CURRENT FERTILITY BEHAVIOUR IN AFRICA. RESULTS FROM A BIRTH INTERVAL ANALYSIS OF WFS DATA

RONALD C. SCHOENMAECKERS

Vrije Universiteit Brussels

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Current Fertility Behavior in Africa. Results from a Birth Interval Analysis of WFS Data.

Ronald C. Schoenmaeckers,
Interuniversity Programme in Demography (IPD).

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1. Introduction:

The purpose of the present paper is twofold: 1) to present a straightforward method for obtaining robust estimates of birth-intervals when dealing with small numbers, and 2) testing its reliability by comparing fertility estimates from its application with those from other methods such as the Relational Gompertz Model (RGM), and marital fertility rates as observed in the last 5 years before the interview.

The application presented here pertains to the analysis of birth-intervals as measured in the WFS surveys. These intervals are calculated by region in each of the countries. Within each region estimates are also produced jointly by age group and education category.

The birth-interval is a 'duration'-variable: it denotes the time between two successive births (1). A multivariate analysis on a 'duration'-variable is done with the use of so-called 'hazard' or 'survival' models (2).

2. Model definition.

An attractive starting point is the so-called proportional hazards model:

$$\lambda(t;i) = \lambda_0(t)*g(i) \qquad [1]$$

In words: the hazard rate at time t (or in practice: the conditional probability of experiencing the event in interval $t, t+\Delta$) observed in a subgroup with characteristics i is equal to a 'base-line' hazard rate, multiplied with an unspecified function of i. It is convenient to define g(i) as $g(z)=\exp(\alpha_i)$; as such, one ensures that the estimate of $\lambda(t;i)$ is always positive. Redefining [1] in terms of the survivor function S(t) and taking into account that $S=\exp(-\int\alpha(u)du)$, gives the following expression:

$$S(t;i) = \exp\left(-\int_0^t \lambda_0(u)*\exp(\alpha_i)du\right) \qquad [2]$$

from which follows:

$$S(t;i) = S_0(t) ** \exp(\alpha_i)$$

or

$$S_i(t) = S_0(t) ** \exp(\alpha_i) \qquad [3]$$

Formula [3] can be turned into a linear expression after a double log transformation:

$$\ln S_i(t) = \exp(\alpha_i) * \ln S_0(t)$$

$$\ln(-\ln S_i(t)) = \alpha_i + \ln(-\ln S_0(t)) \qquad [4]$$

The appropriateness of a specific 'survival'-model can be tested graphically. For a proportional hazards model, a plot of $\ln(-\ln S_i(t))$ against $\ln(-\ln S_0(t))$ would correspond to a straight line, with an intercept equal to α_i and a slope of unity. However, when dealing with birth-interval data, such a plot reveals a straight line with a slope that is no longer equal to

unity:

$$\ln(-\ln S_i(t)) = \alpha_i + \beta_i * (\ln(-\ln S_0(t))) \qquad [5]$$

Hence the idea of a Relational Hazards model (RH-model) in which $S_0(t)$ corresponds to standard values. The problem is then to obtain acceptable estimates of parameters α_i and β_i for each subgroup (i) separately.

The proposed RH-model is not a means for estimating the relative risks on the 'hazard' related to each covariate-value. The purpose is merely to obtain robust estimates for the distribution of the birth-interval whenever there is the problem of sample fragmentation. The solution lies in linking the observed 'survival'-function, disturbed by statistical variance -- 'noise' --, to a standard schedule. An application of a RH-model is straightforward in the sense that it does not involve the sometimes strenuous problem of looking for the 'best' model which is often the case in a 'joint'-estimation of covariate effects (3). When applying a RH-model, an analysis of covariate effects can be performed on the basis of the pattern of change of summary measures (eg., H-spread, Trimean) derived from the estimated survivor functions between the various subgroups.

Standard values of the 'birth function' (i.e., the cumulative proportion of births followed by a next one) are obtained from the entire sample including all data sets (4). Because of heaping errors even this distribution might still show large irregularities. We suggest smoothing the observed data with the use of Running Medians; when properly applied this simple technique can give quite satisfactory results (5).

3. The data and an application of a RH-model.

The results that will be discussed below stem from WFS-material from 8 African countries: Benin, Cameroon, Ghana, Ivory Coast, Kenya, Lesotho, Senegal, and Sudan. The analysis of birth-interval differentials is part of the current IPD-project on the 'Proximate Determinants of Fertility in sub-Saharan Africa' (6). Subgroups were defined on the basis of three covariates: region of residence, education of mother, and age of mother. Region closely corresponds to the administrative unit in the country. The complete data set includes 50 administrative units; some of these were re-grouped on the basis of socio-economic and ethnic similarity, so that only 34 'regions' are retained in the analysis. Four categories for female education were constructed: 0 years of education, 1-4 years, 5-7 years, and 8 years and more. Finally, covariate 'age' is the age of the respondent at interview, and includes three categories: less than 25, 25-34, and 35 and over.

The analysis of birth-intervals was made on a 'per birth' basis. Units of analysis are the births reported in the last 6 years prior to the survey; only births reported by ever-married women were included. The choice of a time limit of 6 years was made on basis of the observation that, among all 8 data sets, of all recorded 'closed' birth-intervals, no less than 95 percent has a duration of at least 72 months.

Not all births included in the data set are followed by a next one. Some of the birth-intervals are truncated at the time

of interview; they constitute the so-called 'open' intervals. Combining the information of 'open' and 'closed' intervals is based on the 'life table' technique and done with the use of the SPSS-subprogram 'Survival'. Finally, estimates of α_i and β_i were obtained with GLIM, a statistical computer package especially designed to deal with general linear models (7). The appropriate general linear model for the RH-model is defined in GLIM with a complementary log-log 'link' and a binomial error distribution; also, weights are introduced equal to the 'number at risk' at the start of each interval (t). The number of data points included in the regression estimation varies between the subgroups, and depends on the presence of linearity between the points. The estimation was only performed on subgroups with at least 50 observations. Finally, estimates of α_i and β_i were calculated for 189 subgroups.

The standard schedule was constructed on the basis of the entire sample base. Raw and smoothed values of the standard 'birth'-function are given in Table 1; a plot of the raw and smoothed 'hazard'-function is shown in Figure 1. Parameter estimates of α_i and β_i are given in Table 2 for the various subgroups.

4. Comparison of results.

The second purpose of this paper is to give an indication of the reliability of the estimates of a RH-model. This can be done by checking the consistency between fertility estimates as calculated from the results of a RH-model with estimates derived

from other methods. The other methods used here are simply the calculation of rates of marital fertility from the births reported in the last 5 years before the interview, and a Relational Gompertz model (RGM) application for estimating rates of general fertility (8). Note that two series of marital fertility rates were calculated: one for ever-married women, and another for women who reported themselves continuously married in the last 5 years before the interview.

Given an estimate of the mean duration of the birth-interval (BI), the fertility rate (f) can be calculated as:

$$f = (PW/BI) * 12 * k \qquad [6],$$

where PW is the proportion of women who participate in the process of reproduction (9). The value of k depends on the age span considered. If BI is estimated for a 10-year age span, for example 25-34, k will be equal to 10, and f will in that case correspond to the number of children born between ages 25 and 35. Below, 'f' is replaced by 'PF' - partial fertility. This term merely refers to the fact that a total number of births is given for an age span that is only a segment of the entire reproductive span. Note furthermore that the use of k assumes an uniform distribution of fertility within the age span considered. This is a valid approximation for the age group 25-34 only.

On the basis of the subgroup-estimates of the RH-model for the mean duration of the birth-interval, a PF-value can be calculated for age group 25-34. This category corresponds to current age of the mother at the time of interview. The RH-model was applied to births in the last 6 years before the interview.

Consequently, the PF's calculated via [6] correspond to the number of children born between ages 22-31 (assuming an even distribution of births in the 6-year period). In the calculation of PF values for marital fertility, a factor PW was estimated as the ratio of ever-married women with a birth in the last 5 years over all ever-married women (PWM); in the calculation of a PF value for general fertility, PW is estimated as the ratio of ever-married women with a birth in the last 5 years over all women (PWA) (cf. in Table 3: values PWM and PWA in panel A and B, resp.). The calculations were done by subgroup. Finally, a regional PF estimate was calculated as the weighted sum of the estimates by subgroup; the weights were the proportion of women ('ever-married' or 'all'), in each category of education within the region. It is this regional PF-estimate that is used in the comparison with marital fertility rates and the results of a Relational Gompertz Model (RGM). Marital fertility rates and RGM-estimates were obtained at the regional level only ('region' denoting the same geographical unit as in the RH-model).

The data for the comparison of the various fertility estimates are given in Table 4. In this table, PF values are given for each estimation procedure, together with their 'relative difference'. Relative differences are calculated with the PF-value derived from the RH-model (i.e., derived through equation [6]) taken as 100 percent: a negative value therefore implies that the PF-value from the RH-model is greater than the one from the other estimation procedure.

Compared to marital fertility rates and also compared to

RGM-results there is a systematic and serious overestimation of fertility by the PF-value derived from the RH-model for the youngest and oldest age groups. For example, in the comparison of PF-values for ever-married women, the median value of relative differences is -31 and -16 percent in age intervals 12-21 and 32-46, respectively. The reason is that the use of formula [6] is not justified in these age groups because of the lack of an uniform distribution of fertility. Therefore the comparisons presented and discussed below are restricted to PF-values for age group 22-31.

4.1. Comparison of PF(22-31) from RH-model with marital fertility rates.

We will first comment on the comparison of a PF(22-31) derived from a RH-model with marital fertility rates. The PF value from the rates of marital fertility is calculated as a weighted sum of the yearly fertility rates for 5-year age intervals. For example, the value PF(22-31) is calculated as: 3*f(20-24)+5*f(25-29)+2*f(30-34).

The relative differences between PF-values of a RH-model and marital fertility rates as calculated for ever-married women are pictured in a kind of stem-and-leaf plot in Figure 2 (panel A). The differences are small: their median value is -5.0 percent. Moreover they have a narrow range: ninety-one percent of all observations (30 out of a total of 33 regional estimates) show a deviation comprised between zero and -10.0 percent. One can say that the estimate of fertility at the middle ages (22-31) based on

results of the RH-model, is, in general, about 5 percent too high. This is considered a satisfactory result. This finding is, however, not surprising given that basically similar inputs are used in the 2 methods. Yet, they attest to the fact that our procedure of birth-interval estimation is not producing odd results.

The systematic overestimation in fertility by the RH-model as compared to classic marital fertility rates can be due to a number of reasons, which are listed and commented on below:

1) One factor in the calculation of the PF value on the basis of the marital fertility rates is the yearly rate for the age interval 30-34. However, it is a fact that fertility decreases beyond age 30, so that the use of a yearly rate for this interval -- which is, in fact, an 'average' -- must lead to an underestimation of fertility at ages 30 and 31, and hence to an underestimation of fertility at ages 22-31.

