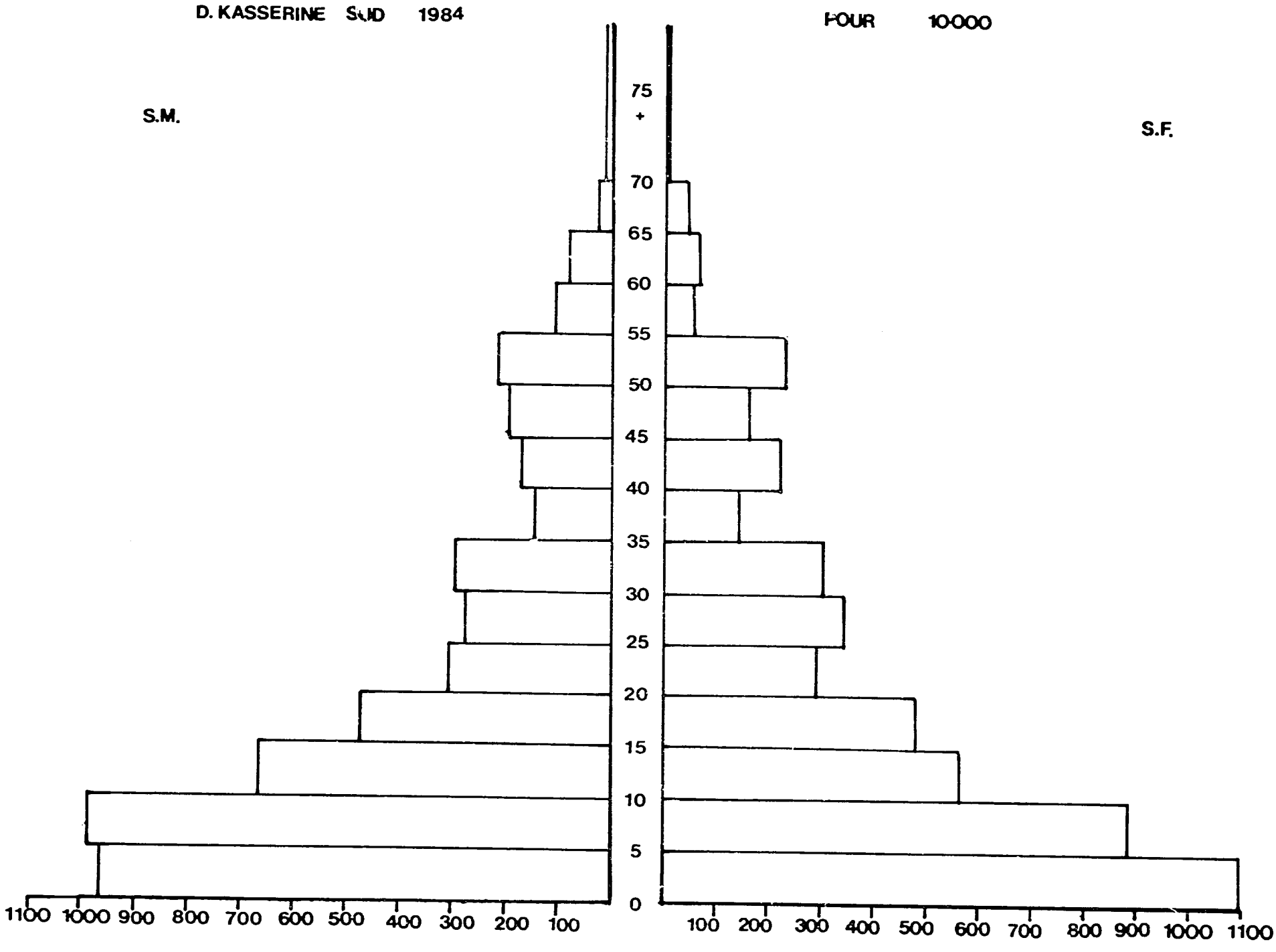
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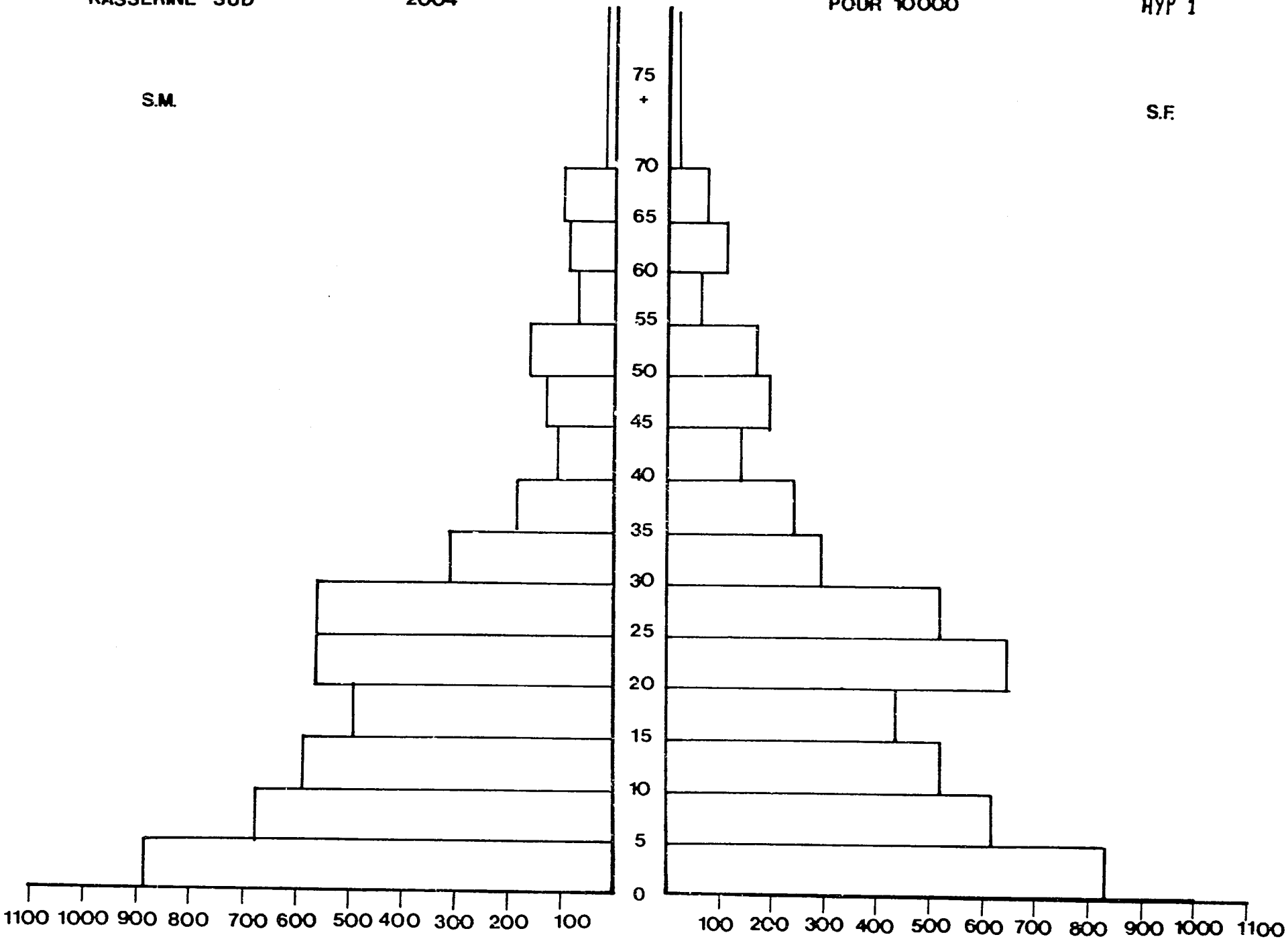

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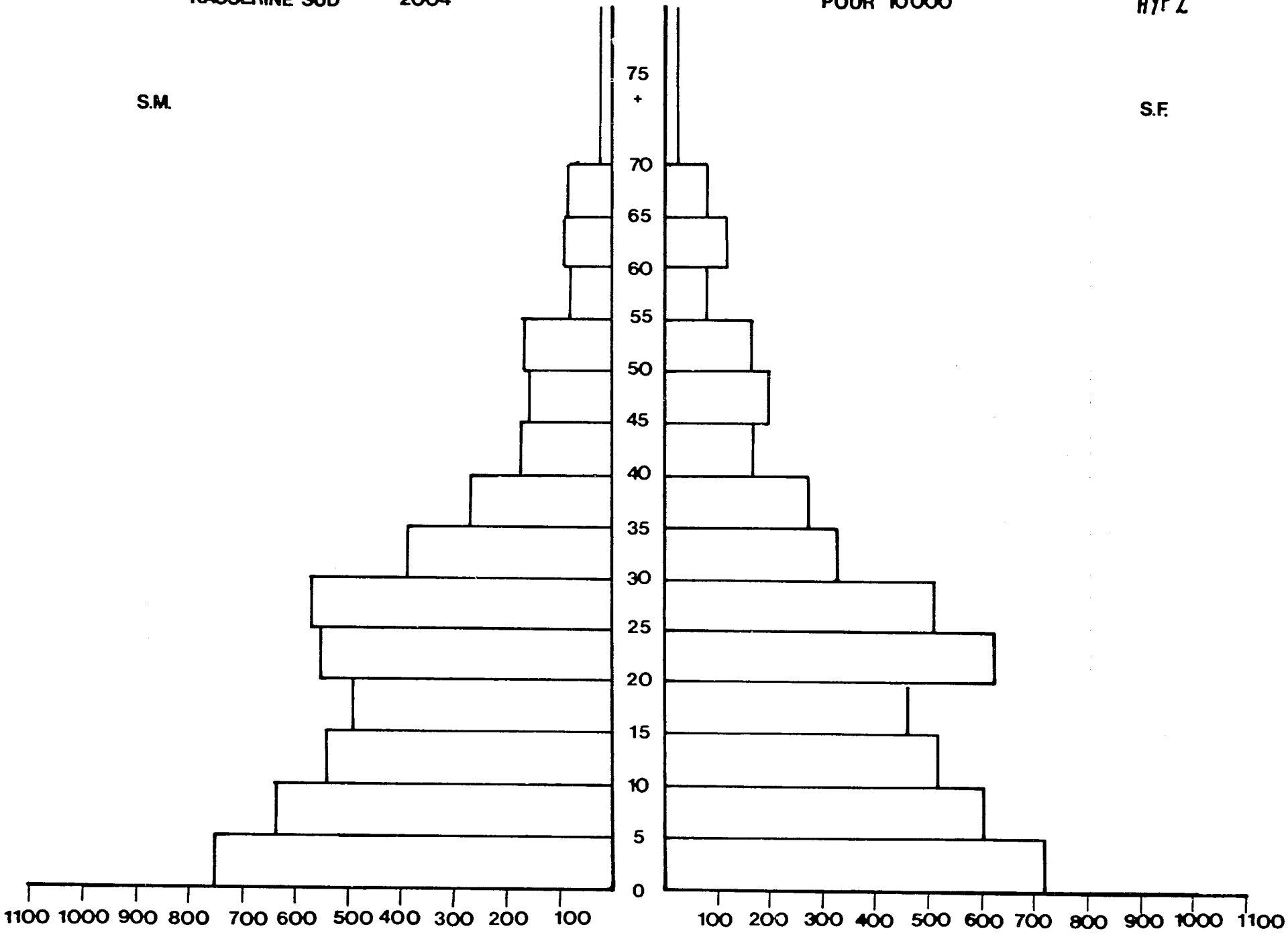

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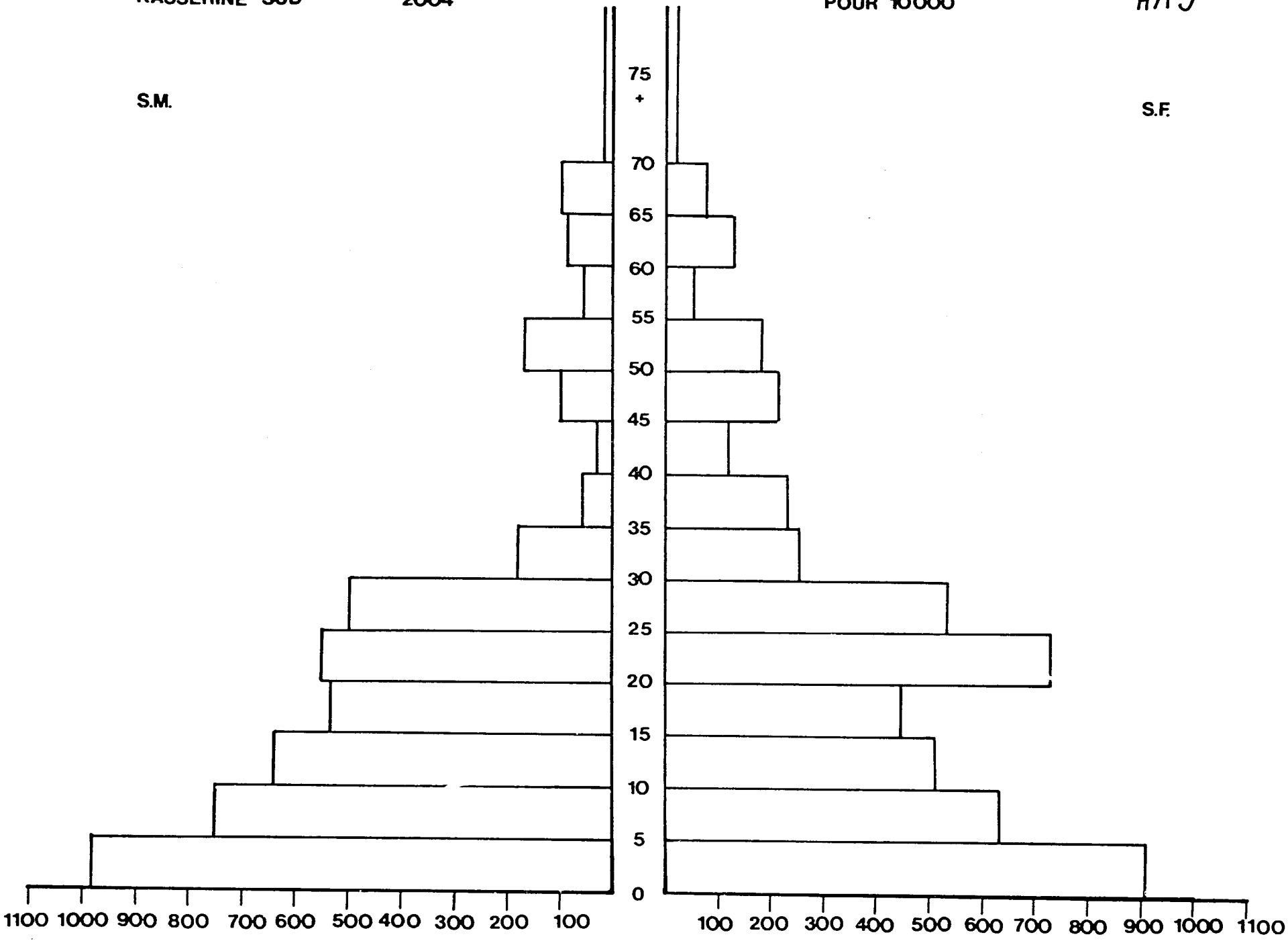
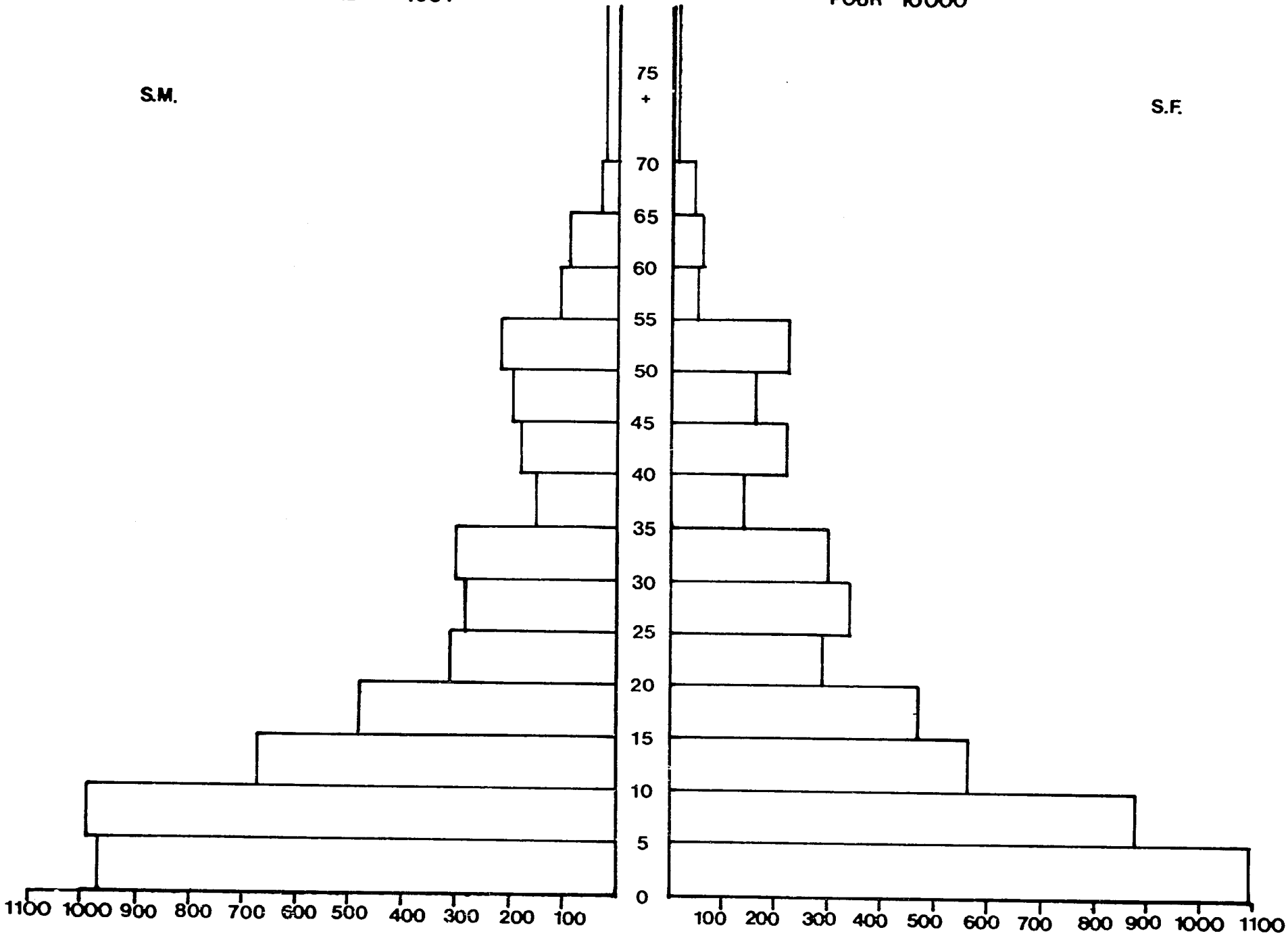


D. HASSI EL FERID 1984

POUR 10000



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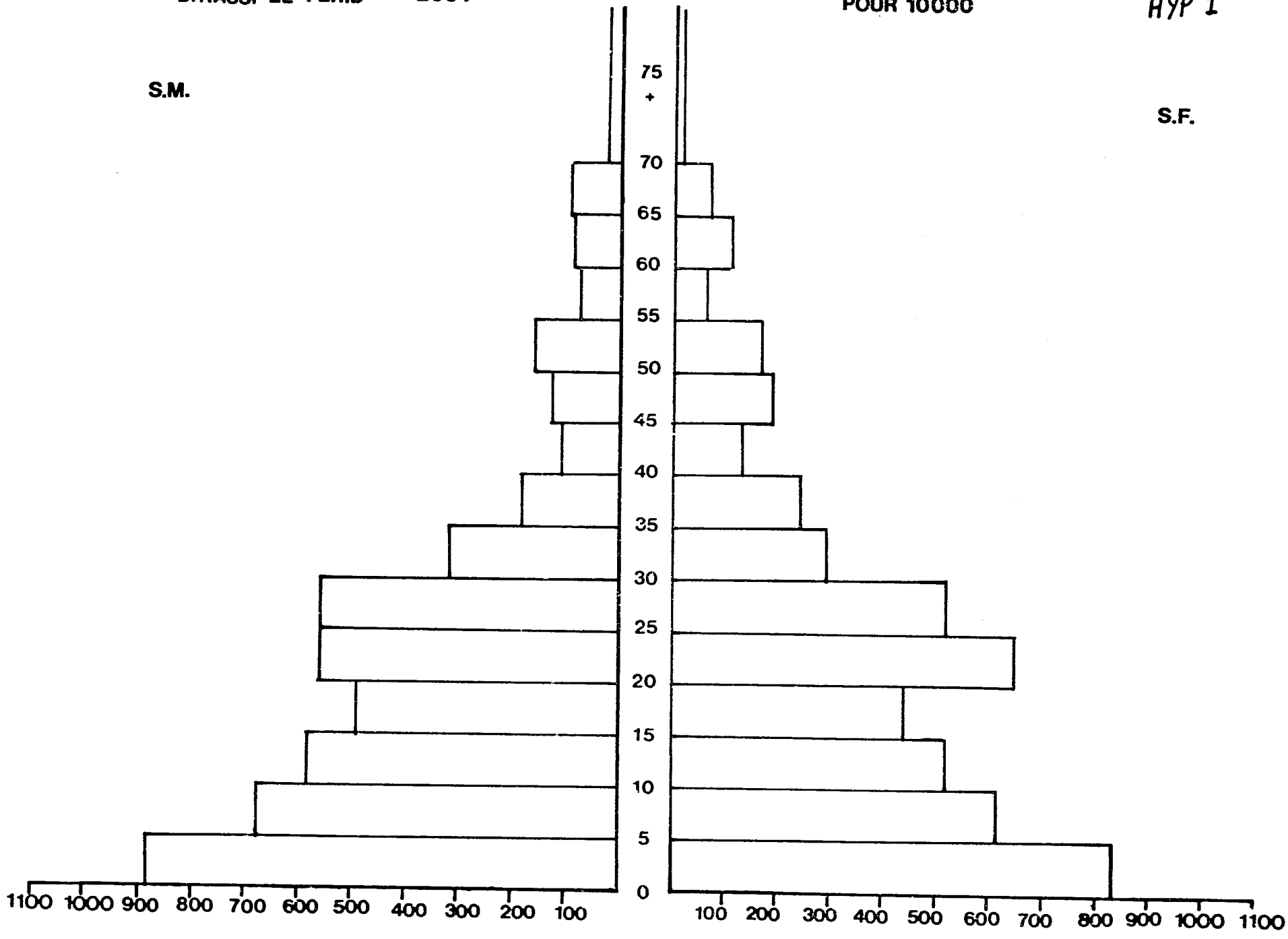
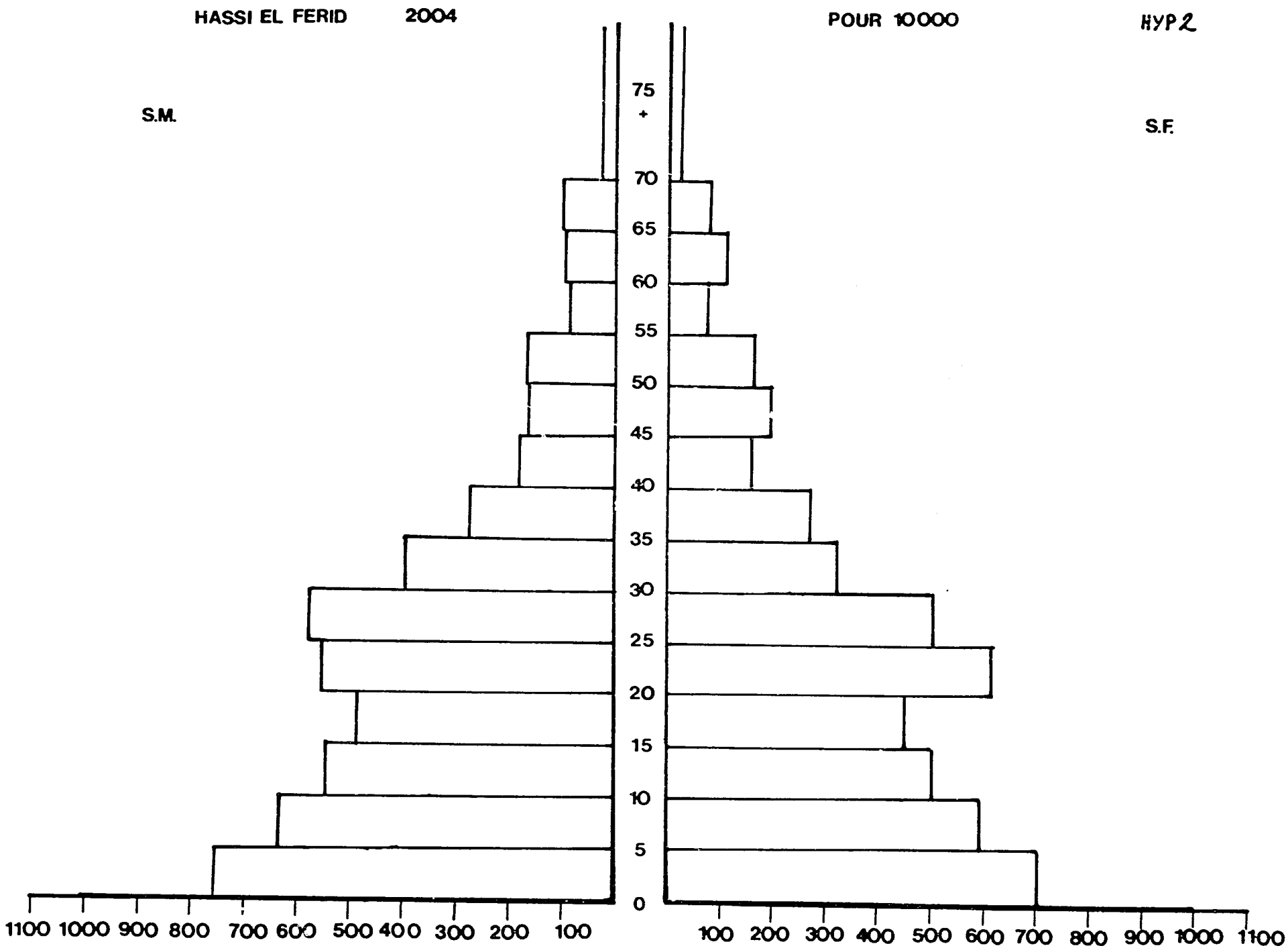
POUR 10000

HYP 1

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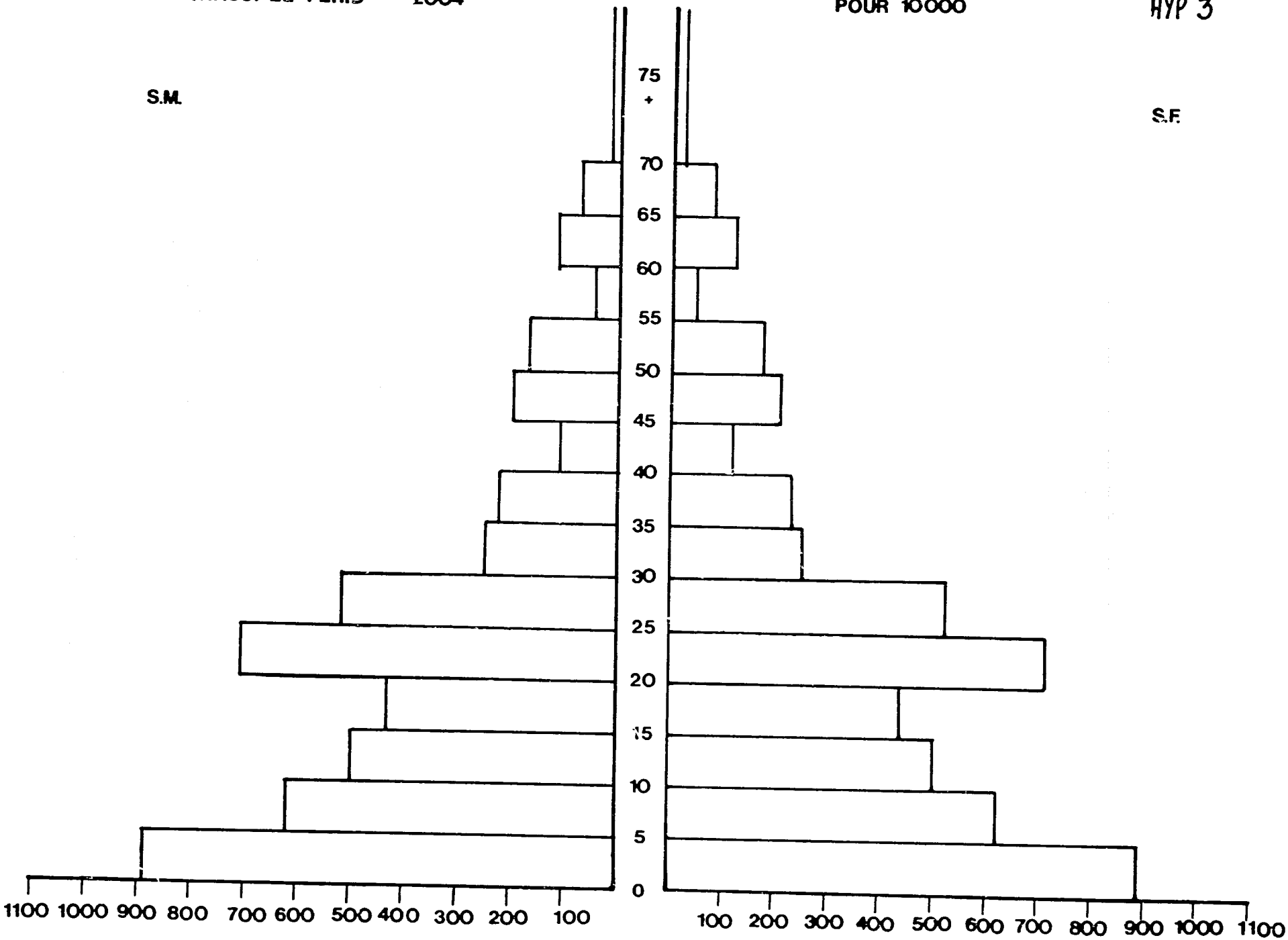
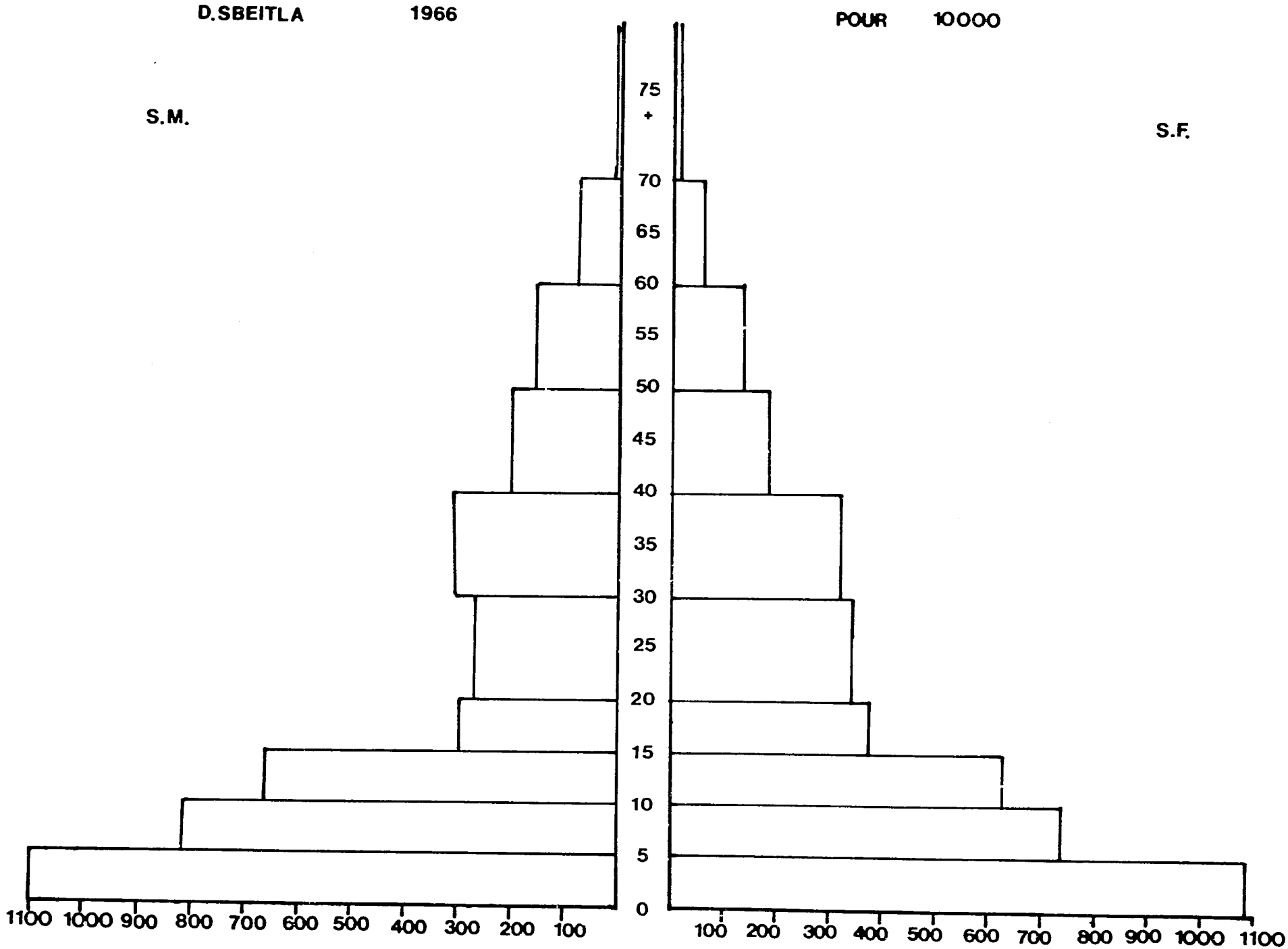
D.HASSI EL FERID 2004

