

REMARRIAGES, MULTIPLE MARRIAGES AND POLYGAMOUS NUPTIALITY TABLES IN THE UNITED ARAB REPUBLIC—1960

By

ABDEL-MEGID M. FARRAG(*)

INTRODUCTION

The construction of Nuptiality Tables is not different in its methodology from that of Life Tables. The underlying concept is the same in both cases. In fact, nuptiality tables are but a replica of life tables, representing, in essence, an extension of the application of a well-known technique to another area of study in the field of demography.

Yet, life tables are generally much more frequently constructed than nuptiality tables in almost every country. Or, to be more exact, they are much more well-known, mainly because they constitute the back-bone of the insurance business. In contrast, nuptiality tables are much less publicised. This is perhaps because these tables have little to do with business life, and much of their practical application in that earthly sense is yet to be seen.

The first attempt to construct nuptiality tables for the U. A. R. was made by the author in 1957, with reference to census years 1937 and 1947⁽¹⁾. Another attempt was made in 1966, which was confined to examining marriage data for 1960. Since the latter author did not extend his analysis to the construction of nuptiality tables for that year, nuptiality tables for the U. A. R. are yet to be updated⁽²⁾.

(*) Professor of Applied Statistics, Faculty of Economics and Political Science, University of Cairo, Egypt, U.A.R.

(1) A. M. Farrag : «Demographic Developments in Egypt during the present century», Unpublished Ph. D. thesis, London School of Economics, 1957, pp. 170—176.

(2) Fathi M. Ibrahim : «Rates of Marriage», in : Preliminary Study of Techniques for Construction of Models for Demographic Change—Proceedings of the Institute of Statistical Studies and Research, vol. 1 Cairo University Press, 1966.

The purpose of this paper is NOT to complete the series of nuptiality tables for the U. A. R. in the traditional way where the point of departure is the calculation of first marriage rates for bachelors and/or spinisters, but rather to use data available for the U. A. R. in 1960, to construct polygamous nuptiality tables for this year on the basis of multiple marriage rates, which in a Moslem country are not applicable except for Moslem males.

It is worth remembering that in the U. A. R. in common with other Moslem countries, remarriages of males need not necessarily be preceded by the dissolution of a previous marriage. - Thus, while a Moslem female can never remarry unless she is divorced or unless she has already become a widow, a Moslem male may choose to remarry even before he divorces his wife and/or even before she is dead. Cases of polyandry, therefore, can never exist. On the other hand, remarriages for males may and yet may not represent cases of polygamy.

For the sake of clarity, we shall use the word marriage to refer to a case of a first marriage, as distinct from remarriage by a male who is or was married, or by a female who is no longer married. Finally the term multiple marriage is reserved for a case of remarriage by a presently married male. In other words, a multiple marriage is a special case of remarriage.

The Nature of Available Data :

For constructing traditional nuptiality tables, sex/age specific marriage rates are calculated for those who have never married. The table may subsequently be completed in the usual form similar to that of completing an ordinary life table.

The construction of polygamous nuptiality tables, requires the calculation of multiple marriage rates for males. In calculating such rates, care must be taken to relate each incidence of marriage to the population at risk, i. e. in both numerator and the denominator, the number of presently kept wives by the remarried husband must be taken into account.

Only in census years can data on the population classified by marital status be obtained. This is the reason for our choice of the year 1960 as a point of reference for our calculations in this paper. The 1960 census also provided data for married Moslem husbands by the number of wives. The corresponding classification in vital statistics is also available for that year.

Data on marriages and remarriages of females to polygamous husbands classified by the number of their wives are not available. The availability of such data would enable the construction of a special type of polygamous nuptiality tables, where the point of departure would be to calculate a combined rate of female marriages and remarriages to polygamous husbands, by dividing such cases by the total number of females available for marriage, i. e. spinsters, widows and divorced. This task is further complicated by the fact that widows and divorced females have to allow a certain period of time after the dissolution of their previous marriage by either divorce or death of husband before they can remarry. Data on the classification of widows and divorced females by the duration of their widowhood and/or divorce, is also not available.

It is obvious that the possibility of female remarriages after widowhood and/or divorce is open to Moslem and Non-moslem females alike. It is worth noting, however that the number of divorced non-moslem females in 1960 was negligible, amounting to 1350 cases out of a total of 146378 cases.