2) The RH-model defined here implies a fixed time span of 72 months. This is shorter than the maximum length of all 'observed' birth-intervals in the data files. Although it can reasonably be assumed that only a fraction of all birth-intervals will exceed 72 months (less than 5 percent), it is a possible source of underestimation of the average duration of the birth-interval, and hence produces an overestimate of fertility as measured through the RH-model.

3) The regional PF estimates are calculated as the weighted

sum of the estimates by subgroup. There is, however, the problem of 'missing values': for some subgroups, a PF value cannot be calculated since they were not included in the regression estimation (the number of observations was less than 50). The omitted subgroups especially include better educated women. Better educated women are a minority in the older age groups and in many regions. It is possible that these women have less children than the regional average. This assumption is not investigated here. Nevertheless, if it is true that better educated women have lower fertility, their exclusion would lead to an overestimation of the regional PF-estimate. However, if anything, the bias introduced must be small since only a fraction of the total regional population is excluded in the process.

4) A fourth and last reason for a systematic overestimation of fertility via the RH-model could be related to the use of the life table technique. Life tables are likely to produce unbiased estimates for the timing of events (here the occurrence of a 'next' birth) when dealing with homogeneous data, so that the hypothesis of independence is completely fulfilled. In this particular case, this would imply the very unrealistic assumption that all women have equal fecundability. When dealing with heterogeneous data the mean duration estimated from the survivor function of the life table is likely to be an underestimate of the real one (10).

Let us next turn to the comparison with marital fertility rates calculated from the births in the last 5 years prior to the interview as reported by women who were <u>continuously married</u> in

that period (see panel B, Figure 2). PF-estimates based on marital fertility rates are higher than those derived from the RH-model. This is exactly what could be expected since the RH-model was applied on births reported by ever-married women. This choice was made in the first place to ascertain a data set of a reasonable size. Also, in not restricting the data set to births of women continuously married in a given period, we have avoided the difficult task of defining acceptable rules of inclusion. For example, should a birth conceived before marriage be included or not? (Here, they are included.)

4.2. Comparison of PF(22-31) from RH-model with results of a Relational Gompertz Model.

Let us finally comment on the differences between PF-values derived from birth-interval estimates -- i.e., results of the RH-model --, and PF-values derived from results of a Relational Gompertz Model (RGM). The comparison is again made on the basis of a kind of stem-and-leaf plot (see Figure 3, panel A). There is less consistency between these two series than between the series including marital fertility rates (cf. paragraph 4.1 above, more particularly panel A in Figure 2). The relative differences are, on average, greater (-7.9 percent versus -5.0 percent), and their distribution is also less compact. From the comparison with marital fertility rates we concluded that the PF-estimates derived from birth-intervals estimated with the RH-model, are reliable. It seems therefore justified to investigate if the weak consistency between the two series of PF-estimates as observed here, is the consequence of inadequate RGM-results. To do this we

will briefly outline the strategy followed in applying the RGM.

The RGM is designed to estimate the pattern and level of fertility in two consecutive steps (11). In the analysis here the following strategy was adopted. The age pattern was estimated on the basis of 'current fertility', i.e., from the births reported in the last 12 months before the interview. The level of fertility or TFR, was estimated by linking the fitted pattern to the parities reported by 5-year age groups. Linking these two pieces of information gives a series of ratios; in the present application their median was taken as the 'most likely' TFR-estimate (12). It is this estimate together with the afore fitted pattern that constitutes the fertility schedule from which is calculated the PF-value associated with the RGM-results between ages 22-31.

PF-estimates derived from the RGM fitted fertility schedules are, on average, about eight percent smaller than those derived from the RH-model. This could mean that the 'chosen' TFR's are systematically too low. It is indeed possible that the use of 'parity'-information leads to a conservative estimate of the level of fertility. Reported parities can be affected by omission; also, their use is questionable in a situation of rising fertility. With this in mind we have adapted an alternative strategy in applying the RGM, in the sense that the TFR's were not derived from linking the fitted pattern to reported parities but to estimates of cumulated fertility derived from births reported in the 12 months prior to the interview (and therefore called 'current fertility' estimates). As a result, another series of

PF-values could be calculated and compared with the PF-values of the RH-model. The comparison is made in panel B of Figure 3. Clearly, the relative differences in panel B are greater than those in panel A. This can be interpreted as an indication that the level-estimate of fertility from reported parities is indeed too low in general. On the other hand, there are also reasons to believe that the use of 'current fertility' for estimating a TFR is not always a better choice. This is seen from the wide scatter between the relative differences in panel B. If anything, 'current fertility' is an unreliable measure for the level of fertility. The reason is quite simple. African women tend to overstate their most recent fertility. The extent of overreporting is not constant in all data sets; it is also common that the degree of overreporting of births in the last 12 months before the interview increases with age (13).

Using 'current fertility' instead of 'reported parities' for estimating the level of fertility, does not appear to be an improvement -- on the contrary. One question still remains: that is to explain the weak consistency between the PF-estimates of the RH-model and of the RGM-results (weak as compared to the consistency observed with marital fertility rates). There is no conclusive explanation for it. However, it is firstly reasonable to assume that at least some of the TFR's associated with reported parity information are indeed too low. Secondly, the relative weak consistency can also be related to the fact that we are comparing estimates of partial fertility calculated from a <u>fitted</u> pattern of fertility and associated to a standard schedule (those of the RGM), with estimates which are not related to such a

pattern (those of the RH-model). The explanation is as follows. The use of formula [6] is based on the implicit assumption of constant fertility in the specified age interval. This assumption is never completely fulfilled. However, it is seriously violated in age span 22-31 when fertility is rapidly decreasing from its peak ages onwards (generally around 23-25). And this is exactly what is true for the group of 'outliers' of relative differences, i.e. those of a value of -12.0 percent and lower. This group includes the following regions: Cotonou (Benin), Centre-Sud/Est, Littoral, Nord (Cameroon), Northern/Upper (Ghana), Nairobi (Kenya), and Nord-Est (Senegal). They all have a disturbed fertility pattern, probably because of contraceptive use or pathological sterility increasing with age. In urban regions contraceptive use could be the dominant reason. For Cameroon, the authors of the First Country Report relate the rapid decrease of fertility above age 25 to pathological sterility in the regions Nord, Centre-Sud, and Est. In these regions are found the highest proportions of women without a birth in the last 5 years prior to the interview: the values are 18.0, 16.0, and 12.0 percent in Nord, Centre-Sud, and Est, respectively (14).

5. Conclusions:

It is shown that an RH-model as defined in equation [5] produces estimates of fertility at the middle ages which are consistent with those calculated on a different basis. The model is likely to produce robust estimates of the birth-interval distribution. As such, it provides a reliable basis for an analysis of birth-interval differentials.

A weakness of a RH-model is that estimates cannot be calculated for all subgroups identified in the analysis. This is related to the fact that the estimation procedure is based on a linear structure between the time-points (months since previous birth). In practice, it seems that 50 observations is a minimum to include a subgroup in the estimation.

Also, estimates of PF values should be interpreted with care when derived from birth-interval estimates for too broad age groups. However, the calculation of PF values must not be the primary objective when applying a technique of this kind. On the other hand, it can be assumed that the definition of age groups has also an effect on the birth-interval estimates per se, and more particularly on the variance of the 'hazard' distribution. This must be borne in mind in an analysis of birth-interval differentials.

Finally, it must be clear that the validity of the estimate of the mean duration of the birth-interval depends on the appropriateness of the period of observation taken into account (here 6 years); but, in fact, this is a general problem for all life table applications.

References and Notes:

The author wishes to thank Ron Lesthaeghe for his comments and support and Michel Dedeyne and Ivan Wijnant for their computer assistance.

(1) 'Births' can correspond to only 'live births', or can also include 'still-births'. Also, the intervals considered can be restricted to those starting with the birth of a child which survives up to a pre-fixed age. The choice depends on the nature of the analysis. Here, the birth-interval denotes the time between two successive live births.

(2) An abundant amount of theoretical work has been published on the topic of 'survival' models since the pioneering paper of D. Cox, Regression Models and Life Tables, Journal of the Royal Statistical Society, Series B, 34:187-220 (1972).

Some major references for 'survival' models are:
R.G. Elandt-Johnson and N.L. Johnson, Survival Models and Data Analysis, New York: John Wiley and Sons, 1980; and:
J.G. Kalbfleisch and R.L. Prentice, The Statistical Analysis of Failure Time Data, New York: John Wiley and Sons, 1980.

(3) See, for example, the discussion in G. Rodriguez, J. Hobcraft, J. McDonald, J. Menken, and J. Trussell, A Comparative Analysis of Determinants of Birth Intervals, WFS: Comparative Studies, 30 (May 1984); and also: J. Trussell and C. Hammerslough, A Hazards-model Analysis of the Covariates of Infant and Child Mortality in Sri Lanka, Demography, 20, no 1 (1983):1-26.

(4) The term 'birth'-function has been borrowed from G. Rodriguez and J. Hobcraft, Illustrative Analysis: Life Table Analysis of Birth Intervals, WFS: Scientific Reports, 30 (1980). The 'birth'-function is the complement of the 'survival'-function.

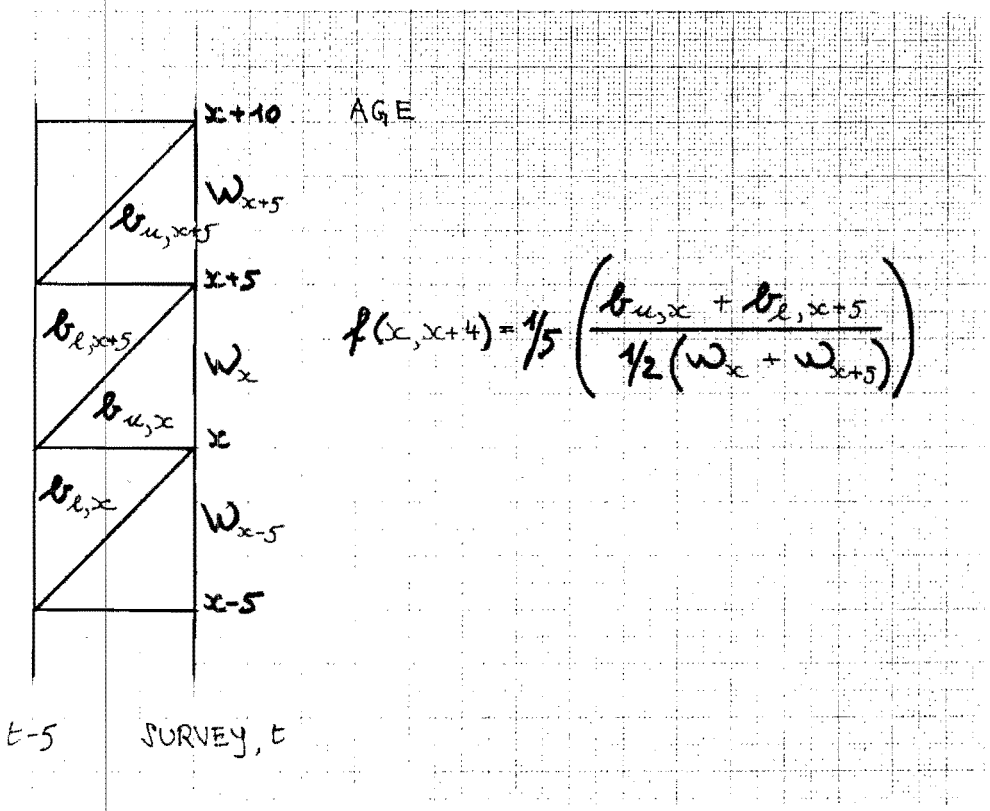
(5) 'Running medians' is a EDA-technique: J.W. Tukey, Exploratory Data Analysis, Addison-Wesley Publishing Company, 1977. For an application of running medians with respect to birth-intervals, see R. Schoenmaeckers, The Onset of Changes in Fertility Behaviour in Kenya: A Birth Interval Analysis With the Use of a Relational Hazards Model, unpublished Ph.D. dissertation, Brussels: Interuniversity Programme in Demography, Vrije Universiteit Brussel, 1984.