POUR 10000

HYP 3

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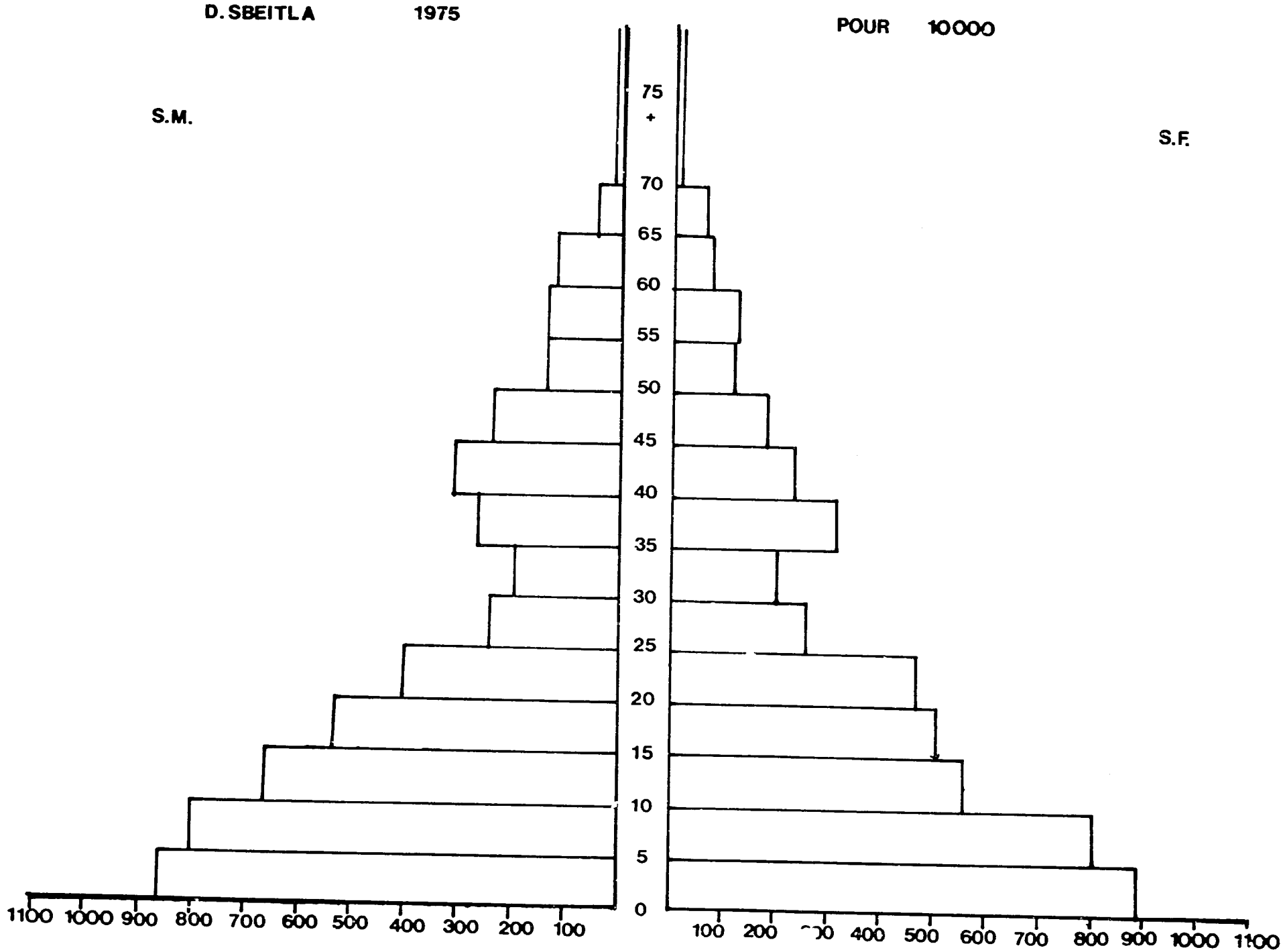
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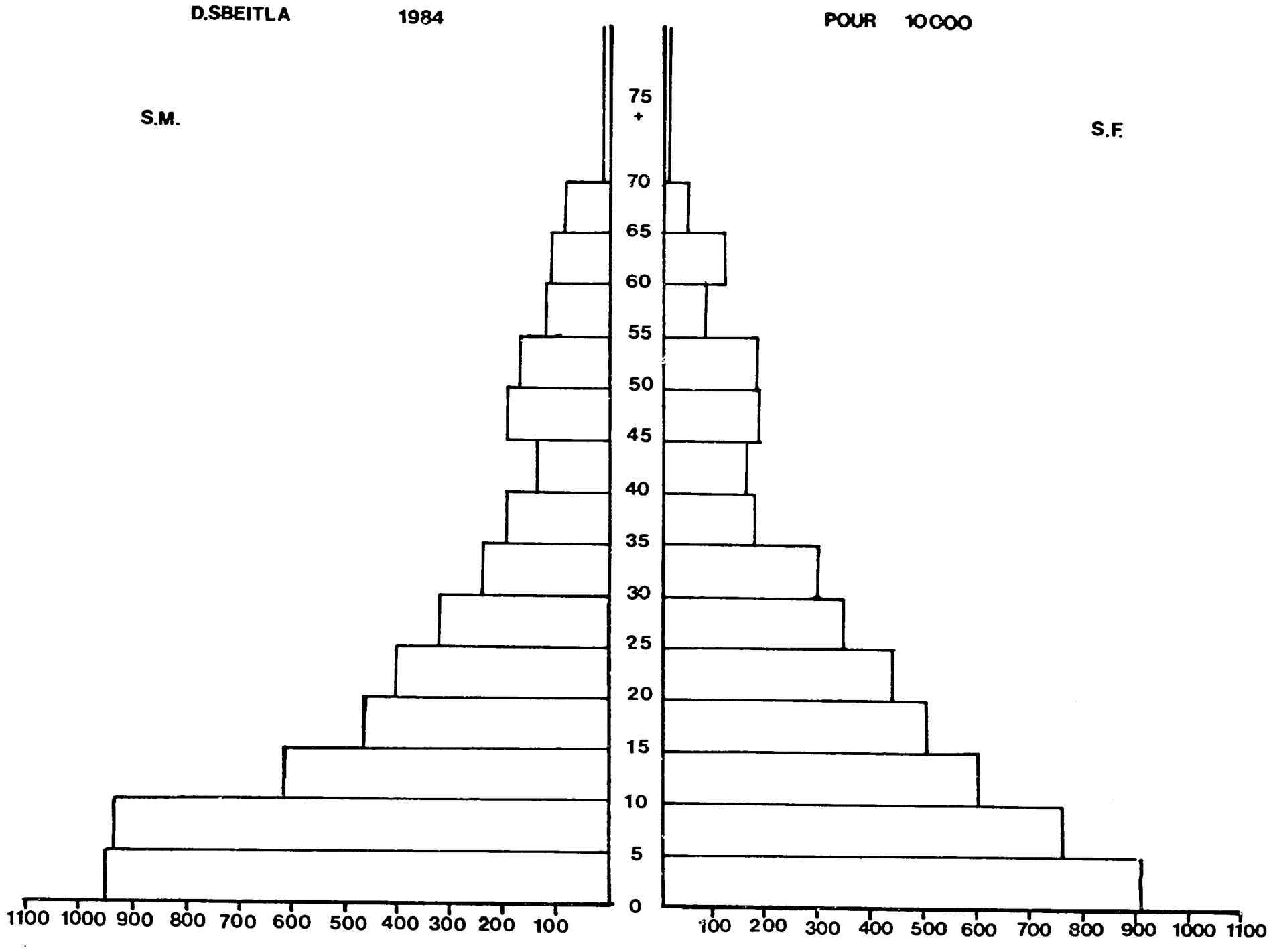
D.SBEITLA
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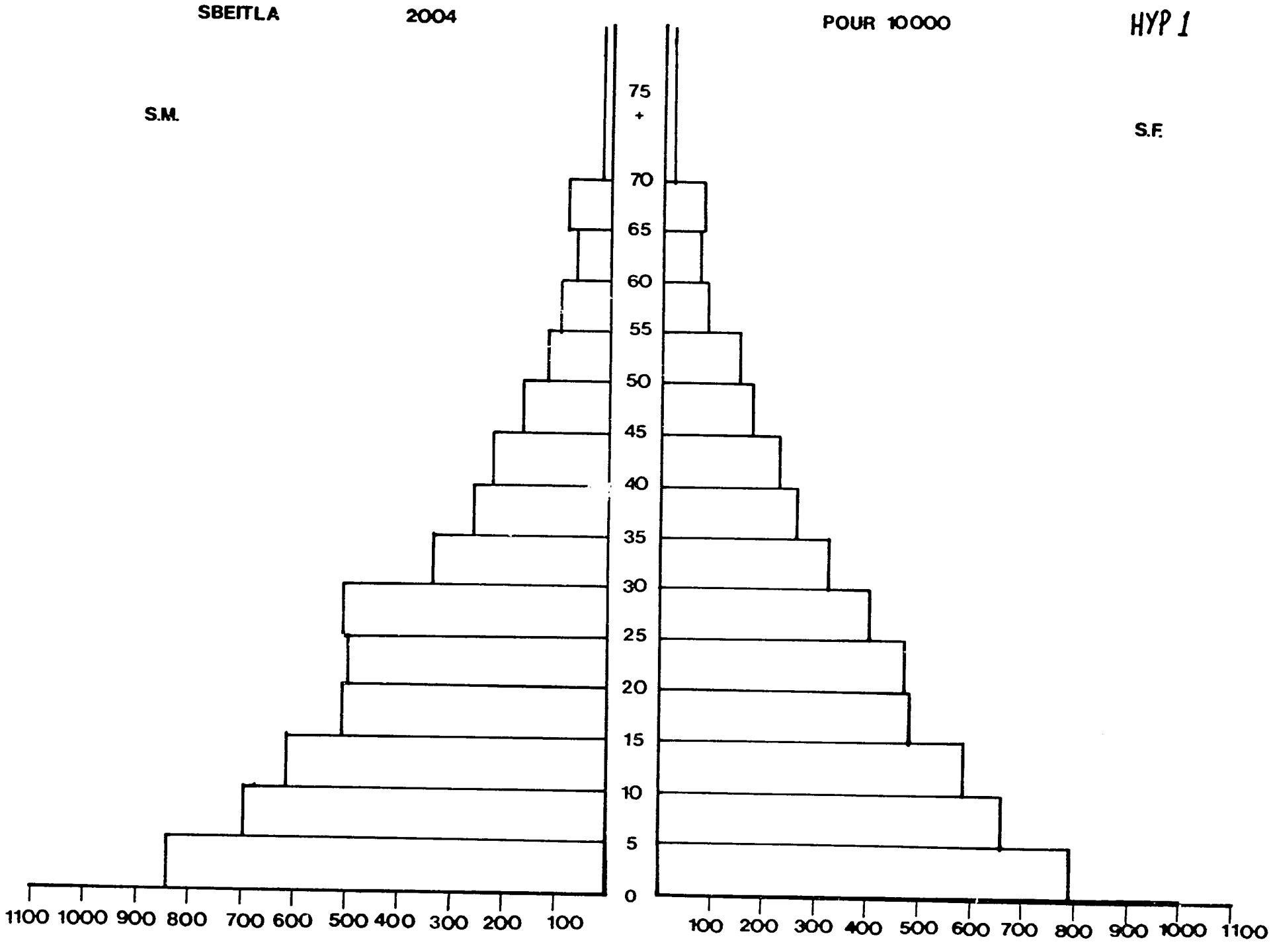
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100


SBEITLA
2004
POUR 10000
HYP 1
S.M.
S.F.
75 +
70
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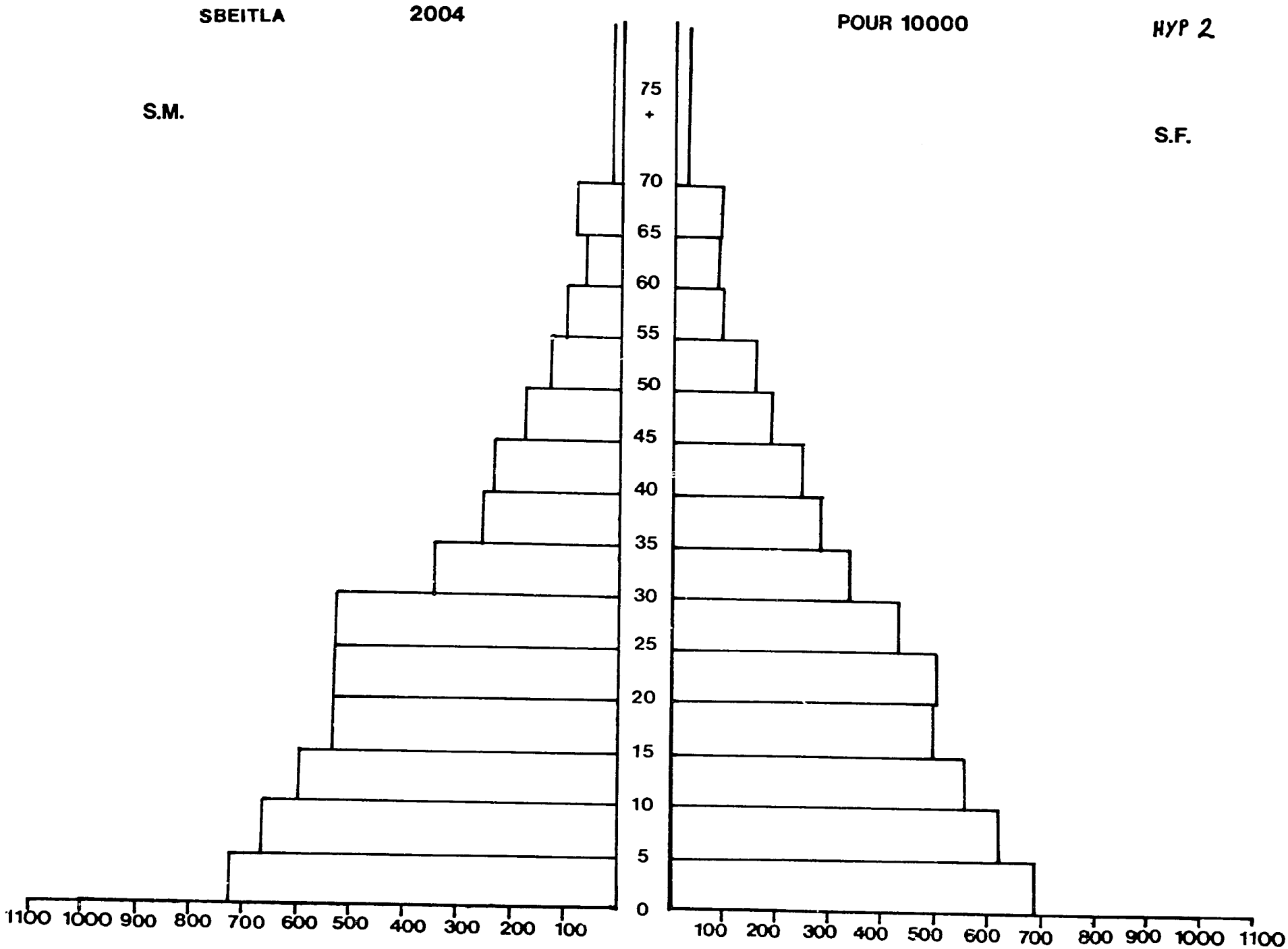
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100


SBEITLA
2004
POUR 10000
HYP 2
S.M.
S.F.
75 +
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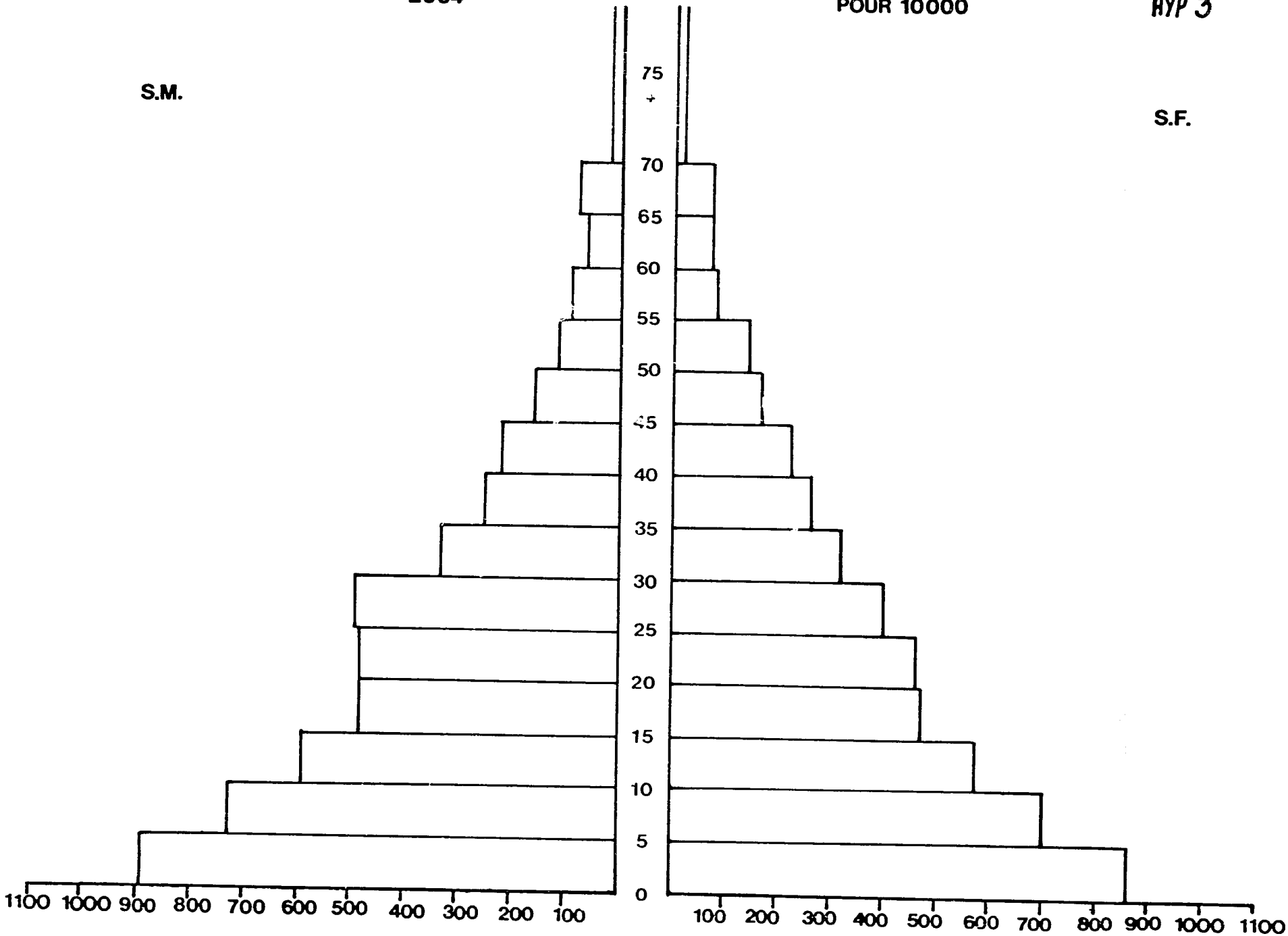
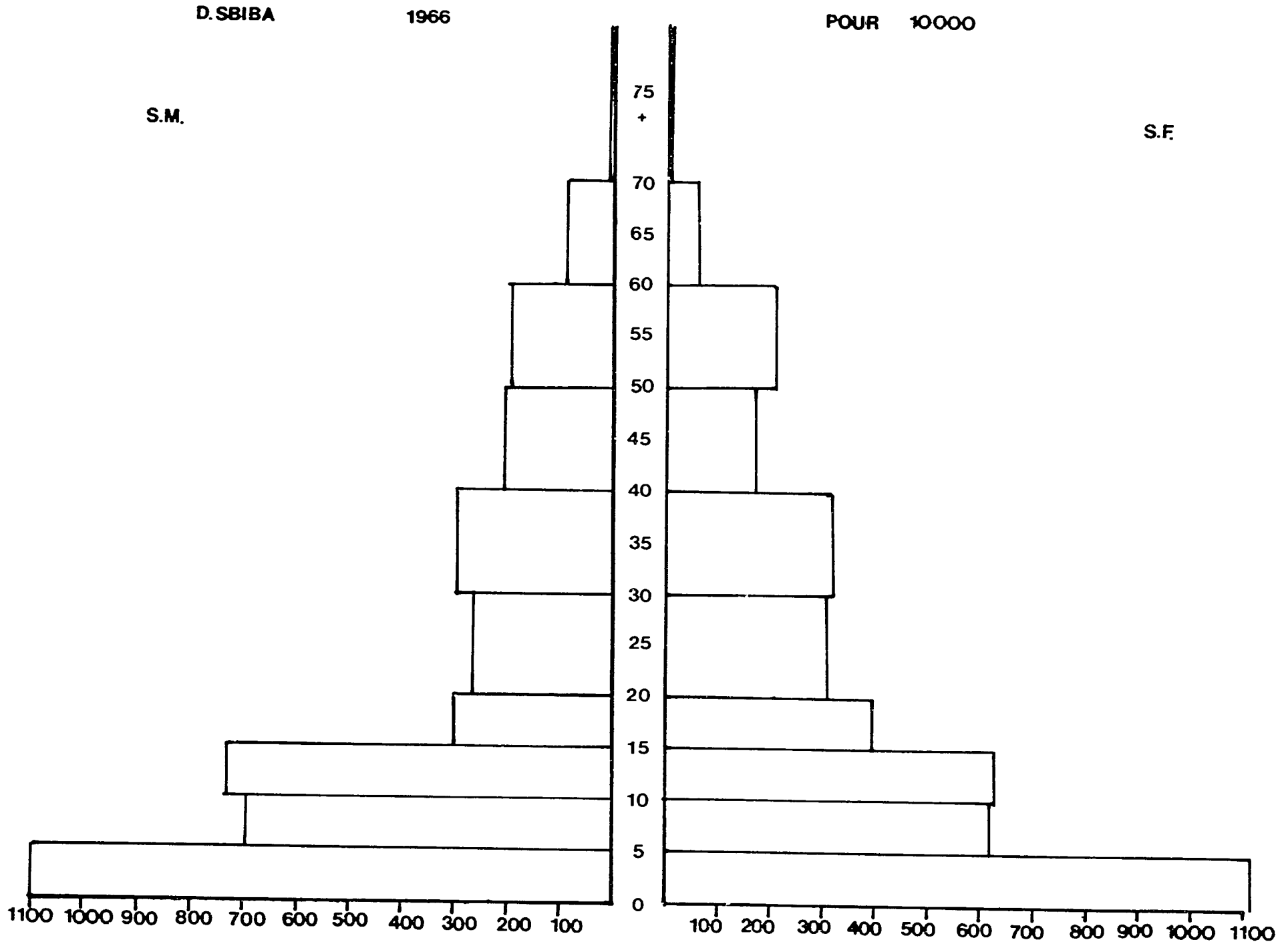
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

160

SBEITLA 2004 POUR 10000 HYP 3




D.SBIBA
1966
POUR 10000
S.M.
S.F.
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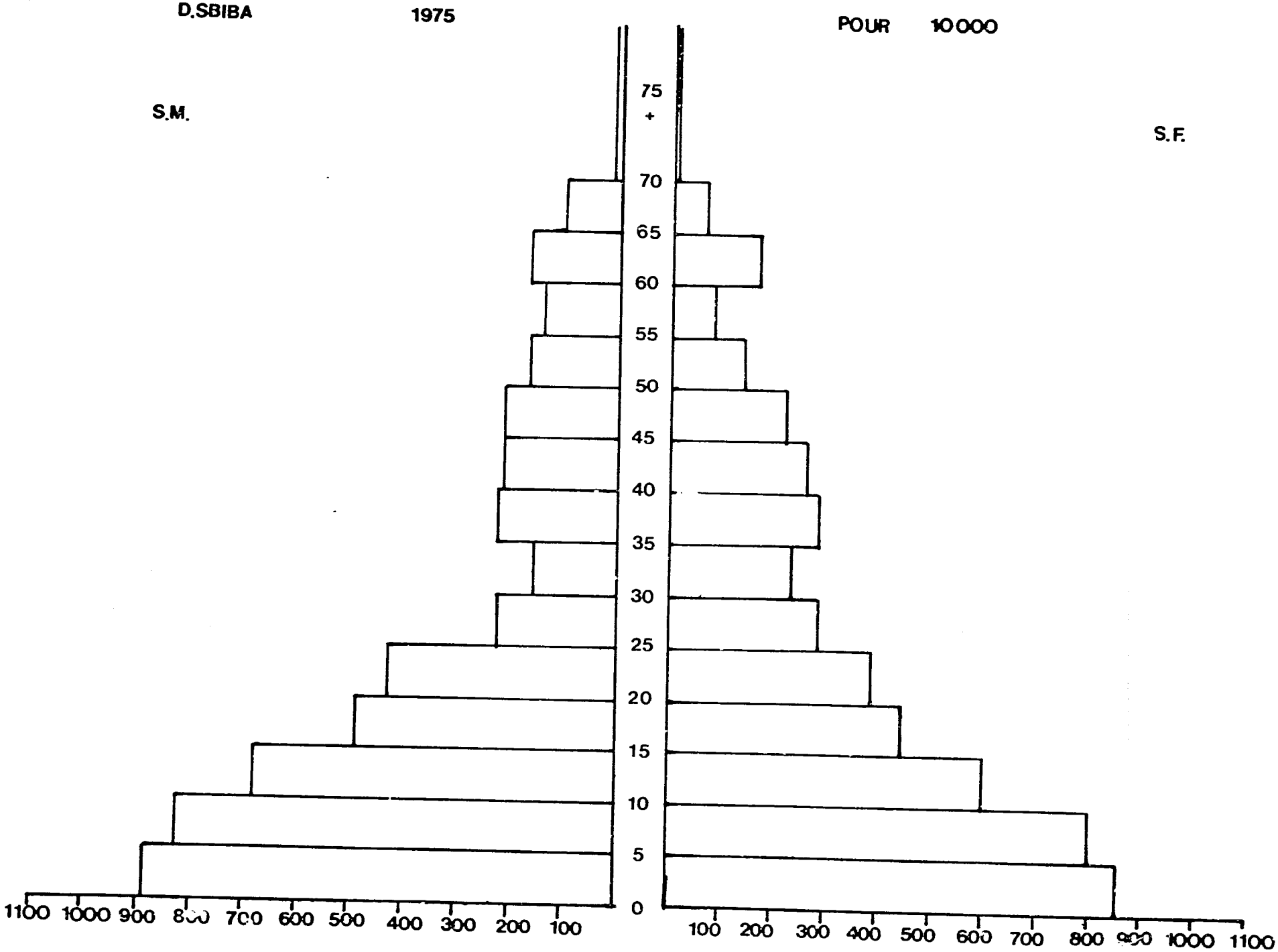
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100


D.SBIBA
1975
POUR 10000
S.M.
S.F.
75 +
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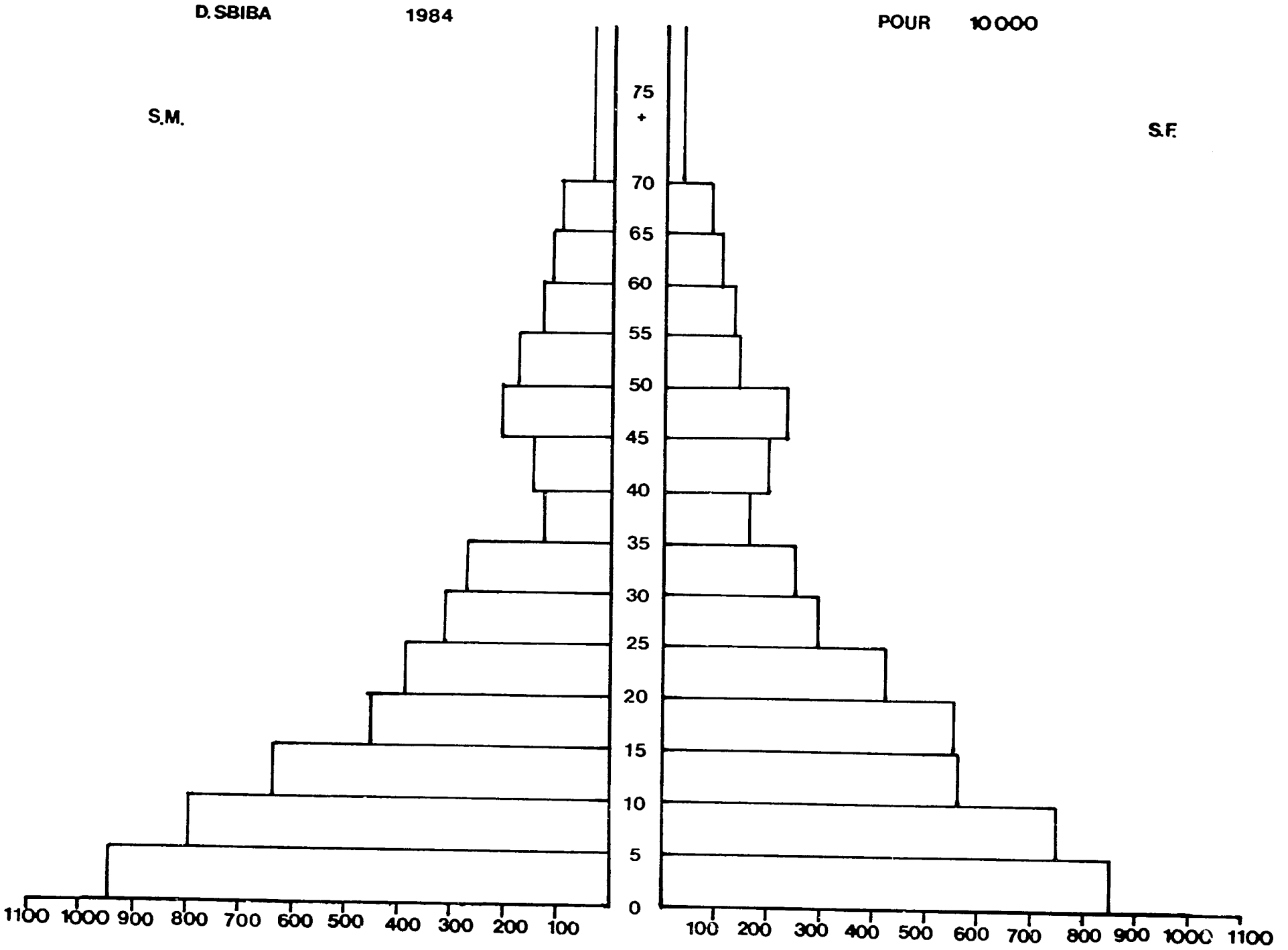
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100


D. SBIBA
1984
POUR 10 000
S.M.
S.F.
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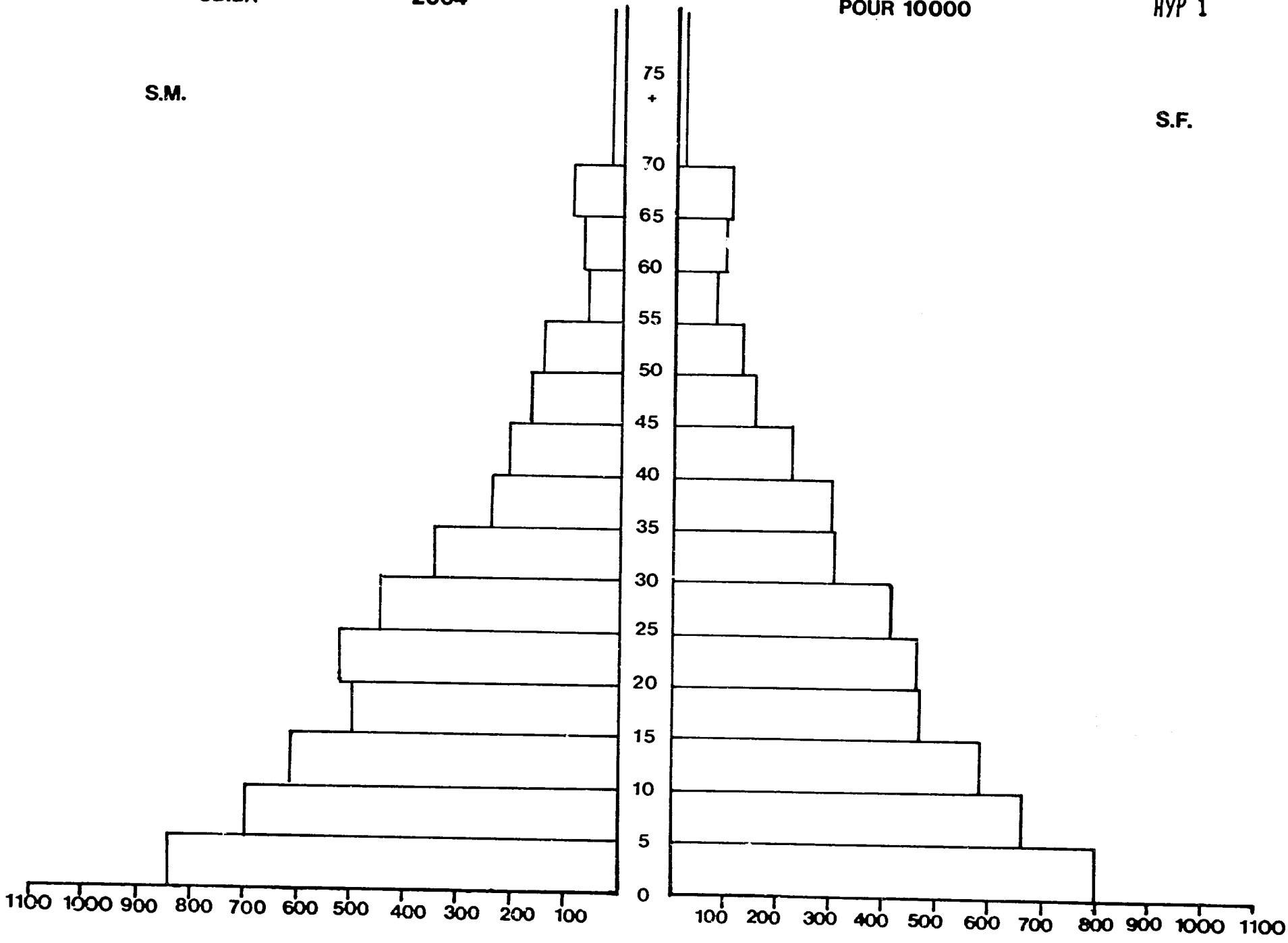
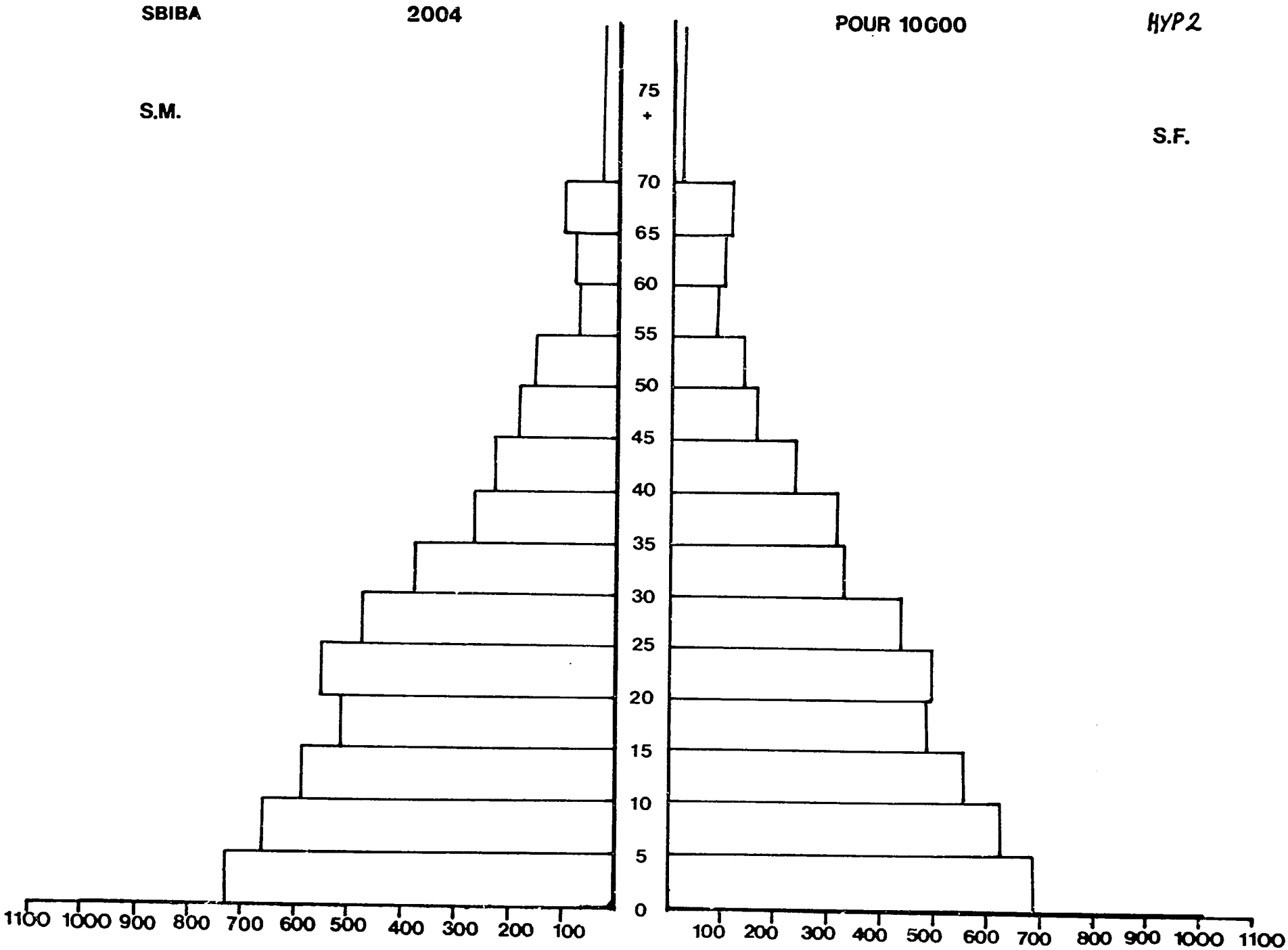
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

164

SBIBA 2004 POUR 10000 HYP 1




SBIBA
2004
POUR 10000
HYP2
S.M.
S.F.
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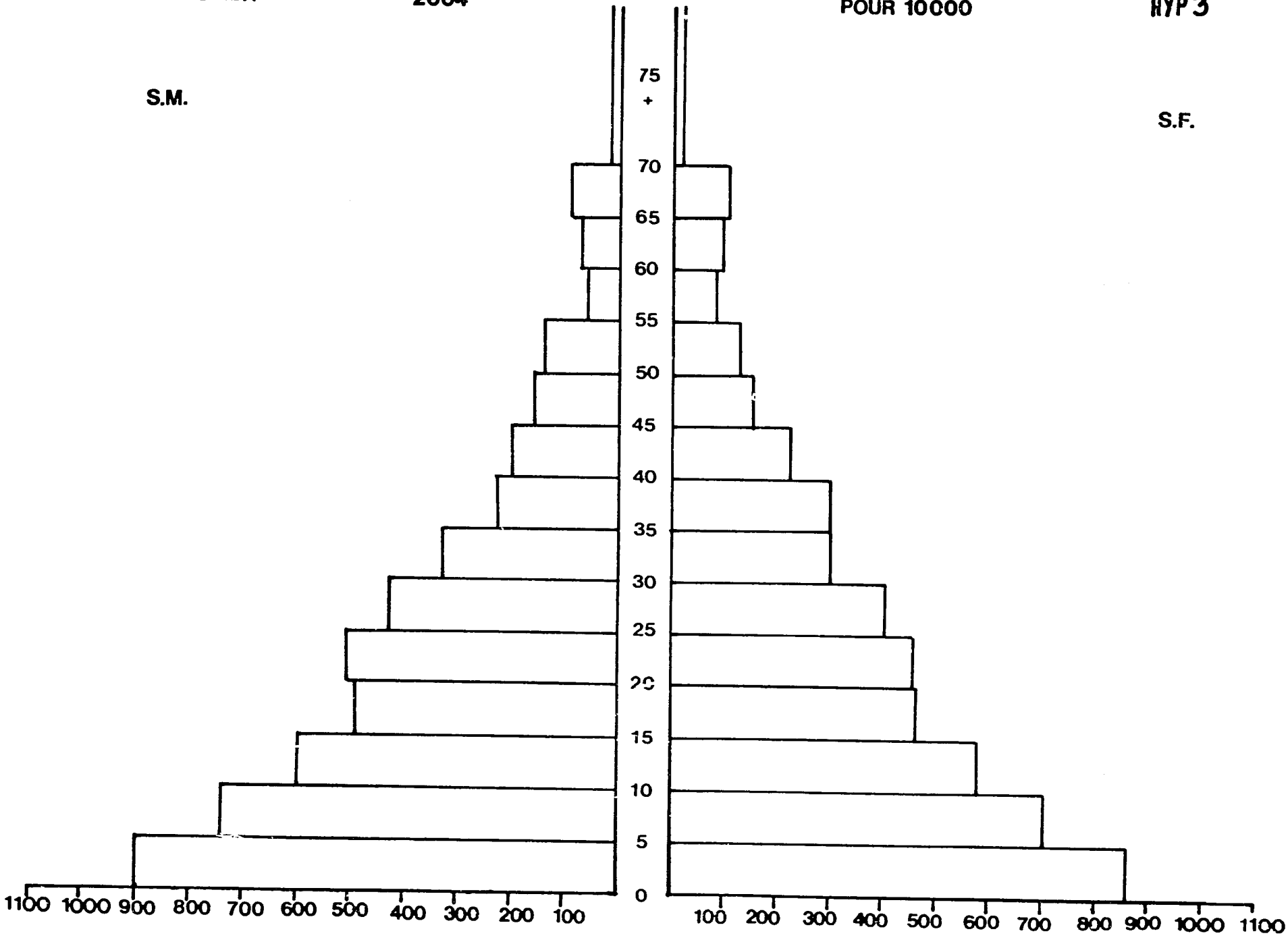
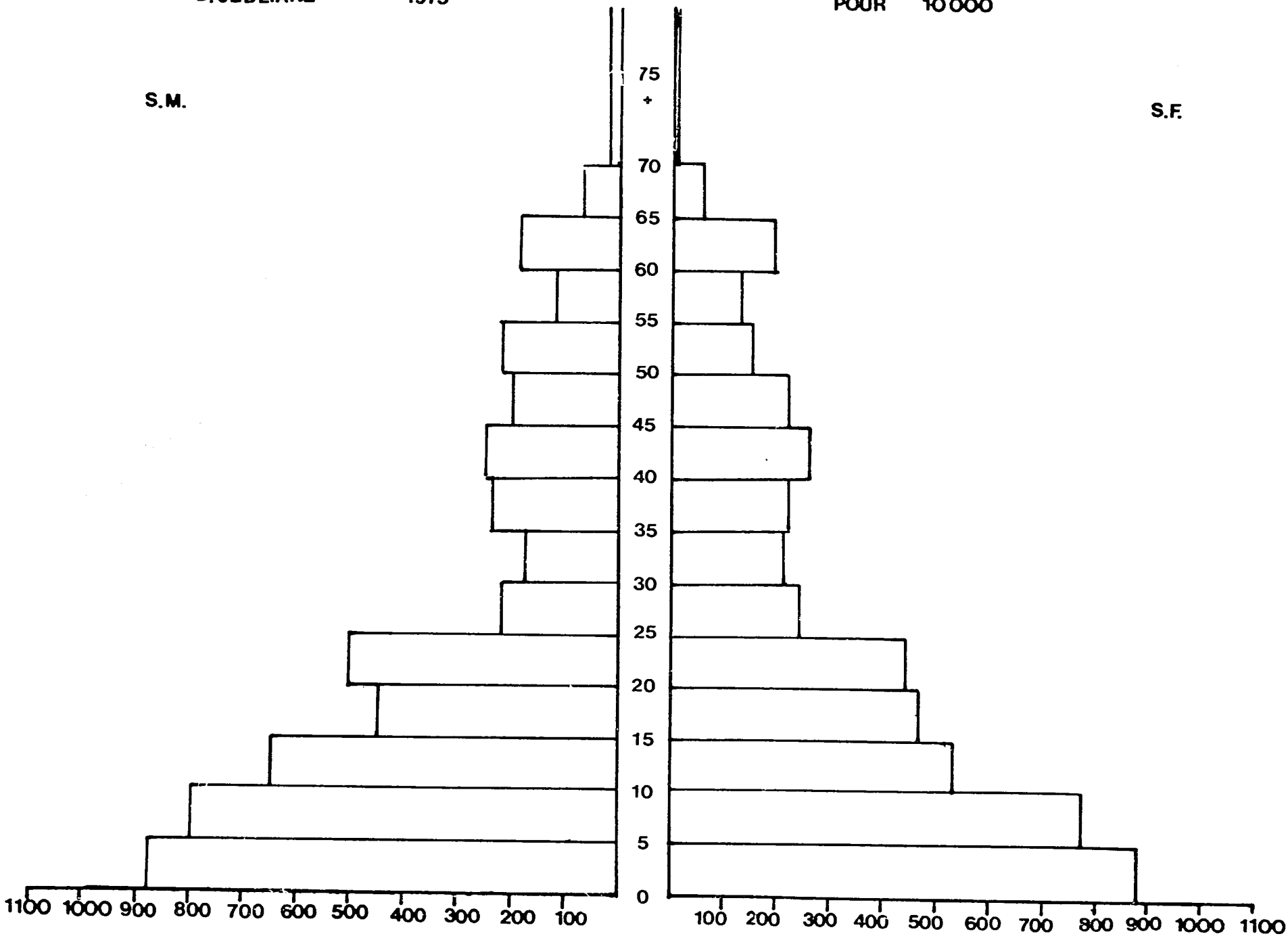
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