The Structure of the U. A. R. Population by Marital Status :

The construction of polygamous nuptiality tables requires data on the age structure of Moslem males, them being the population exposed to multiple marriages up to a maximum of four wives at a time. Monogamous nuptiality tables, on the other hand, require data on the age/sex structure of the never married, the widowed and the divorced regardless of religion. Although the U. A. R. population is predominantly Moslem and naturally predominantly Egyptian, variations in in the marital composition of its components, and in their marriage behavioural patterns may not be negligible.

In table (1) below, for example, it may be observed that among these who are above marital age, the proportion of married, widowed and divorced are higher for Moslems than for non-moslems, except for widowers. Conversely, proportions of bachelors and spinsters are higher for nonmoslems than for Moslems. It may also be observed in the same table that proportions of married and never married females are lower than the corresponding proportions for males, Moslems and non-moslems alike. Proportions of widows and divorced females are higher than the proportion of widowers and divorced males, equally for Moslems and non-moslems.

Urban/rural differences are also worth noting. Data in table (1) suggest that the proportions of the married and the widowed are higher in rural than in urban areas, whereas the proportions of the never married and the divorced are higher in urban than in rural areas. This applies to both males and females.

As for multiple marriage rates, they are seen in table (1) to be markedly higher in rural than in urban areas. This phenomenon provides a good case for constructing polygamous nuptiality tables by locality, but unfortunately the necessary data for undertaking this task are not available.

Age-specific Multiple Marriage Rates :

As mentioned earlier, and for the purpose of this paper, it is necessary to calculate multiple marriage rates according to the polygamous status of the husband. These rates are shown in table (2) below, together with the over-all multiple marriage rates for all cases of polygamy.

It may be seen from the above table that, in general, remarriage rates to a second wife are by far the lowest in comparison with other multiple marriage rates up to age 30. After age 30, remarriage rates to a second wife begin to rise above remarriage rates to a third wife, but remain lower still than the corresponding remarriage rates to a fourth wife. As should be expected, the latter rates are the lowest of all rates under age 30, but are the highest rates after that age. It may be observed that fourth-wife polygamy rates are inapplicable under age 25.

It may also be observed that second and fourth polygamy rates run smoothly over the age range indicated. One can even detect a pattern in these rates. This is not the case with third polygamy rates which oscillate from one age group to another and present no definite pattern.

There is very little to be said as to why third polygamy rates are higher for age group 25-29 than for age group 30-34, and for age group 35-39 than for age group 40-44. Also rates at the lower tail of the age range present certain queries. Firstly one would have expected that fourth polygamy rates should consistently lower than third polygamy rates, and these in turn should be generally lower than

second polygamy rates. Since the data in table (2) do not conform to this assumption, it is not even worth bothering about a seemingly high third polygamy rate of 0.0976 for the under 20's, which is rather surprising. In the absence of any norms, it is difficult to interpret these deviations. The possibility of reporting errors in general and of errors in age reporting in particular cannot naturally be excluded.

Bearing in mind these and certain other limitations of the original data, the exercise of constructing polygamous nuptiality tables for the UAR is being carried out in this paper for the sake of breaking new grounds even in a preliminary fashion.

The Construction and Analysis of *UAR Polygamous Nuptiality Table*

The central multiple marriage rates shown in table (2) above are used here to calculate the various values of the nuptiality tables given in table (3) below.

To begin with, values of ${}_np_{sx}$ are calculated by using the special formulae cited at the bottom of the table. The rest of the values are calculated in the same way as that used in the construction of life tables.

Tables (3) below is made up of four component tables. All tables pertain to Moslem males. The first part relates to second wife polygamy. The second part relates to third wife polygamy and the third to fourth wife polygamy. The last part caters for all cases of polygamy regardless of the wife's order.

It is obviously possible to review the values in each column for each part of this table separately. For the sake of brevity, however, we shall concentrate on the last column in each of these parts, namely the column containing the values labelled e_{sx} . These values may be called here, for lack of better term : 'The Expectation of no Further Marriage'. These values are expressed in terms of years.

The age span adopted in the construction of the different parts of this table extends from age 18 to age 60, i.e. a span of 42 years.

The expectation of no further marriage, in three parts of the table, including the last part, starts at a high peak (40 years out of a span of 42 years) under the age of 20 years and declines without interruption as the age increases. The corresponding e_{sx} values for those who have two wives starts from a lower value approximating

20 years, and reaches 32.5 years at the age of 25, and drops gradually without interruption until the end of the age span shown in the table. A simple graphical representation of the different values shown in the four parts of the table, can easily reveal this contrast.