(6) Results will be published in: R. Lesthaeghe (ed.), Reproduction and Social Organization in Africa (forthcoming).

(7) GLIM: Generalised Linear Interactive Modelling. Oxford: Numerical Algorithms Group, 1978.

(8) For details about the application of a RGM, see B. Zaba, Use of the Relational Gompertz Model in Analysing Fertility Data Collected in Retrospective Surveys, CPS working paper, no 81-2 (March 1981), Centre for Population Studies, London School of Hygiene and Tropical Medicine, University of London.

The way marital fertility rates are calculated is best illustrated in a Lexis diagram. W(x) is the number of women of age x, x+4; b(.,x) is the number of births.



(9) Formula [6] is derived from formulae in J. Bongaarts, Intermediate Fertility Variables and Marital Fertility Rates, Population Studies, 30, no2 (1976):227-241.

(10) See Chapter 7 in: M.C. Sheps and Menken, Mathematical Models of Conception and Birth, Chicago, London: University of Chicago Press, 1973.

(11) Cf. Zaba (1981), cited in footnote (8).

(12) The median value is in most instances quite close (i.e. differing by only 0.1 to 0.2) to the weighted average, (i.e., the mean between ratios of only those age-groups included in the estimation of the pattern).

(13) Overestimation of 'current fertility' can be easily detected by comparing the pattern of a set of age-specific fertility rates observed in, say, the last 5 years before the interview, to the pattern of standard values -- for example, those of the RGM. Deviation from the standard pattern, in the sense that the fertility rate calculated in the last 12 months is comparatively too high, is an indication of overreporting. This is what we have observed for nearly all data sets, for age groups 30-34, and over. Overreporting of 'current fertility' by especially older women is also detected in the plot of 'F' values in applying a RGM. In nearly all 'regions', the 'F' point corresponding to the ratio of

age groups 40-44 over 45-49 deviates from a linear pattern, and was therefore not included in the fitting of the fertility schedule.

(14) See Enquête nationale sur la fécondité du Cameroun 1978, Rapport Principal (Volume 1: Analyse des principaux résultats), Ministère de l'Economie et du Plan (April 1983), especially pp. 80-84.

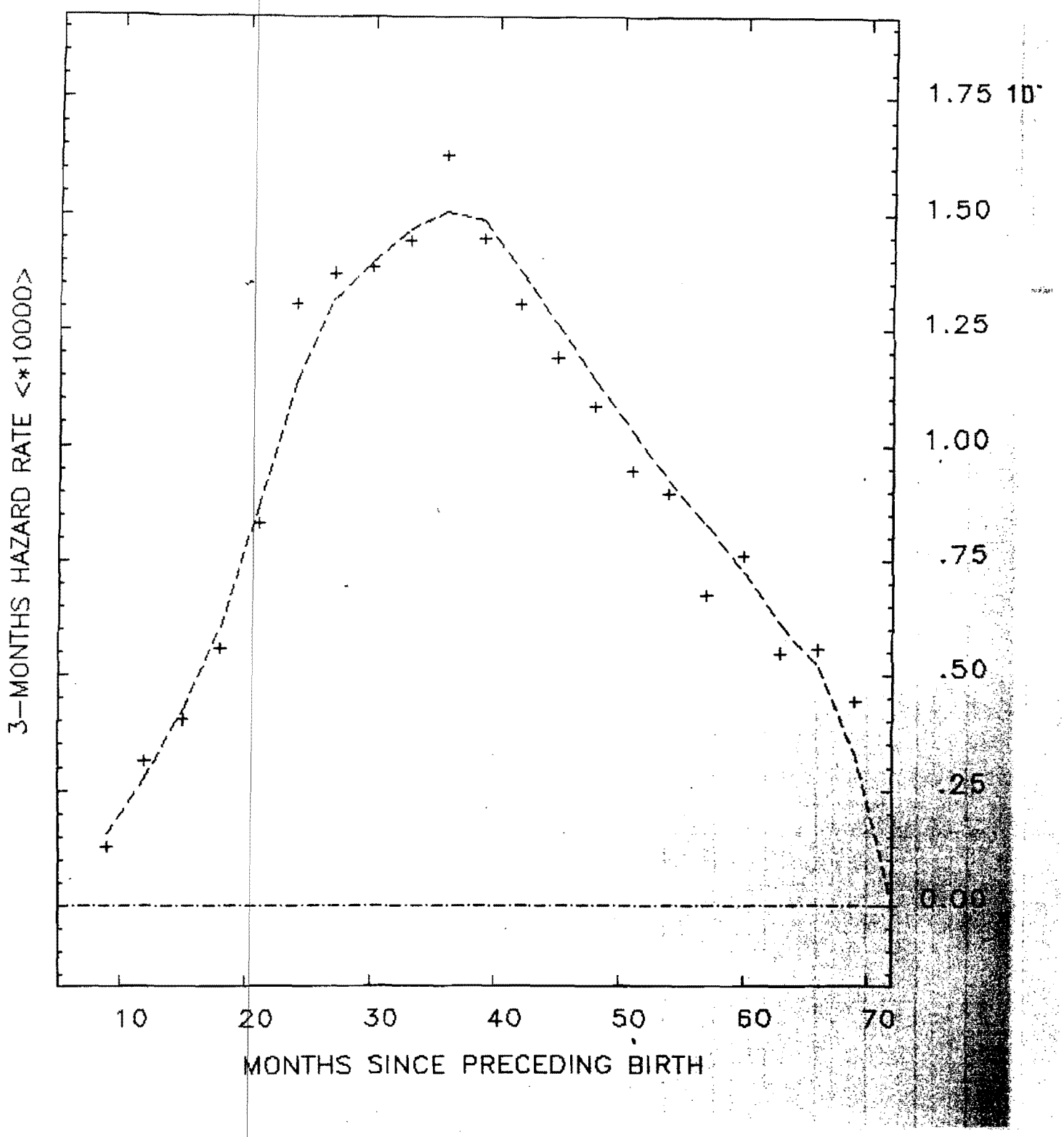


FIGURE 1: RAW AND SMOOTHED STANDARD DISTRIBUTION OF THE BIRTH INTERVAL.

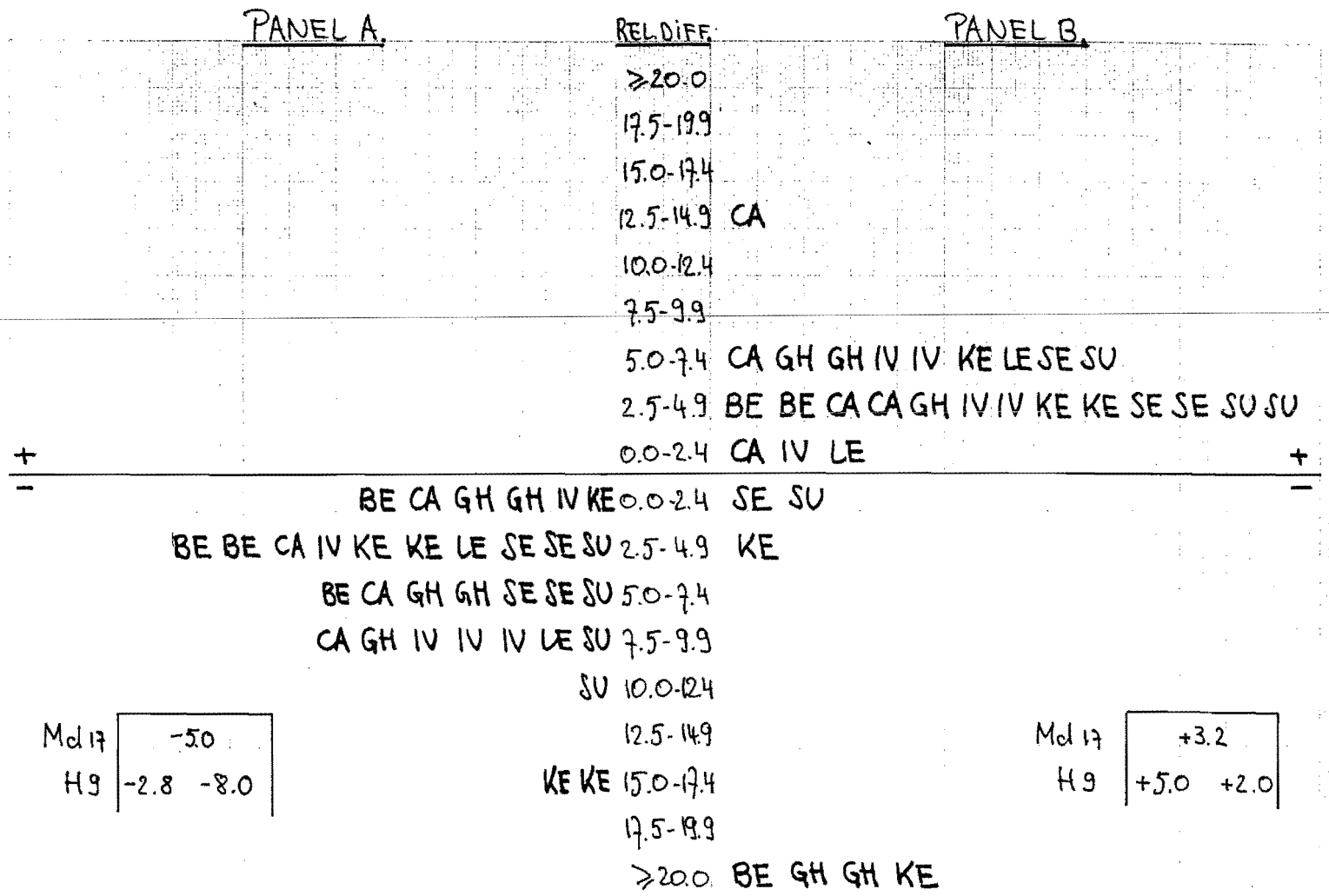


FIGURE 2: MARITAL FERTILITY, AGE INTERVAL 22-31.