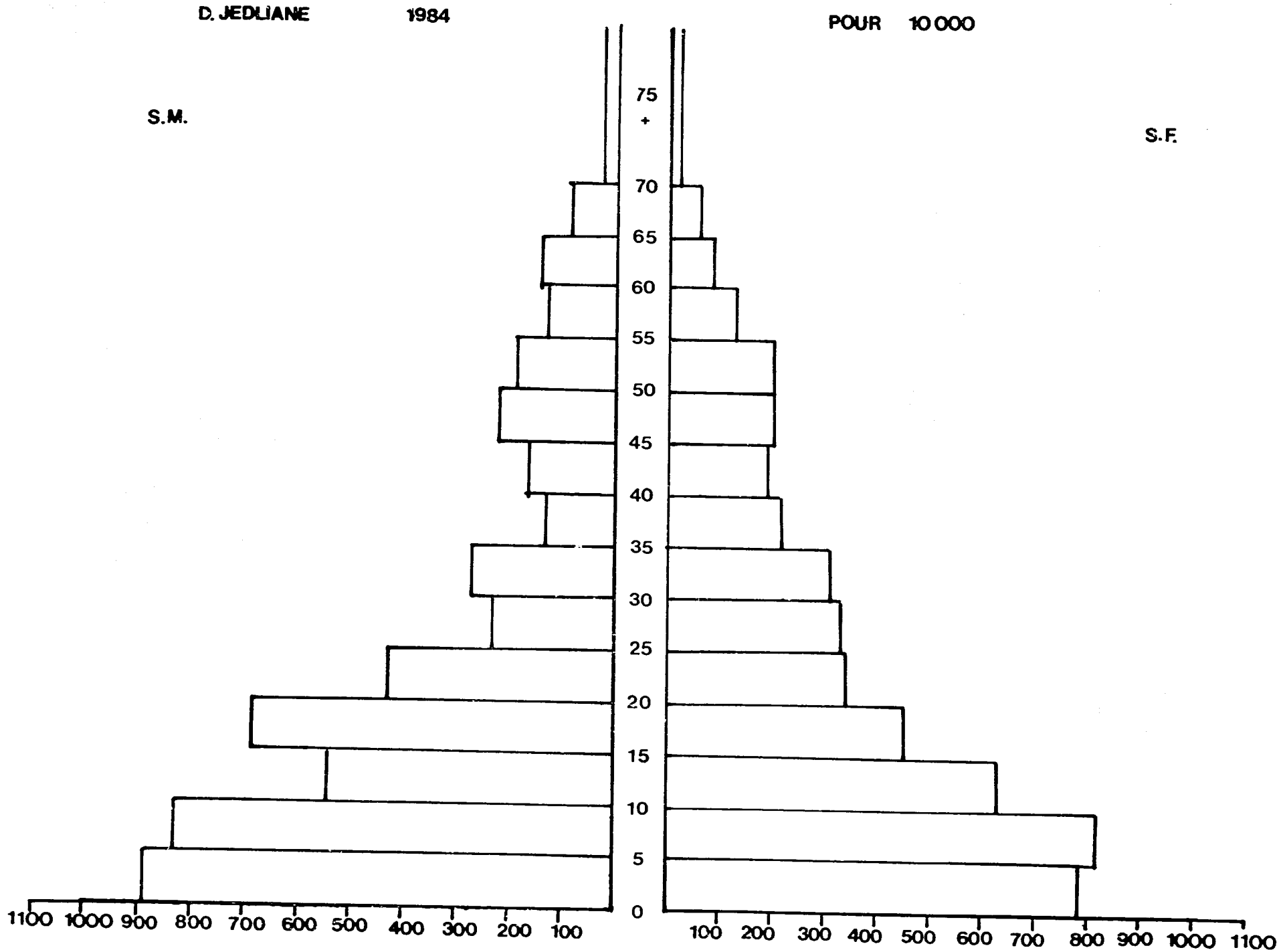
SBIBA 2004 POUR 10000 HYP 3



D. JEDLIANE 1975

POUR 10 000




D. JEDLIANE
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POUR 10 000
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S.F.
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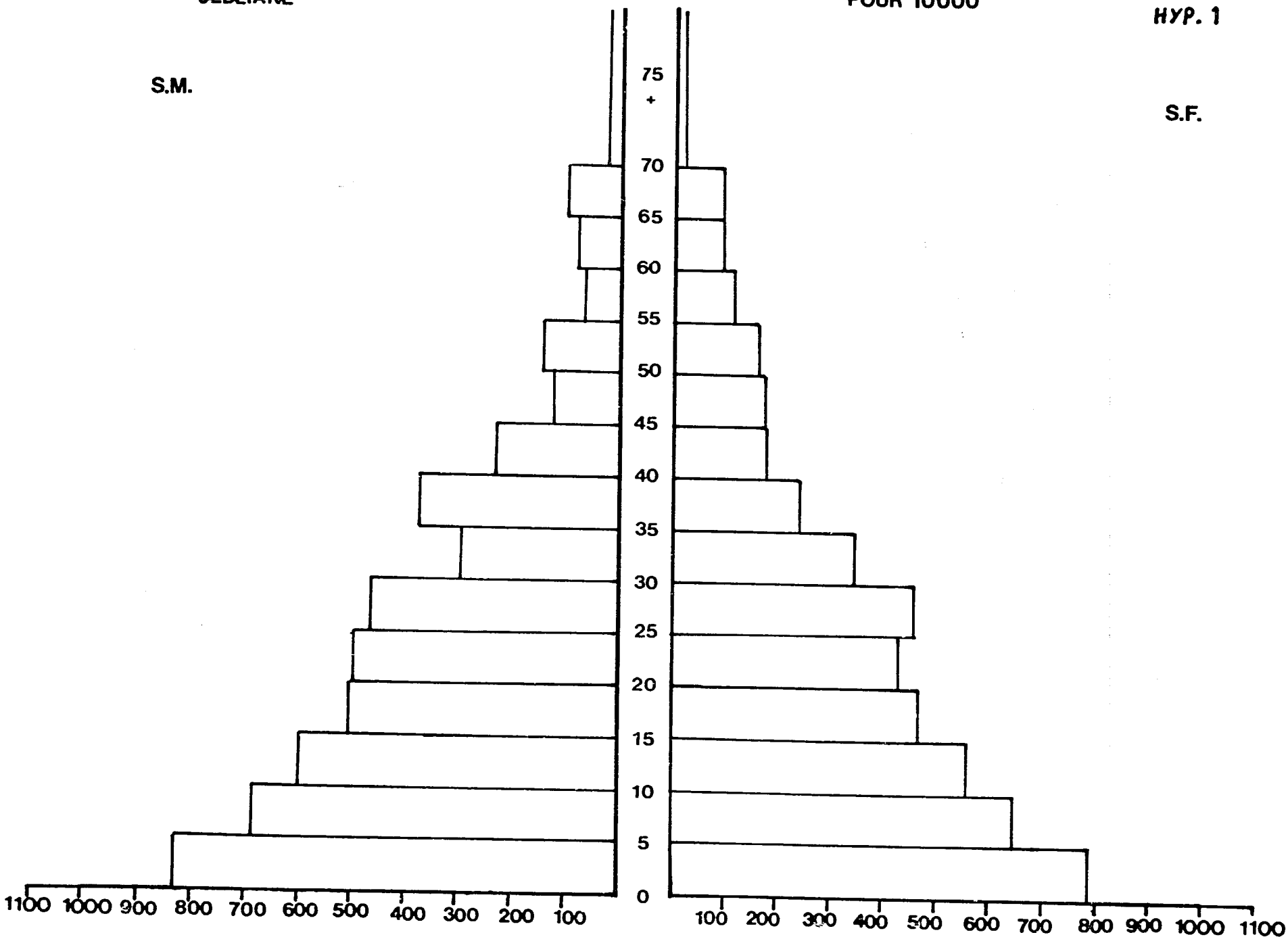
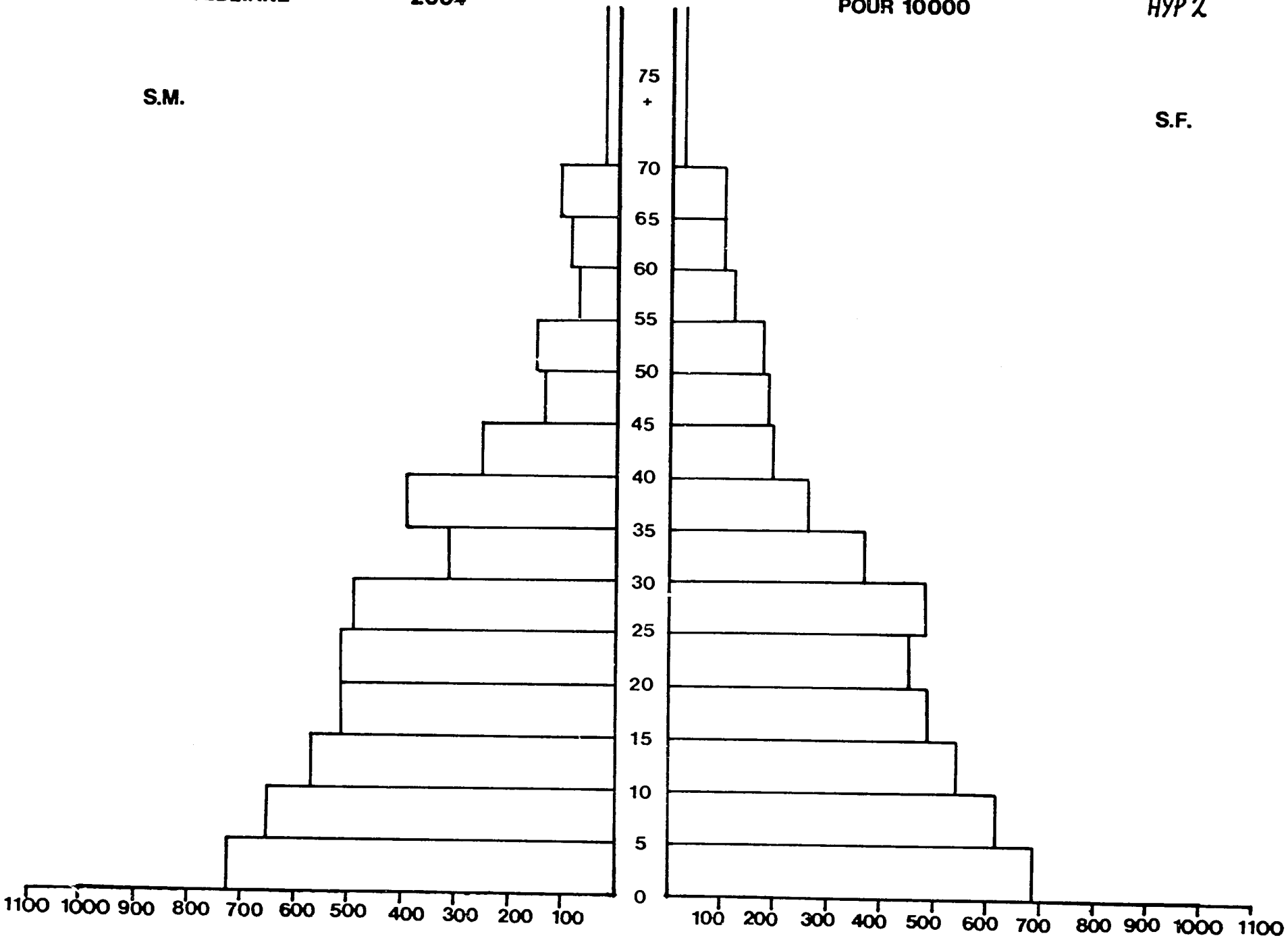
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

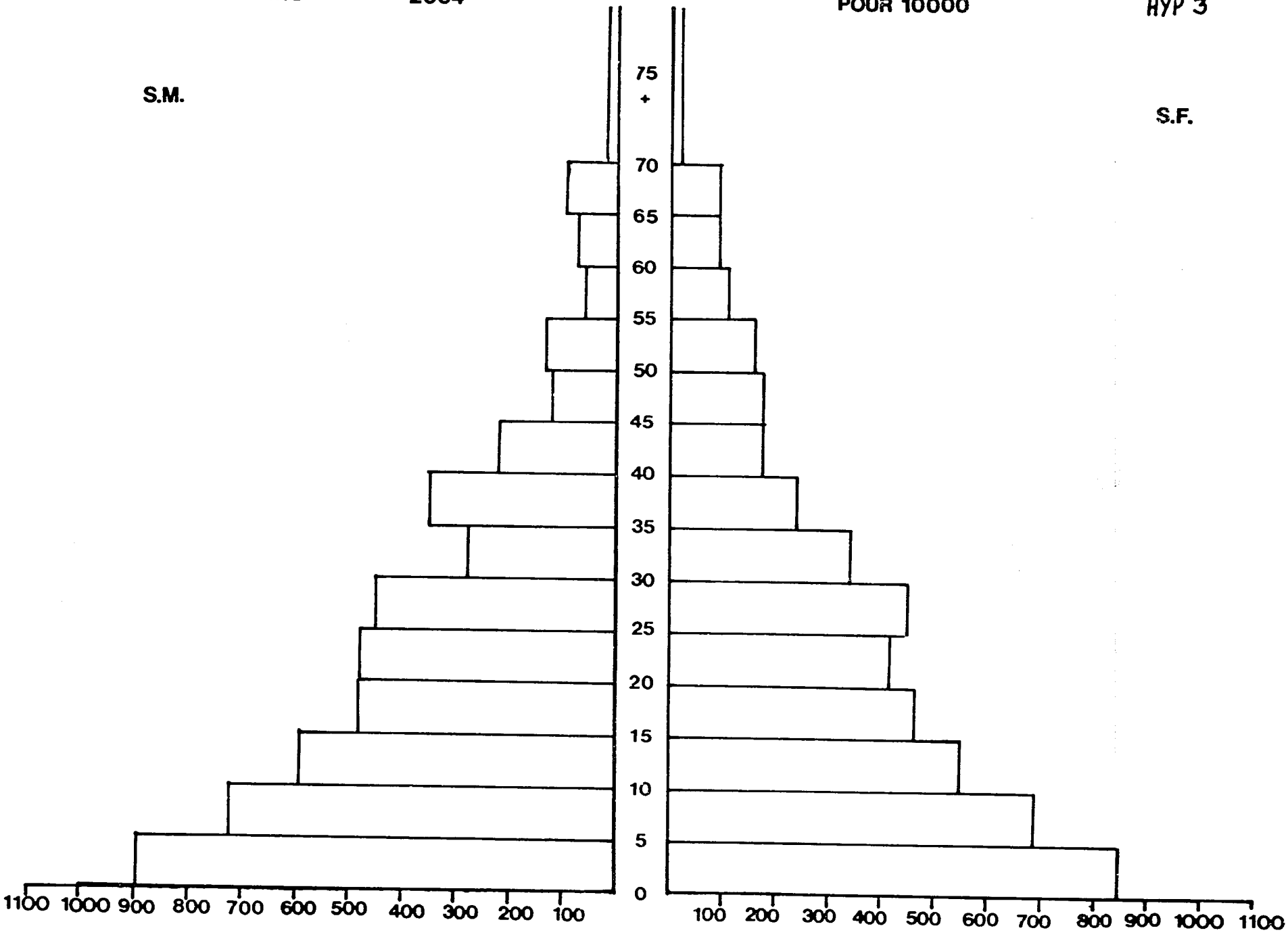
JEDLIANE 2004 POUR 10000 HYP. 1

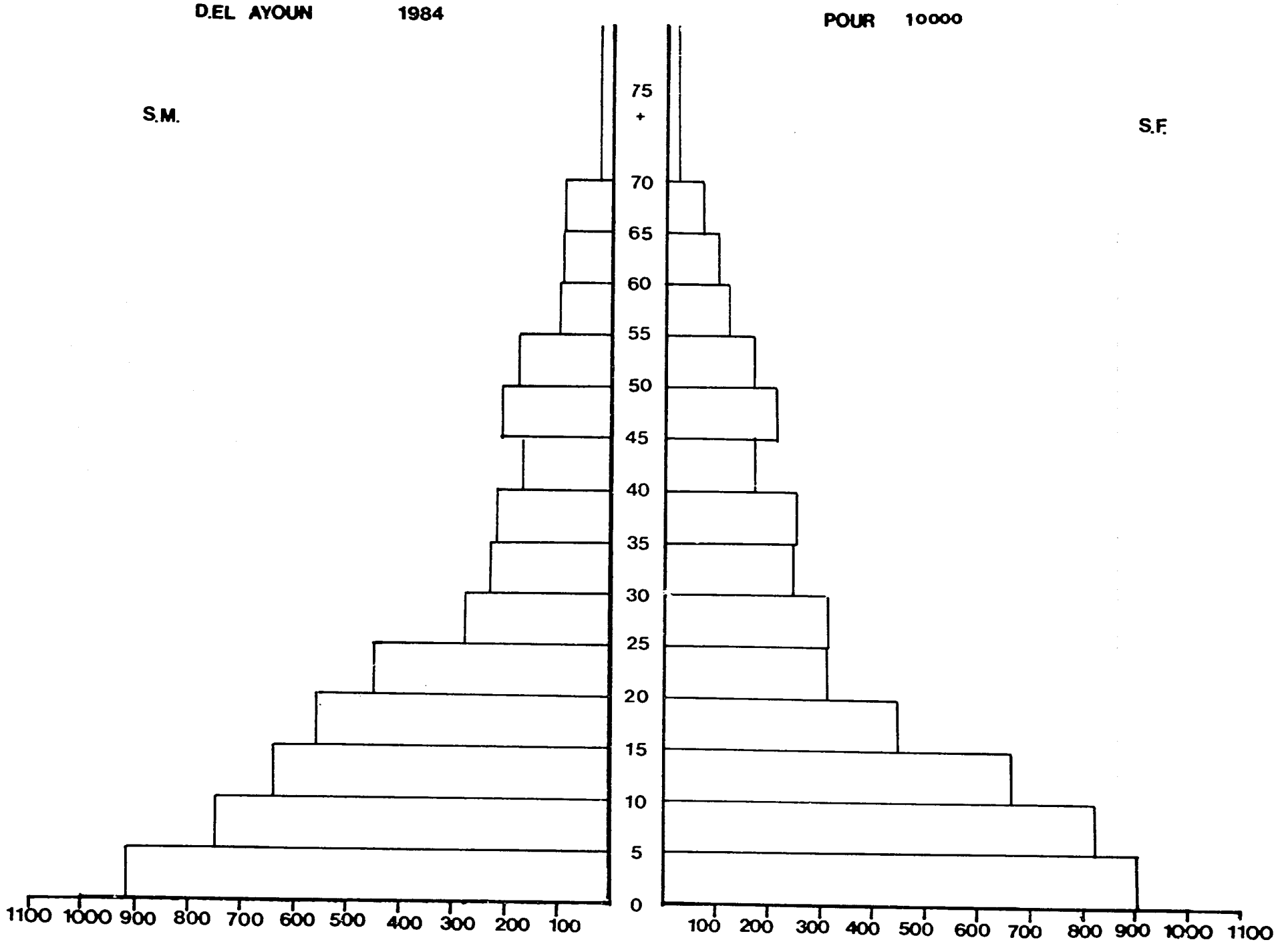


JEDLIANE 2004 POUR 10000 HYP 2



JEDLI ANE 2004 POUR 10000 HYP 3




D.EL AYOUN 1984
POUR 10000
S.M.
S.F.
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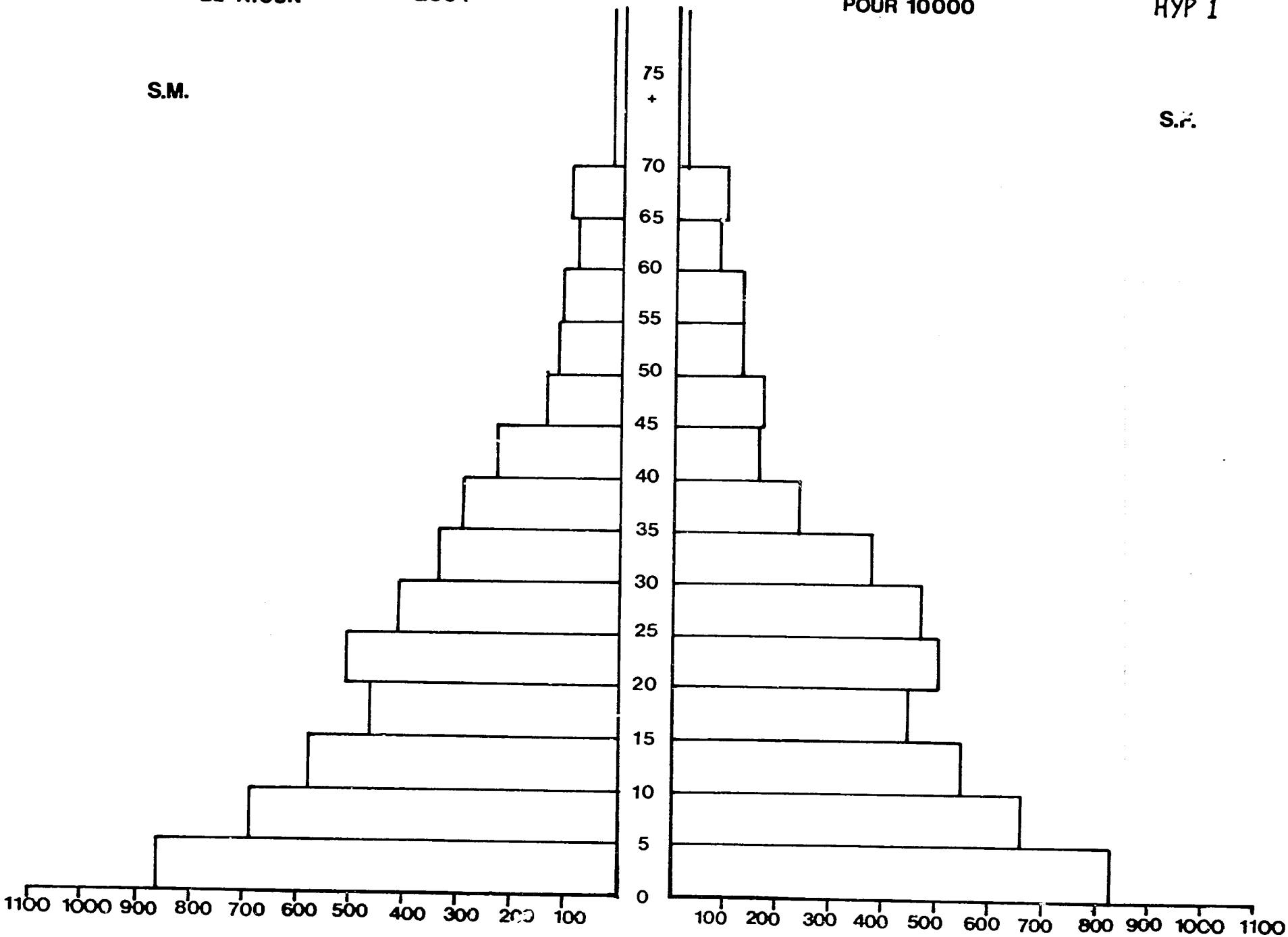
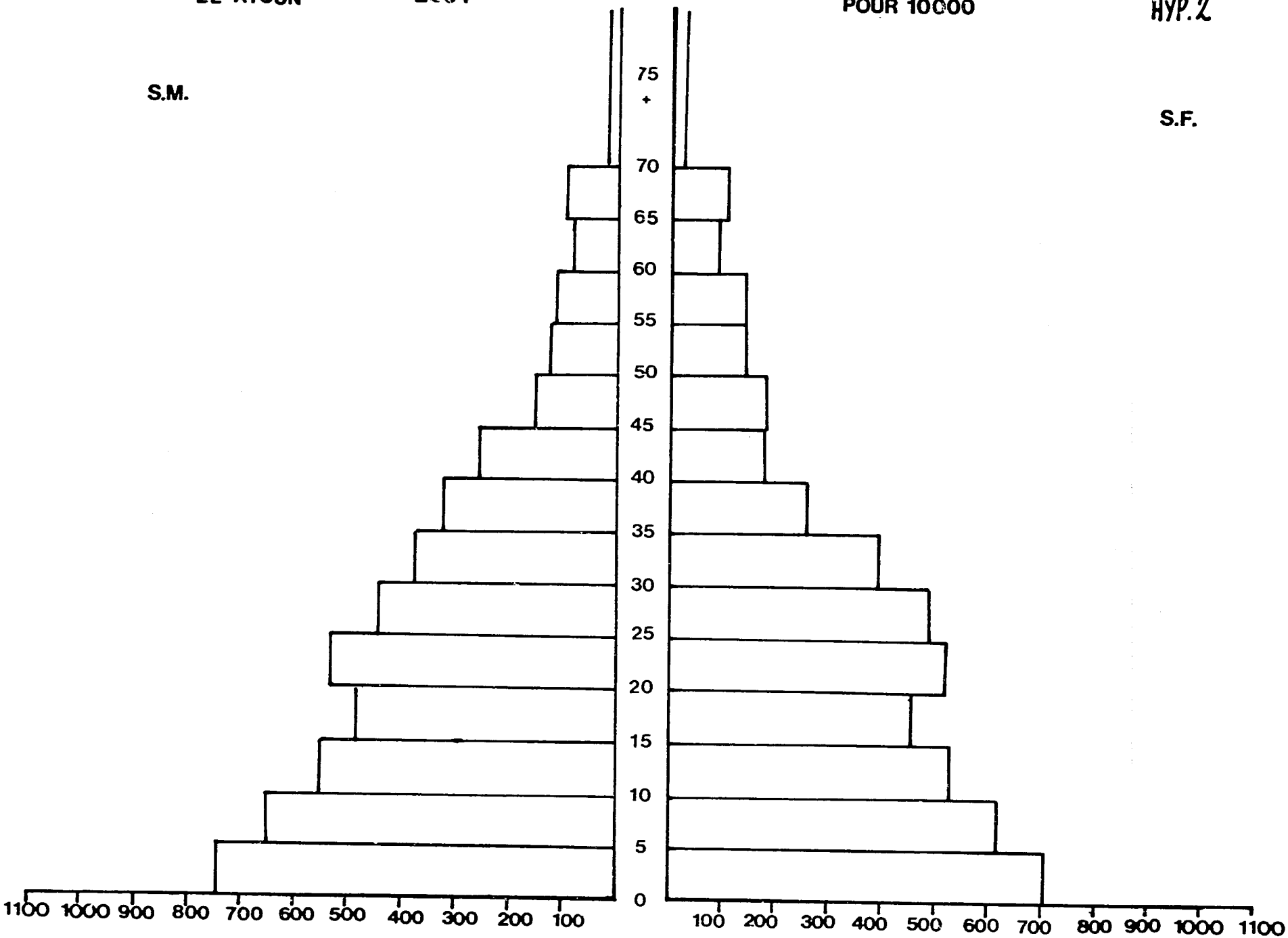
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

EL AYOUN 2004 POUR 10000 HYP 1

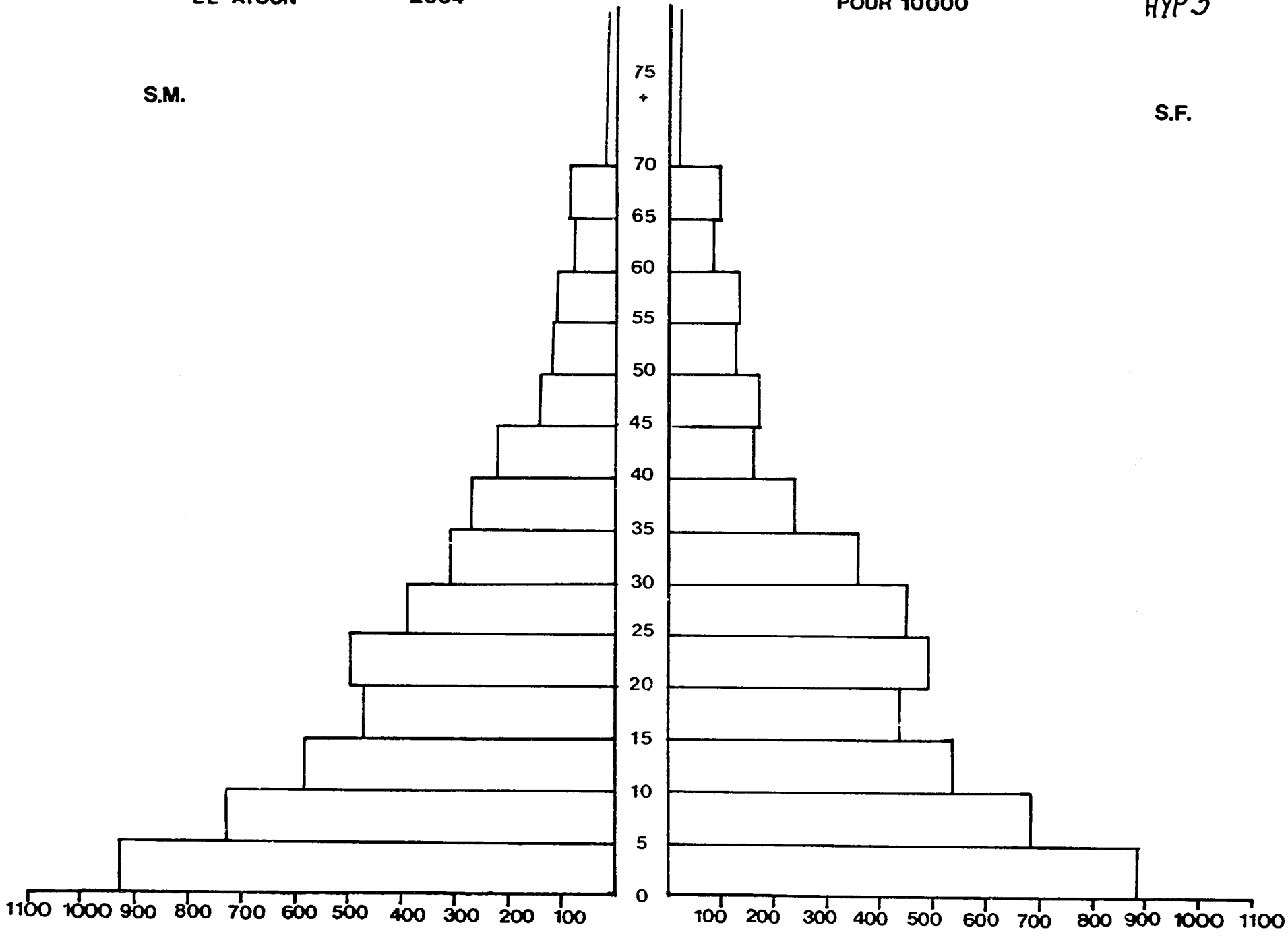


174

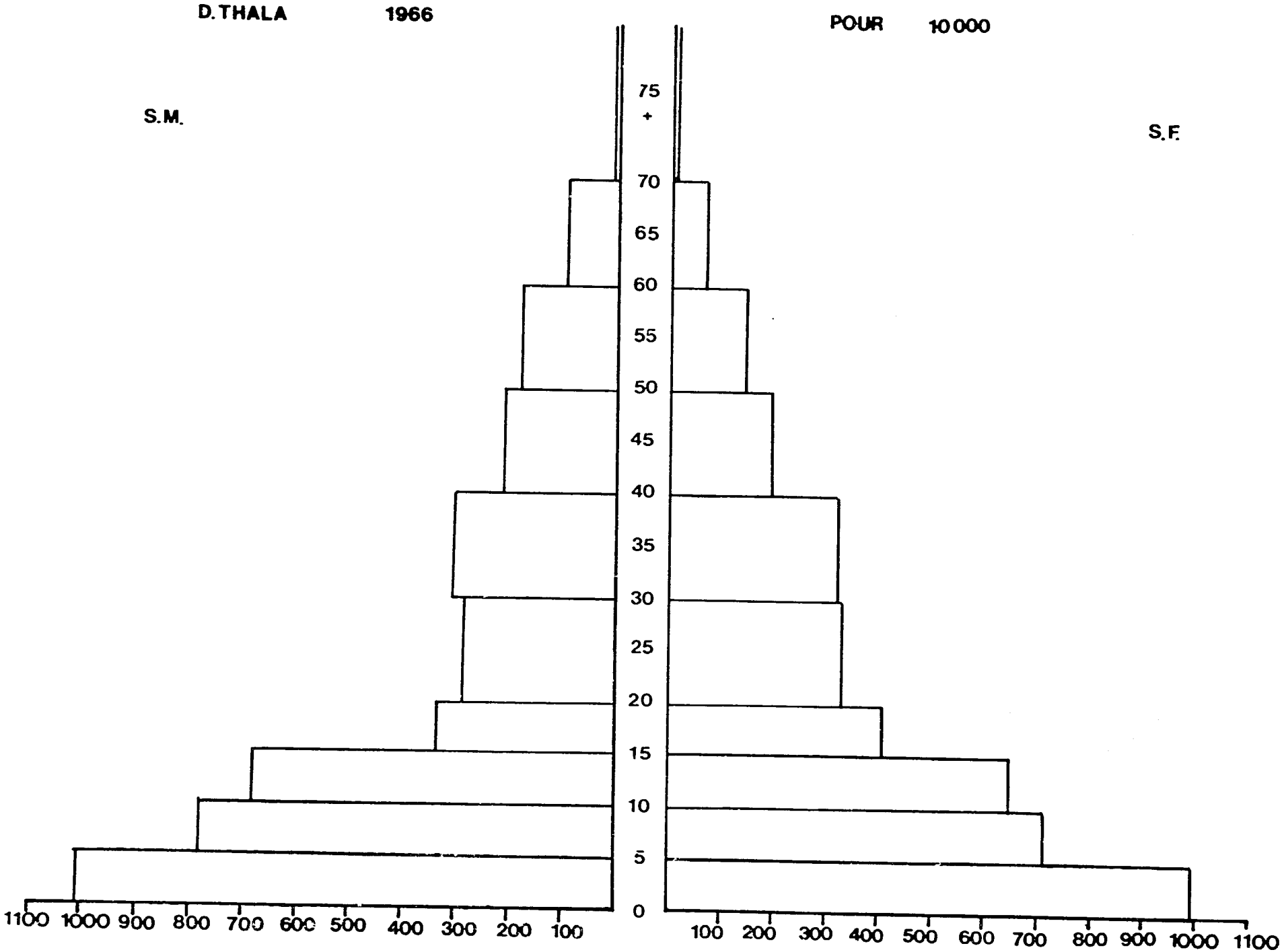
EL AYOUN 2004 POUR 10000 HYP. 2



EL AYOUN 2004 POUR 10000 HYP3



176


D.THALA
1966
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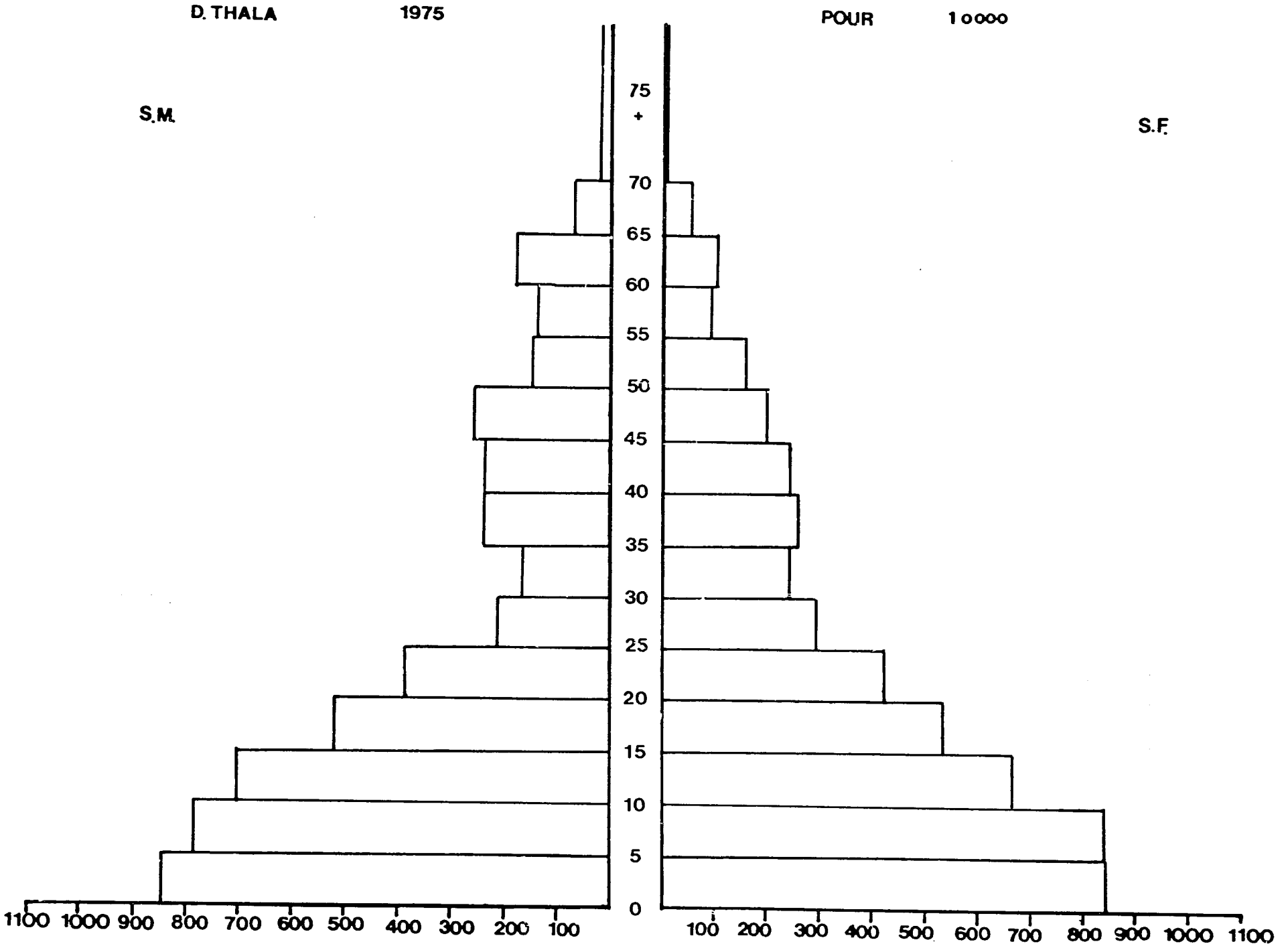
100 200 300 400 500 600 700 800 900 1000 1100