No definite pattern can be detected in this respect except by dividing the series of the e_{sx} values into two parts, namely before age 25 and after that age. Before age 25 the expectation of remaining without further marriage is *higher* for those married to one or three wives than for those who are married to two wives. Conversely, after age 25, the expectation of remaining without further marriage is *lower* for those married to one or three wives, in that particular order, than for those who are already married to two wives.

RESUME

La construction des tableaux de mariage n'est pas differente de celle des tableaux de mortalité. Les mêmes techniques peuvent etre adopté dans les deux cas.

Dans cet ouvrage l'auteur fait la distinction entre tableaux de mariage traditionnel et tableaux de mariage qui presentent des cas speciaux comme ceux de multiple mariages dans les pays Musulmans par exemple. Dans ces pays ce sont les hommes qui peuvent pratiquer ce droit. Le même chemin n'est pas ouvert pour les femmes Musulmanes.

L'auteur a donc employé des statistiques de 1960 (recensement et registration), pour etablir des tableaux de mariage pour cet année, selon le nombre des epouses des nouveau-mariés pendant cet année. Trois tableaux de mariagesont donc presentés, viz. pour les epoux Egyptiens qui avaient déjà une, deux ou trois epouses, etant donné que le nombre maximum des epouses pour un Musulman desirant remarrier ne peut pas depasser à un moment donné quatre epouses.

Après la construction de ces tableaux et d'un tableau general pour la totalité des cas de multiple mariage, les resultats sont examiné et analysé d'une façon rapide. L'esperence de vie sans nouveau mariage pour les hommes avec un, deux ou trois epouses, ainsi que pour l'ensemble de ces hommes etait calculé. Les mouvements de ces esperences selon l'âge d'homme montrent une descente systematique d'un groupe d'age à l'autre pour les hommes mariés à une ou trois femmes, tandis que les esperences de vie sans nouveau mariage pour les hommes mariés à deux femmes montent jusqu'au groupe d'age 20-24, et commence à descendre ci-après.

TABLE 1

Population of the U.A.R. by marital status, locality,
Nationality and religion—1960

Designation	Never Married	Merried	Diverced	Widow	Unstated	Total
<i>Egyptian Moslems</i>						
Males	1453672	4406272	71374	126440	32942	6090700
Females	781745	4552818	145028	1169350	72479	6721420
Both Sexes	2235417	8959090	216402	1295790	105421	12812120
<i>Egyptian Non-Moslems</i>						
Males	138497	344788	727	12583	1707	498302
Females	90956	547207	1350	87479	4137	531129
Both Sexes	229453	691995	2077	100062	5844	1029431
<i>All Nationalities and Religions Urban</i>						
Males	701604	1772746	30788	49480	12342	2566960
Females	409703	1764510	60801	380404	24187	2639605
Both Sexes	1111307	3537256	91589	429884	36529	5206363
<i>Rural</i>						
Males	909479	3012044	41862	91307	22781	4077473
Females	474961	3163613	86393	885893	52875	4663735
Both Sexes	1384440	6175657	128255	977200	75656	8741208
<i>Total</i>						
Males	1611083	4784790	72650	140787	55123	6644433
Females	884664	4928123	147194	1266297	77062	7303340
Both Sexes	2495747	9712913	219844	1407084	112185	13947773
<i>Population under age</i>						
Males	6425579	—	—	—	—	6425579
Females	5612749	—	—	—	—	5617749
Both Sexes	12036328	—	—	—	—	12036528
<i>Egyptian under age</i>						
Males	6403034	—	—	—	—	6405034
Females	5596204	—	—	—	—	5596204
Both Sexes	11999238	—	—	—	—	11999238

(Cont. 1)

PROPORTIONS

By Religion

Moslems

Males	23.9	72.3	1.2	2.1	0.5	100
Females	11.6	67.7	2.2	17.4	1.1	100
Both Sexes	17.4	69.9	1.8	10.1	0.8	100

Non-Moslems

Males	27.8	69.2	0.1	2.6	0.3	100
Females	17.1	65.4	0.2	16.5	0.8	100
Both Sexes	22.3	67.2	0.2	9.7	0.6	100

By Locality

Urban

Males	27.3	69.1	1.2	1.9	0.5	100
Females	15.6	66.8	2.3	14.4	0.9	100
Both Sexes	21.3	67.9	1.8	8.3	0.7	100

Rural

Males	22.3	75.9	1.0	2.2	0.6	100
Females	10.2	67.8	1.9	19.0	1.1	100
Both Sexes	15.8	70.6	1.5	11.2	0.9	100