'STEM-AND-LEAF' DISPLAY OF RELATIVE DIFFERENCES BETWEEN SERIES OF PF-VALUES (PF-VALUE DERIVED FROM THE RH-RESULT IS TAKEN AS 100 PERCENT).

PANEL A: COMPARISON WITH RATES CALCULATED FROM BIRTHS IN THE LAST 5 YEARS BEFORE THE INTERVIEW REPORTED BY EVER-MARRIED WOMEN.

PANEL B: COMPARISON WITH RATES CALCULATED FROM BIRTHS IN THE LAST 5 YEARS BEFORE THE INTERVIEW REPORTED BY WOMEN CONTINUOUSLY MARRIED IN THE PERIOD.

LEGEND: BE BENIN, CA CAMEROON, GH GHANA, IV IVORY COAST, KE KENYA, LE LESOTHO, SE SENEGAL, SU SUDAN.

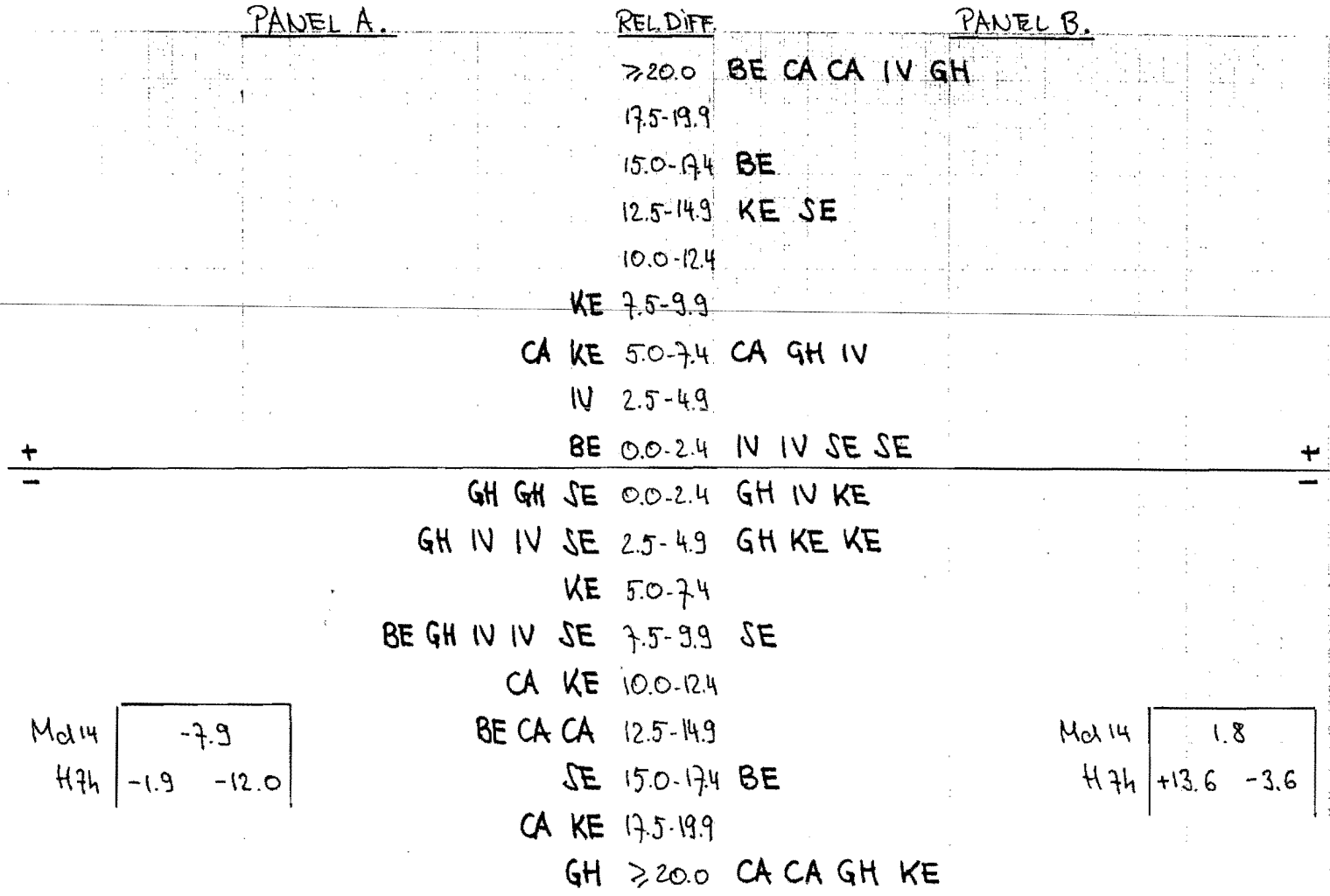


FIGURE 3: GENERAL FERTILITY, AGE INTERVAL 22-31.

'STEM-AND-LEAF' DISPLAY OF RELATIVE DIFFERENCES BETWEEN SERIES OF PF-VALUES (PF-VALUE DERIVED FROM THE RH-RESULT IS TAKEN AS 100 PERCENT).

PANEL A: COMPARISON WITH THE RESULT OF AN APPLICATION OF THE RGM, WITH A TFR-ESTIMATE BASED ON REPORTED PARITIES.

PANEL B: COMPARISON WITH THE RESULT OF AN APPLICATION OF A RGM, WITH A TFR-ESTIMATE BASED ON 'CURRENT FERTILITY'.

LEGEND: BE BENIN, CA CAMEROON, GH GHANA, IV IVORY COAST, KE KENYA, SE SENEGAL.

TABLE 1: RAW AND SMOOTHDED VALUES OF THE STANDARD DISTRIBUTION OF THE BIRTH INTERVAL.

RAW VALUES			SMOOTHED VALUES		
TIME SINCE PREVIOUS BIRTH <MONTHS>	PROPN WITH NEXT BIRTH	CUM PROPN WITH NEXT BIRTH	TIME SINCE PREVIOUS BIRTH <MONTHS>	PROPN WITH NEXT BIRTH	CUM PROPN WITH NEXT BIRTH
9	.0127	0.000	9	.0155	0.000
12	.0312	.013	12	.0274	.015
15	.0403	.044	15	.0426	.042
18	.0558	.082	18	.0605	.083
21	.0831	.133	21	.0867	.139
24	.1308	.205	24	.1140	.213
27	.1373	.309	27	.1314	.303
30	.1386	.404	30	.1396	.395
33	.1444	.487	33	.1467	.479
36	.1626	.561	36	.1506	.556
39	.1450	.632	39	.1490	.623
42	.1307	.686	42	.1376	.679
45	.1191	.727	45	.1266	.723
48	.1084	.759	48	.1142	.758
51	.0946	.785	51	.1030	.786
54	.0897	.806	54	.0922	.805
57	.0675	.823	57	.0829	.823
60	.0760	.835	60	.0726	.838
63	.0548	.848	63	.0612	.850
66	.0556	.856	66	.0519	.859
69	.0443	.864	69	.0333	.866
72	0.0000	.870	72	0.0000	.871
1ST QUARTILE:		25.30			25.23
2ND QUARTILE:		33.53			33.82
3RD QUARTILE:		47.16			47.31
TRIMEAN:		34.88			35.05

TABLE 2: APPLICATION RELATIONAL HAZARDS MODEL: ESTIMATES OF ALPHA <TOP> AND BETA <BOTTOM>, BY AGE, AND BY LEVEL OF EDUCATION AND REGION OF RESIDENCE.

BENIN	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
REGION :	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+
1. ATACORA, BORGOU	.0348	******	******	******	.1009	.3688	******	******	-.2907	******	******	******
	1.1230	******	******	******	1.0940	1.3040	******	******	1.0160	******	******	******
2. OTHER	.1688	******	.2686	******	.1761	******	-.2085	******	-.3924	******	******	******
	1.2980	******	.9432	******	1.2030	******	.8981	******	1.1510	******	******	******
3. COTONOU	******	******	******	******	.1542	******	-.0979	******	-.4310	******	******	******
	******	******	******	******	1.0940	******	.9629	******	1.6200	******	******	******

CAMEROON	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
REGION :	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+
1. CENTRAL-SUD, EST	-.0255	.2985	.2466	.5160	.2548	.2853	.4643	******	-.2407	-.1138	******	******
	.7960	1.1400	1.2770	1.4860	.9512	1.2600	1.1650	******	.8326	.9250	******	******
2. LITTORAL, S-OUEST	******	.3127	.2907	******	.1804	.4106	.1596	******	-.3402	******	******	******
	******	1.2470	1.1730	******	1.1170	1.3760	1.2590	******	.9516	******	******	******
3. OUEST, NORD-OUEST	.1478	.5350	.1326	******	-.0627	-.0236	.4516	******	-.4383	******	******	******
	1.1390	1.3110	1.5770	******	1.1370	1.2210	1.6430	******	.9919	******	******	******
4. YAOUNDE, DOUALA	******	.1386	******	.1959	-.1590	.1976	.3825	.2291	-.2980	******	******	******
	******	1.0360	******	1.1880	.9781	1.0410	.9601	.8079	.9186	******	******	******
5. NORD	-.0152	******	.1939	******	.0466	******	******	******	-.1358	******	******	******
	.9647	******	.9926	******	.7945	******	******	******	.7049	******	******	******

TABLE 2: (CONTINUED).

GHANA	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
REGION :	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+
1. WESTERN, CENTRAL	-.0001	******	******	-.0305	.0762	******	******	-.3301	-.2969	******	******	******
	1.0990	******	******	1.1720	1.0800	******	******	.8296	.9042	******	******	******
2. GR. ACCRA, EASTERN	-.1953	******	-.2771	-.2340	.0261	-.1799	-.0833	-.2874	-.4238	******	******	-.6021
	1.3460	******	1.0810	1.5040	1.1300	.9593	.8728	1.2940	1.1040	******	******	1.0370
3. VOLTA	-.1023	******	******	******	-.3050	******	******	-.3267	-.6202	******	******	******
	1.3260	******	******	******	1.2090	******	******	1.0350	1.2110	******	******	******
4. ASHANTI, BR. AHAFO	-.0681	******	-.0112	-.2903	-.0249	-.2192	-.2209	-.2932	-.6581	******	******	******
	1.3250	******	1.1100	1.2920	1.3780	1.8060	1.1400	1.3280	1.1060	******	******	******
5. NORTHERN, UPPER	-.6340	******	******	******	-.3742	******	******	******	-.6690	******	******	******
	1.5690	******	******	******	1.2800	******	******	******	1.0410	******	******	******

IV. COAST	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
REGION :	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+
1. ABIDJAN	.1444	-.0374	.2640	-.0984	.0243	******	-.0357	.3088	-.1966	******	******	******
	1.1050	.9358	1.1230	1.0600	1.0550	******	.9905	.7648	.9710	******	******	******
2. FORET URBAINE	.0722	******	.2958	******	.2603	******	******	******	-.6011	******	******	******
	1.3180	******	1.1230	******	1.0910	******	******	******	1.2570	******	******	******
3. SAVANE URBAINE	.1023	******	******	******	.2420	******	******	******	-.4008	******	******	******
	1.1830	******	******	******	1.1770	******	******	******	1.1650	******	******	******
4. FORET RURALE	.0650	.3095	.2585	******	.0821	.4949	.1250	******	-.3608	******	******	******
	1.2430	1.3020	1.1370	******	1.1570	1.3430	1.2110	******	1.0460	******	******	******
5. SAVANE RURALE	.0768	******	******	******	.1613	******	******	******	-.3728	******	******	******
	1.0580	******	******	******	1.1600	******	******	******	1.0420	******	******	******

TABLE 2: (CONTINUED).