D. THALA
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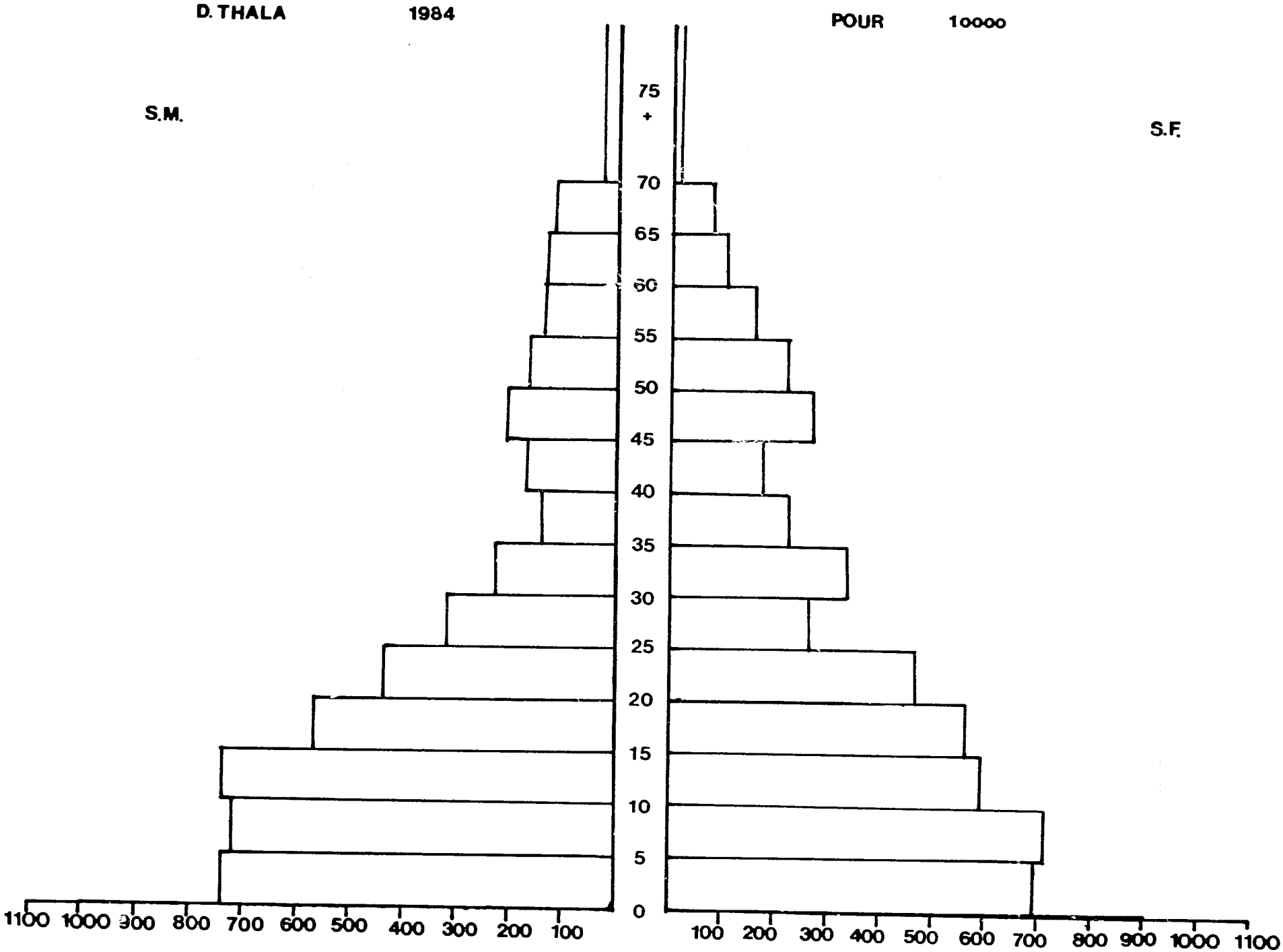
100 200 300 400 500 600 700 800 900 1000 1100


D. THALA
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POUR
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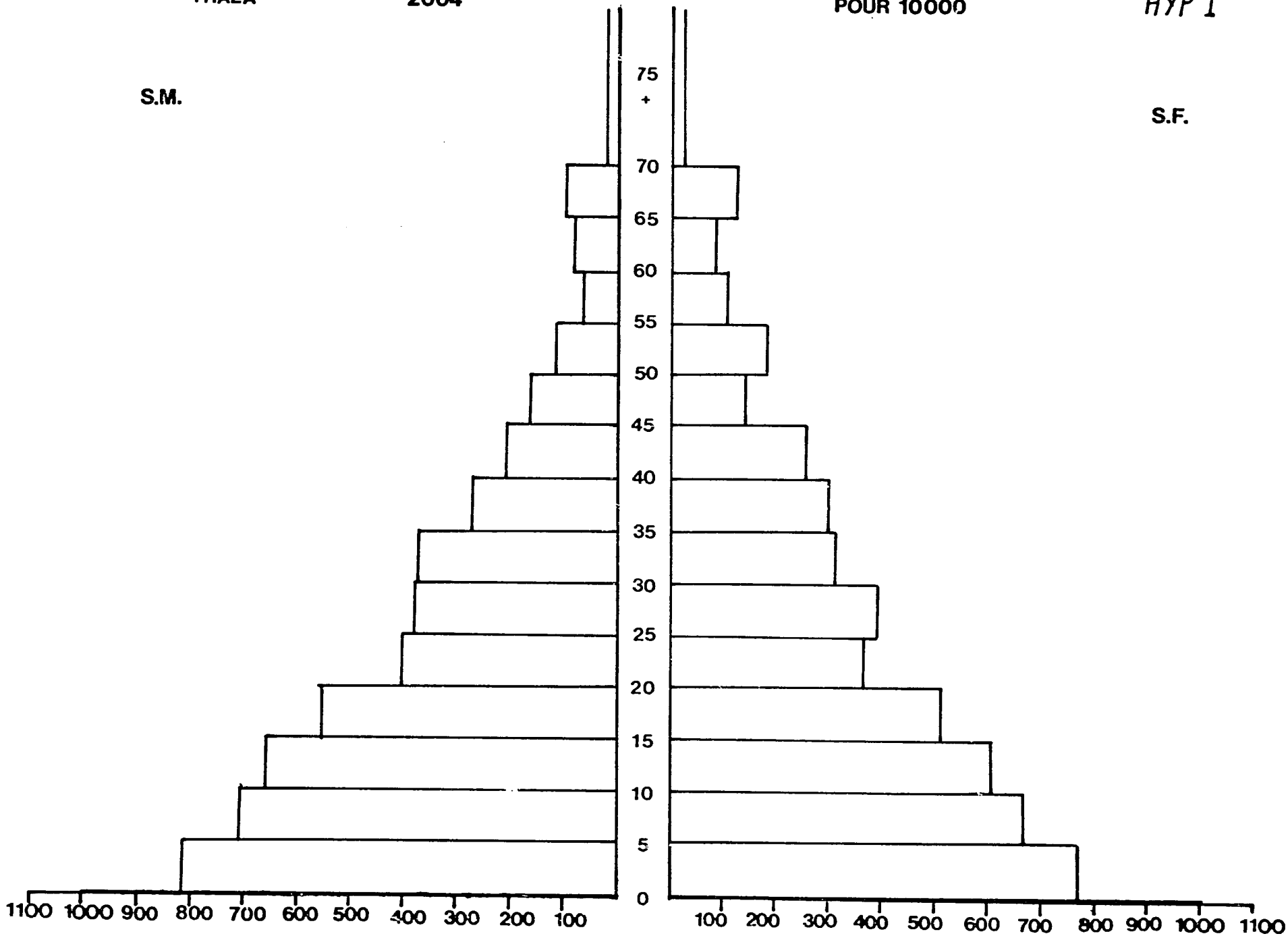
THALA 2004 POUR 10000 HYP 1



18

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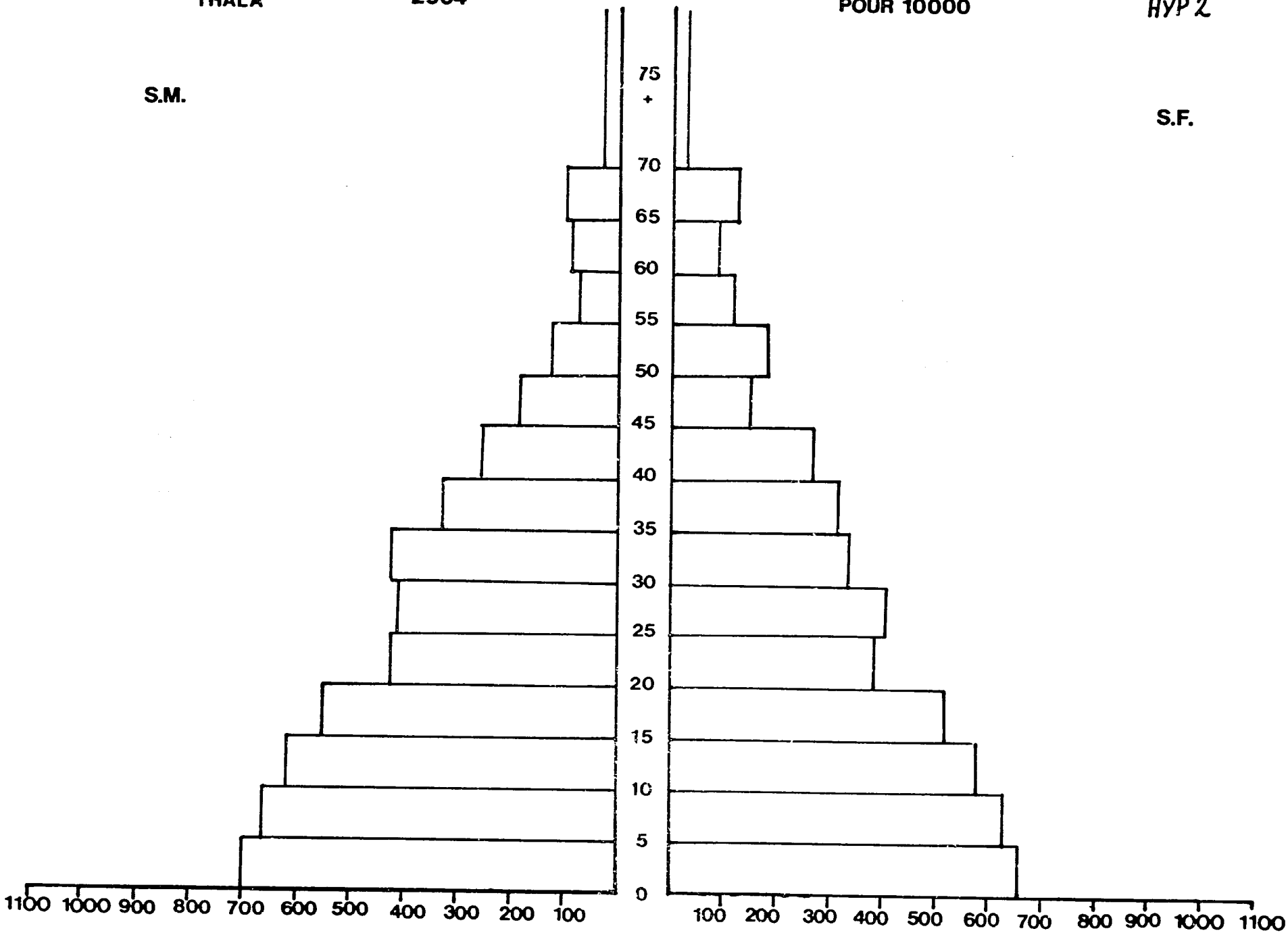
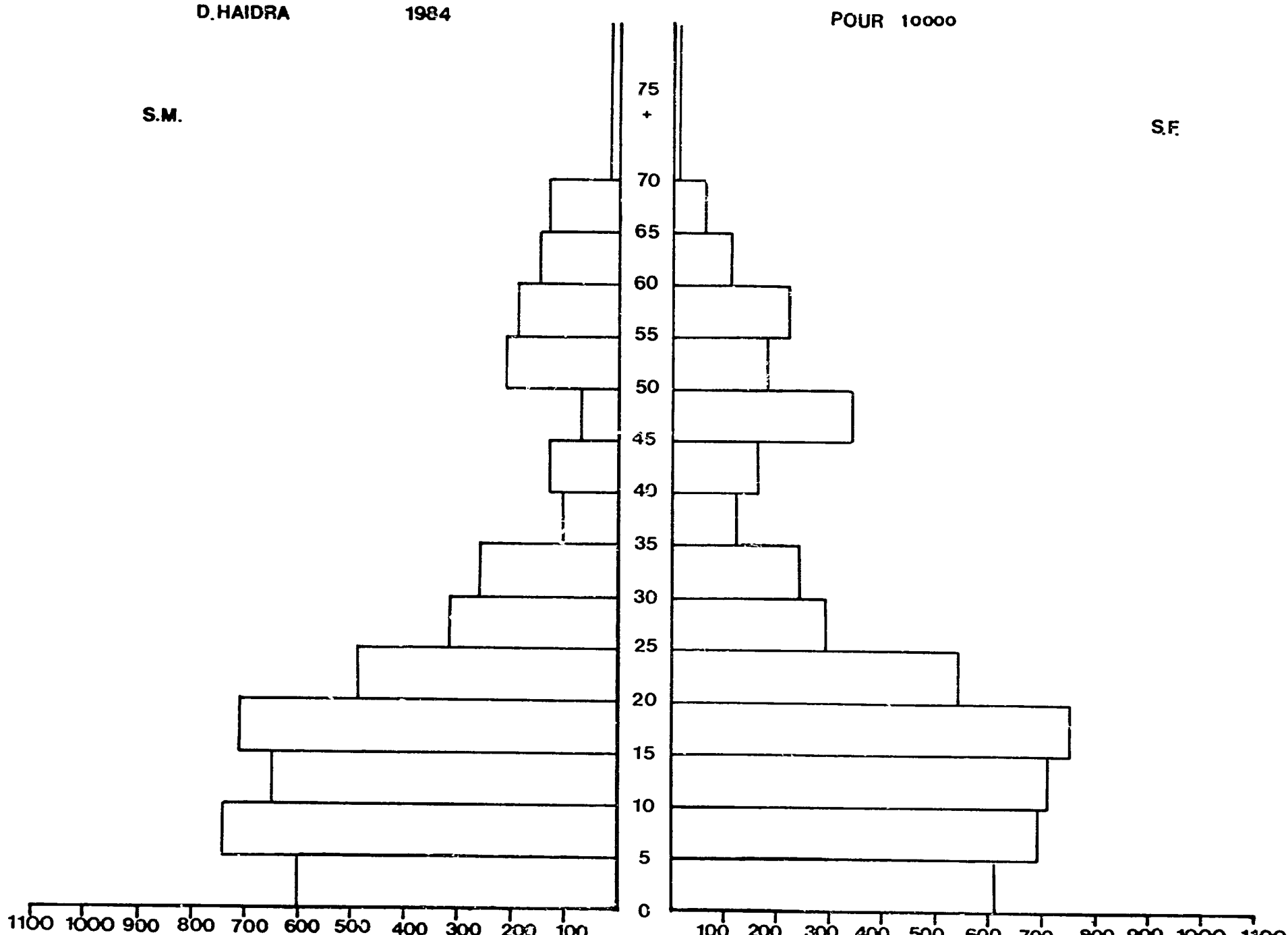


181


D.HAIDRA
1984
POUR 10000
S.M.
S.F.
75 +
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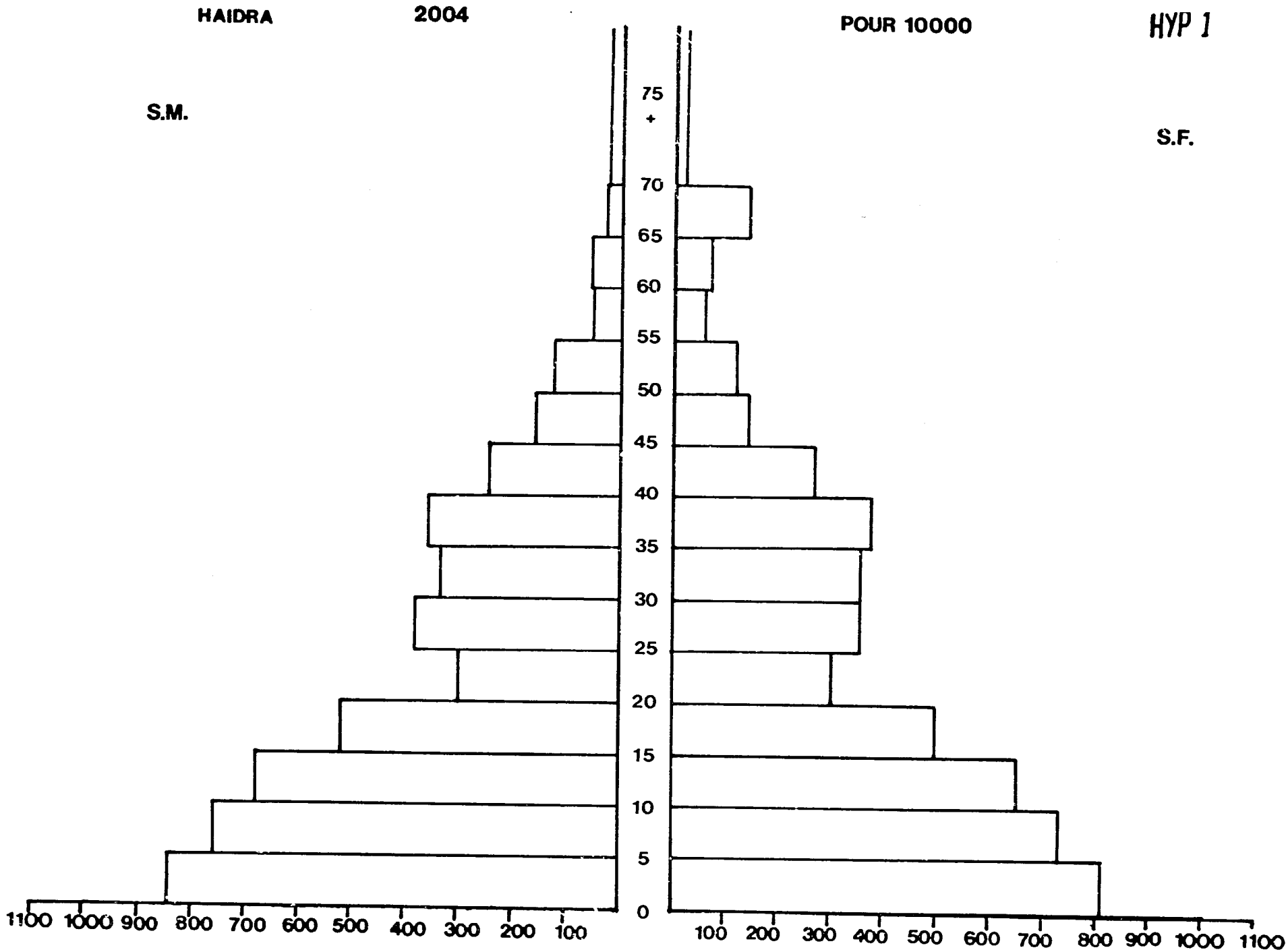
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

189


HAIDRA
2004
POUR 10000
HYP 1
S.M.
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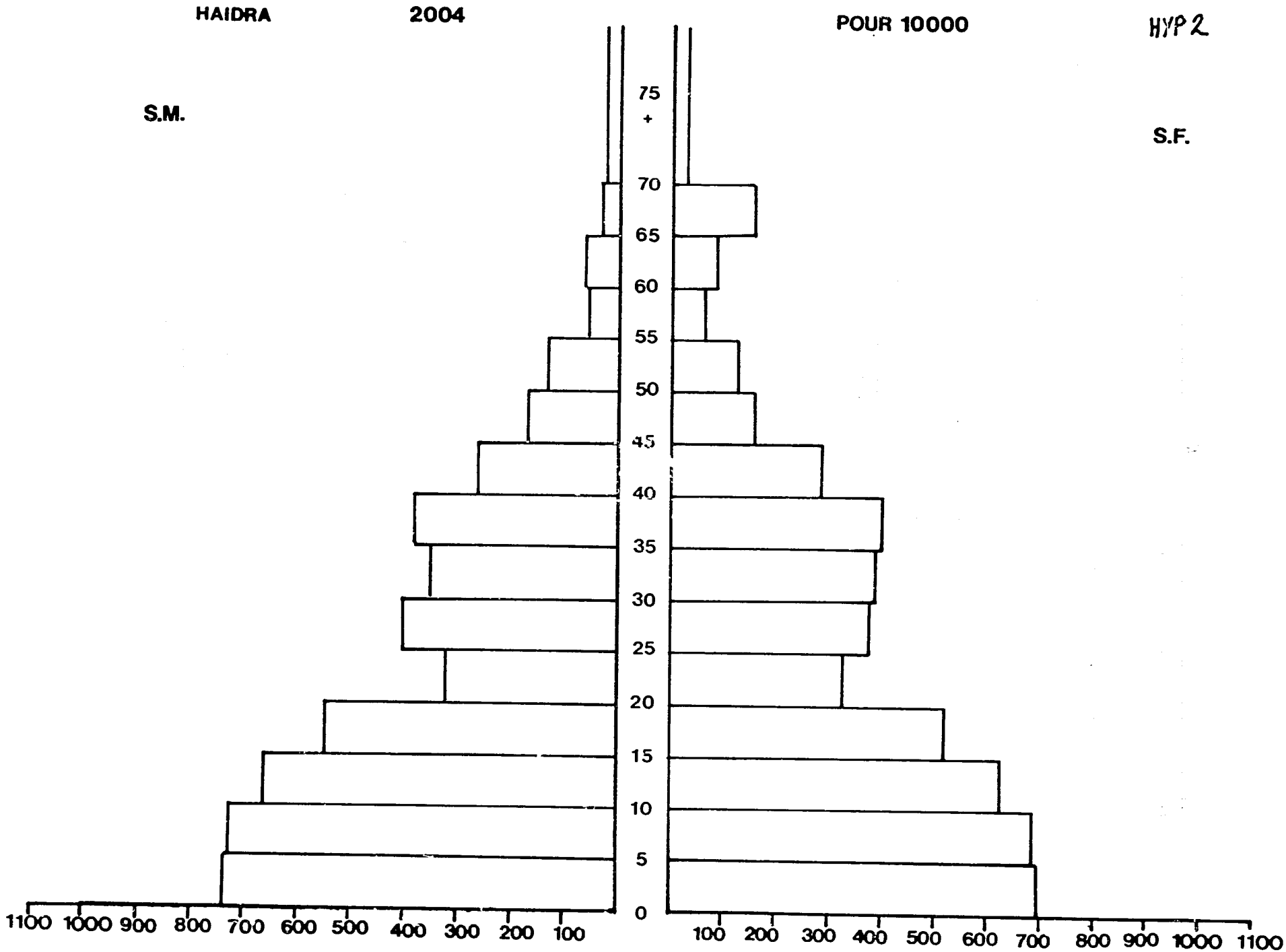
100 200 300 400 500 600 700 800 900 1000 1100


HAIDRA
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POUR 10000
HYP 2
S.M.
S.F.
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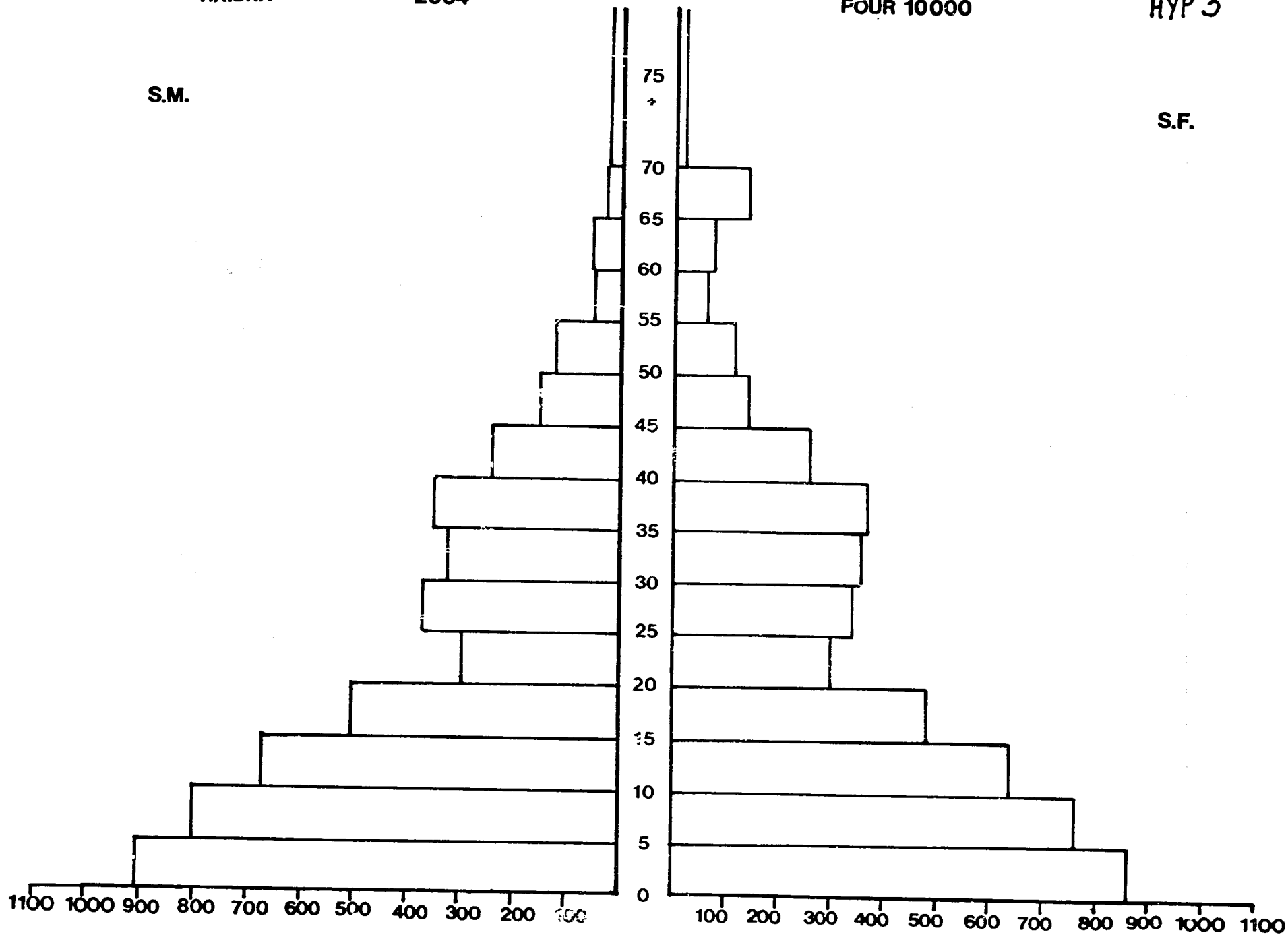
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

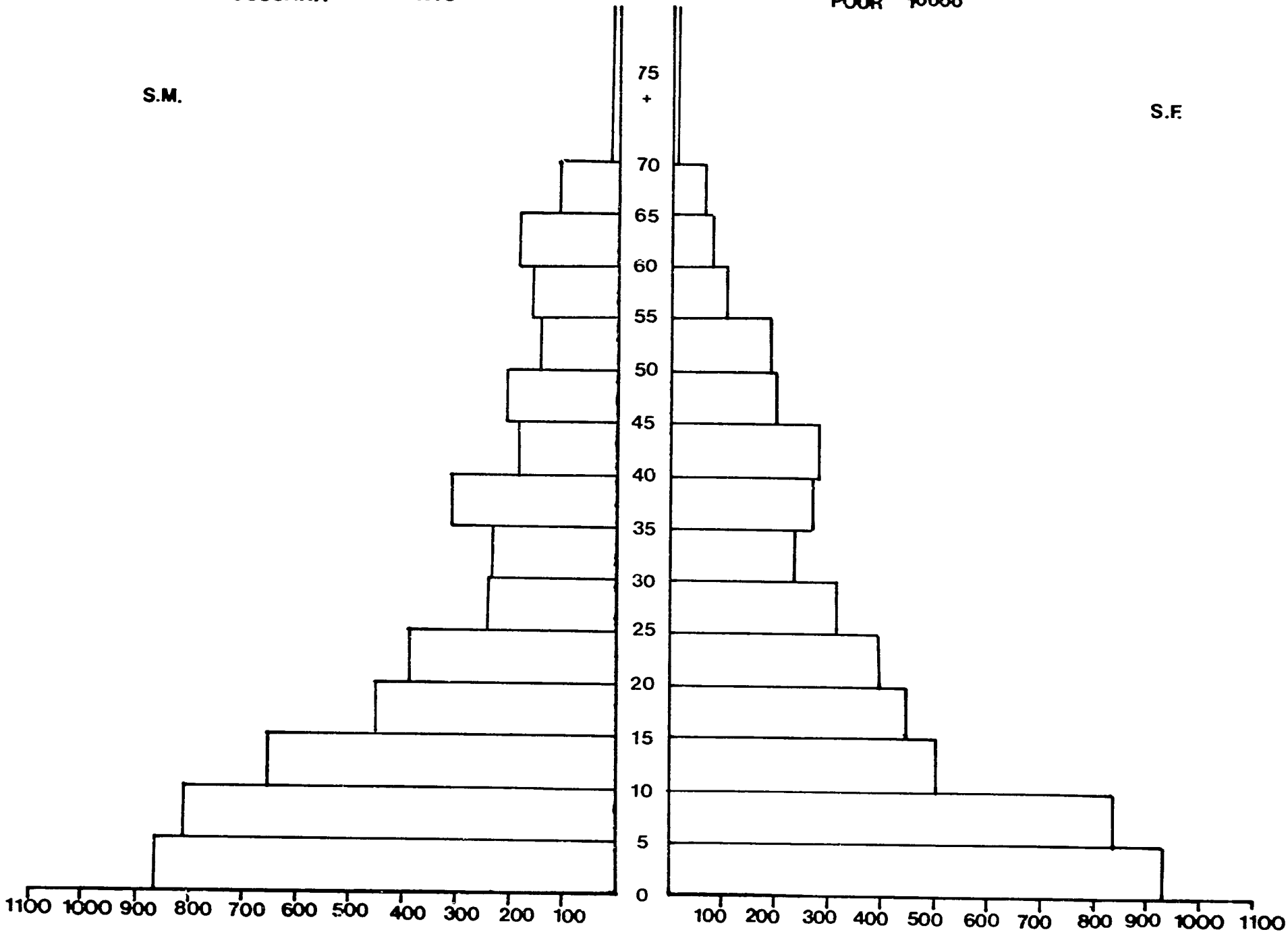
HAIDRA 2004 POUR 10000 HYP 3

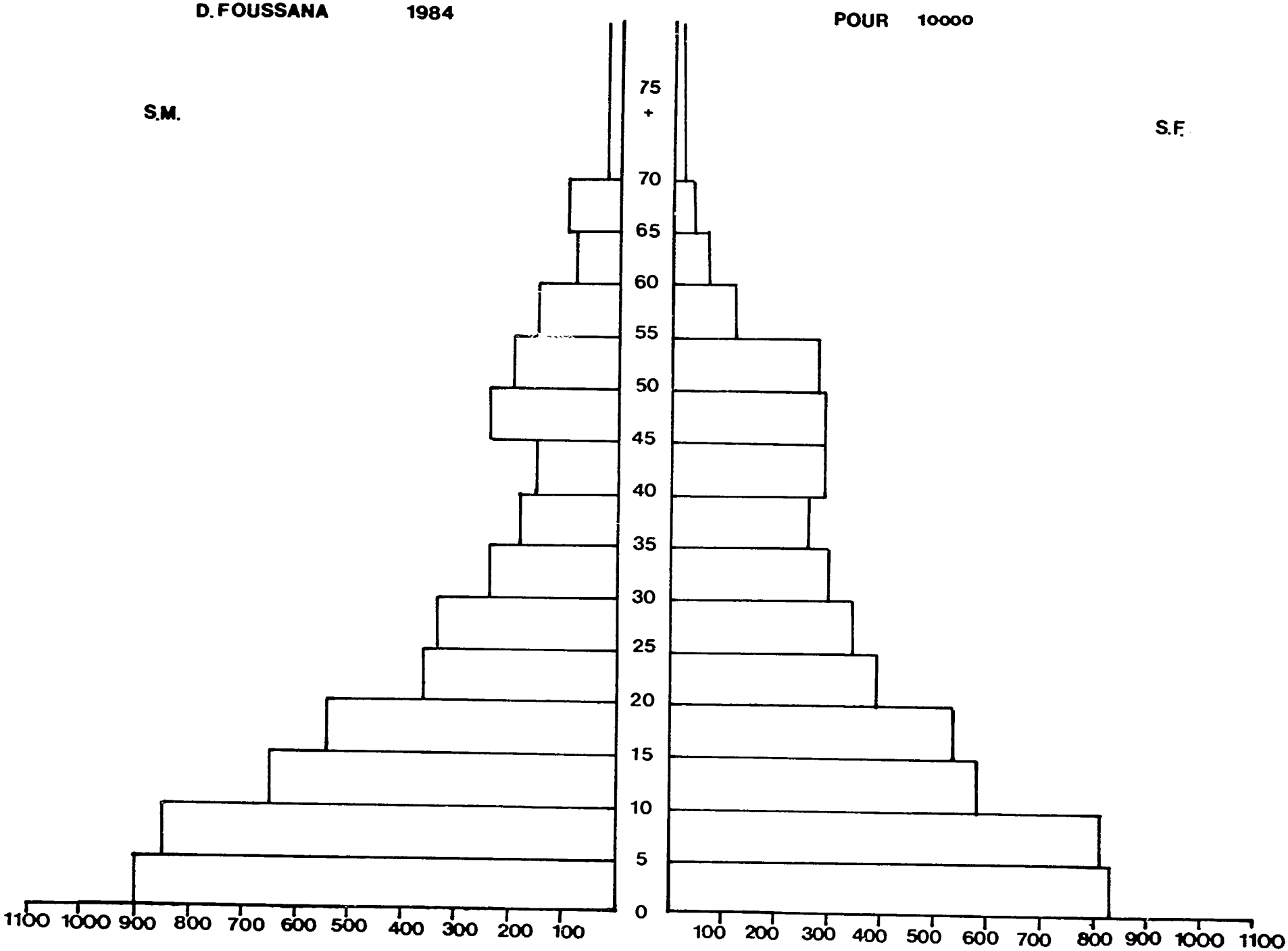


185

D. FOUSSANA 1975

POUR 10000




D. FOUSSANA 1984
POUR 10000
S.M.
S.F.
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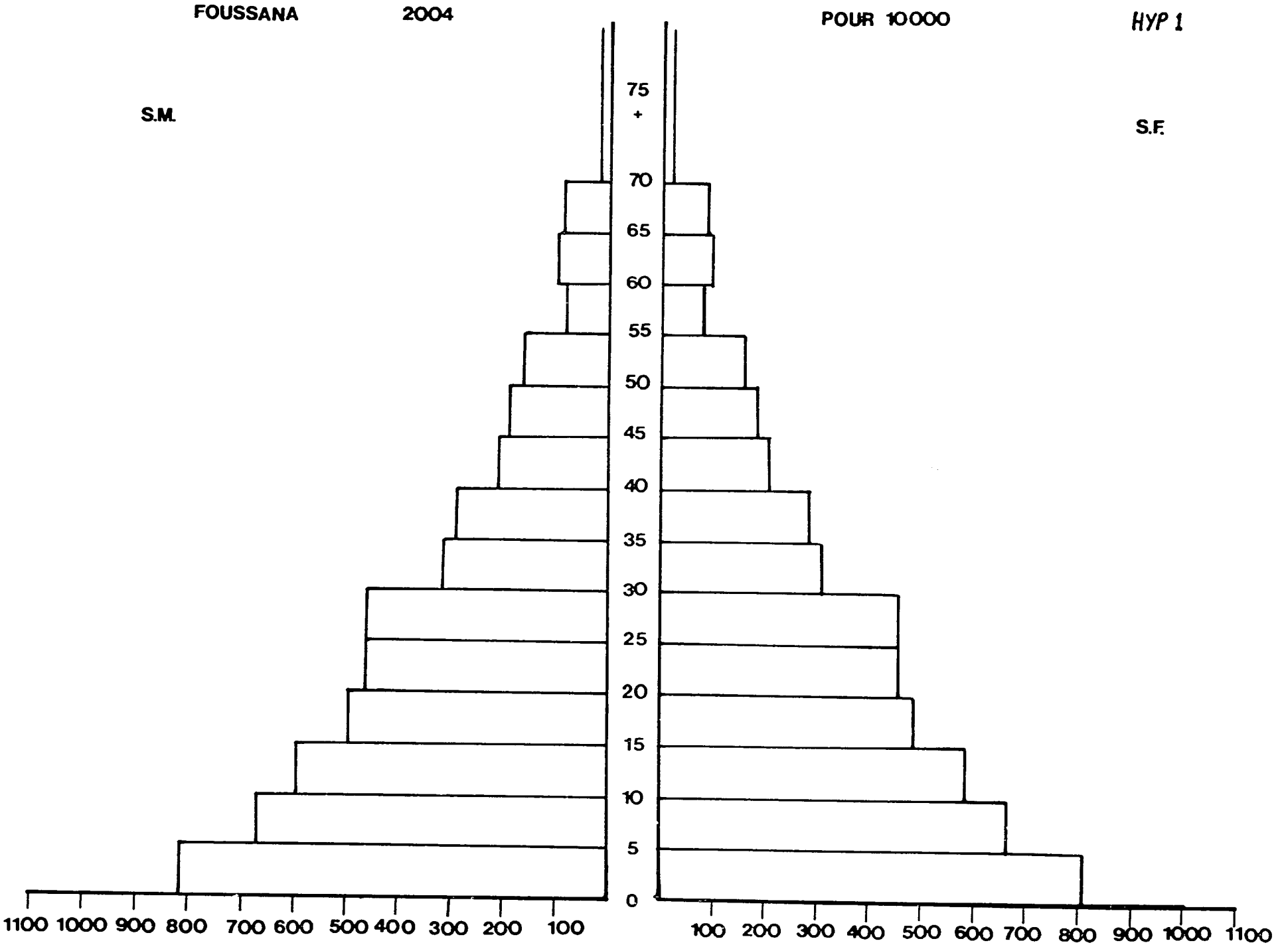
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100