Urban and Rural

Males	24.2	72.0	1.1	2.1	0.6	100
Females	12.1	67.5	2.0	17.3	1.1	100
Both Sexes	17.9	69.6	1.6	10.1	0.8	100

TABLE 2

Polygamous Central Marriage Rates

	—20	20—	25—	30—	35—	40—	45—	50—	55—	60—64
2nd Wife	.0015	.0022	.0040	.0048	.0058	.0050	.0046	.0031	.0020	.0015
3rd Wife	.0976	.1212	.0088	.0008	.0075	.0007	.0007	.0004	.0043	.0031
4th Wife	.0000	.0000	.0068	.0115	.0096	.0096	.0080	.0095	.0049	.0032
Over-all	.0010	.0020	.0040	.0050	.0050	.0050	.0040	.0030	.0020	.0010

TABLE 3
Polygamous Nuptiality Tables for Egyptian Moslem
Males by the Number of their Wives-1960

I. Second-Wife Polygamy Table :

Age	m_x	n_{sx}	I_{sx}	I_{mx}	L_{sx}	L_{mx}	T_{sn}	T_{mx}	esx
—20	.0015	.9948	10000	0	44870	130	412188	32812	41.22
20—	.0022	.9890	9948	52	49467	535	367318	32682	36.92
25—	.0040	.9801	9839	161	48703	1297	517852	32148	32.31
30—	.0048	.9762	9643	357	47640	2360	269148	30852	27.91
35—	.0058	.9712	9413	587	46389	3611	221508	28492	23.53
40—	.0050	.9752	9142	858	45144	4856	175119	24881	19.16
45—	.0046	.9773	8915	1085	44071	5929	129975	20025	14.58
50—	.0031	.9845	8713	1287	43288	6772	85903	14097	9.86
55—	.0020	.9900	8578	1422	42675	7325	42675	7325	4.97
60—	.0015	.9925	8492	1508					

II. Third-Wife Polygamy Table :

—20	.0976	.7587	10000	0	38967	6033	202856	242144	20.29
20—	.1212	.5451	7587	2413	29307	20693	163889	236111	21.60
25—	.0088	.9568	4136	5864	20232	29768	134582	215418	32.54
30—	.0008	.9960	3957	6043	19745	30255	114350	185650	28.90
35—	.0075	.9631	3941	6059	19342	30658	94604	155396	24.00
40—	.0007	.9965	3796	6204	18946	31054	75262	124738	19.84
45—	.0007	.9965	3782	6218	18880	31120	56316	93684	14.89
50—	.0004	.9980	3769	6231	18828	31172	37437	62563	9.93
55—	.0043	.9787	3762	6238	18609	31391	18609	31391	4.95
60—	.0031	.9845	3682	6318					

III. Fourth-Wife Polygamy Table :

—20	.0000	.0000	10000	0	45000	0	395115	49885	39.51
20—	.0000	.0000	10000	0	50000	0	350115	49885	35.01
25—	.0068	.9664	10000	0	49160	840	300115	49885	30.01
30—	.0115	.9442	9664	336	46972	3028	250955	49045	25.97
35—	.0096	.9529	9124	876	44549	5451	203983	40017	22.36
40—	.0096	.9529	8695	1305	42451	7549	159434	40566	18.34
45—	.0080	.9608	8285	1715	40615	9385	116983	33017	14.12
50—	.0095	.9535	7961	2039	38877	11123	76368	23632	9.59
55—	.0049	.9757	7590	2410	37491	12510	57491	12509	4.94
60—	.0032	.9840	7406	2594					

Cont.

IV. Over-All Polygamy Table :

—20	.001	.9980	10000	0	34950	50	409924	30077	40.99
20—	.002	.9900	9980	20	49650	350	374974	30027	37.57
25—	.004	.9802	9880	120	48885	1115	325324	29677	32.93
30—	.005	.9755	9674	326	47773	2227	276439	28562	28.58
35—	.005	.9753	9435	565	46593	3407	228666	26334	24.24
40—	.005	.9753	9302	798	45443	4557	182073	22926	19.79
45—	.004	.9802	8975	1025	44430	5570	136630	18368	15.22
50—	.003	.9851	8797	1203	48765	6233	92200	12795	10.48
55—	.002	.9900	8709	1291	43433	6565	43435	6563	4.99
60—	.001	.9950	8665	1335					

N.B.—Formulae used : $n p_{sx} = (2 - m/2 + m)^n$ in tables I, II, III ; whereas in table IV
 $n p_{sx} = (2 - mm/2 + mm)$