KENYA	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
REGION :	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+
1. NAIROBI	******	******	.4287	.5907	.2497	******	.3332	.4890	******	******	******	******
	******	******	.8574	.9146	.7310	******	.8490	.7440	******	******	******	******
2. CENTRAL, EASTERN	.0687	.8245	.6221	.7653	.3089	.4039	.5291	.2406	-.1264	.0584	-.1560	******
	.9688	.9569	1.0490	.9850	1.0230	1.0490	1.0040	.7306	.8920	.8842	.8265	******
3. RIFT	.4550	.7581	.7231	******	.3119	.5805	.7704	.6310	-.0664	-.0512	******	******
	.9899	1.0850	1.1270	******	1.0040	.9680	1.2410	.9934	.7603	.8051	******	******
4. COAST	.1353	******	.7165	******	.0446	******	******	******	-.3381	******	******	******
	.8219	******	1.1590	******	.6275	******	******	******	.6161	******	******	******
5. NYANZA, WESTERN	.4227	.4500	.4569	.9343	.3927	.4444	.6581	.3913	-.1659	-.0688	-.2382	******
	.9264	1.0780	1.0000	.9889	.9544	1.0320	1.0790	.9074	.8002	.9704	1.0570	******

LESOTHO	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
REGION :	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+
1. LOWLANDS	******	-.1708	-.1552	******	******	-.0388	-.1243	.4387	******	-.6405	-.5944	******
	******	.9991	1.2350	******	******	1.1490	1.2120	.9788	******	.9680	1.1090	******
2. HIGHLANDS	-.3625	-.2448	.1394	******	-.1837	-.1410	-.0740	******	-.7609	-.6053	-.4743	******
	.9067	1.1760	1.2150	******	.8338	1.1030	1.2010	******	1.1700	.9235	.9822	******

TABLE 2: (CONTINUED).

SENEGAL	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
REGION :	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+
1. OUEST	.2140	******	.4782	******	.4028	******	.5590	******	-.3338	******	******	******
	1.2580	******	.9748	******	1.4790	******	1.2630	******	1.2970	******	******	******
2. CENTRE	.3326	******	******	******	.2197	******	******	******	-.5223	******	******	******
	1.4900	******	******	******	1.3340	******	******	******	1.1700	******	******	******
3. NORD-EST	.1878	******	******	******	.4809	******	******	******	-.3796	******	******	******
	1.1400	******	******	******	1.2920	******	******	******	1.0150	******	******	******
4. SUD	.2514	******	******	******	.1736	******	******	******	-.3269	******	******	******
	1.2100	******	******	******	1.1910	******	******	******	1.0320	******	******	******

SUDAN	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
REGION :	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+	YEARS OF EDUCATION 0	1-4	5-7	8+
1. KHARTOUM	.2009	.4341	******	******	.2235	.0150	******	-.0803	-.4705	******	******	******
	.8173	.6691	******	******	.9782	.8319	******	.6710	.7642	******	******	******
2. NORTHERN, EASTERN,	.4952	.0783	******	******	.0274	.2217	******	******	-.2109	******	******	******
	.8845	.9135	******	******	.8146	.7384	******	******	.8279	******	******	******
3. CENTRAL	.2652	.5931	******	******	.3033	.2403	******	******	-.3382	******	******	******
	.7640	1.1240	******	******	.8713	.8835	******	******	.7348	******	******	******
4. KARDOFAN, DARFUR	.1718	******	******	******	.0725	.4468	******	******	-.2466	******	******	******
	.6958	******	******	******	.9324	1.0540	******	******	.8115	******	******	******

TABLE 3: VALUES OF PARTIAL FERTILITY (PFM FOR PARTIAL FERTILITY - PANEL B, AND PFG FOR GENERAL FERTILITY - PANEL C), AS ESTIMATED FROM THE AVERAGE LENGTH OF THE BIRTH INTERVAL (PANEL A), BY AGE AND BY LEVEL OF EDUCATION AND REGION OF RESIDENCE.

NOTE: 1 NO ESTIMATES OF GENERAL FERTILITY FOR LESOTHO AND SUDAN.
2 **** NO ESTIMATES AVAILABLE.
3 PWM AND PWA IS THE RATIO OF MARRIED WOMEN WITH A BIRTH IN THE LAST 5 YEARS OVER MARRIED WOMEN, AND OVER ALL WOMEN, RESP.

A. ESTIMATES AVERAGE LENGTH OF BIRTH INTERVAL <MONTHS> :

BENIN	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
	YEARS OF EDUCATION				YEARS OF EDUCATION				YEARS OF EDUCATION			
REGION :	0	1-4	5-7	8+	0	1-4	5-7	8+	0	1-4	5-7	8+
1. ATACORA, BORGOU	32.43	*****	*****	*****	31.75	30.86	*****	*****	33.65	*****	*****	*****
2. OTHER	32.44	*****	29.30	*****	31.88	*****	32.03	*****	35.31	*****	*****	*****
3. COTONOU	*****	*****	*****	*****	31.26	*****	32.03	*****	37.99	*****	*****	*****

B. ESTIMATES OF MARITAL FERTILITY : PWM <TOP> AND PFM <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. ATACORA, BORGOU	.77	.00	.00	.00		.85	.96	.00	.00		.54	.00	.00	.00	
	2.85	****	****	****	2.85	3.21	3.73	****	****	3.25	2.89	****	****	****	2.89
2. OTHER	.79	.00	.80	.00		.90	.00	.88	.00		.52	.00	.00	.00	
	2.92	****	3.28	****	2.94	3.39	****	3.30	****	3.38	2.65	****	****	****	2.65
3. COTONOU	.00	.00	.00	.00		.87	.00	.84	.00		.59	.00	.00	.00	
	****	****	****	****	****	3.34	****	3.15	****	3.27	2.80	****	****	****	2.80
NATIONAL PF ESTIMATE					2.90					3.33					2.73

C. ESTIMATES OF GENERAL FERTILITY : PWA <TOP> AND PFG <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. ATACORA, BORGOU	.71	.00	.00	.00		.85	.96	.00	.00		.54	.00	.00	.00	
	2.63	****	****	****	2.63	3.21	3.73	****	****	3.25	2.89	****	****	****	2.89
2. OTHER	.65	.00	.41	.00		.90	.00	.86	.00		.52	.00	.00	.00	
	2.40	****	1.68	****	2.33	3.39	****	3.22	****	3.38	2.65	****	****	****	2.65
3. COTONOU	.00	.00	.00	.00		.87	.00	.84	.00		.59	.00	.00	.00	
	****	****	****	****	****	3.34	****	3.15	****	3.27	2.80	****	****	****	2.80
NATIONAL PF ESTIMATE					2.42					3.33					2.73

TABLE 3: (CONTINUED)

A. ESTIMATES AVERAGE LENGTH OF BIRTH INTERVAL <MONTHS> :

CAMEROON	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
	YEARS OF EDUCATION				YEARS OF EDUCATION				YEARS OF EDUCATION			
REGION :	0	1-4	5-7	8+	0	1-4	5-7	8+	0	1-4	5-7	8+
1. CENTRAL-SUD, EST	29.79	30.54	31.72	30.39	29.74	31.32	29.33	*****	31.46	31.76	*****	*****
2. LITTORAL, S-OUEST	*****	31.03	30.80	*****	31.32	30.83	32.32	*****	33.30	*****	*****	*****
3. OUEST, NORD-OUEST	31.71	29.51	33.78	*****	33.21	33.47	31.41	*****	34.19	*****	*****	*****
4. YAOUNDE, DOUALA	*****	*****	31.05	31.64	32.54	30.64	28.55	28.23	32.74	*****	*****	*****
5. NORD	31.52	*****	30.29	*****	29.39	*****	*****	*****	29.21	*****	*****	*****

B. ESTIMATES OF MARITAL FERTILITY : PWM <TOP> AND PFM <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. CENTRAL-SUD, EST	.64	.73	.66	.75		.73	.79	.74	.00		.39	.45	.00	.00	
	2.58	2.87	2.50	2.96	2.62	2.95	3.03	3.03	****	3.00	2.23	2.55	****	****	2.28
2. LITTORAL, S-OUEST	.00	.84	.82	.00		.76	.95	.84	.00		.48	.00	.00	.00	
	****	3.25	3.19	****	3.21	2.91	3.70	3.12	****	3.08	2.59	****	****	****	2.59
3. OUEST, NORD-OUEST	.70	.88	.75	.00		.84	.93	.99	.00		.54	.00	.00	.00	
	2.65	3.58	2.66	****	2.85	3.04	3.33	3.78	****	3.16	2.84	****	****	****	2.84
4. YAOUNDE, DOUALA	.00	.00	.68	.46		.74	.71	.69	.72		.42	.00	.00	.00	
	****	****	2.63	1.74	2.33	2.73	2.78	2.90	3.06	2.89	2.31	****	****	****	2.31
5. NORD	.67	.00	.64	.00		.64	.00	.00	.00		.35	.00	.00	.00	
	2.55	****	2.54	****	2.55	2.61	****	****	****	2.61	2.16	****	****	****	2.16
NATIONAL PF ESTIMATE					2.70					2.88					2.43

C. ESTIMATES OF GENERAL FERTILITY : PWA <TOP> AND PFG <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. CENTRAL-SUD, EST	.52	.51	.40	.28		.73	.76	.71	.00		.39	.44	.00	.00	
	2.09	2.00	1.51	1.11	1.63	2.95	2.91	2.90	****	2.92	2.23	2.49	****	****	2.28
2. LITTORAL, S-OUEST	.00	.57	.48	.00		.74	.91	.76	.00		.47	.00	.00	.00	
	****	2.20	1.87	****	1.95	2.84	3.54	2.82	****	2.94	2.54	****	****	****	2.54
3. OUEST, NORD-OUEST	.61	.63	.50	.00		.84	.92	.97	.00		.54	.00	.00	.00	
	2.31	2.56	1.78	****	2.13	3.04	3.30	3.71	****	3.14	2.84	****	****	****	2.84
4. YAOUNDE, DOUALA	.00	.00	.42	.17		.69	.68	.64	.60		.42	.00	.00	.00	
	****	****	1.62	.64	1.17	2.54	2.66	2.69	2.55	2.62	2.31	****	****	****	2.31
5. NORD	.63	.00	.44	.00		.64	.00	.00	.00		.35	.00	.00	.00	
	2.40	****	1.74	****	2.33	2.61	****	****	****	2.61	2.16	****	****	****	2.16
NATIONAL PF ESTIMATE					1.92					2.82					2.42