FOUSSANA
2004
POUR 10000
HYP 1
S.M.
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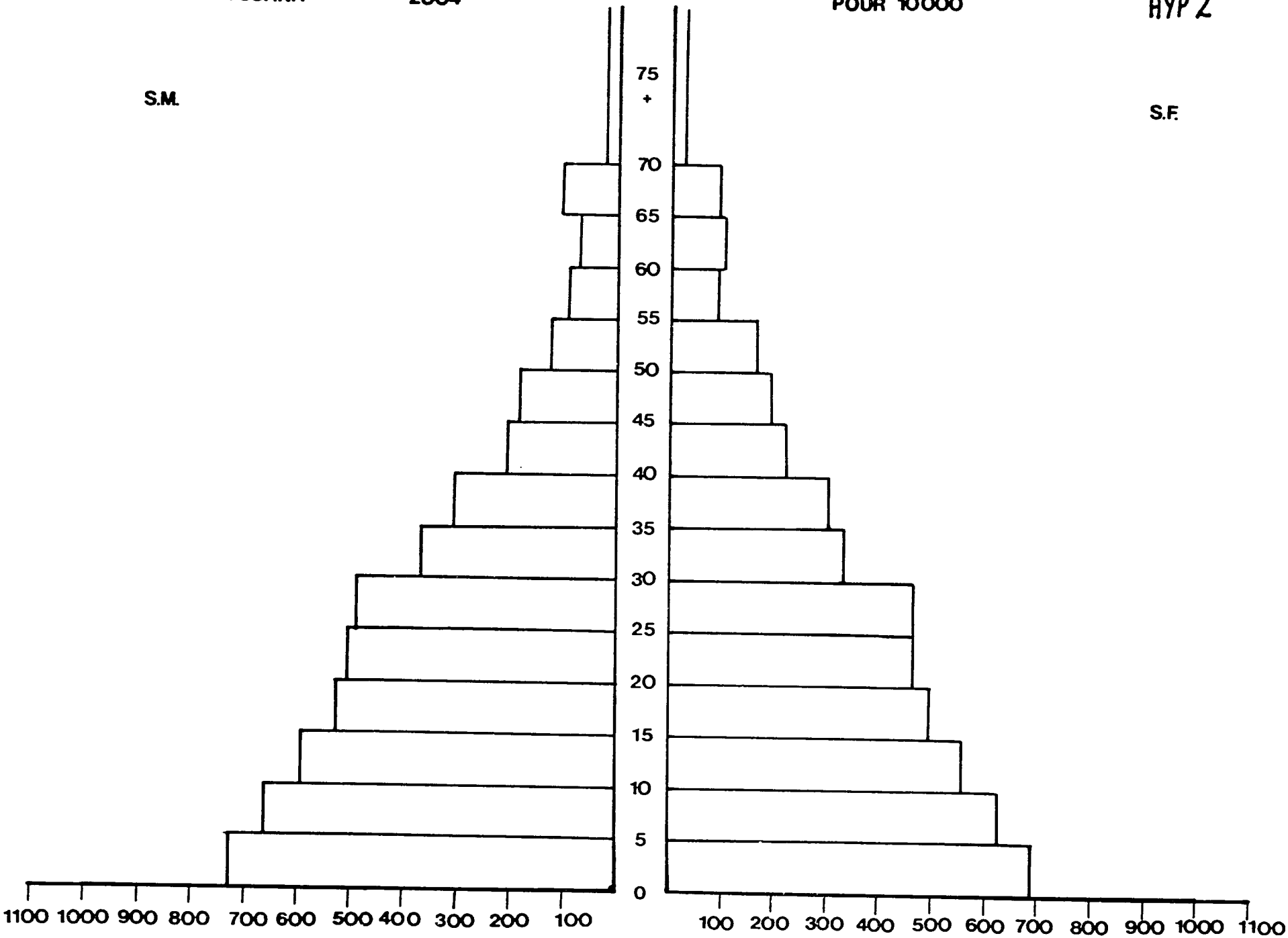
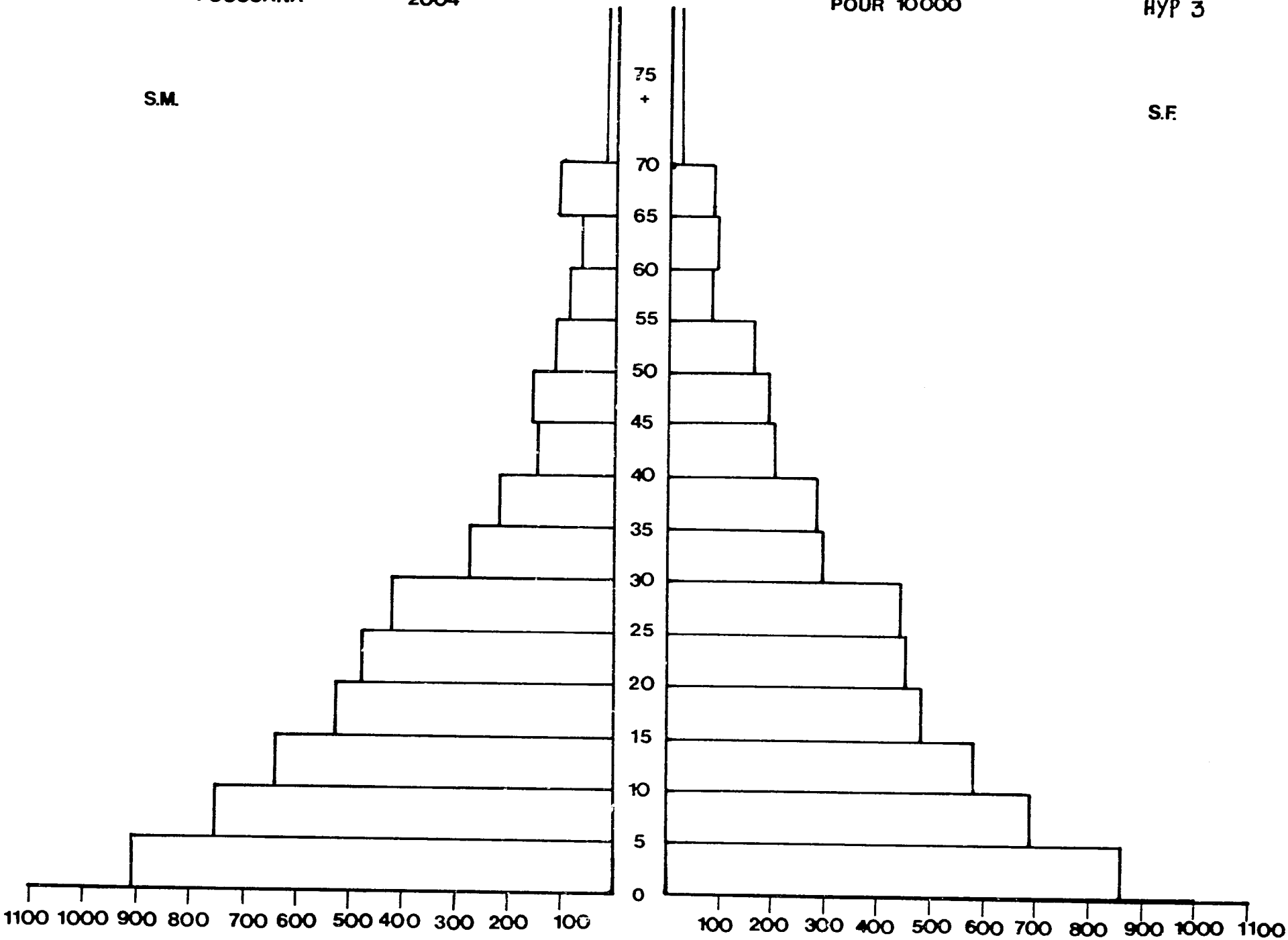
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

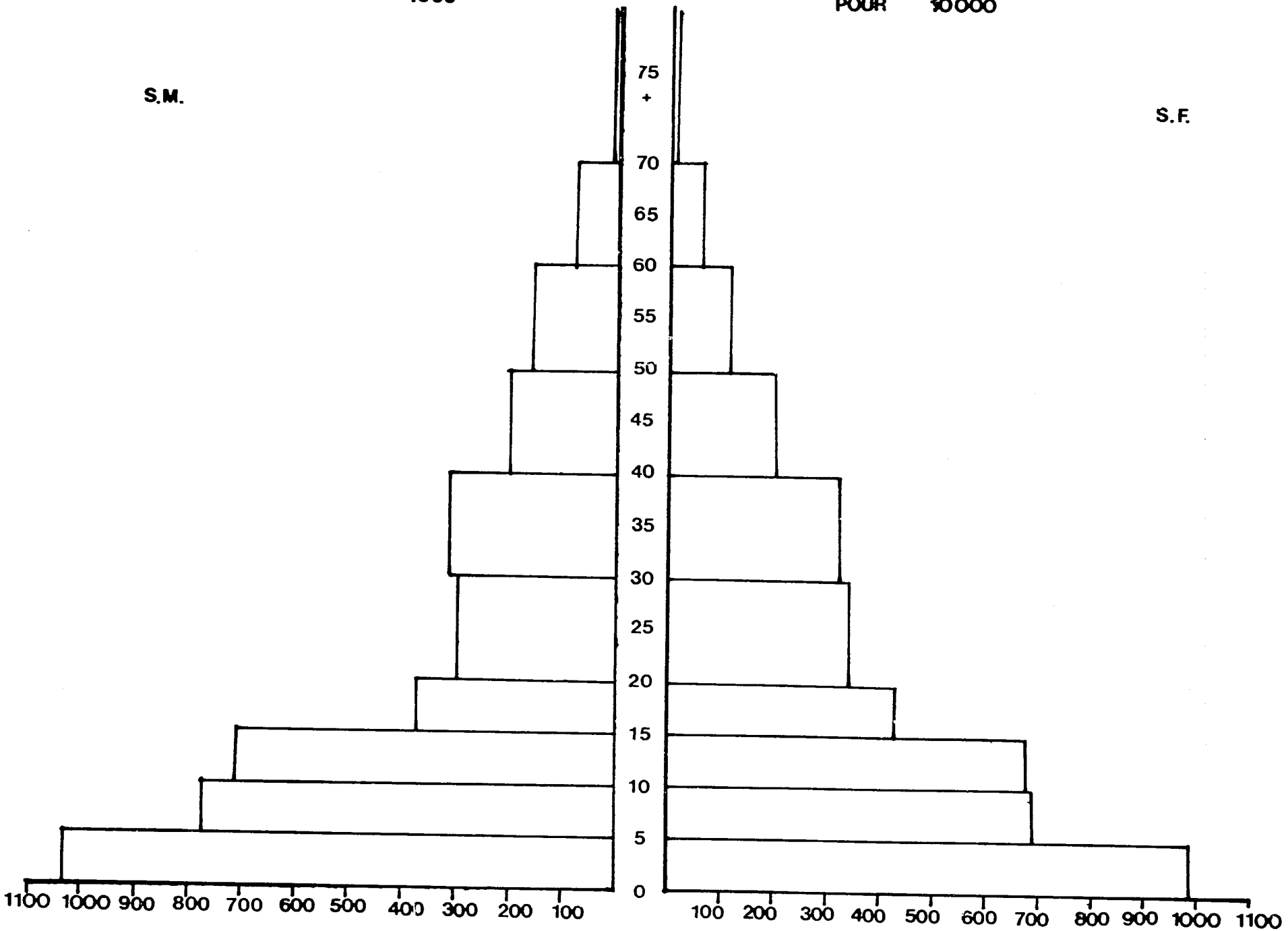
FOUSSANA 2004 POUR 10000 HYP 2



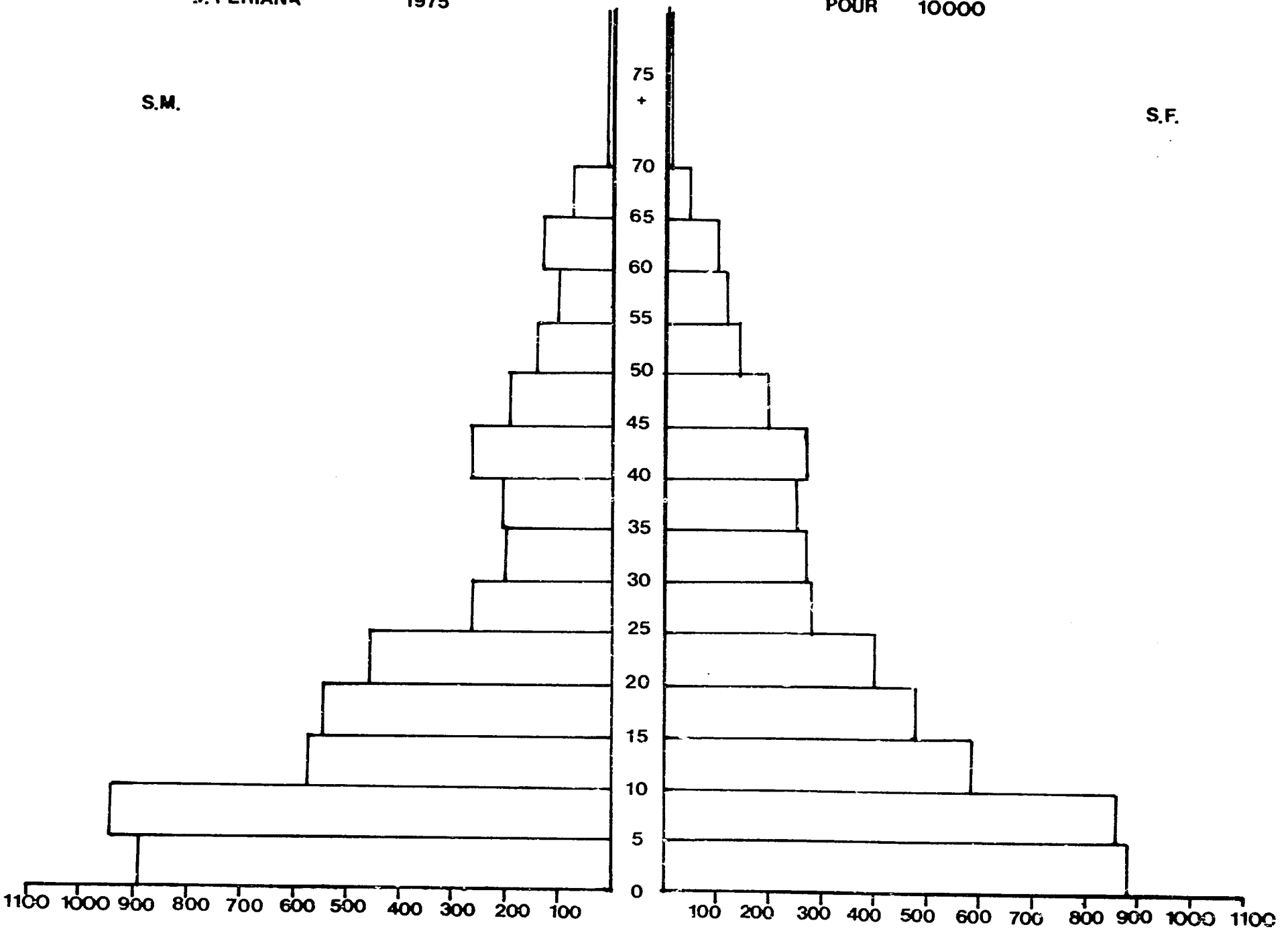
FOUSSANA 2004 POUR 10000 HYP 3

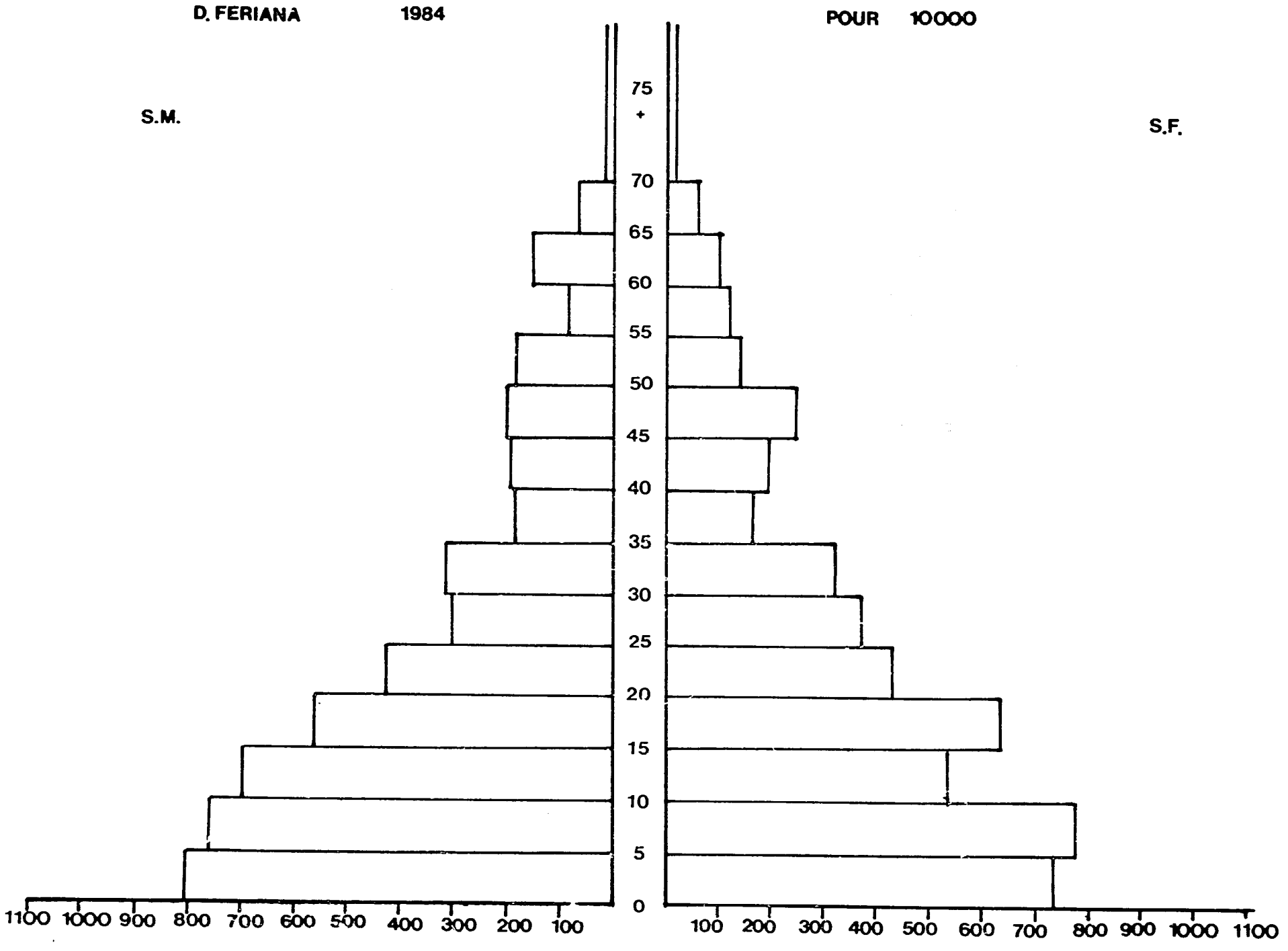


D. FERIANA 1966 POUR 10000



D. FERIANA 1975 POUR 10000




D. FERIANA
1984
POUR 10000
S.M.
S.F.
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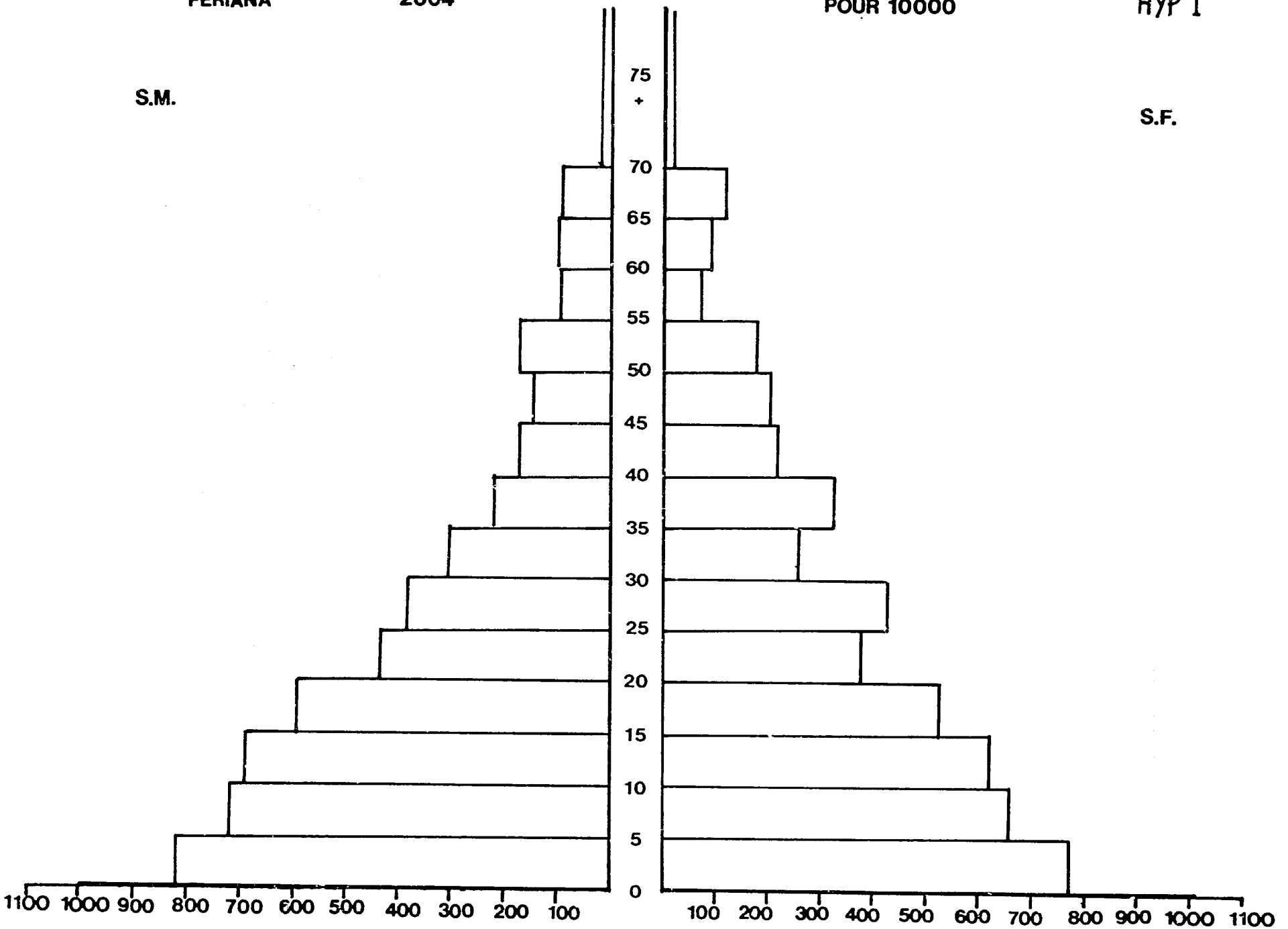
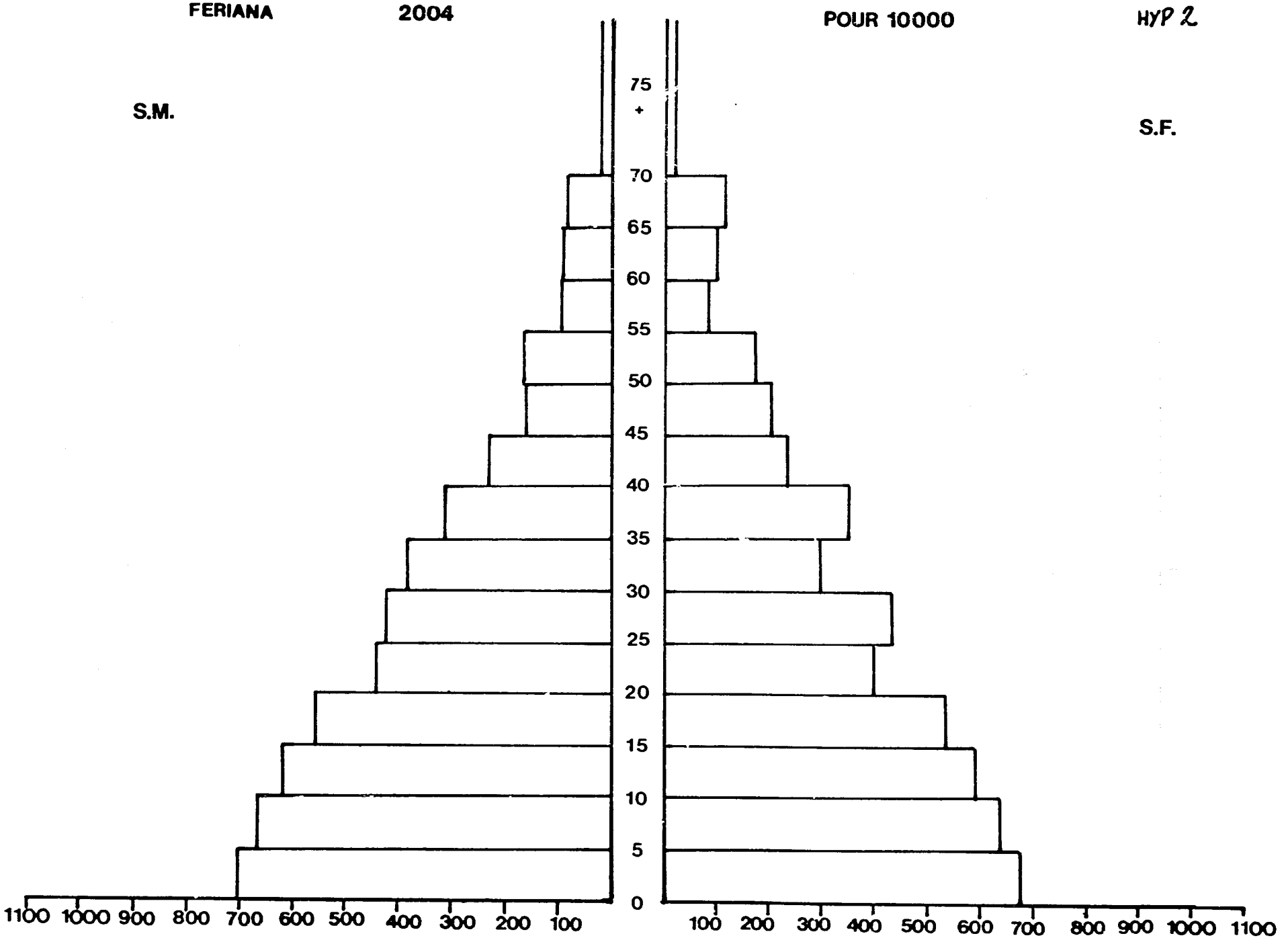
1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

FERIANA 2004 POUR 10000 HYP 1




FERIANA
2004
POUR 10000
HYP 2
S.M.
S.F.
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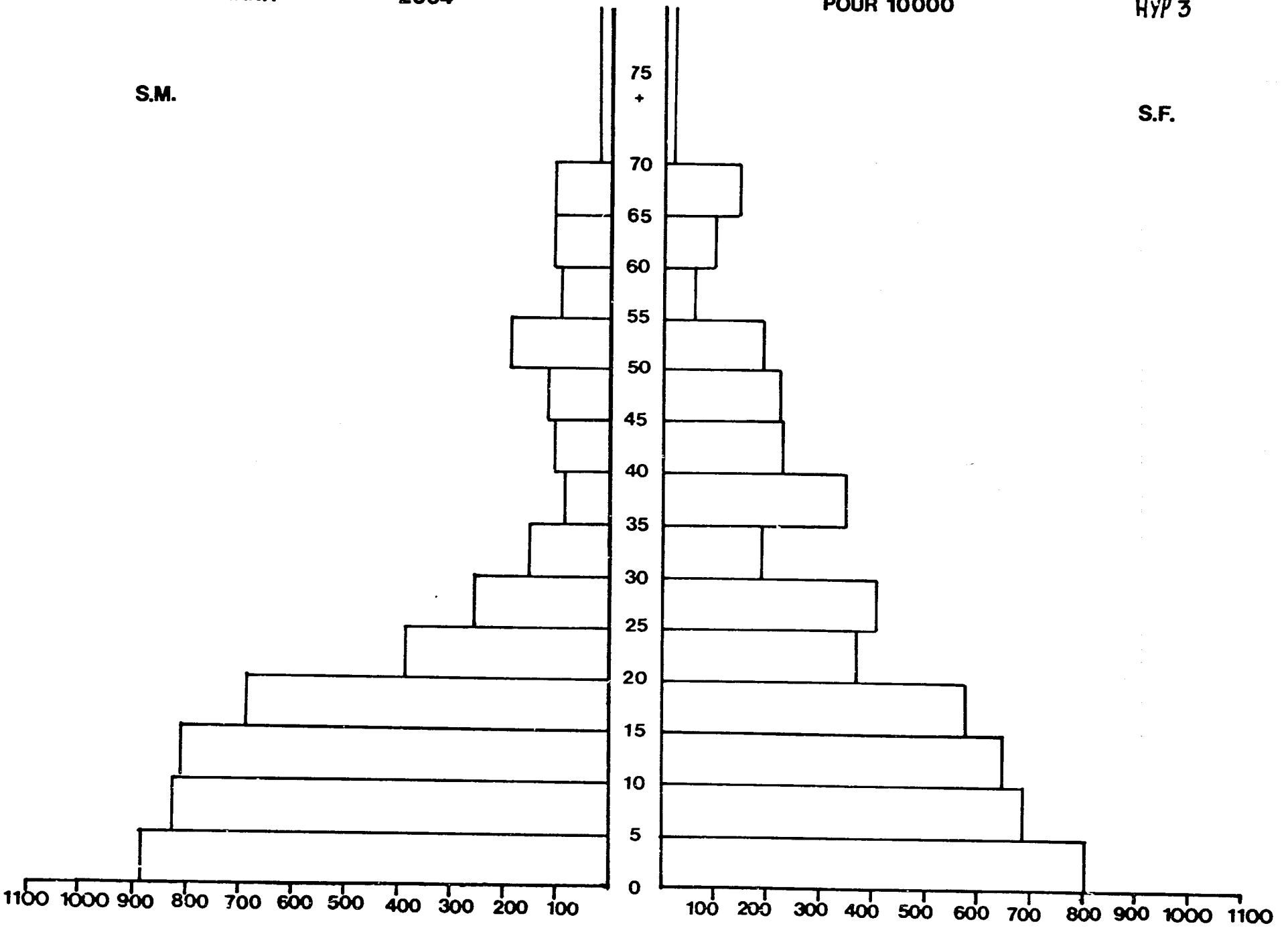
100 200 300 400 500 600 700 800 900 1000 1100

147

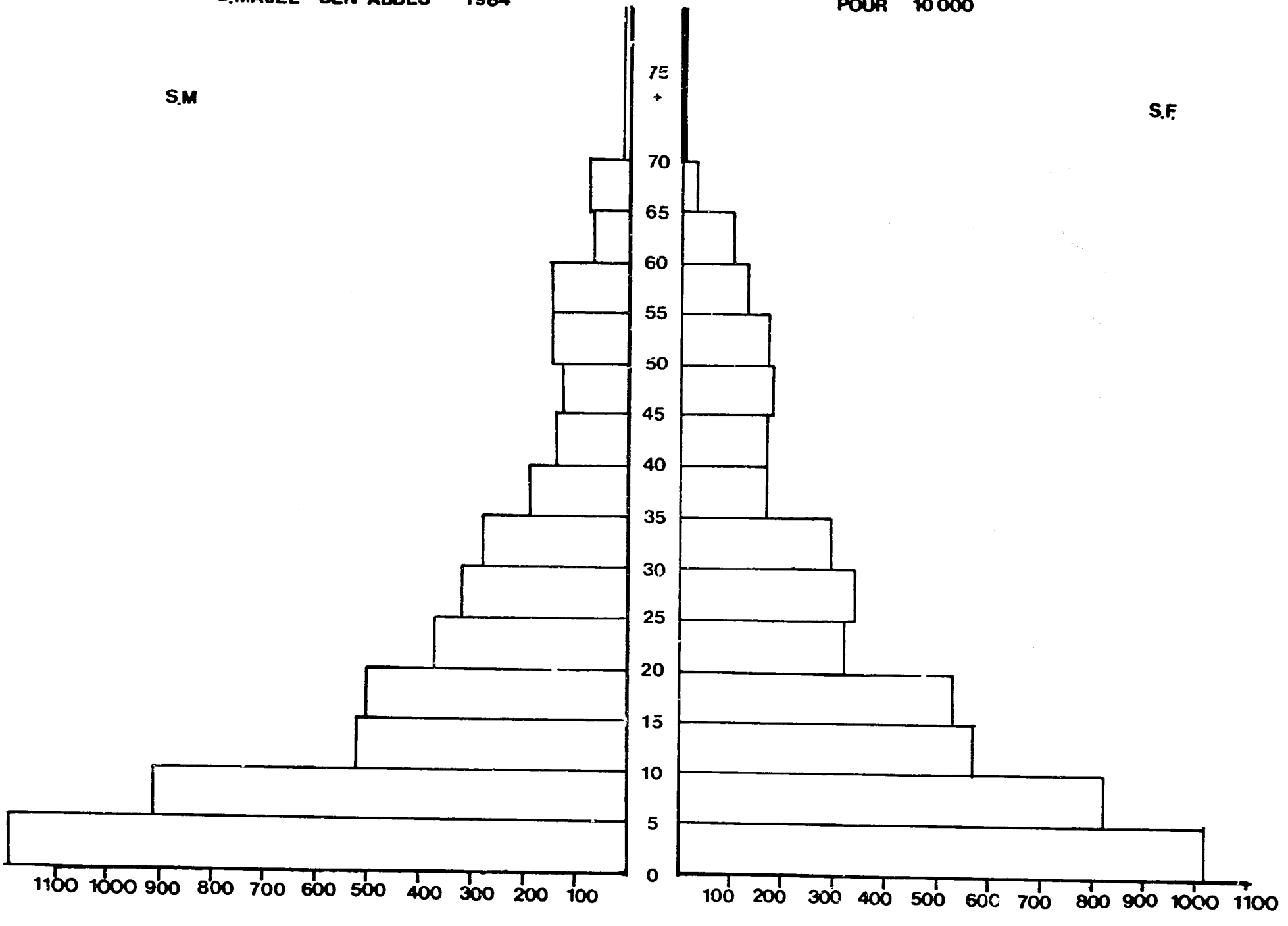
FERIANA 2004 POUR 10000 Hyp 3



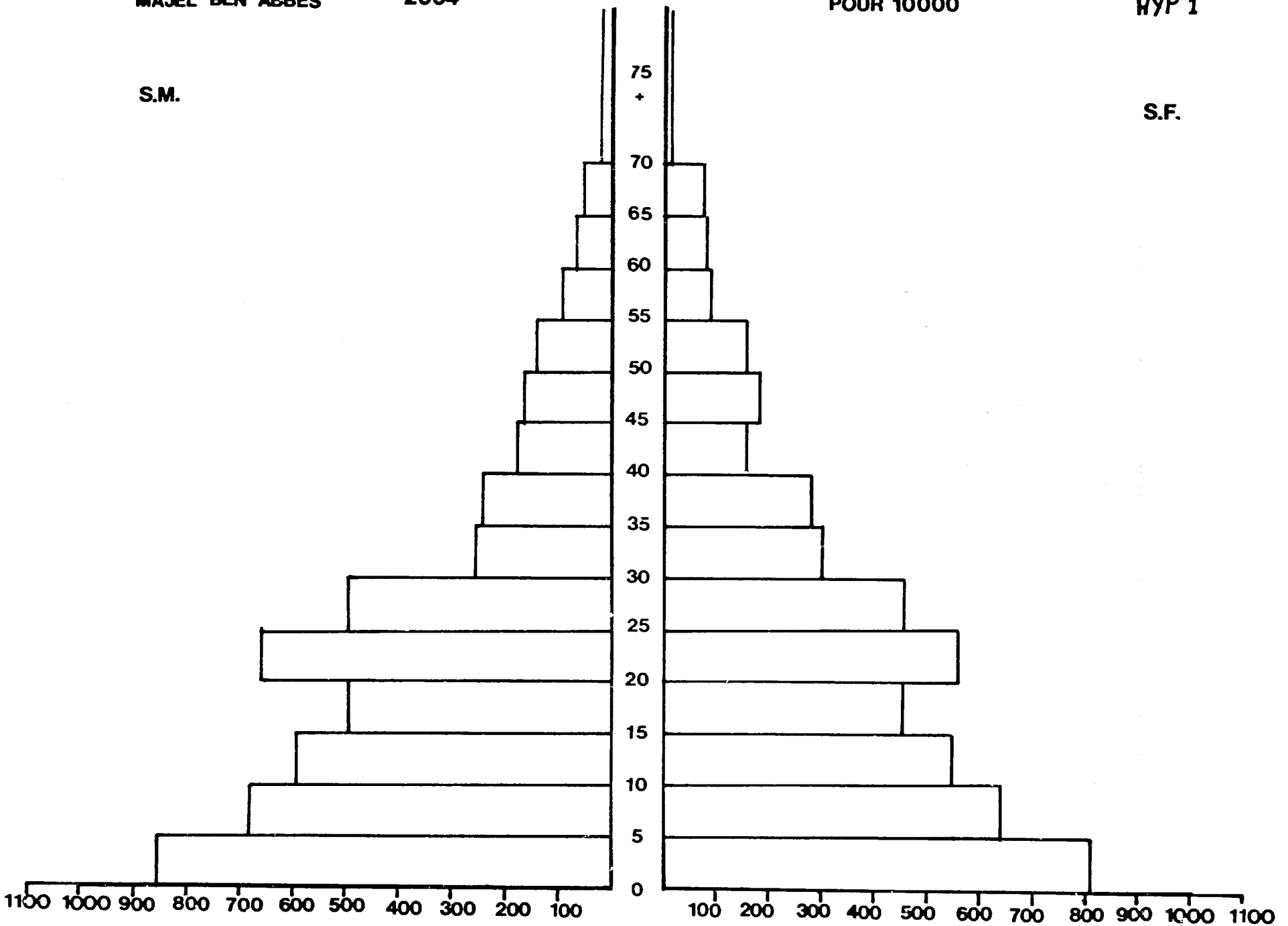
196

D.MAJEL BEN ABBES 1984

POUR 10 000



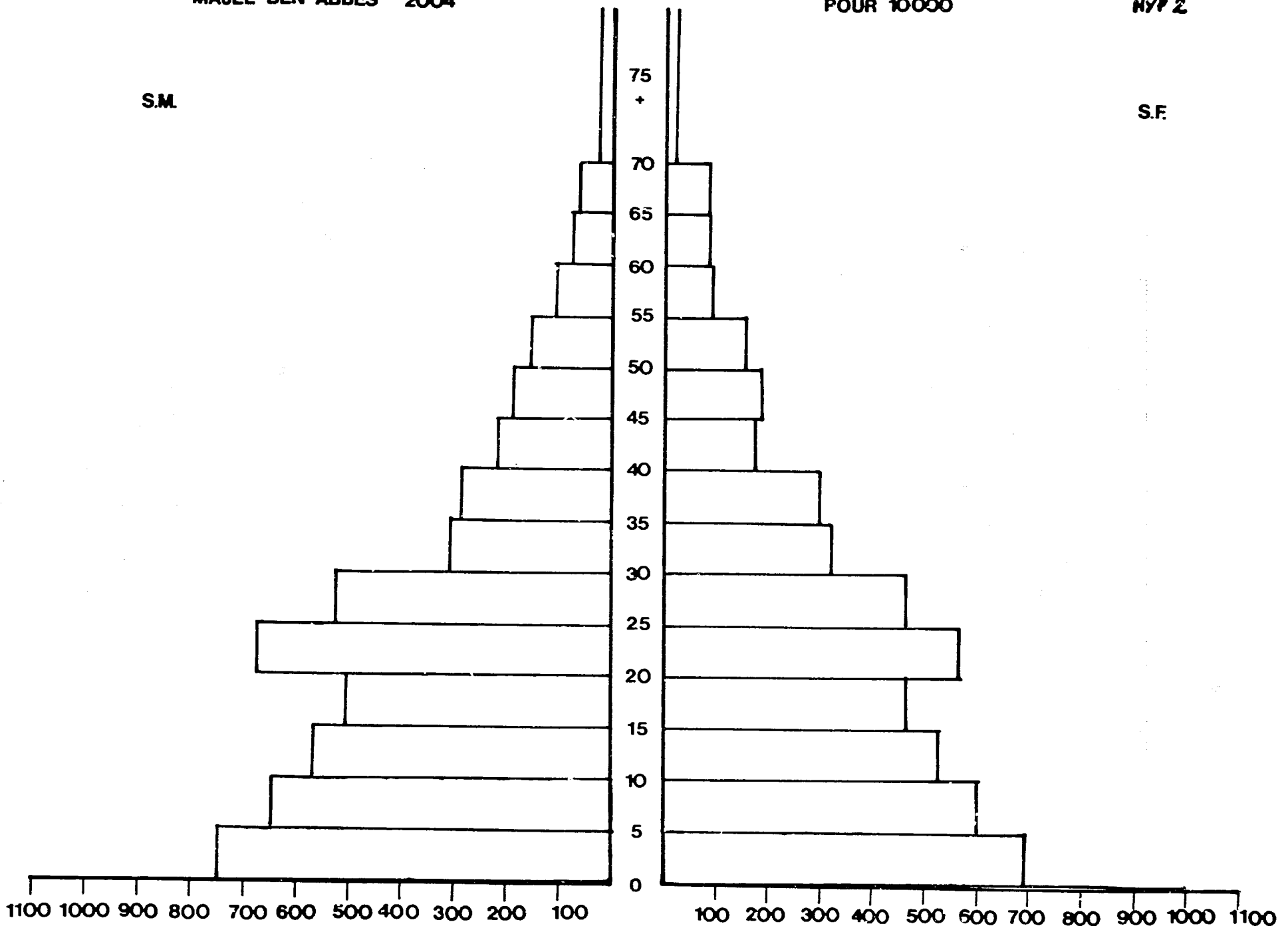
MAJEL BEN ABBES 2004 POUR 10000 HYP 1



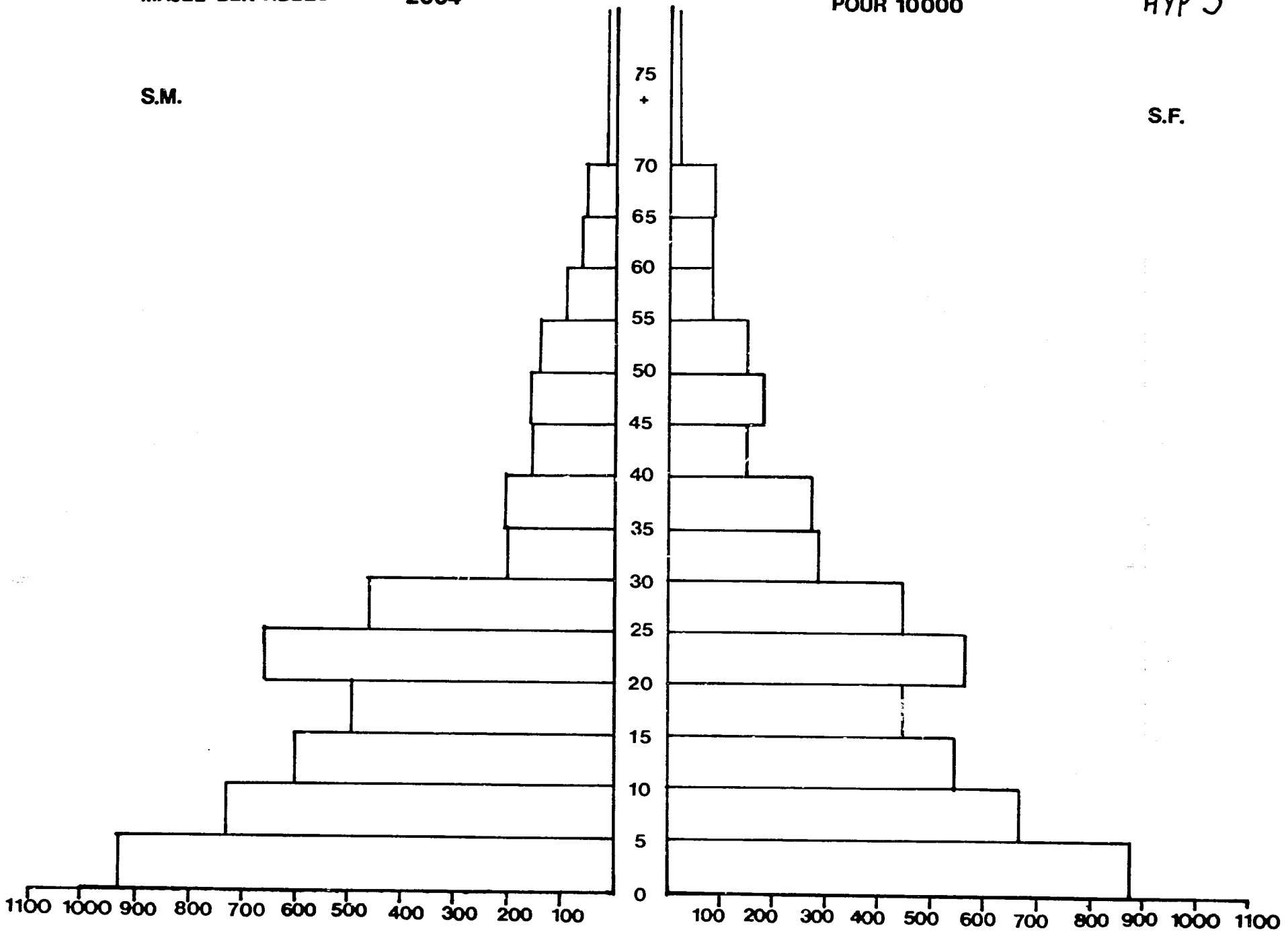
MAJEL BEN ABBES 2004

POUR 10000

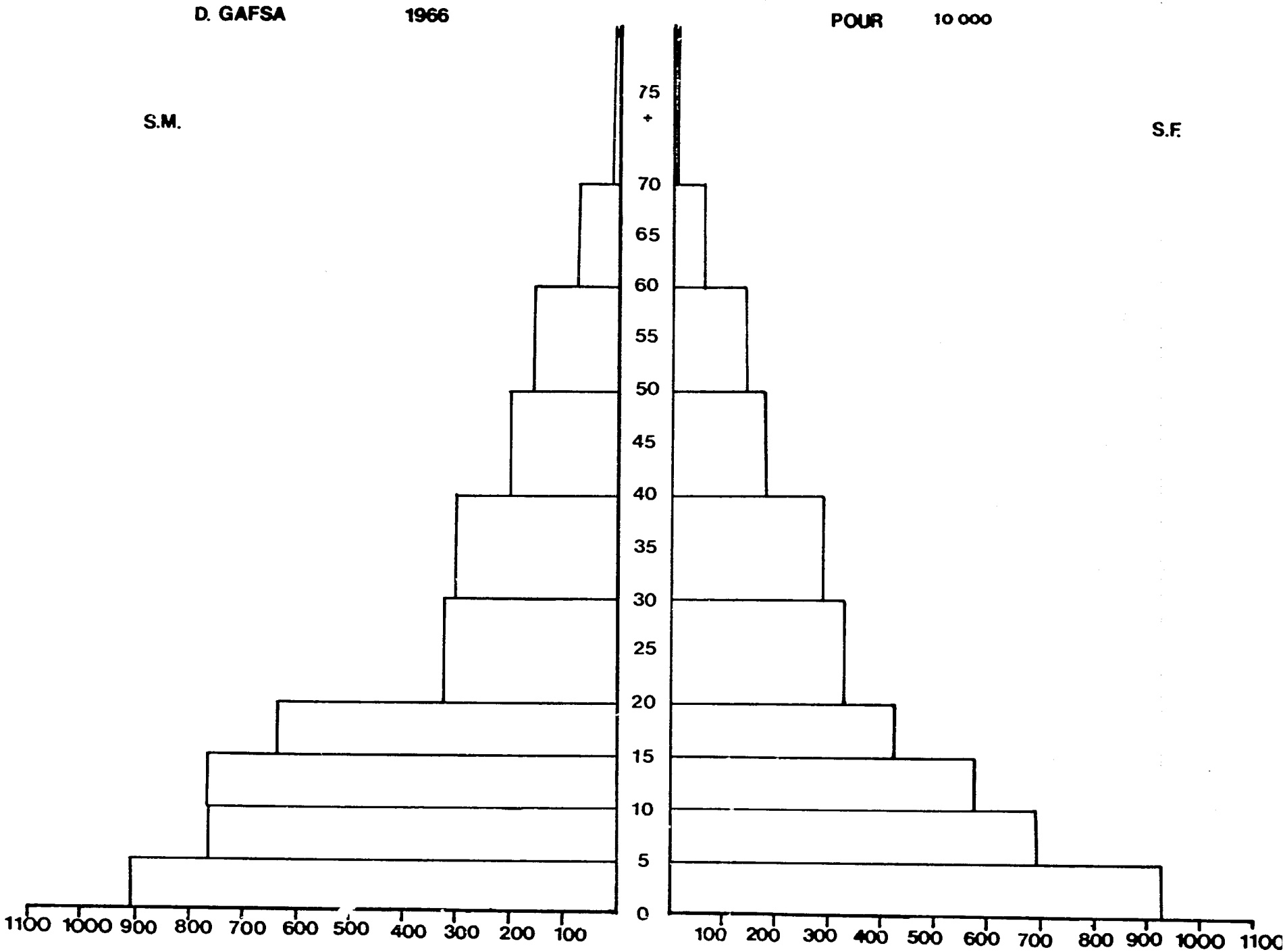
HYP 2



MAJEL BEN ABBES 2004 POUR 10000 HYP 3



180


D. GAFSA
1966
POUR
10 000
S.M.
S.F.
75 +
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1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

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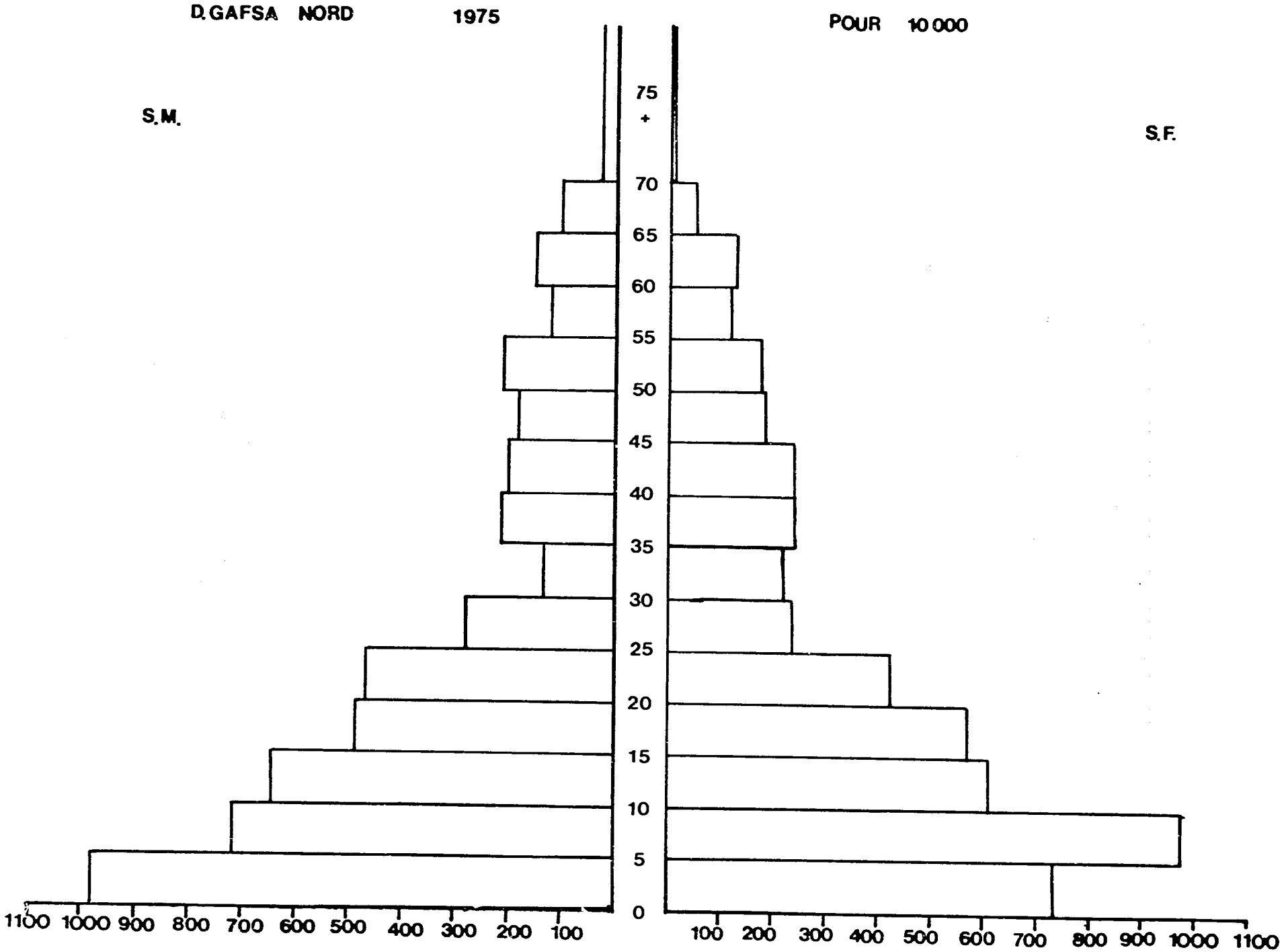
D.GAFSA NORD
1975
POUR 10 000
S.M.
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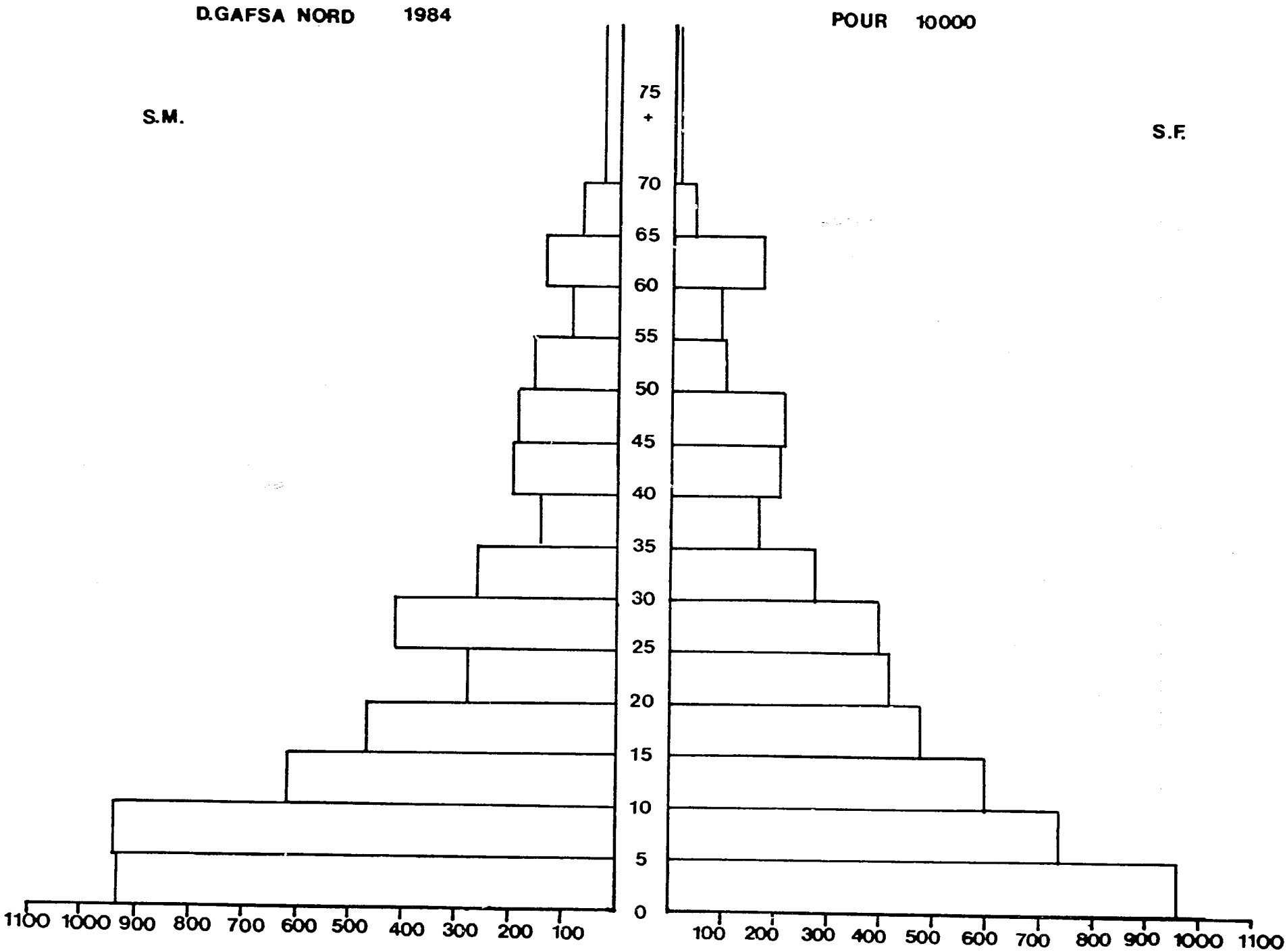
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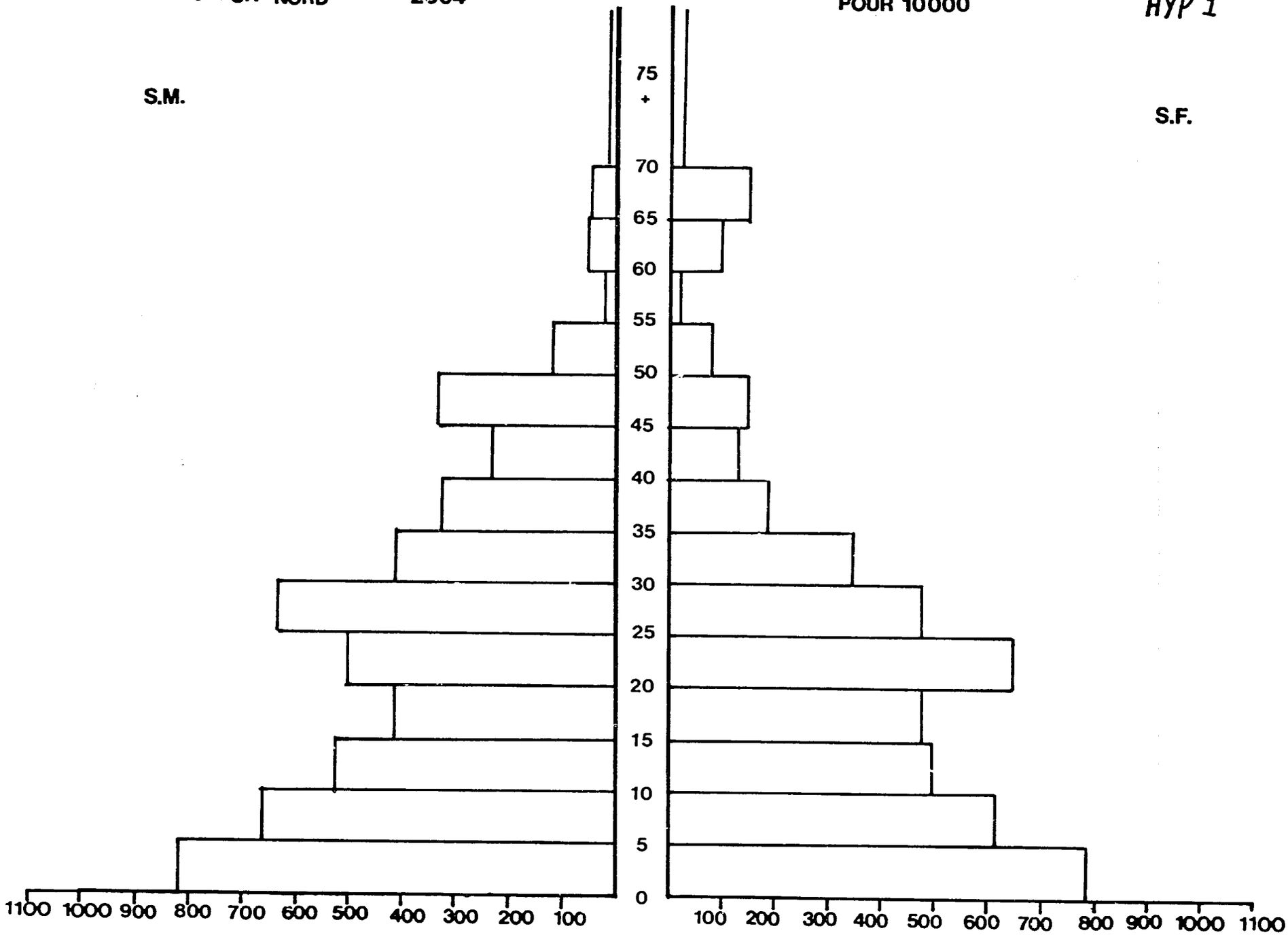