TABLE 3: (CONTINUED)

A. ESTIMATES AVERAGE LENGTH OF BIRTH INTERVAL <MONTHS> :

GHANA	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
	YEARS OF EDUCATION				YEARS OF EDUCATION				YEARS OF EDUCATION			
REGION :	0	1-4	5-7	8+	0	1-4	5-7	8+	0	1-4	5-7	8+
1. WESTERN, CENTRAL	32.51	*****	*****	33.22	31.83	*****	*****	31.88	32.58	*****	*****	*****
2. GR. ACCRA, EASTERN	35.33	*****	34.13	36.28	32.54	32.49	31.03	35.64	35.11	*****	*****	35.37
3. VOLTA	*****	*****	*****	34.59	35.23	*****	*****	34.01	36.89	*****	*****	*****
4. ASHANTI, BR. AHAFO	34.25	*****	32.67	35.65	34.28	37.03	34.25	35.87	36.23	*****	*****	*****
5. NORTHERN, UPPER	38.98	*****	*****	*****	36.08	*****	*****	*****	35.68	*****	*****	*****

B. ESTIMATES OF MARITAL FERTILITY : PWM <TOP> AND PFM <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. WESTERN, CENTRAL	.72	.00	.00	.83		.81	.00	.00	.77		.59	.00	.00	.00	
	2.66	****	****	3.00	2.79	3.05	****	****	2.90	3.01	3.26	****	****	****	3.26
2. GR. ACCRA, EASTERN	.78	.00	.81	.71		.86	.72	.74	.80		.52	.00	.00	.42	
	2.65	****	2.85	2.35	2.51	3.17	2.66	2.86	2.69	2.88	2.67	****	****	2.14	2.55
3. VOLTA	.00	.00	.00	.92		.86	.00	.00	.84		.56	.00	.00	.00	
	****	****	****	3.19	3.19	2.93	****	****	2.96	2.95	2.73	****	****	****	2.73
4. ASHANTI, BR. AHAFO	.81	.00	.86	.77		.85	.92	.78	.82		.52	.00	.00	.00	
	2.84	****	3.16	2.59	2.72	2.98	2.98	2.73	2.74	2.87	2.58	****	****	****	2.58
5. NORTHERN, UPPER	.72	.00	.00	.00		.84	.00	.00	.00		.66	.00	.00	.00	
	2.22	****	****	****	2.22	2.79	****	****	****	2.79	3.33	****	****	****	3.33
NATIONAL PF ESTIMATE					2.64					2.89					2.84

C. ESTIMATES OF GENERAL FERTILITY : PWA <TOP> AND PFG <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. WESTERN, CENTRAL	.55	.00	.00	.38		.80	.00	.00	.72		.59	.00	.00	.00	
	2.03	****	****	1.37	1.68	3.02	****	****	2.71	2.93	3.26	****	****	****	3.26
2. GR. ACCRA, EASTERN	.55	.00	.44	.26		.84	.72	.74	.75		.52	.00	.00	.41	
	1.87	****	1.55	.86	1.15	3.10	2.66	2.86	2.53	2.77	2.67	****	****	2.09	2.54
3. VOLTA	.00	.00	.00	.40		.85	.00	.00	.82		.56	.00	.00	.00	
	****	****	****	1.39	1.39	2.90	****	****	2.89	2.89	2.73	****	****	****	2.73
4. ASHANTI, BR. AHAFO	.62	.00	.50	.37		.84	.92	.78	.81		.52	.00	.00	.00	
	2.17	****	1.84	1.25	1.50	2.94	2.98	2.73	2.71	2.85	2.58	****	****	****	2.58
5. NORTHERN, UPPER	.61	.00	.00	.00		.84	.00	.00	.00		.66	.00	.00	.00	
	1.88	****	****	****	1.88	2.79	****	****	****	2.79	3.33	****	****	****	3.33
NATIONAL PF ESTIMATE					1.46					2.83					2.84

TABLE 3: (CONTINUED)

A. ESTIMATES AVERAGE LENGTH OF BIRTH INTERVAL <MONTHS> :

IV. COAST	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
	YEARS OF EDUCATION				YEARS OF EDUCATION				YEARS OF EDUCATION			
REGION :	0	1-4	5-7	8+	0	1-4	5-7	8+	0	1-4	5-7	8+
1. ABIDJAN	31.51	31.39	30.71	32.87	32.01	*****	31.88	27.14	32.70	*****	*****	*****
2. FORET URBAINE	33.28	*****	30.45	*****	30.52	*****	*****	*****	37.12	*****	*****	*****
3. SAVANE URBAINE	32.33	*****	*****	*****	31.21	*****	*****	*****	35.46	*****	*****	*****
4. FORET RURALE	32.95	31.33	30.84	*****	32.32	29.99	32.32	*****	34.29	*****	*****	*****
5. SAVANE RURALE	31.66	*****	*****	*****	31.74	*****	*****	*****	34.32	*****	*****	*****

B. ESTIMATES OF MARITAL FERTILITY : PWM <TOP> AND PFM <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. ABIDJAN	.71	.86	.64	.70		.79	.00	.84	.58		.50	.00	.00	.00	
	2.70	3.29	2.50	2.56	2.70	2.96	****	3.16	2.56	2.93	2.75	****	****	****	2.75
2. FORET URBAINE	.71	.00	.61	.00		.85	.00	.00	.00		.52	.00	.00	.00	
	2.56	****	2.40	****	2.53	3.34	****	****	****	3.34	2.52	****	****	****	2.52
3. SAVANE URBAINE	.77	.00	.00	.00		.76	.00	.00	.00		.53	.00	.00	.00	
	2.86	****	****	****	2.86	2.92	****	****	****	2.92	2.69	****	****	****	2.69
4. FORET RURALE	.76	.88	.82	.00		.82	.86	.84	.00		.53	.00	.00	.00	
	2.77	3.37	3.19	****	2.89	3.04	3.44	3.12	****	3.08	2.78	****	****	****	2.78
5. SAVANE RURALE	.78	.00	.00	.00		.89	.00	.00	.00		.64	.00	.00	.00	
	2.96	****	****	****	2.96	3.36	****	****	****	3.36	3.36	****	****	****	3.36
NATIONAL PF ESTIMATE					2.80					3.13					2.89

C. ESTIMATES OF GENERAL FERTILITY : PWA <TOP> AND PFG <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. ABIDJAN	.58	.65	.38	.33		.77	.00	.80	.51		.50	.00	.00	.00	
	2.21	2.48	1.48	1.20	1.91	2.89	****	3.01	2.25	2.82	2.75	****	****	****	2.75
2. FORET URBAINE	.60	.00	.30	.00		.82	.00	.00	.00		.52	.00	.00	.00	
	2.16	****	1.18	****	1.88	3.22	****	****	****	3.22	2.52	****	****	****	2.52
3. SAVANE URBAINE	.59	.00	.00	.00		.73	.00	.00	.00		.53	.00	.00	.00	
	2.19	****	****	****	2.19	2.81	****	****	****	2.81	2.69	****	****	****	2.69
4. FORET RURALE	.63	.68	.51	.00		.80	.86	.80	.00		.53	.00	.00	.00	
	2.29	2.60	1.98	****	2.27	2.97	3.44	2.97	****	3.00	2.78	****	****	****	2.78
5. SAVANE RURALE	.57	.00	.00	.00		.86	.00	.00	.00		.64	.00	.00	.00	
	2.16	****	****	****	2.16	3.25	****	****	****	3.25	3.36	****	****	****	3.36
NATIONAL PF ESTIMATE					2.10					3.03					2.89

TABLE 3: (CONTINUED)

A. ESTIMATES AVERAGE LENGTH OF BIRTH INTERVAL <MONTHS> :

KENYA	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
	YEARS OF EDUCATION				YEARS OF EDUCATION				YEARS OF EDUCATION			
REGION :	0	1-4	5-7	8+	0	1-4	5-7	8+	0	1-4	5-7	8+
1. NAIROBI	*****	*****	27.23	26.43	27.14	*****	27.89	25.49	*****	*****	*****	*****
2. CENTRAL, EASTERN	30.99	28.98	27.25	25.54	29.64	29.07	27.69	27.20	31.50	30.25	30.93	*****
3. RIFT	28.20	26.35	26.93	*****	29.47	26.97	27.22	26.75	29.58	30.06	*****	*****
4. COAST	29.06	*****	27.18	*****	26.98	*****	*****	*****	28.76	*****	*****	*****
5. NYANZA, WESTERN	27.93	28.90	28.27	24.16	28.42	28.61	27.19	28.01	30.66	31.92	33.71	*****

B. ESTIMATES OF MARITAL FERTILITY : PWM <TOP> AND PFM <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. NAIROBI	.00	.00	.73	.85		.77	.00	.87	.90		.00	.00	.00	.00	
	****	****	3.22	3.86	3.45	3.40	****	3.74	4.24	3.82	****	****	****	****	****
2. CENTRAL, EASTERN	.82	.86	.86	.92		.89	.87	.93	.83		.64	.80	.62	.00	
	3.18	3.56	3.79	4.32	3.68	3.60	3.59	4.03	3.66	3.73	3.66	4.76	3.61	****	3.98
3. RIFT	.84	.87	.87	.00		.89	.96	.92	.82		.63	.69	.00	.00	
	3.57	3.96	3.88	****	3.78	3.62	4.27	4.06	3.68	3.84	3.83	4.13	****	****	3.89
4. COAST	.74	.00	.81	.00		.80	.00	.00	.00		.49	.00	.00	.00	
	3.06	****	3.58	****	3.20	3.56	****	****	****	3.56	3.07	****	****	****	3.07
5. NYANZA, WESTERN	.80	.74	.82	.71		.81	.82	.87	.90		.56	.64	.60	.00	
	3.44	3.07	3.48	3.53	3.40	3.42	3.44	3.84	3.86	3.54	3.29	3.61	3.20	****	3.35
NATIONAL PF ESTIMATE					3.51					3.67					3.65

C. ESTIMATES OF GENERAL FERTILITY : PWA <TOP> AND PFG <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. NAIROBI	.00	.00	.50	.27		.69	.00	.80	.79		.00	.00	.00	.00	
	****	****	2.20	1.23	1.66	3.05	****	3.44	3.72	3.44	****	****	****	****	****
2. CENTRAL, EASTERN	.52	.37	.25	.17		.87	.86	.89	.72		.64	.79	.58	.00	
	2.01	1.53	1.10	.80	1.20	3.52	3.55	3.86	3.18	3.61	3.66	4.70	3.38	****	3.93
3. RIFT	.65	.55	.36	.00		.87	.94	.82	.78		.62	.69	.00	.00	
	2.77	2.50	1.60	****	2.11	3.54	4.18	3.61	3.50	3.67	3.77	4.13	****	****	3.84
4. COAST	.60	.00	.60	.00		.79	.00	.00	.00		.49	.00	.00	.00	
	2.48	****	2.65	****	2.52	3.51	****	****	****	3.51	3.07	****	****	****	3.07
5. NYANZA, WESTERN	.67	.47	.38	.24		.81	.82	.86	.85		.56	.64	.60	.00	
	2.88	1.95	1.61	1.19	1.96	3.42	3.44	3.80	3.64	3.51	3.29	3.61	3.20	****	3.35
NATIONAL PF ESTIMATE					1.77					3.57					3.62

TABLE 3: (CONTINUED)

A. ESTIMATES AVERAGE LENGTH OF BIRTH INTERVAL <MONTHS> :

LESOTHO	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
	YEARS OF EDUCATION				YEARS OF EDUCATION				YEARS OF EDUCATION			
REGION :	0	1-4	5-7	8+	0	1-4	5-7	8+	0	1-4	5-7	8+
1. LOWLANDS	*****	32.81	34.45	*****	*****	33.13	34.11	28.25	*****	34.84	35.97	*****
2. HIGHLANDS	32.94	34.64	32.23	*****	31.17	33.48	33.70	*****	37.20	34.22	34.26	*****

B. ESTIMATES OF MARITAL FERTILITY : PWM <TOP> AND PFM <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. LOWLANDS	.00	.77	.68	.00		.00	.83	.78	.77		.00	.46	.47	.00	
	****	2.82	2.37	****	2.44	****	3.01	2.74	3.27	2.83	****	2.38	2.35	****	2.36
2. HIGHLANDS	.74	.72	.63	.00		.90	.80	.85	.00		.43	.44	.50	.00	
	2.70	2.49	2.35	****	2.41	3.46	2.87	3.03	****	3.02	2.08	2.31	2.63	****	2.51
NATIONAL PF ESTIMATE					2.42					2.94					2.45

TABLE 3: (CONTINUED)

A. ESTIMATES AVERAGE LENGTH OF BIRTH INTERVAL <MONTHS> :

SENEGAL	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
	YEARS OF EDUCATION				YEARS OF EDUCATION				YEARS OF EDUCATION			
REGION :	0	1-4	5-7	8+	0	1-4	5-7	8+	0	1-4	5-7	8+
1. OUEST	31.88	*****	27.89	*****	31.29	*****	29.08	*****	35.94	*****	*****	*****
2. CENTRE	31.90	*****	*****	*****	32.30	*****	*****	*****	36.12	*****	*****	*****
3. NORD-EST	31.41	*****	*****	*****	29.87	*****	*****	*****	34.11	*****	*****	*****
4. SUD	31.33	*****	*****	*****	31.83	*****	*****	*****	33.99	*****	*****	*****

B. ESTIMATES OF MARITAL FERTILITY : PWM <TOP> AND PFM <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. OUEST	.77	.00	.88	.00		.91	.00	.87	.00		.55	.00	.00	.00	
	2.90	****	3.79	****	3.05	3.49	****	3.59	****	3.50	2.75	****	****	****	2.75
2. CENTRE	.71	.00	.00	.00		.86	.00	.00	.00		.55	.00	.00	.00	
	2.67	****	****	****	2.67	3.20	****	****	****	3.20	2.74	****	****	****	2.74
3. NORD-EST	.67	.00	.00	.00		.83	.00	.00	.00		.43	.00	.00	.00	
	2.56	****	****	****	2.56	3.33	****	****	****	3.33	2.27	****	****	****	2.27
4. SUD	.77	.00	.00	.00		.83	.00	.00	.00		.49	.00	.00	.00	
	2.95	****	****	****	2.95	3.13	****	****	****	3.13	2.59	****	****	****	2.59
NATIONAL PF ESTIMATE					2.78					3.30					2.65

C. ESTIMATES OF GENERAL FERTILITY : PWA <TOP> AND PFG <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. OUEST	.53	.00	.30	.00		.89	.00	.84	.00		.55	.00	.00	.00	
	1.99	****	1.29	****	1.79	3.41	****	3.47	****	3.42	2.75	****	****	****	2.75
2. CENTRE	.59	.00	.00	.00		.84	.00	.00	.00		.55	.00	.00	.00	
	2.22	****	****	****	2.22	3.12	****	****	****	3.12	2.74	****	****	****	2.74
3. NORD-EST	.59	.00	.00	.00		.83	.00	.00	.00		.43	.00	.00	.00	
	2.25	****	****	****	2.25	3.33	****	****	****	3.33	2.27	****	****	****	2.27
4. SUD	.69	.00	.00	.00		.82	.00	.00	.00		.49	.00	.00	.00	
	2.64	****	****	****	2.64	3.09	****	****	****	3.09	2.59	****	****	****	2.59
NATIONAL PF ESTIMATE					2.13					3.24					2.65

TABLE 3: (CONTINUED)

A. ESTIMATES AVERAGE LENGTH OF BIRTH INTERVAL <MONTHS> :

SUDAN	CURRENT AGE LT 25				CURRENT AGE 25-34				CURRENT AGE GE 35			
	YEARS OF EDUCATION				YEARS OF EDUCATION				YEARS OF EDUCATION			
REGION :	0	1-4	5-7	8+	0	1-4	5-7	8+	0	1-4	5-7	8+
1. KHARTOUM	28.54	24.94	*****	*****	29.94	29.96	*****	28.39	31.66	*****	*****	*****
2. NORTHERN, EASTERN,	26.95	30.41	*****	*****	28.69	27.44	*****	*****	31.25	*****	*****	*****
3. CENTRAL	27.45	28.00	*****	*****	28.35	28.95	*****	*****	30.66	*****	*****	*****
4. KARDOFAN, DARFUR	27.21	*****	*****	*****	30.63	28.75	*****	*****	31.24	*****	*****	*****

B. ESTIMATES OF MARITAL FERTILITY : PWM <TOP> AND PFM <BOTTOM>

	CURRENT AGE LT 25					CURRENT AGE 25-34					CURRENT AGE GE 35				
	YEARS OF EDUCATION					YEARS OF EDUCATION					YEARS OF EDUCATION				
REGION :	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL	0	1-4	5-7	8+	TOTAL
1. KHARTOUM	.77	.78	.00	.00		.84	.81	.00	.78		.44	.00	.00	.00	
	3.24	3.75	****	****	3.41	3.37	3.24	****	3.30	3.32	2.50	****	****	****	2.50
2. NORTHERN, EASTERN,	.65	.85	.00	.00		.80	.86	.00	.00		.51	.00	.00	.00	
	2.89	3.35	****	****	3.00	3.35	3.76	****	****	3.43	2.94	****	****	****	2.94
3. CENTRAL	.73	.80	.00	.00		.86	.75	.00	.00		.53	.00	.00	.00	
	3.19	3.43	****	****	3.25	3.64	3.11	****	****	3.56	3.11	****	****	****	3.11
4. KARDOFAN, DARFUR	.75	.00	.00	.00		.81	.86	.00	.00		.53	.00	.00	.00	
	3.31	****	****	****	3.31	3.17	3.59	****	****	3.20	3.05	****	****	****	3.05
NATIONAL PF ESTIMATE					3.23					3.37					2.97

TABLE 4: COMPARISON OF ESTIMATES OF PARTIAL FERTILITY, PF <TOP>, BETWEEN THOSE DERIVED FROM THE AVERAGE LENGTH OF THE BIRTH INTERVAL AND THOSE DERIVED FROM OTHER METHODS. BY REGION AND AGE INTERVAL. BOTTOM VALUE IS RELATIVE DIFFERENCE BETWEEN TWO PF ESTIMATES (ESTIMATE FROM BIRTH INTERVAL TAKEN AS 100 PERCENT).

A. FOR MARITAL FERTILITY: COMPARISON WITH THE ESTIMATES DERIVED FROM FERTILITY RATES CALCULATED FROM BIRTHS IN THE LAST 5 YEARS BEFORE THE SURVEY, AS REPORTED BY EVER-MARRIED WOMEN AND BY WOMEN CONTINUOUSLY MARRIED IN THAT PERIOD.

B. FOR GENERAL FERTILITY: COMPARISON WITH THE ESTIMATES DERIVED FROM AN APPLICATION OF THE RELATIONAL GOMPERTZ MODEL (RGM).

BENIN		A. MARITAL FERTILITY			B. GENERAL FERT.	
			PF ESTIMATE FROM LAST 5 YRS			
REGION:	AGE INTVL	ESTIM FROM BIRTH INTVL (1)	FOR EVER-MARRIED WOMEN	FOR CONTIN MARRIED WOMEN	ESTIM FROM BIRTH INTVL (2)	PF ESTIM FROM RGM
1. ATACORA, BORGOU	12-21	2.85	1.81	2.50	2.63	1.46
			-36.5	-12.3		-44.4
	22-31	3.25	3.16	3.39	3.25	3.27
			-2.7	4.4		.7
	32-46	2.89	2.43	2.74	2.89	2.64
			-15.9	-5.1		-8.6
2. OTHER	12-21	2.94	1.76	1.80	2.33	1.42
			-40.1	-38.7		-39.0
	22-31	3.38	3.33	3.55	3.38	3.08
			-1.6	4.9		-8.9
	32-46	2.65	2.38	2.49	2.65	1.79
			-10.2	-6.1		-32.5
3. COTONOU	12-21	*****	2.60	1.66	*****	1.00
			*****	*****		*****
	22-31	3.27	3.08	2.29	3.27	2.81
			-5.9	-30.0		-14.1
	32-46	2.80	1.97	1.53	2.80	2.08
			-29.5	-45.3		-25.6

TABLE 4: (CONTINUED).