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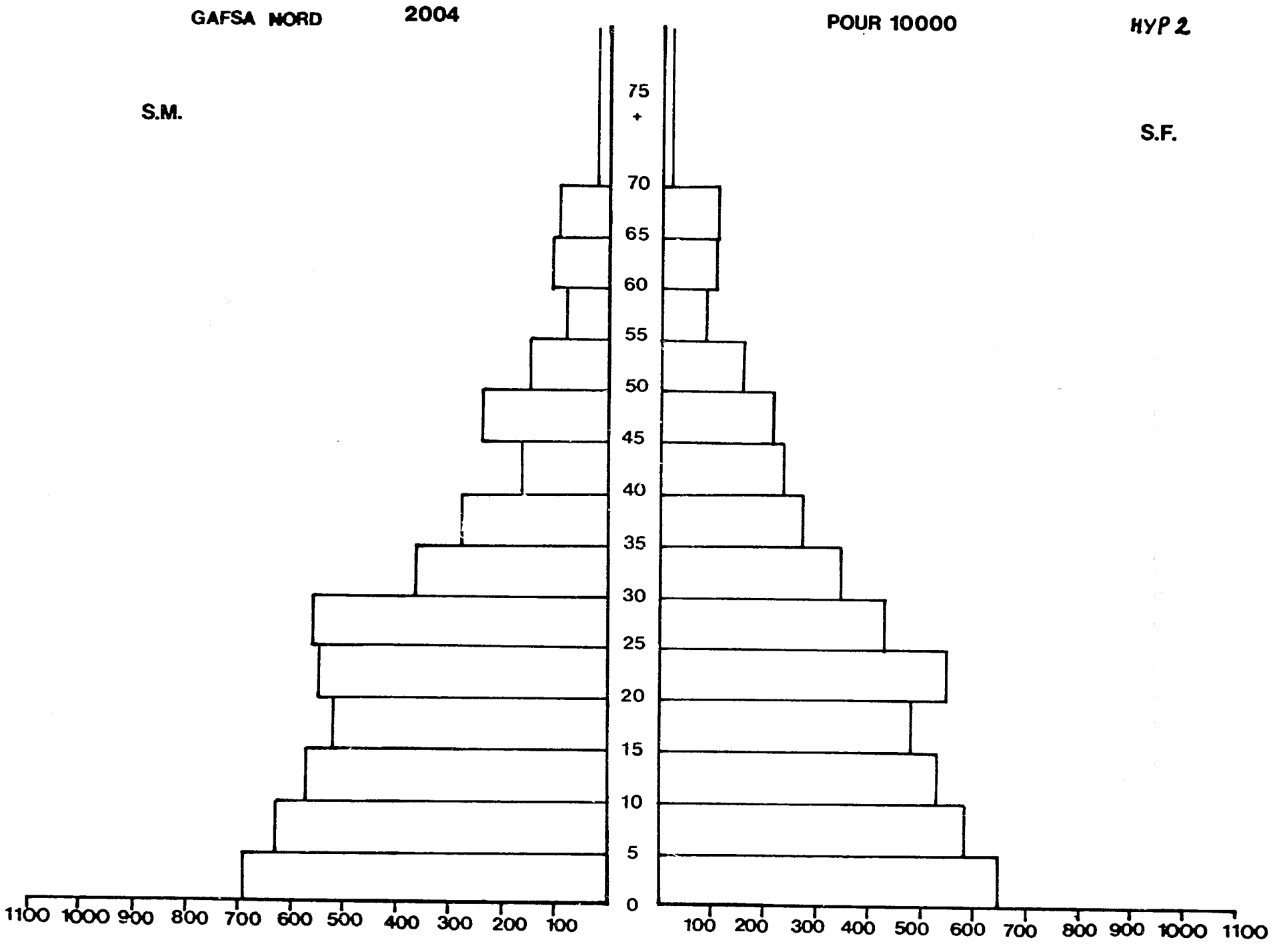
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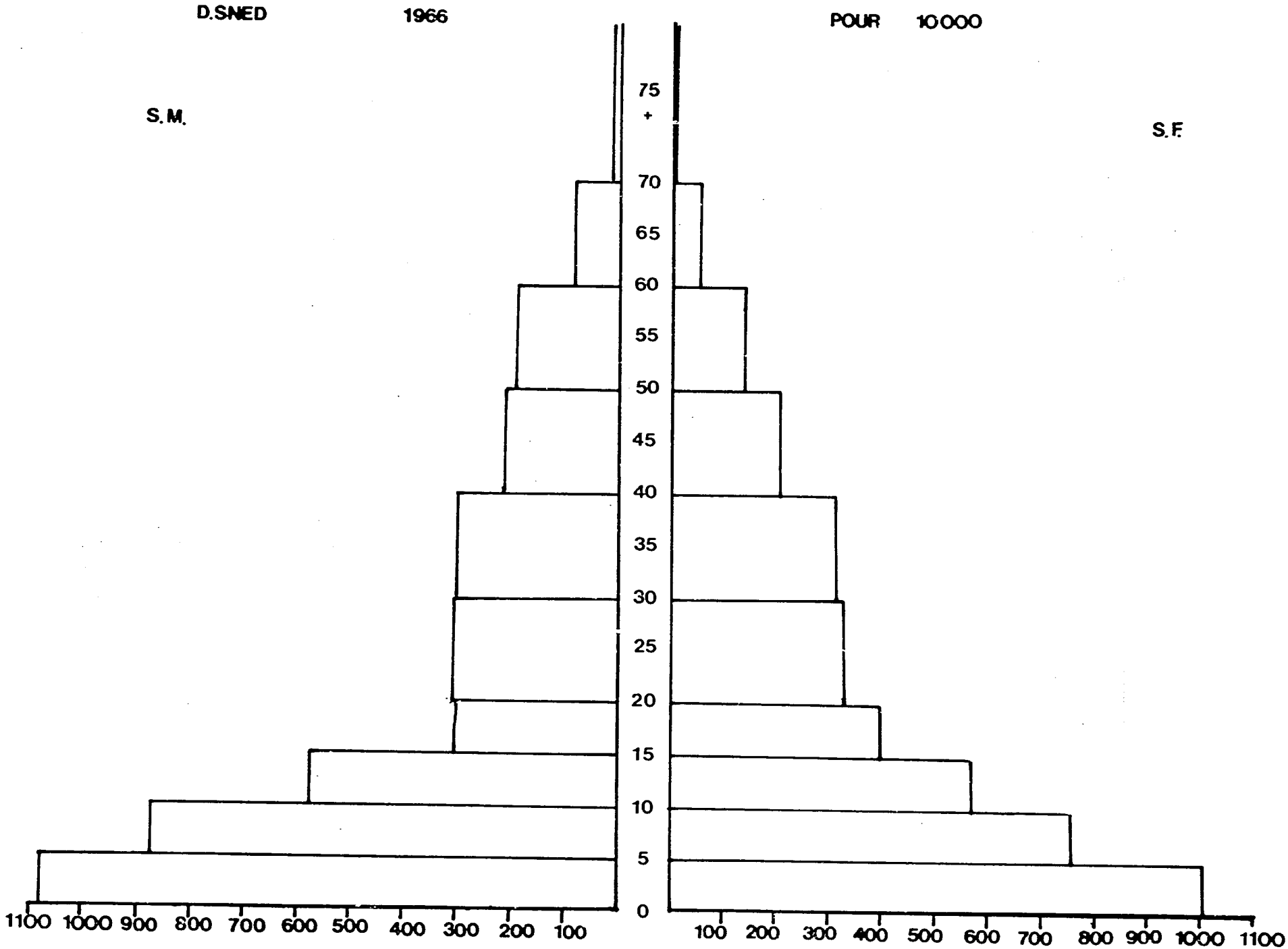
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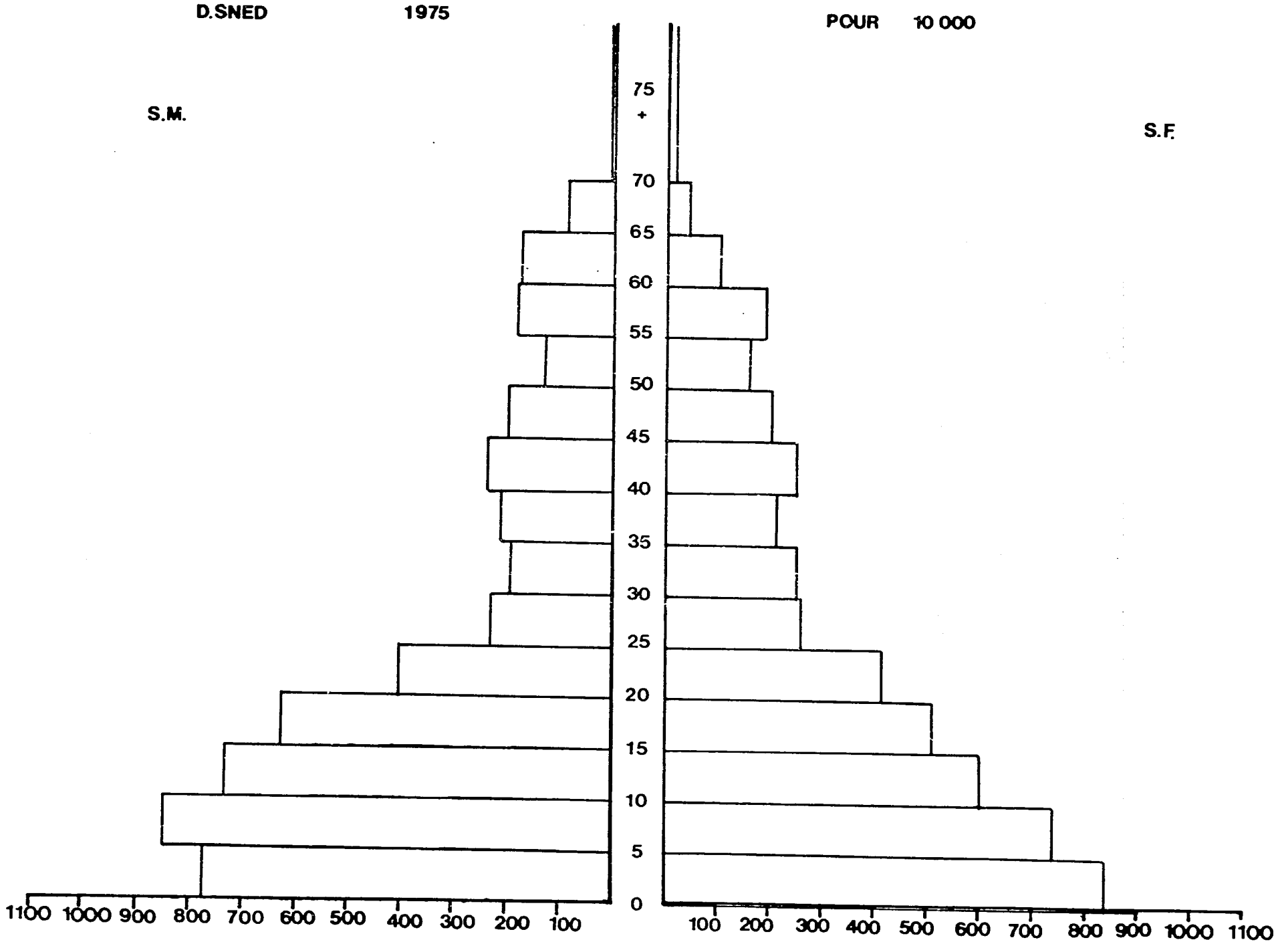
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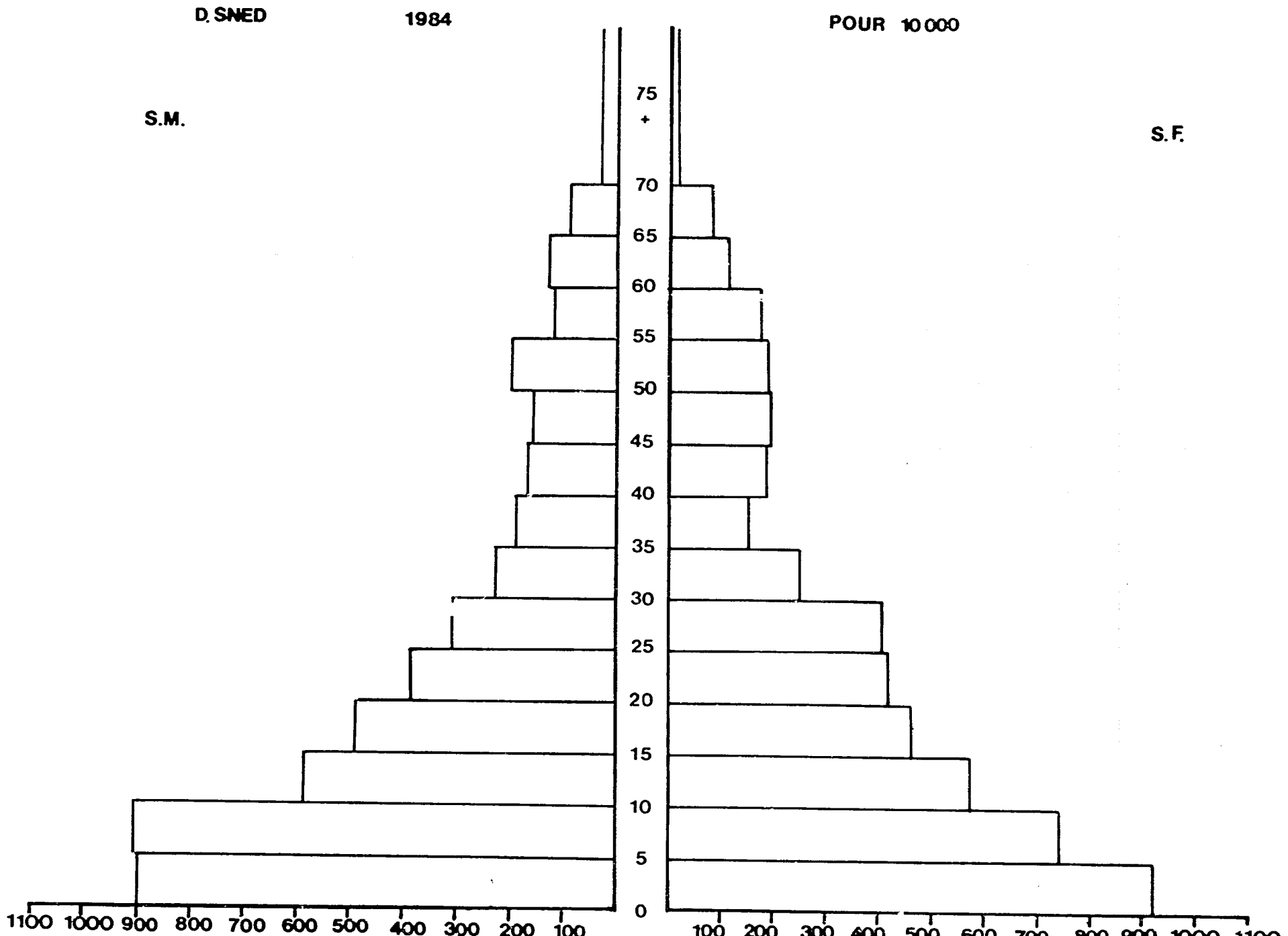
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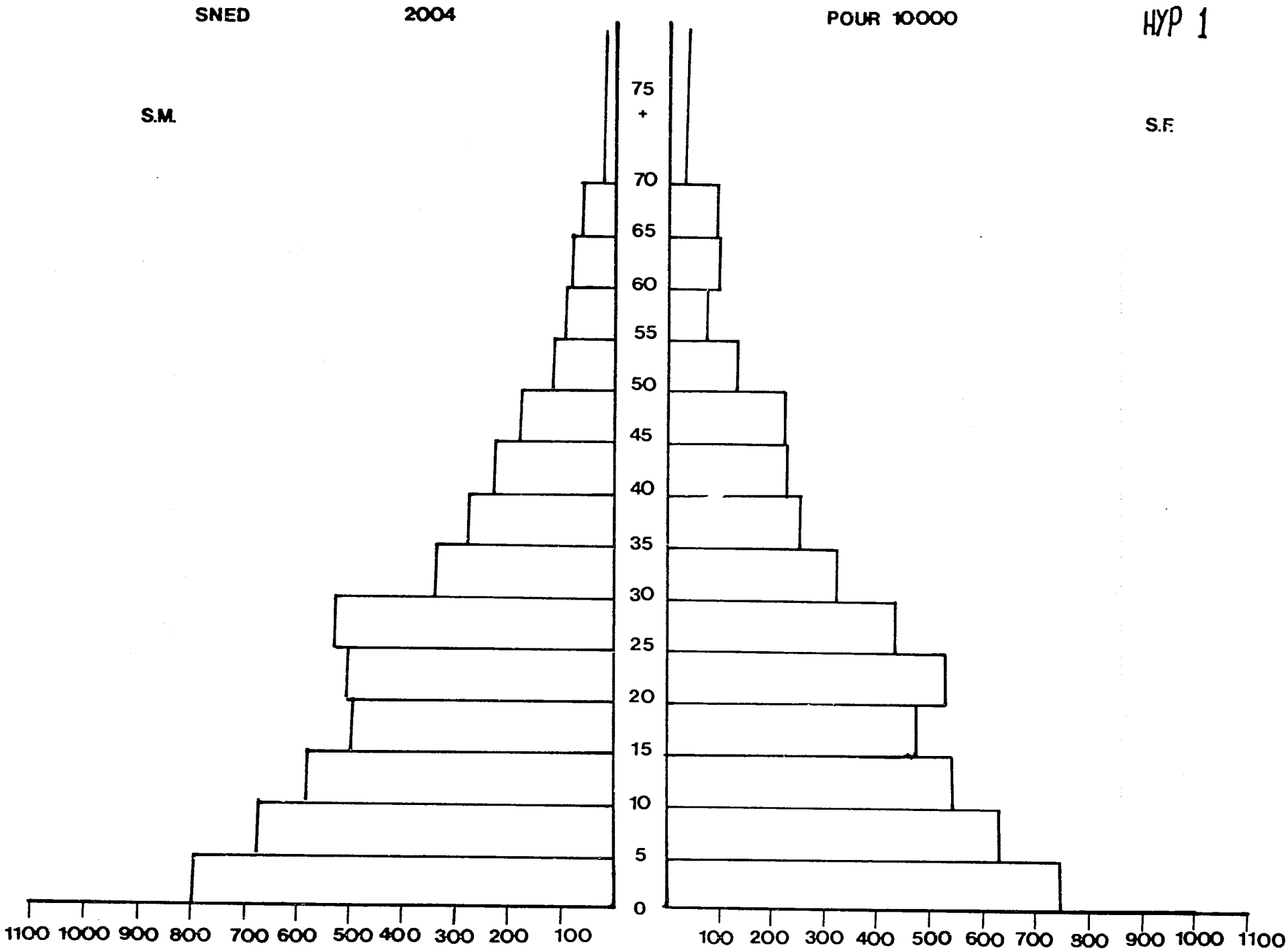
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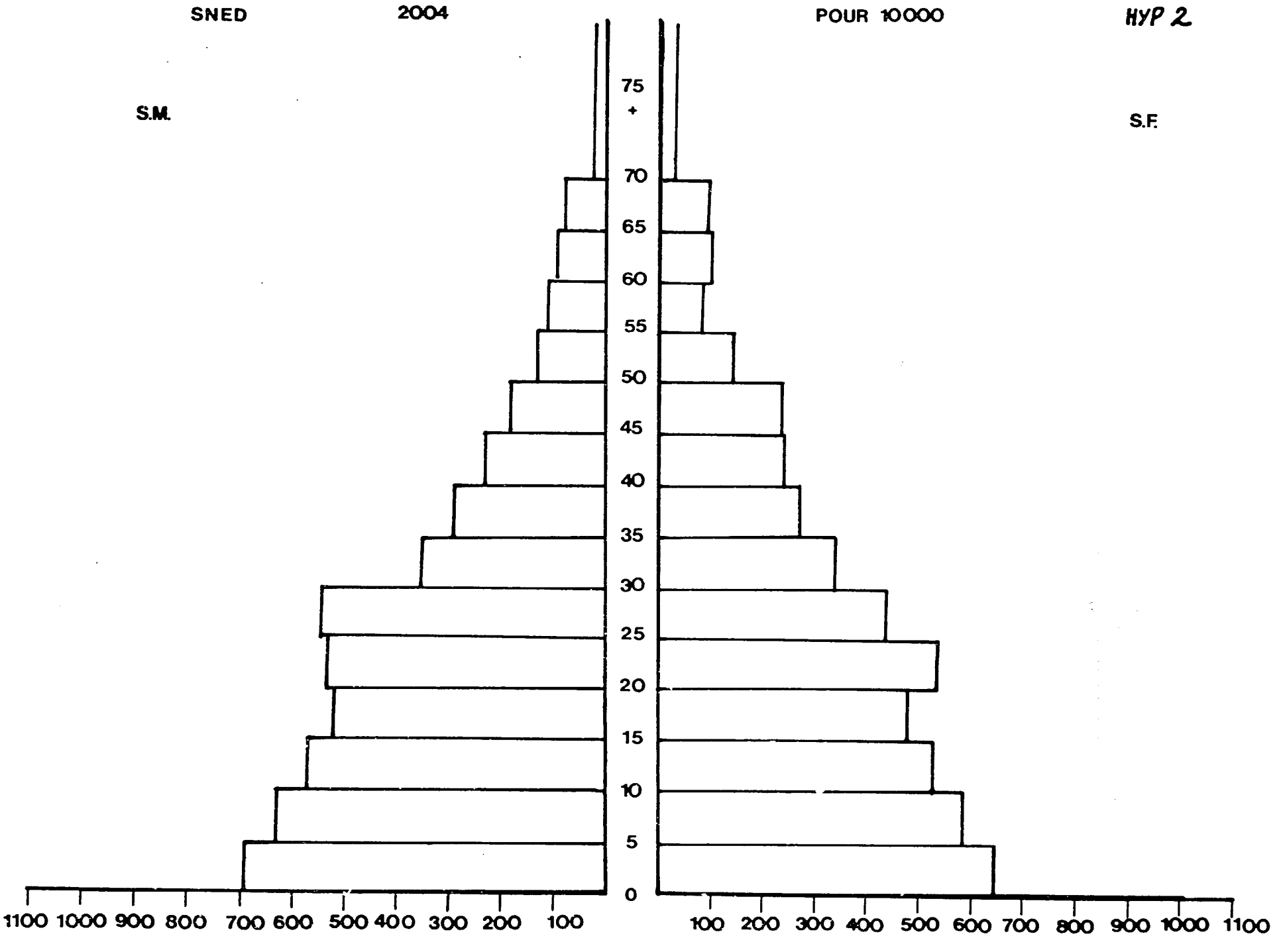
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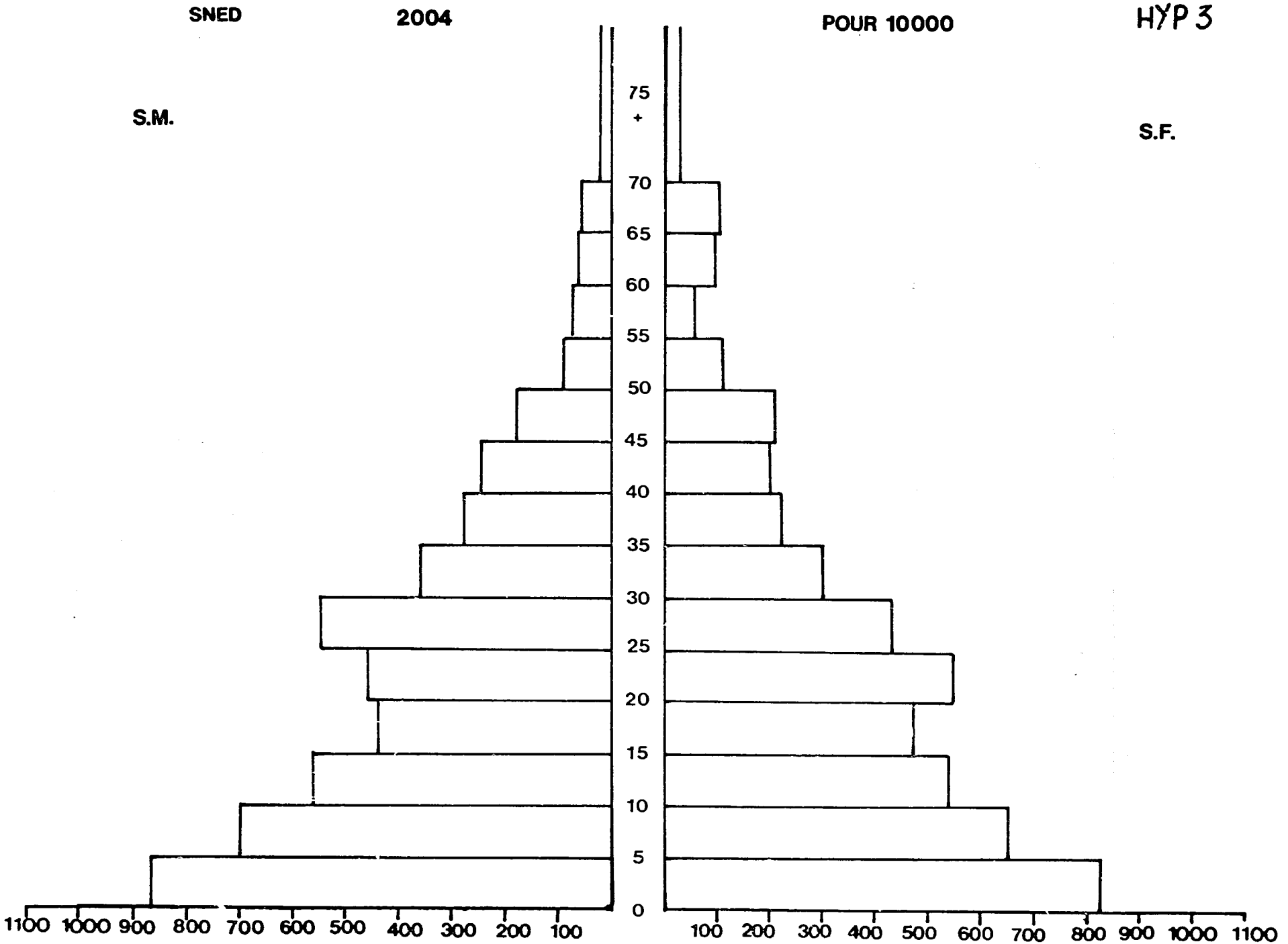
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S.F.
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1100 1000 900 800 700 600 500 400 300 200 100
100 200 300 400 500 600 700 800 900 1000 1100

APPENDIX III

Calculation Matrixes for Potable Water Requirements

Delegation of Kasserine Nord HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	4603	5172	6280	7031	8318
5-14	10568	12766	14658	17147	19878
15-49	22245	27847	34683	42811	50795
50 +	3562	4513	5484	6289	7801
Total	40978	50297	61104	73277	86792

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	81.96	100.59	122.21	146.55	173.58
3 litres	122.93	150.89	183.31	219.83	260.38
4 litres	163.91	201.19	244.42	293.11	347.17
5 litres	204.89	251.49	305.52	366.38	433.96
6 litres	245.87	301.78	366.62	439.66	520.75
7 litres	286.84	352.08	427.73	512.94	607.54
8 litres	327.82	402.38	488.83	586.21	694.34
9 litres	368.80	452.67	549.94	659.49	781.13
10 litres	409.78	502.97	611.04	732.77	867.92

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	29913.58	36716.85	44605.88	53492.08	63358.20
3 litres	44870.36	55075.27	66908.83	80238.12	95037.29
4 litres	59827.15	73433.69	89211.77	106984.16	126716.39
5 litres	74783.94	91792.12	111514.71	133730.21	158395.49
6 litres	89740.73	110150.54	133817.65	160476.25	190074.59
7 litres	104697.51	128508.96	156120.59	187222.29	221753.69
8 litres	119654.30	146867.39	178423.53	213968.33	253432.79
9 litres	134611.09	165225.81	200726.48	240714.37	285111.88
10 litres	149567.88	183584.23	223029.42	267460.41	316790.98

Delegation of Kasserine Nord HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	4603	4867	5243	5646	6088
5-14	10568	12511	13823	14873	16099
15-49	22245	26452	31936	38655	44882
50 +	3562	4369	5211	5917	7362
Total	40978	48198	56213	65091	74432

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	81.96	96.40	112.43	130.18	148.86
3 litres	122.93	144.59	168.64	195.27	223.30
4 litres	163.91	192.79	224.85	260.36	297.73
5 litres	204.89	240.99	281.07	325.45	372.16
6 litres	245.87	289.19	337.28	390.54	446.59
7 litres	286.84	337.39	393.49	455.64	521.02
8 litres	327.82	385.59	449.71	520.73	595.45
9 litres	368.80	433.78	505.92	585.82	669.89
10 litres	409.78	481.98	562.13	650.91	744.32

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	29913.58	35184.76	41035.84	47516.27	54335.25
3 litres	44870.36	52777.14	61553.76	71274.40	81502.88
4 litres	59827.15	70369.52	82071.67	95032.53	108670.50
5 litres	74783.94	87961.90	102589.59	118790.66	135838.13
6 litres	89740.73	105554.28	123107.51	142548.80	163005.75
7 litres	104697.51	123146.66	143625.43	166306.93	190173.38
8 litres	119654.30	140739.04	164143.35	190065.06	217341.00
9 litres	134611.09	158331.42	184661.27	213823.20	244508.63
10 litres	149567.88	175923.80	205179.18	237581.33	271676.25

Delegation of Kasserine Nord HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	4603	5291	6664	8329	10370
5-14	10568	12916	15182	18414	23092
15-49	22245	28574	36690	46863	57934
50 +	3562	4604	5725	6750	8597
Total	40978	51385	64261	80356	99993

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	81.96	102.77	128.52	160.71	199.99
3 litres	122.93	154.16	192.78	241.07	299.98
4 litres	163.91	205.54	257.04	321.42	399.97
5 litres	204.89	256.93	321.31	401.78	499.96
6 litres	245.87	308.31	385.57	482.13	599.96
7 litres	286.84	359.70	449.83	562.49	699.95
8 litres	327.82	411.08	514.09	642.85	799.94
9 litres	368.80	462.47	578.35	723.20	899.93
10 litres	409.78	513.85	642.61	803.56	999.93

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	29913.58	37511.32	46910.64	58659.66	72994.56
3 litres	44870.36	56266.99	70365.96	87989.49	109491.84
4 litres	59827.15	75022.65	93821.28	117319.32	145989.12
5 litres	74783.94	93778.31	117276.60	146649.15	182486.40
6 litres	89740.73	112533.97	140731.92	175978.98	218983.68
7 litres	104697.51	131289.63	164187.24	205308.81	255480.97
8 litres	119654.30	150045.30	187642.56	234638.64	291978.25
9 litres	134611.09	168800.96	211097.88	263968.47	328475.53
10 litres	149567.88	187556.62	234553.20	293298.31	364972.81

Delegation of Kasserine Sud HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1776	1311	1472	1665	2065
5-14	3997	4819	4221	3798	4320
15-49	6547	7253	8918	10873	11512
50 +	1308	1475	1647	1646	1927
Total	13628	14858	16258	17981	19824

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	27.26	29.72	32.52	35.96	39.65
3 litres	40.88	44.57	48.77	53.94	59.47
4 litres	54.51	59.43	65.03	71.93	79.30
5 litres	68.14	74.29	81.29	89.91	99.12
6 litres	81.77	89.15	97.55	107.89	118.94
7 litres	95.39	104.01	113.81	125.87	138.77
8 litres	109.02	118.86	130.06	143.85	158.59
9 litres	122.65	133.72	146.32	161.83	178.42
10 litres	136.28	148.58	162.58	179.81	198.24

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	9948.26	10846.29	11868.38	13126.35	14471.61
3 litres	14922.39	16269.43	17802.56	19689.52	21707.42
4 litres	19896.52	21692.57	23736.75	26252.70	28943.22
5 litres	24870.64	27115.71	29670.94	32815.87	36179.03
6 litres	29844.77	32538.86	35605.13	39379.05	43414.83
7 litres	34818.90	37962.00	41539.32	45942.22	50650.64
8 litres	39793.03	43385.14	47473.51	52505.40	57886.45
9 litres	44767.16	48808.28	53407.69	59068.57	65122.25
10 litres	49741.29	54231.43	59341.88	65631.75	72358.06

Delegation of Kasserine Sud HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1776	1407	1565	1824	2144
5-14	3997	4980	4644	4372	5011
15-49	6547	7976	10405	13258	14939
50 +	1308	1563	1841	1973	2438
Total	13628	15926	18455	21427	24533

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	27.26	31.85	36.91	42.85	49.07
3 litres	40.88	47.78	55.37	64.28	73.60
4 litres	54.51	63.71	73.82	85.71	98.13
5 litres	68.14	79.63	92.28	107.13	122.66
6 litres	81.77	95.56	110.73	128.56	147.20
7 litres	95.39	111.48	129.19	149.99	171.73
8 litres	109.02	127.41	147.64	171.41	196.26
9 litres	122.65	143.34	166.10	192.84	220.79
10 litres	136.28	159.26	184.55	214.27	245.33

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	9948.26	11626.18	13472.17	15641.53	17908.73
3 litres	14922.39	17439.27	20208.25	23462.29	26863.09
4 litres	19896.52	23252.36	26944.34	31283.06	35817.45
5 litres	24870.64	29065.45	33680.42	39103.82	44771.81
6 litres	29844.77	34878.54	40416.50	46924.58	53726.18
7 litres	34818.90	40691.63	47152.59	54745.35	62680.54
8 litres	39793.03	46504.72	53888.67	62566.11	71634.90
9 litres	44767.16	52317.81	60624.76	70386.87	80589.26
10 litres	49741.29	58130.90	67360.84	78207.64	89543.63

Delegation of Kasserine Sud HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1776	1254	1319	1475	1694
5-14	3997	4746	3957	3203	3390
15-49	6547	6901	7939	8877	7961
50 +	1308	1437	1529	1402	1489
Total	13628	14337	14744	14957	14534

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	27.26	28.67	29.49	29.91	29.07
3 litres	40.88	43.01	44.23	44.87	43.60
4 litres	54.51	57.35	58.98	59.83	58.14
5 litres	68.14	71.69	73.72	74.78	72.67
6 litres	81.77	86.02	88.47	89.74	87.20
7 litres	95.39	100.36	103.21	104.70	101.74
8 litres	109.02	114.70	117.95	119.65	116.27
9 litres	122.65	129.04	132.70	134.61	130.81
10 litres	136.28	143.37	147.44	149.57	145.34

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	9948.26	10466.34	10763.32	10918.45	10609.89
3 litres	14922.39	15699.51	16144.98	16377.67	15914.84
4 litres	19896.52	20932.68	21526.64	21836.89	21219.79
5 litres	24870.64	26165.85	26908.30	27296.11	26524.73
6 litres	29844.77	31399.02	32289.96	32755.34	31829.68
7 litres	34818.90	36632.18	37671.62	38214.56	37134.63
8 litres	39793.03	41865.35	43053.28	43673.78	42439.57
9 litres	44767.16	47098.52	48434.94	49133.01	47744.52
10 litres	49741.29	52331.69	53816.60	54592.23	53049.47

Delegation of Hassi El Ferid HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1244	2560	2808	3005	3143
5-14	2790	3090	2782	3147	3760
15-49	4572	6797	8170	8605	9309
50 +	905	1269	1301	1512	1659
Total	9511	13716	15062	16268	17871

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	19.02	27.43	30.12	32.54	35.74
3 litres	28.53	41.15	45.19	48.81	53.61
4 litres	38.05	54.86	60.25	65.07	71.48
5 litres	47.56	68.58	75.31	81.34	89.35
6 litres	57.07	82.30	90.37	97.61	107.22
7 litres	66.58	96.01	105.43	113.88	125.09
8 litres	76.09	109.73	120.49	130.15	142.96
9 litres	85.60	123.45	135.56	146.42	160.83
10 litres	95.11	137.16	150.62	162.68	178.71

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	6943.21	10012.81	10995.11	11875.97	13045.47
3 litres	10414.82	15019.21	16492.67	17813.95	19568.20
4 litres	13886.43	20025.62	21990.23	23751.94	26090.93
5 litres	17358.03	25032.02	27487.79	29689.92	32613.66
6 litres	20829.64	30038.42	32985.34	35627.91	39136.40
7 litres	24301.24	35044.83	38482.90	41565.89	45659.13
8 litres	27772.85	40051.23	43980.46	47503.87	52181.86
9 litres	31244.46	45057.63	49478.01	53441.86	58704.59
10 litres	34716.06	50064.04	54975.57	59379.84	65227.33

Delegation of Hassi El Ferid HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1244	975	1085	1264	1487
5-14	2790	3477	3232	3031	3474
15-49	4572	5566	7263	9254	10415
50 +	905	1093	1286	1378	1702
Total	9511	11111	12866	14928	17078

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	19.02	22.22	25.73	29.86	34.16
3 litres	28.53	33.33	38.60	44.78	51.23
4 litres	38.05	44.44	51.46	59.71	68.31
5 litres	47.56	55.56	64.33	74.64	85.39
6 litres	57.07	66.67	77.20	89.57	102.47
7 litres	66.58	77.78	90.06	104.49	119.54
8 litres	76.09	88.89	102.93	119.42	136.62
9 litres	85.60	100.00	115.79	134.35	153.70
10 litres	95.11	111.11	128.66	149.28	170.78

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	6943.21	8111.10	9392.07	10897.26	12466.81
3 litres	10414.82	12166.65	14088.11	16345.89	18700.22
4 litres	13886.43	16222.21	18784.14	21794.52	24933.62
5 litres	17358.03	20277.76	23480.18	27243.14	31167.03
6 litres	20829.64	24333.31	28176.21	32691.77	37400.44
7 litres	24301.24	28388.86	32872.25	38140.40	43633.84
8 litres	27772.85	32444.41	37568.28	43589.03	49867.25
9 litres	31244.46	36499.96	42264.32	49037.66	56100.66
10 litres	34716.06	40555.52	46960.35	54486.29	62334.06

Delegation of Hassi El Ferid HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1244	1237	869	916	1026
5-14	2790	2791	3315	2756	2219
15-49	4572	4575	4821	5547	6209
50 +	905	914	1001	1065	976
Total	9511	9517	10006	10284	10430

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	19.02	19.03	20.01	20.57	20.86
3 litres	28.53	28.55	30.02	30.85	31.29
4 litres	38.05	38.07	40.02	41.14	41.72
5 litres	47.56	47.58	50.03	51.42	52.15
6 litres	57.07	57.10	60.04	61.70	62.58
7 litres	66.58	66.62	70.04	71.99	73.01
8 litres	76.09	76.13	80.05	82.27	83.44
9 litres	85.60	85.65	90.05	92.56	93.87
10 litres	95.11	95.17	100.06	102.84	104.30

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	6943.21	6947.05	7304.42	7507.27	7613.99
3 litres	10414.82	10420.57	10956.62	11260.90	11420.99
4 litres	13886.43	13894.09	14608.83	15014.53	15227.98
5 litres	17358.03	17367.61	18261.04	18768.16	19034.98
6 litres	20829.64	20841.14	21913.25	22521.80	22841.97
7 litres	24301.24	24314.66	25565.46	26275.43	26648.97
8 litres	27772.85	27788.18	29217.67	30029.06	30455.97
9 litres	31244.46	31261.70	32869.87	33782.69	34262.96
10 litres	34716.06	34735.23	36522.08	37536.33	38069.96

Delegation of Sbeitla HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	4517	4576	5551	6225	7335
5-14	10613	12765	13288	14818	17241
15-49	19782	23819	30509	37359	43512
50 +	4177	4896	5197	5647	6540
Total	39089	46056	54544	64050	74628

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	78.18	92.11	109.09	128.10	149.26
3 litres	117.27	138.17	163.63	192.15	223.88
4 litres	156.36	184.22	218.18	256.20	298.51
5 litres	195.45	230.28	272.72	320.25	373.14
6 litres	234.53	276.34	327.27	384.30	447.77
7 litres	273.62	322.39	381.81	448.35	522.39
8 litres	312.71	368.45	436.[illegible]	512.40	597.02
9 litres	351.80	414.50	490.9[illegible]	576.45	671.65
10 litres	390.89	460.56	545.44	640.50	746.28

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	28534.97	33620.79	39817.41	46756.24	54478.22
3 litres	42802.46	50431.18	59726.12	70134.37	81717.33
4 litres	57069.94	67241.58	79634.82	93512.49	108956.44
5 litres	71337.43	84051.97	99543.53	116890.61	136195.55
6 litres	85604.91	100862.37	119452.24	140268.73	163434.66
7 litres	99872.40	117672.76	139360.94	163646.86	190673.77
8 litres	114139.88	134483.16	159269.65	187024.98	217912.88
9 litres	128407.37	151293.55	179178.35	210403.10	245151.99
10 litres	142674.85	168103.94	199087.06	233781.22	272391.11

Delegation of Sbeitla HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	4517	4464	4945	5450	5940
5-14	10613	12748	13131	13842	15370
15-49	19782	23567	30075	36825	42790
50 +	4177	4881	5195	5706	6708
Total	39089	45659	53346	61823	70809

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	78.18	91.32	106.69	123.65	141.62
3 litres	117.27	136.98	160.04	185.47	212.43
4 litres	156.36	182.64	213.38	247.29	283.24
5 litres	195.45	228.30	266.73	309.12	354.04
6 litres	234.53	273.96	320.07	370.94	424.85
7 litres	273.62	319.62	373.42	432.76	495.66
8 litres	312.71	365.28	426.77	494.59	566.47
9 litres	351.80	410.93	480.11	556.41	637.28
10 litres	390.89	456.59	533.46	618.23	708.09

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	28534.97	33331.38	38942.32	45131.12	51690.50
3 litres	42802.46	49997.07	58413.49	67696.68	77535.75
4 litres	57069.94	66662.76	77884.65	90262.24	103380.99
5 litres	71337.43	83328.45	97355.81	112827.80	129226.24
6 litres	85604.91	99994.14	116826.97	135393.36	155071.49
7 litres	99872.40	116659.83	136298.14	157958.91	180916.74
8 litres	114139.88	133325.52	155769.30	180524.47	206761.99
9 litres	128407.37	149991.21	175240.46	203090.03	232607.24
10 litres	142674.85	166656.90	194711.62	225655.59	258452.49

Delegation of Sbeitla HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	4517	4603	5663	6911	8336
5-14	10613	12800	13399	15106	18510
15-49	19782	23979	30944	38214	44970
50 +	4177	4911	5226	5702	6638
Total	39089	46294	55231	65933	78453

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	78.18	92.59	110.46	131.87	156.91
3 litres	117.27	138.88	165.69	197.80	235.36
4 litres	156.36	185.18	220.92	263.73	313.81
5 litres	195.45	231.47	276.16	329.66	392.27
6 litres	234.53	277.77	331.39	395.60	470.72
7 litres	273.62	324.06	386.62	461.53	549.17
8 litres	312.71	370.36	441.85	527.46	627.63
9 litres	351.80	416.65	497.08	593.39	706.08
10 litres	390.89	462.94	552.31	659.33	784.53

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	28534.97	33794.91	40318.78	48130.83	57270.93
3 litres	42802.46	50692.37	60478.16	72196.25	85906.39
4 litres	57069.94	67589.82	80637.55	96261.67	114541.85
5 litres	71337.43	84487.28	100796.94	120327.09	143177.32
6 litres	85604.91	101384.74	120956.33	144392.50	171812.78
7 litres	99872.40	118282.19	141115.72	168457.92	200448.25
8 litres	114139.88	135179.65	161275.10	192523.34	229083.71
9 litres	128407.37	152077.10	181434.49	216588.76	257719.17
10 litres	142674.85	168974.56	201593.88	240654.17	286354.64

Delegation of Sbiba HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2516	2417	2959	3329	3896
5-14	5772	6847	7104	7763	9103
15-49	11299	13101	16087	19725	22565
50 +	2945	3245	3323	3283	3652
Total	22532	25610	29473	34100	39216

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	45.06	51.22	58.95	68.20	78.43
3 litres	67.60	76.83	88.42	102.30	117.65
4 litres	90.13	102.44	117.89	136.40	156.86
5 litres	112.66	128.05	147.36	170.50	196.08
6 litres	135.19	153.66	176.84	204.60	235.29
7 litres	157.73	179.27	206.31	238.70	274.51
8 litres	180.26	204.88	235.78	272.80	313.72
9 litres	202.79	230.49	265.26	306.90	352.94
10 litres	225.32	256.10	294.73	341.00	392.16

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16448.54	18695.32	21515.25	24892.98	28627.32
3 litres	24672.81	28042.98	32272.88	37339.47	42940.97
4 litres	32897.09	37390.64	43030.51	49785.96	57254.63
5 litres	41121.36	46738.30	53788.13	62232.45	71568.29
6 litres	49345.63	56085.95	64545.76	74678.95	85881.95
7 litres	57569.90	65433.61	75303.39	87125.44	100195.60
8 litres	65794.17	74781.27	86061.01	99571.93	114509.26
9 litres	74018.44	84128.93	96818.64	112018.42	128822.92
10 litres	82242.71	93476.59	107576.27	124464.91	143136.58

Delegation of Sbiba HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2516	2404	2727	3047	3322
5-14	5772	6900	7193	7549	8538
15-49	11299	13273	16474	20414	23569
50 +	2945	3272	3403	3442	3935
Total	22532	25849	29797	34452	39364

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	45.06	51.70	59.59	68.90	78.73
3 litres	67.60	77.55	89.39	103.36	118.09
4 litres	90.13	103.40	119.19	137.81	157.46
5 litres	112.66	129.25	148.99	172.26	196.82
6 litres	135.19	155.10	178.78	206.71	236.19
7 litres	157.73	180.94	208.58	241.17	275.55
8 litres	180.26	206.79	238.38	275.62	314.91
9 litres	202.79	232.64	268.18	310.07	354.28
10 litres	225.32	258.49	297.97	344.52	393.64

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16448.54	18869.92	21751.99	25150.20	28735.92
3 litres	24672.81	28304.88	32627.99	37725.30	43103.88
4 litres	32897.09	37739.83	43503.99	50300.39	57471.84
5 litres	41121.36	47174.79	54379.98	62875.49	71839.80
6 litres	49345.63	56609.75	65255.98	75450.59	86207.76
7 litres	57569.90	66044.71	76131.97	88025.69	100575.72
8 litres	65794.17	75479.66	87007.97	100600.79	114943.68
9 litres	74018.44	84914.62	97883.97	113175.89	129311.64
10 litres	82242.71	94349.58	108759.96	125750.99	143679.60

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Delegation of Sbiba HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2516	2406	2944	3545	4168
5-14	5772	6833	7051	7655	9279
15-49	11299	13046	15913	19361	21896
50 +	2945	3239	3295	3215	3525
Total	22532	25525	29203	33776	38869

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	45.06	51.05	58.41	67.55	77.74
3 litres	67.60	76.57	87.61	101.33	116.61
4 litres	90.13	102.10	116.81	135.10	155.48
5 litres	112.66	127.62	146.01	168.88	194.34
6 litres	135.19	153.15	175.22	202.66	233.21
7 litres	157.73	178.67	204.42	236.43	272.08
8 litres	180.26	204.20	233.62	270.21	310.95
9 litres	202.79	229.72	262.83	303.99	349.82
10 litres	225.32	255.25	292.03	337.76	388.69

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16448.54	18632.90	21318.15	24656.64	28374.28
3 litres	24672.81	27949.35	31977.23	36984.97	42561.42
4 litres	32897.09	37265.81	42636.31	49313.29	56748.56
5 litres	41121.36	46582.26	53295.38	61641.61	70935.70
6 litres	49345.63	55898.71	63954.46	73969.93	85122.84
7 litres	57569.90	65215.16	74613.54	86298.25	99309.98
8 litres	65794.17	74531.61	85272.61	98626.58	113497.12
9 litres	74018.44	83848.06	95931.69	110954.90	127684.25
10 litres	82242.71	93164.52	106590.77	123283.22	141871.39

Delegation of Jedliane HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	928	954	1127	1287	1523
5-14	2339	2700	2712	3008	3497
15-49	4621	5309	6600	7854	8919
50 +	1092	1265	1336	1383	1578
Total	8980	10228	11775	13532	15517

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	17.96	20.46	23.55	27.06	31.03
3 litres	26.94	30.69	35.33	40.60	46.55
4 litres	35.92	40.91	47.10	54.13	62.07
5 litres	44.90	51.14	58.88	67.66	77.58
6 litres	53.88	61.37	70.65	81.19	93.10
7 litres	62.86	71.60	82.43	94.72	108.62
8 litres	71.84	81.83	94.20	108.25	124.13
9 litres	80.82	92.06	105.98	121.79	139.65
10 litres	89.80	102.28	117.75	135.32	155.17

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	6555.04	7466.70	8595.93	9878.25	11327.21
3 litres	9832.55	11200.04	12893.90	14817.38	16990.81
4 litres	13110.07	14933.39	17191.87	19756.50	22654.42
5 litres	16387.59	18666.74	21489.83	24695.63	28318.02
6 litres	19665.11	22400.09	25787.80	29634.75	33981.63
7 litres	22942.62	26133.43	30085.76	34573.88	39645.23
8 litres	26220.14	29866.78	34383.73	39513.00	45308.84
9 litres	29497.66	33600.13	38681.70	44452.13	50972.44
10 litres	32775.18	37333.48	42979.66	49391.25	56636.05

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Delegation of Jedliane HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	928	949	1042	1180	1303
5-14	2339	2719	2744	2929	3286
15-49	4621	5372	6744	8114	9299
50 +	1092	1273	1357	1429	1669
Total	8980	10312	11887	13652	15558

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	17.96	20.62	23.77	27.30	31.12
3 litres	26.94	30.94	35.66	40.96	46.67
4 litres	35.92	41.25	47.55	54.61	62.23
5 litres	44.90	51.56	59.43	68.26	77.79
6 litres	53.88	61.87	71.32	81.91	93.35
7 litres	62.86	72.19	83.21	95.56	108.90
8 litres	71.84	82.50	95.10	109.22	124.46
9 litres	80.82	92.81	106.98	122.87	140.02
10 litres	89.80	103.12	118.87	136.52	155.58

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	6555.04	7527.96	8677.46	9965.91	11357.23
3 litres	9832.55	11291.94	13016.18	14948.86	17035.85
4 litres	13110.07	15055.92	17354.91	19931.81	22714.46
5 litres	16387.59	18819.90	21693.64	24914.76	28393.08
6 litres	19665.11	22583.88	26032.37	29897.72	34071.69
7 litres	22942.62	26347.86	30371.09	34880.67	39750.31
8 litres	26220.14	30111.84	34709.82	39863.62	45428.92
9 litres	29497.66	33875.82	39048.55	44846.57	51107.54
10 litres	32775.18	37639.80	43387.28	49829.53	56786.15

Delegation of Jedliane HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	928	950	1127	1380	1644
5-14	2339	2692	2691	2977	3592
15-49	4621	5291	6541	7731	8692
50 +	1092	1265	1333	1361	1528
Total	8980	10199	11692	13450	15455

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	17.96	20.40	23.38	26.90	30.91
3 litres	26.94	30.60	35.07	40.35	46.36
4 litres	35.92	40.80	46.77	53.80	61.82
5 litres	44.90	51.00	58.46	67.25	77.27
6 litres	53.88	61.19	70.15	80.70	92.73
7 litres	62.86	71.39	81.84	94.15	108.18
8 litres	71.84	81.59	93.53	107.60	123.64
9 litres	80.82	91.79	105.22	121.05	139.09
10 litres	89.80	101.99	116.92	134.50	154.55

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	6555.04	7445.27	8534.90	9818.19	11281.95
3 litres	9832.55	11167.91	12802.36	14727.28	16922.92
4 litres	13110.07	14890.54	17069.81	19636.38	22563.90
5 litres	16387.59	18613.18	21337.26	24545.47	28204.87
6 litres	19665.11	22335.81	25604.71	29454.57	33845.85
7 litres	22942.62	26058.45	29872.17	34363.66	39486.82
8 litres	26220.14	29781.08	34139.62	39272.76	45127.80
9 litres	29497.66	33503.72	38407.07	44181.85	50768.77
10 litres	32775.18	37226.35	42674.52	49090.95	56409.75

Delegation of El Ayoun HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1228	1079	1303	1532	1859
5-14	2917	3336	3290	3408	4073
15-49	5482	6433	7837	9299	10488
50 +	1243	1432	1495	1662	1791
Total	10869	12280	13925	15901	18212

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	21.74	24.56	27.85	31.80	36.42
3 litres	32.61	36.84	41.78	47.70	54.64
4 litres	43.48	49.12	55.70	63.60	72.85
5 litres	54.35	61.40	69.63	79.50	91.06
6 litres	65.21	73.68	83.55	95.41	109.27
7 litres	76.08	85.96	97.48	111.31	127.48
8 litres	86.95	98.24	111.40	127.21	145.70
9 litres	97.82	110.52	125.33	143.11	163.91
10 litres	108.69	122.80	139.25	159.01	182.12

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	7934.37	8964.75	10165.49	11607.66	13294.76
3 litres	11901.56	13447.12	15248.23	17411.49	19942.14
4 litres	15868.74	17929.49	20330.97	23215.31	26589.52
5 litres	19835.93	22411.87	25413.72	29019.14	33236.90
6 litres	23803.11	26894.24	30496.46	34822.97	39884.28
7 litres	27770.30	31376.61	35579.21	40626.80	46531.66
8 litres	31737.48	35858.99	40661.95	46430.63	53179.04
9 litres	35704.67	40341.36	45744.69	52234.46	59826.42
10 litres	39671.85	44823.73	50827.44	58038.29	66473.80

Delegation of El Ayoun HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1228	1088	1231	1439	1635
5-14	2917	3380	3384	3412	3949
15-49	5482	6596	8186	9880	11328
50 +	1243	1454	1548	1765	1971
Total	10869	12517	14350	16497	18883

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	21.74	25.03	28.70	32.99	37.77
3 litres	32.61	37.55	43.05	49.49	56.65
4 litres	43.48	50.07	57.40	65.99	75.53
5 litres	54.35	62.58	71.75	82.48	94.42
6 litres	65.21	75.10	86.10	98.98	113.30
7 litres	76.08	87.62	100.45	115.48	132.18
8 litres	86.95	100.14	114.80	131.97	151.07
9 litres	97.82	112.65	129.15	148.47	169.95
10 litres	108.69	125.17	143.50	164.97	188.83

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	7934.37	9137.39	10475.17	12042.68	13784.68
3 litres	11901.56	13706.09	15712.76	18064.02	20677.02
4 litres	15868.74	18274.78	20950.34	24085.36	27569.36
5 litres	19835.93	22843.48	26187.93	30106.71	34461.70
6 litres	23803.11	27412.18	31425.51	36128.05	41354.04
7 litres	27770.30	31980.87	36663.10	42149.39	48246.38
8 litres	31737.48	36549.57	41900.69	48170.73	55138.73
9 litres	35704.67	41118.26	47138.27	54192.07	62031.07
10 litres	39671.85	45686.96	52375.86	60213.41	68923.41

Delegation of El Ayoun HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1228	1069	1280	1591	1925
5-14	2917	3324	3239	3299	4026
15-49	5482	6359	7647	8895	9754
50 +	1243	1425	1461	1595	1682
Total	10869	12177	13628	15380	17387

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	21.74	24.35	27.26	30.76	34.77
3 litres	32.61	36.53	40.88	46.14	52.16
4 litres	43.48	48.71	54.51	61.52	69.55
5 litres	54.35	60.88	68.14	76.90	86.93
6 litres	65.21	73.06	81.77	92.28	104.32
7 litres	76.08	85.24	95.39	107.66	121.71
8 litres	86.95	97.41	109.02	123.04	139.09
9 litres	97.82	109.59	122.65	138.42	156.48
10 litres	108.69	121.77	136.28	153.80	173.87

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	7934.37	8889.10	9948.09	11227.20	12692.24
3 litres	11901.56	13333.65	14922.14	16840.80	19038.35
4 litres	15868.74	17778.20	19896.19	22454.40	25384.47
5 litres	19835.93	22222.75	24870.23	28068.00	31730.59
6 litres	23803.11	26667.30	29844.28	33681.60	38076.71
7 litres	27770.30	31111.85	34818.33	39295.20	44422.83
8 litres	31737.48	35556.40	39792.37	44908.80	50768.95
9 litres	35704.67	40000.95	44766.42	50522.40	57115.06
10 litres	39671.85	44445.50	49740.47	56136.00	63461.18

Delegation of Thala HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2511	3194	3670	3888	4268
5-14	7230	7182	7962	9658	10682
15-49	15280	17092	19649	21903	24867
50 +	3764	4231	4246	4215	4578
Total	28784	31699	35527	39664	44395

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	57.57	63.40	71.05	79.33	88.79
3 litres	86.35	95.10	106.58	118.99	133.19
4 litres	115.14	126.80	142.11	158.65	177.58
5 litres	143.92	158.50	177.63	198.32	221.98
6 litres	172.70	190.20	213.16	237.98	266.37
7 litres	201.49	221.90	248.69	277.65	310.77
8 litres	230.27	253.60	284.21	317.31	355.16
9 litres	259.06	285.29	319.74	356.97	399.56
10 litres	287.84	316.99	355.27	396.64	443.95

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	21012.32	23140.56	25934.51	28954.43	32408.62
3 litres	31518.48	34710.84	38901.76	43431.64	48612.94
4 litres	42024.64	46281.12	51869.02	57908.86	64817.25
5 litres	52530.80	57851.41	64836.27	72386.07	81021.56
6 litres	63036.96	69421.69	77803.53	86863.28	97225.87
7 litres	73543.12	80991.97	90770.78	101340.50	113430.18
8 litres	84049.28	92562.25	103738.04	115817.71	129634.50
9 litres	94555.44	104132.53	116705.29	130294.93	145838.81
10 litres	105061.60	115702.81	129672.55	144772.14	162043.12

Delegation of Thala HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2511	3296	3622	3907	4078
5-14	7230	7392	8496	10177	11131
15-49	15280	18060	21652	25125	29501
50 +	3764	4366	4556	4747	5414
Total	28784	33114	38325	43955	50123

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	57.57	66.23	76.65	87.91	100.25
3 litres	86.35	99.34	114.97	131.87	150.37
4 litres	115.14	132.45	153.30	175.82	200.49
5 litres	143.92	165.57	191.62	219.78	250.61
6 litres	172.70	198.68	229.95	263.73	300.74
7 litres	201.49	231.79	268.27	307.69	350.86
8 litres	230.27	264.91	306.60	351.64	400.98
9 litres	259.06	298.02	344.92	395.60	451.10
10 litres	287.84	331.14	383.25	439.55	501.23

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	21012.32	24172.89	27977.14	32087.37	36589.52
3 litres	31518.48	36259.34	41965.71	48131.05	54884.27
4 litres	42024.64	48345.78	55954.28	64174.74	73179.03
5 litres	52530.80	60432.23	69942.85	80218.42	91473.79
6 litres	63036.96	72518.67	83931.42	96262.11	109768.55
7 litres	73543.12	84605.12	97919.99	112305.79	128063.31
8 litres	84049.28	96691.57	111908.56	128349.48	146358.07
9 litres	94555.44	108778.01	125897.13	144393.16	164652.82
10 litres	105061.60	120864.46	139885.70	160436.84	182947.58

Delegation of Thala HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2511	3116	3466	3764	4233
5-14	7230	7083	7599	8846	10450
15-49	15280	16619	18343	19250	17455
50 +	3764	4189	4103	3892	4593
Total	28784	31006	33511	35752	36731

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	57.57	62.01	67.02	71.50	73.46
3 litres	86.35	93.02	100.53	107.26	110.19
4 litres	115.14	124.03	134.04	143.01	146.92
5 litres	143.92	155.03	167.55	178.76	183.66
6 litres	172.70	186.04	201.06	214.51	220.39
7 litres	201.49	217.04	234.58	250.26	257.12
8 litres	230.27	248.05	268.09	286.01	293.85
9 litres	259.06	279.06	301.60	321.77	330.58
10 litres	287.84	310.06	335.11	357.52	367.31

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	21012.32	22634.67	24462.83	26098.74	26813.72
3 litres	31518.48	33952.01	36694.24	39148.11	40220.58
4 litres	42024.64	45269.34	48925.66	52197.48	53627.44
5 litres	52530.80	56586.68	61157.07	65246.85	67034.30
6 litres	63036.96	67904.02	73388.49	78296.22	80441.16
7 litres	73543.12	79221.35	85619.90	91345.59	93848.02
8 litres	84049.28	90538.69	97851.32	104394.96	107254.89
9 litres	94555.44	101856.02	110082.73	117444.33	120661.75
10 litres	105061.60	113173.36	122314.15	130493.71	134068.61

Delegation of Haidra HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	590	975	1270	1405	1519
5-14	2042	1896	2271	3262	3891
15-49	4436	5288	6301	7120	8427
50 +	1058	1210	1239	1187	1286
Total	8127	9369	11081	12974	15122

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16.25	18.74	22.16	25.95	30.24
3 litres	24.38	28.11	33.24	38.92	45.37
4 litres	32.51	37.48	44.33	51.89	60.49
5 litres	40.63	46.84	55.41	64.87	75.61
6 litres	48.76	56.21	66.49	77.84	90.73
7 litres	56.89	65.58	77.57	90.81	105.86
8 litres	65.01	74.95	88.65	103.79	120.98
9 litres	73.14	84.32	99.73	116.76	136.10
10 litres	81.27	93.69	110.81	129.74	151.22

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	5932.35	6839.19	8089.40	9470.66	11039.37
3 litres	8898.52	10258.78	12134.11	14205.98	16559.06
4 litres	11864.69	13678.38	16178.81	18941.31	22078.74
5 litres	14830.86	17097.97	20223.51	23676.64	27598.43
6 litres	17797.04	20517.56	24268.21	28411.97	33118.11
7 litres	20763.21	23937.16	28312.91	33147.29	38637.80
8 litres	23729.38	27356.75	32357.62	37882.62	44157.48
9 litres	26695.55	30776.34	36402.32	42617.95	49677.17
10 litres	29661.73	34195.94	40447.02	47353.28	55196.85

Delegation of Haidra HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	590	962	1152	1258	1262
5-14	2042	1902	2272	3111	3563
15-49	4436	5302	6346	7216	8576
50 +	1058	1215	1259	1231	1370
Total	8127	9382	11028	12815	14770

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16.25	18.76	22.06	25.63	29.54
3 litres	24.38	28.15	33.08	38.45	44.31
4 litres	32.51	37.53	44.11	51.26	59.08
5 litres	40.63	46.91	55.14	64.08	73.85
6 litres	48.76	56.29	66.17	76.89	88.62
7 litres	56.89	65.67	77.20	89.71	103.39
8 litres	65.01	75.05	88.23	102.52	118.16
9 litres	73.14	84.44	99.25	115.34	132.93
10 litres	81.27	93.82	110.28	128.15	147.70

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	5932.35	6848.73	8050.62	9355.24	10782.30
3 litres	8898.52	10273.10	12075.93	14032.86	16173.45
4 litres	11864.69	13697.46	16101.25	18710.48	21564.60
5 litres	14830.86	17121.83	20126.56	23388.11	26955.75
6 litres	17797.04	20546.20	24151.87	28065.73	32346.90
7 litres	20763.21	23970.56	28177.18	32743.35	37738.05
8 litres	23729.38	27394.93	32202.49	37420.97	43129.20
9 litres	26695.55	30819.30	36227.80	42098.59	48520.35
10 litres	29661.73	34243.66	40253.11	46776.21	53911.50

Delegation of Haidra HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	590	975	1275	1519	1660
5-14	2042	1896	2268	3260	4046
15-49	4436	5288	6297	7108	8398
50 +	1058	1210	1236	1177	1266
Total	8127	9369	11077	13064	15371

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16.25	18.74	22.15	26.13	30.74
3 litres	24.38	28.11	33.23	39.19	46.11
4 litres	32.51	37.48	44.31	52.26	61.48
5 litres	40.63	46.84	55.38	65.32	76.86
6 litres	48.76	56.21	66.46	78.38	92.23
7 litres	56.89	65.58	77.54	91.45	107.60
8 litres	65.01	74.95	88.61	104.51	122.97
9 litres	73.14	84.32	99.69	117.57	138.34
10 litres	81.27	93.69	110.77	130.64	153.71

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	5932.35	6839.19	8085.94	9536.63	11220.92
3 litres	8898.52	10258.78	12128.90	14304.94	16831.38
4 litres	11864.69	13678.38	16171.87	19073.26	22441.84
5 litres	14830.86	17097.97	20214.84	23841.57	28052.30
6 litres	17797.04	20517.56	24257.81	28609.89	33662.76
7 litres	20763.21	23937.16	28300.78	33378.20	39273.22
8 litres	23729.38	27356.75	32343.75	38146.52	44883.69
9 litres	26695.55	30776.34	36386.71	42914.83	50494.15
10 litres	29661.73	34195.94	40429.68	47683.14	56104.61

Delegation of Foussana HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2722	2754	3228	3563	4124
5-14	8122	7719	7715	8467	9658
15-49	13083	14719	17961	21120	23832
50 +	2848	3261	3414	3521	3933
Total	26774	28452	32318	36671	41546

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	53.55	56.90	64.64	73.34	83.09
3 litres	80.32	85.36	96.95	110.01	124.64
4 litres	107.10	113.81	129.27	146.68	166.19
5 litres	133.87	142.26	161.59	183.35	207.73
6 litres	160.65	170.71	193.91	220.03	249.28
7 litres	187.42	199.17	226.23	256.70	290.82
8 litres	214.19	227.62	258.54	293.37	332.37
9 litres	240.97	256.07	290.86	330.04	373.92
10 litres	267.74	284.52	323.18	366.71	415.46

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	19545.20	20770.11	23592.09	26769.81	30328.82
3 litres	29317.80	31155.16	35388.13	40154.72	45493.23
4 litres	39090.41	41540.21	47184.17	53539.62	60657.63
5 litres	48863.01	51925.27	58980.21	66924.53	75822.04
6 litres	58635.61	62310.32	70776.26	80309.44	90986.45
7 litres	68408.21	72695.37	82572.30	93694.34	106150.86
8 litres	78180.81	83080.42	94368.34	107079.25	121315.27
9 litres	87953.41	93465.48	106164.38	120464.15	136479.68
10 litres	97726.01	103850.53	117960.43	133849.06	151644.09

Delegation of Foussana HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2722	2818	3136	3493	3811
5-14	8122	7878	8101	8758	9800
15-49	13083	15400	19384	23441	27179
50 +	2848	3342	3611	3877	4518
Total	26774	29439	34232	39568	45307

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	53.55	58.88	68.46	79.14	90.61
3 litres	80.32	88.32	102.70	118.71	135.92
4 litres	107.10	117.75	136.93	158.27	181.23
5 litres	133.87	147.19	171.16	197.84	226.54
6 litres	160.65	176.63	205.39	237.41	271.84
7 litres	187.42	206.07	239.62	276.98	317.15
8 litres	214.19	235.51	273.85	316.55	362.46
9 litres	240.97	264.95	308.09	356.12	407.77
10 litres	267.74	294.39	342.32	395.68	453.07

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	19545.20	21490.25	24989.21	28884.90	33074.46
3 litres	29317.80	32235.38	37483.82	43327.34	49611.69
4 litres	39090.41	42980.50	49978.43	57769.79	66148.91
5 litres	48863.01	53725.63	62473.04	72212.24	82686.14
6 litres	58635.61	64470.75	74967.64	86654.69	99223.37
7 litres	68408.21	75215.88	87462.25	101097.13	115760.60
8 litres	78180.81	85961.00	99956.86	115539.58	132297.83
9 litres	87953.41	96706.13	112451.46	129982.03	148835.06
10 litres	97726.01	107451.26	124946.07	144424.48	165372.28

Delegation of Foussana HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2722	2702	3099	3559	3995
5-14	8122	7655	7478	7928	9049
15-49	13083	14410	17083	19318	20603
50 +	2848	3220	3295	3284	3505
Total	26774	27986	30954	34088	37152

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	53.55	55.97	61.91	68.18	74.30
3 litres	80.32	83.96	92.86	102.26	111.46
4 litres	107.10	111.95	123.82	136.35	148.61
5 litres	133.87	139.93	154.77	170.44	185.76
6 litres	160.65	167.92	185.72	204.53	222.91
7 litres	187.42	195.90	216.68	238.61	260.07
8 litres	214.19	223.89	247.63	272.70	297.22
9 litres	240.97	251.88	278.59	306.79	334.37
10 litres	267.74	279.86	309.54	340.88	371.52

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	19545.20	20430.05	22596.53	24883.89	27121.31
3 litres	29317.80	30645.08	33894.79	37325.84	40681.96
4 litres	39090.41	40860.11	45193.06	49767.79	54242.61
5 litres	48863.01	51075.13	56491.32	62209.73	67803.27
6 litres	58635.61	61290.16	67789.59	74651.68	81363.92
7 litres	68408.21	71505.19	79087.85	87093.63	94924.57
8 litres	78180.81	81720.22	90386.12	99535.57	108485.23
9 litres	87953.41	91935.24	101684.38	111977.52	122045.88
10 litres	97726.01	102150.27	112982.65	124419.47	135606.53

Delegation of Feriana HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2000	2396	2662	2715	2917
5-14	6400	5639	5956	6928	7402
15-49	11791	12507	14021	15338	16820
50 +	2965	2574	2725	2719	3111
Total	23156	23116	25364	27699	30251

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	46.31	46.23	50.73	55.40	60.50
3 litres	69.47	69.35	76.09	83.10	90.75
4 litres	92.62	92.46	101.46	110.80	121.00
5 litres	115.78	115.58	126.82	138.50	151.25
6 litres	138.93	138.70	152.19	166.19	181.50
7 litres	162.09	161.81	177.55	193.89	211.75
8 litres	185.25	184.93	202.92	221.59	242.00
9 litres	208.40	208.04	228.28	249.29	272.26
10 litres	231.56	231.16	253.64	276.99	302.51

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16903.70	16874.63	18516.03	20220.32	22082.92
3 litres	25355.55	25311.94	27774.05	30330.49	33124.38
4 litres	33807.40	33749.25	37032.06	40440.65	44165.84
5 litres	42259.24	42186.56	46290.08	50550.81	55207.30
6 litres	50711.09	50623.88	55548.09	60660.97	66248.76
7 litres	59162.94	59061.19	64806.11	70771.14	77290.22
8 litres	67614.79	67498.50	74064.12	80881.30	88331.68
9 litres	76066.64	75935.81	83322.14	90991.46	99373.14
10 litres	84518.49	84373.13	92580.15	101101.62	110414.60

Delegation of Feriana HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2000	2560	2808	3005	3143
5-14	6400	5906	6672	7897	8594
15-49	11791	13757	16581	19421	22685
50 +	2965	2729	3071	3298	4001
Total	23156	24952	29132	33620	38423

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	46.31	49.90	58.26	67.24	76.85
3 litres	69.47	74.86	87.40	100.86	115.27
4 litres	92.62	99.81	116.53	134.48	153.69
5 litres	115.78	124.76	145.66	168.10	192.11
6 litres	138.93	149.71	174.79	201.72	230.54
7 litres	162.09	174.67	203.92	235.34	268.96
8 litres	185.25	199.62	233.06	268.96	307.38
9 litres	208.40	224.57	262.19	302.58	345.80
10 litres	231.56	249.52	291.32	336.20	384.23

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16903.70	18215.07	21266.36	24542.49	28048.52
3 litres	25355.55	27322.60	31899.54	36813.74	42072.77
4 litres	33807.40	36430.14	42532.72	49084.98	56097.03
5 litres	42259.24	45537.67	53165.90	61356.23	70121.29
6 litres	50711.09	54645.21	63799.08	73627.47	84145.55
7 litres	59162.94	63752.74	74432.26	85898.72	98169.81
8 litres	67614.79	72860.28	85065.44	98169.96	112194.07
9 litres	76066.64	81967.81	95698.62	110441.21	126218.32
10 litres	84518.49	91075.35	106331.80	122712.45	140242.58

Delegation of Feriana HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2000	2299	2394	2373	2187
5-14	6400	5510	5500	5890	5774
15-49	11791	11893	12321	11881	10690
50 +	2965	2512	2529	2309	2359
Total	23156	22213	22744	22453	21009

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	46.31	44.43	45.49	44.91	42.02
3 litres	69.47	66.64	68.23	67.36	63.03
4 litres	92.62	88.85	90.98	89.81	84.04
5 litres	115.78	111.07	113.72	112.27	105.05
6 litres	138.93	133.28	136.46	134.72	126.06
7 litres	162.09	155.49	159.21	157.17	147.07
8 litres	185.25	177.71	181.95	179.63	168.08
9 litres	208.40	199.92	204.69	202.08	189.08
10 litres	231.56	222.13	227.44	224.53	210.09

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16903.70	16215.76	16603.01	16390.89	15336.88
3 litres	25355.55	24323.65	24904.52	24586.34	23005.32
4 litres	33807.40	32431.53	33206.02	32781.78	30673.76
5 litres	42259.24	40539.41	41507.53	40977.23	38342.20
6 litres	50711.09	48647.29	49809.03	49172.67	46010.64
7 litres	59162.94	56755.17	58110.54	57368.12	53679.08
8 litres	67614.79	64863.06	66412.04	65563.56	61347.52
9 litres	76066.64	72970.94	74713.55	73759.01	69015.96
10 litres	84518.49	81078.82	83015.05	81954.45	76684.40

Delegation of Majel Ben Abbes HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1690	1273	1499	1695	2056
5-14	3232	4366	4194	3929	4550
15-49	6036	6842	8587	10830	11993
50 +	1190	1333	1440	1554	1827
Total	12147	13814	15720	18007	20426

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	24.29	27.63	31.44	36.01	40.85
3 litres	36.44	41.44	47.16	54.02	61.28
4 litres	48.59	55.26	62.88	72.03	81.70
5 litres	60.74	69.07	78.60	90.04	102.13
6 litres	72.88	82.88	94.32	108.04	122.55
7 litres	85.03	96.70	110.04	126.05	142.98
8 litres	97.18	110.51	125.76	144.06	163.41
9 litres	109.33	124.33	141.48	162.07	183.83
10 litres	121.47	138.14	157.20	180.07	204.26

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	8867.49	10084.29	11475.53	13145.42	14910.76
3 litres	13301.24	15126.44	17213.29	19718.13	22366.14
4 litres	17734.99	20168.59	22951.05	26290.84	29821.52
5 litres	22168.73	25210.73	28688.82	32863.55	37276.90
6 litres	26602.48	30252.88	34426.58	39436.26	44732.28
7 litres	31036.22	35295.03	40164.34	46008.97	52187.66
8 litres	35469.97	40337.17	45902.11	52581.68	59643.04
9 litres	39903.72	45379.32	51639.87	59154.39	67098.42
10 litres	44337.46	50421.47	57377.64	65727.10	74553.81

Delegation of Majel Ben Abbes HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1690	1301	1455	1656	1887
5-14	3232	4441	4371	4055	4600
15-49	6036	7140	9215	11868	13493
50 +	1190	1372	1530	1717	2093
Total	12147	14253	16572	19296	22072

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	24.29	28.51	33.14	38.59	44.14
3 litres	36.44	42.76	49.71	57.89	66.22
4 litres	48.59	57.01	66.29	77.18	88.29
5 litres	60.74	71.27	82.86	96.48	110.36
6 litres	72.88	85.52	99.43	115.77	132.43
7 litres	85.03	99.77	116.00	135.07	154.51
8 litres	97.18	114.02	132.57	154.36	176.58
9 litres	109.33	128.28	149.14	173.66	198.65
10 litres	121.47	142.53	165.72	192.96	220.72

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	8867.49	10404.74	12097.30	14085.75	16112.76
3 litres	13301.24	15607.12	18145.96	21128.63	24169.14
4 litres	17734.99	20809.49	24194.61	28171.50	32225.52
5 litres	22168.73	26011.86	30243.26	35214.38	40281.90
6 litres	26602.48	31214.23	36291.91	42257.25	48338.28
7 litres	31036.22	36416.61	42340.57	49300.13	56394.66
8 litres	35469.97	41618.98	48389.22	56343.01	64451.04
9 litres	39903.72	46821.35	54437.87	63385.88	72507.42
10 litres	44337.46	52023.72	60486.52	70428.76	80563.80

Delegation of Majel Ben Abbes HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1690	1250	1446	1705	2031
5-14	3232	4333	4085	3692	4299
15-49	6036	6696	8171	10004	10542
50 +	1190	1324	1399	1457	1632
Total	12147	13602	15101	16857	18504

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	24.29	27.20	30.20	33.71	37.01
3 litres	36.44	40.81	45.30	50.57	55.51
4 litres	48.59	54.41	60.40	67.43	74.02
5 litres	60.74	68.01	75.50	84.29	92.52
6 litres	72.88	81.61	90.60	101.14	111.02
7 litres	85.03	95.21	105.71	118.00	129.53
8 litres	97.18	108.82	120.81	134.86	148.03
9 litres	109.33	122.42	135.91	151.71	166.54
10 litres	121.47	136.02	151.01	168.57	185.04

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	8867.49	9929.42	11023.60	12305.61	13507.92
3 litres	13301.24	14894.14	16535.40	18458.42	20261.88
4 litres	17734.99	19858.85	22047.20	24611.22	27015.84
5 litres	22168.73	24823.56	27559.01	30764.03	33769.80
6 litres	26602.48	29788.27	33070.81	36916.83	40523.76
7 litres	31036.22	34752.98	38582.61	43069.64	47277.72
8 litres	35469.97	39717.69	44094.41	49222.44	54031.68
9 litres	39903.72	44682.41	49606.21	55375.25	60785.64
10 litres	44337.46	49647.12	55118.01	61528.05	67539.60

Delegation of Gafsa Nord HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1365	1072	1046	1071	1131
5-14	3128	3357	2893	2432	2436
15-49	5911	6055	6638	7370	7401
50 +	1208	1231	1174	975	873
Total	11611	11715	11751	11847	11841

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	23.22	23.43	23.50	23.69	23.68
3 litres	34.83	35.14	35.25	35.54	35.52
4 litres	46.45	46.86	47.01	47.39	47.36
5 litres	58.06	58.57	58.76	59.23	59.21
6 litres	69.67	70.29	70.51	71.08	71.05
7 litres	81.28	82.00	82.26	82.93	82.89
8 litres	92.89	93.72	94.01	94.77	94.73
9 litres	104.50	105.43	105.76	106.62	106.57
10 litres	116.11	117.15	117.51	118.47	118.41

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	8476.21	8551.60	8578.49	8648.13	8644.06
3 litres	12714.32	12827.40	12867.73	12972.19	12966.09
4 litres	16952.43	17103.21	17156.97	17296.26	17288.12
5 litres	21190.53	21379.01	21446.21	21620.32	21610.14
6 litres	25428.64	25654.81	25735.46	25944.38	25932.17
7 litres	29666.74	29930.61	30024.70	30268.45	30254.20
8 litres	33904.85	34206.41	34313.94	34592.51	34576.23
9 litres	38142.96	38482.21	38603.18	38916.57	38898.26
10 litres	42381.06	42758.02	42892.43	43240.64	43220.29

Delegation of Gafsa Nord HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1365	1231	1346	1476	1624
5-14	3128	3816	3826	3818	4197
15-49	5911	7020	8798	10984	12611
50 +	1208	1462	1670	1768	2076
Total	11611	13529	15640	18046	20508

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	23.22	27.06	31.28	36.09	41.02
3 litres	34.83	40.59	46.92	54.14	61.52
4 litres	46.45	54.12	62.56	72.18	82.03
5 litres	58.06	67.65	78.20	90.23	102.54
6 litres	69.67	81.17	93.84	108.28	123.05
7 litres	81.28	94.70	109.48	126.32	143.55
8 litres	92.89	108.23	125.12	144.37	164.06
9 litres	104.50	121.76	140.76	162.42	184.57
10 litres	116.11	135.29	156.40	180.46	205.08

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	8476.21	9876.19	11417.38	13173.69	14970.49
3 litres	12714.32	14814.28	17126.07	19760.53	22455.74
4 litres	16952.43	19752.38	22834.77	26347.38	29940.99
5 litres	21190.53	24690.47	28543.46	32934.22	37426.23
6 litres	25428.64	29628.56	34252.15	39521.07	44911.48
7 litres	29666.74	34566.66	39960.84	46107.91	52396.73
8 litres	33904.85	39504.75	45669.53	52694.76	59881.97
9 litres	38142.96	44442.85	51378.22	59281.60	67367.22
10 litres	42381.06	49380.94	57086.91	65868.45	74852.47

Delegation of Gafsa Nord HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	1365	971	750	345	-393
5-14	3128	3116	2023	434	-1527
15-49	5911	5616	4954	3088	-1590
50 +	1208	1131	791	26	-1083
Total	11611	10834	8517	3894	-4592

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	23.22	21.67	17.03	7.79	-9.18
3 litres	34.83	32.50	25.55	11.68	-13.78
4 litres	46.45	43.34	34.07	15.57	-18.37
5 litres	58.06	54.17	42.59	19.47	-22.96
6 litres	69.67	65.00	51.10	23.36	-27.55
7 litres	81.28	75.84	59.62	27.26	-32.15
8 litres	92.89	86.67	68.14	31.15	-36.74
9 litres	104.50	97.51	76.66	35.04	-41.33
10 litres	116.11	108.34	85.17	38.94	-45.92

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	8476.21	7908.89	6217.72	2842.40	-3352.45
3 litres	12714.32	11863.34	9326.58	4263.60	-5028.68
4 litres	16952.43	15817.79	12435.44	5684.80	-6704.90
5 litres	21190.53	19772.23	15544.30	7106.00	-8381.13
6 litres	25428.64	23726.68	18653.16	8527.20	-10057.36
7 litres	29666.74	27681.13	21762.02	9948.40	-11733.58
8 litres	33904.85	31635.57	24870.88	11369.60	-13409.81
9 litres	38142.96	35590.02	27979.74	12790.80	-15086.03
10 litres	42381.06	39544.47	31088.60	14212.01	-16762.26

Delegation of Sned HYPOTHESIS 1

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2090	1930	2174	2461	2803
5-14	4826	5767	5699	5835	6628
15-49	9146	10632	13156	15946	18176
50 +	2393	2571	2675	2709	2883
Total	23155	20899	23705	26951	30490

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	46.31	41.80	47.41	53.90	60.98
3 litres	69.47	62.70	71.11	80.85	91.47
4 litres	92.62	83.60	94.82	107.81	121.96
5 litres	115.78	104.50	118.52	134.76	152.45
6 litres	138.93	125.40	142.23	161.71	182.94
7 litres	162.09	146.30	165.93	188.66	213.43
8 litres	185.25	167.19	189.64	215.61	243.92
9 litres	208.40	188.09	213.34	242.56	274.41
10 litres	231.56	208.99	237.05	269.51	304.90

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16903.70	15256.49	17304.38	19674.50	22257.94
3 litres	25355.55	22884.73	25956.56	29511.76	33386.91
4 litres	33807.40	30512.98	34608.75	39349.01	44515.87
5 litres	42259.24	38141.22	43260.94	49186.26	55644.84
6 litres	50711.09	45769.47	51913.13	59023.51	66773.81
7 litres	59162.94	53397.71	60565.32	68860.76	77902.78
8 litres	67614.79	61025.96	69217.51	78698.02	89031.75
9 litres	76066.64	68654.20	77869.69	88535.27	100160.72
10 litres	84518.49	76282.45	86521.88	98372.52	111289.69

Delegation of Sned HYPOTHESIS 2

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2090	1941	2122	2325	2552
5-14	4826	5905	5941	6020	6614
15-49	9146	10904	13778	17027	19719
50 +	2393	2646	2845	3003	3360
Total	23156	21396	24687	28375	32245

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	46.31	42.79	49.37	56.75	64.49
3 litres	69.47	64.19	74.06	85.12	96.74
4 litres	92.62	85.58	98.75	113.50	128.98
5 litres	115.78	106.98	123.44	141.87	161.23
6 litres	138.93	128.37	148.12	170.25	193.47
7 litres	162.09	149.77	172.81	198.62	225.72
8 litres	185.25	171.16	197.50	227.00	257.96
9 litres	208.40	192.56	222.18	255.37	290.21
10 litres	231.56	213.96	246.87	283.75	322.45

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16903.70	15618.75	18021.56	20713.64	23539.11
3 litres	25355.55	23428.13	27032.35	31070.46	35308.66
4 litres	33807.40	31237.50	36043.13	41427.28	47078.21
5 litres	42259.24	39046.88	45053.91	51784.10	58847.76
6 litres	50711.09	46856.25	54064.69	62140.92	70617.32
7 litres	59162.94	54665.63	63075.48	72497.74	82386.87
8 litres	67614.79	62475.01	72086.26	82854.56	94156.42
9 litres	76066.64	70284.38	81097.04	93211.38	105925.97
10 litres	84518.49	78093.76	90107.82	103568.20	117695.53

Delegation of Sned HYPOTHESIS 3

Calculation Matrix of Probable Potable Water Requirements

Age Groups	Calculation Coefficient
0-4	0.50
5-14	0.75
15-49	1.00
50 +	0.75

Age Groups	1984	1989	1994	1999	2004
0-4	2090	1902	2164	2440	2704
5-14	4826	5698	5449	5370	5863
15-49	9146	10500	12656	14682	15547
50 +	2393	2541	2564	2428	2294
Total	23156	20641	22832	24920	26408

Daily Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	46.31	41.28	45.66	49.84	52.82
3 litres	69.47	61.92	68.50	74.76	79.22
4 litres	92.62	82.56	91.33	99.68	105.63
5 litres	115.78	103.20	114.16	124.60	132.04
6 litres	138.93	123.84	136.99	149.52	158.45
7 litres	162.09	144.48	159.83	174.44	184.85
8 litres	185.25	165.13	182.66	199.36	211.26
9 litres	208.40	185.77	205.49	224.28	237.67
10 litres	231.56	206.41	228.32	249.20	264.08

Yearly Consumption (Cubic metres)	1984	1989	1994	1999	2004
2 litres	16903.70	15067.69	16667.65	18191.33	19277.68
3 litres	25355.55	22601.54	25001.48	27286.99	28916.51
4 litres	33807.40	30135.39	33335.30	36382.65	38555.35
5 litres	42259.24	37669.23	41669.13	45478.32	48194.19
6 litres	50711.09	45203.08	50002.96	54573.98	57833.03
7 litres	59162.94	52736.92	58336.78	63669.64	67471.87
8 litres	67614.79	60270.77	66670.61	72765.31	77110.70
9 litres	76066.64	67804.62	75004.43	81860.97	86749.54
10 litres	84518.49	75338.46	83338.26	90956.63	96388.38

APPENDIX IV

Persons Interviewed

LIST OF PERSONS INTERVIEWED

NAMES	FUNCTION	PLACE
ABDELWAHEB, Abdi	Regional Head of Family Planning	Kasserine
ASSIDI, Taahar	Male Nurse	Khamouda
BANANI, Abdelmounam	Statistical Branch. Regional Sector of Public Health	Kasserine
BEN BRAHIM, Abdessalem	Sanitary Inspector	Sbiba
BEN FADHEL, Salem	Direction de l'aménagement du territoire	Gafsa
BOUAZIZI, Samira	Obstretics Nurse. Family Planning.	Kasserine
BOUCHOUCHA, Ammar	Statistical Branch CRDA	Gafsa
BROWN, John	Peace Corps	Kasserine
BSIR, Hassan	Doctor	Bou Dryes
CAMPBELL, Mark	Peace Corps	Gafsa
CHAKER, Mohamed	Aménagement du Territoire	Gafsa
CHEKRI, Hafedth	Migration Specialist. Arab League.	Tunis
COHEN. Monique	Consultant USAID	Tunis
DABABI, M. Kefi	Sanitary Inspector	Samama Zaoui
DHARI, Ali	Male Nurse	Bou Dryes
DHIFI	Head of Publications Office CERES	Tunis
EGAN, William	USAID-Tunisia	Tunis
FAKHFAKH, Mohamed	Geographer	Tunis
FOURATI, Habib	Office National de la Famille et de la Population (ONFP)	Tunis
GADDAB, Abderrazak	Social Affairs	Gafsa

GASMI, Aljia	Nurse. UNFT Representative at Family Planning	Kasserine
GASMI, Mohamed	Family Planning	Kasserine
GTARI, Najet	President UNFT	Gafsa
HAJJI, Mohamed	ODTC	Kasserine
HAMZAOUI, Arbi	Doctor. Director of Public Health.	Kasserine
HOLMES, Olivia	Consultant. Holmes Research	Kasserine
HOPKINS, Michael	Research Triangle Institute	Tunis
HUSSEIN, Moncef	ODTC	Kasserine
JEDEY, Tayeb	Male Nurse	Bou Dryes
JEMMAL, Hedi	Return Migrants Section. OPETTE	Tunis
KHADRAOUI, Tahar	Male Nurse.	Bou Dryes
KHALED, Mohamed	Regional Sector of Public Health.	Gafsa
KIMBLE, Melinda	Officer USAID	Tunis
KOUZANA, Nejib	Doctor. Regional Sector of Public Health	Gafsa
KRIFA, Nejib	Aménagement du territoire	Gafsa
LAFI, Abdelmajid	Social Affairs	Kasserine
LARSON, Barbara	Consultant IDA	Kasserine
LASSOUDI, Hamadi	Sanitary Inspector. Regional Sector of Public Health.	Kasserine
MAJDI, Brahim	Regional Head. Family Planning	Gafsa
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