CAMEROON REGION:	AGE INTVL	A. MARITAL FERTILITY ESTIM FROM BIRTH INTVL (1)	PF ESTIMATE FROM LAST 5 YRS FOR EVER-MARRIED WOMEN	 FOR CONTIN MARRIED WOMEN	B. GENERAL FERT. ESTIM FROM BIRTH INTVL (2)	 PF ESTIM FROM RGM
1. CENTRAL-SUD, EST	12-21	2.62	1.80	2.29	1.63	1.16
			-31.4	-12.7		-28.7
	22-31	3.00	2.88	3.21	2.92	2.52
			-3.9	7.1		-13.7
	32-46	2.28	2.08	2.32	2.28	2.20
			-8.9	1.6		-3.5
2. LITTORAL, S-OUEST	12-21	3.21	2.05	2.73	1.95	1.57
			-36.1	-14.9		-19.3
	22-31	3.08	3.06	3.49	2.94	2.55
			-.6	13.4		-13.3
	32-46	2.59	2.15	2.35	2.54	1.96
			-17.1	-9.4		-22.9
3. OUEST, NORD-OUEST	12-21	2.85	2.07	2.28	2.13	1.53
			-27.5	-20.1		-28.3
	22-31	3.16	3.06	3.31	3.14	2.83
			-3.1	4.8		-10.0
	32-46	2.84	2.47	2.72	2.84	2.02
			-13.1	-4.3		-28.9
4. YAOUNDE, DOUALA	12-21	2.33	1.57	1.80	1.17	1.12
			-32.8	-22.9		-4.5
	22-31	2.89	2.67	3.03	2.62	2.80
			-7.7	4.8		6.8
	32-46	2.31	1.70	2.03	2.31	1.67
			-26.4	-12.1		-27.7
5. NORD	12-21	2.55	2.09	2.42	2.33	1.37
			-18.0	-5.1		-41.1
	22-31	2.61	2.44	2.63	2.61	2.11
			-6.6	.6		-19.3
	32-46	2.16	1.44	1.57	2.16	1.12
			-33.2	-27.2		-48.1

TABLE 4: (CONTINUED).

GHANA REGION:	AGE INTVL	A. MARITAL FERTILITY ESTIM FROM BIRTH INTVL (1)	PF ESTIMATE FROM LAST 5 YRS FOR EVER-MARRIED WOMEN	 FOR CONTIN MARRIED WOMEN	B. GENERAL FERT. ESTIM FROM BIRTH INTVL (2)	 PF ESTIM FROM RGM
1. WESTERN, CENTRAL	12-21	2.79	1.91	1.61	1.68	1.43
			-31.7	-42.4		-15.1
	22-31	3.01	2.94	1.91	2.93	2.69
			-2.4	-36.6		-8.1
	32-46	3.26	2.83	2.47	3.26	2.54
			-13.2	-24.2		-22.1
2. GR. ACCRA, EASTERN	12-21	2.51	1.64	2.06	1.15	1.11
			-34.7	-17.9		-3.5
	22-31	2.88	2.62	3.03	2.77	2.65
			-9.1	5.1		-4.5
	32-46	2.55	2.28	2.47	2.54	2.41
			-10.6	-3.2		-5.1
3. VOLTA	12-21	3.19	1.90	2.22	1.39	1.33
			-40.5	-30.4		-4.2
	22-31	2.95	2.91	3.06	2.89	2.85
			-1.2	3.9		-1.5
	32-46	2.73	2.20	2.59	2.73	2.30
			-19.5	-5.2		-15.8
4. ASHANTI, BR. AHAFO	12-21	2.72	1.79	2.00	1.50	1.36
			-34.3	-26.6		-9.6
	22-31	2.87	2.73	3.03	2.85	2.78
			-5.0	5.4		-2.3
	32-46	2.58	2.20	2.41	2.58	2.43
			-14.8	-6.7		-5.9
5. NORTHERN, UPPER	12-21	2.22	1.52	1.33	1.88	1.53
			-31.4	-40.0		-18.5
	22-31	2.79	2.64	1.56	2.79	2.22
			-5.5	-44.2		-20.5
	32-46	3.33	2.64	2.39	3.33	2.29
			-20.7	-28.2		-31.2

TABLE 4: (CONTINUED).

IV. COAST REGION:	AGE INTVL	A. MARITAL FERTILITY ESTIM FROM BIRTH INTVL (1)	PF ESTIMATE FROM LAST 5 YRS FOR EVER-MARRIED WOMEN	 FOR CONTIN MARRIED WOMEN	B. GENERAL FERT. ESTIM FROM BIRTH INTVL (2)	 PF ESTIM FROM RGM
1. ABIDJAN	12-21	2.70	1.99	2.48	1.91	1.56
			-26.4	-8.2		-18.2
	22-31	2.93	2.70	3.13	2.82	2.58
			-8.0	6.7		-8.4
	32-46	2.75	2.09	2.24	2.75	2.03
			-24.1	-18.6		-26.2
2. FORET URBAINE	12-21	2.53	2.03	2.27	1.88	1.73
			-19.7	-10.3		-7.9
	22-31	3.34	3.07	3.41	3.22	3.07
			-8.1	2.0		-4.8
	32-46	2.52	2.24	2.39	2.52	2.08
			-11.2	-5.2		-17.5
3. SAVANE URBAINE	12-21	2.86	2.29	2.42	2.19	1.66
			-19.9	-15.3		-24.2
	22-31	2.92	2.67	3.02	2.81	2.90
			-8.6	3.3		3.3
	32-46	2.69	2.15	2.33	2.69	1.63
			-20.1	-13.4		-39.4
4. FORET RURALE	12-21	2.89	2.25	2.90	2.27	1.93
			-22.1	.5		-15.0
	22-31	3.08	2.94	3.23	3.00	2.76
			-4.4	5.0		-7.9
	32-46	2.78	2.32	2.46	2.78	1.89
			-16.6	-11.6		-32.1
5. SAVANE RURALE	12-21	2.96	2.06	2.67	2.16	1.66
			-30.3	-9.7		-23.2
	22-31	3.36	3.34	3.49	3.25	3.13
			-.7	3.7		-3.7
	32-46	3.36	3.03	3.18	3.36	2.57
			-9.7	-5.3		-23.4

TABLE 4: (CONTINUED).

KENYA REGION:	AGE INTVL	A. MARITAL FERTILITY ESTIM FROM BIRTH INTVL (1)	PF ESTIMATE FROM LAST 5 YRS FOR EVER-MARRIED WOMEN	 FOR CONTIN MARRIED WOMEN	B. GENERAL FERT. ESTIM FROM BIRTH INTVL (2)	 PF ESTIM FROM RGM
1. NAIROBI	12-21	3.45	2.16	3.40	1.66	2.01
			-37.3	-1.3		21.1
	22-31	3.82	3.23	3.66	3.44	2.81
			-15.4	-4.1		-18.3
	32-46	*****	1.72	1.75	*****	1.08
			*****	*****		*****
2. CENTRAL, EASTERN	12-21	3.68	2.13	2.61	1.20	1.28
			-42.1	-29.0		6.3
	22-31	3.73	3.73	3.87	3.61	3.91
			-.1	3.6		8.4
	32-46	3.98	3.40	3.66	3.93	3.48
			-14.5	-8.0		-11.5
3. RIFT	12-21	3.78	2.56	2.69	2.11	1.86
			-32.3	-28.8		-11.9
	22-31	3.84	3.70	3.96	3.67	3.41
			-3.6	3.2		-7.2
	32-46	3.89	3.13	3.38	3.84	2.79
			-19.5	-13.1		-27.3
4. COAST	12-21	3.20	2.28	2.23	2.52	1.79
			-28.6	-30.2		-29.1
	22-31	3.56	2.97	1.76	3.51	3.14
			-16.5	-50.5		-10.6
	32-46	3.07	2.39	1.94	3.07	1.76
			-22.1	-36.7		-42.6
5. NYANZA, WESTERN	12-21	3.40	2.41	2.62	1.96	1.74
			-29.0	-22.8		-11.1
	22-31	3.54	3.45	3.75	3.51	3.75
			-2.5	6.0		6.8
	32-46	3.35	2.87	2.93	3.35	2.98
			-14.3	-12.5		-11.1

TABLE 4: (CONTINUED).

LESOTHO		A. MARITAL FERTILITY			B. GENERAL FERT.	
			PF ESTIMATE FROM LAST 5 YRS			
REGION:	AGE INTVL	ESTIM FROM BIRTH INTVL (1)	FOR EVER-MARRIED WOMEN	FOR CONTIN MARRIED WOMEN	ESTIM FROM BIRTH INTVL (2)	PF ESTIM FROM RGM
1. LOWLANDS	12-21	2.44	1.47	2.22	*****	*****
			-39.8	-9.1		*****
	22-31	2.83	2.73	2.99	*****	*****
			-3.5	5.6		*****
	32-46	2.36	2.06	2.17	*****	*****
			-12.7	-8.0		*****
2. HIGHLANDS	12-21	2.41	1.61	2.31	*****	*****
			-33.2	-4.2		*****
	22-31	3.02	2.76	2.95	*****	*****
			-8.6	-2.4		*****
	32-46	2.51	2.09	2.19	*****	*****
			-16.9	-12.9		*****

TABLE 4: (CONTINUED).

SENEGAL		A. MARITAL FERTILITY			B. GENERAL FERT.	
			PF ESTIMATE FROM LAST 5 YRS			
REGION:	AGE INTVL	ESTIM FROM BIRTH INTVL (1)	FOR EVER-MARRIED WOMEN	FOR CONTIN MARRIED WOMEN	ESTIM FROM BIRTH INTVL (2)	PF ESTIM FROM RGM
1. OUEST	12-21	3.05	2.01	2.89	1.79	1.34
			-34.0	-5.1		-25.2
	22-31	3.50	3.35	3.61	3.42	3.31
			-4.2	3.2		-3.2
	32-46	2.75	2.59	2.84	2.75	2.82
			-6.0	3.1		2.4
2. CENTRE	12-21	2.67	1.96	2.52	2.22	1.66
			-26.6	-5.6		-25.2
	22-31	3.20	3.08	3.36	3.12	3.09
			-3.6	5.2		-1.0
	32-46	2.74	2.48	2.62	2.74	2.33
			-9.5	-4.4		-15.0
3. NORD-EST	12-21	2.56	2.00	2.56	2.25	1.95
			-21.9	.0		-13.5
	22-31	3.33	3.16	3.43	3.33	2.83
			-5.2	2.9		-15.1
	32-46	2.27	2.06	2.22	2.27	2.09
			-9.2	-2.2		-7.9
4. SUD	12-21	2.95	2.30	2.90	2.64	1.97
			-22.0	-1.7		-25.5
	22-31	3.13	2.94	3.07	3.09	2.80
			-6.0	-1.9		-9.4
	32-46	2.59	2.31	2.31	2.59	2.20
			-11.0	-11.0		-15.2

TABLE 4: (CONTINUED).

SUDAN REGION:	AGE INTVL	A. MARITAL FERTILITY ESTIM FROM BIRTH INTVL (1)	PF ESTIMATE FROM LAST 5 YRS FOR EVER-MARRIED WOMEN	 FOR CONTIN MARRIED WOMEN	B. GENERAL FERT. ESTIM FROM BIRTH INTVL (2)	 PF ESTIM FROM RGM
1. KHARTOUM	12-21	3.41	2.35	3.43	*****	*****
			-31.0	.7		*****
	22-31	3.32	2.97	3.26	*****	*****
			-10.4	-1.7		*****
	32-46	2.50	1.99	2.10	*****	*****
			-20.5	-16.1		*****
2. NORTHERN, EASTERN,	12-21	3.00	2.25	3.20	*****	*****
			-25.0	6.6		*****
	22-31	3.43	3.11	3.53	*****	*****
			-9.3	2.9		*****
	32-46	2.94	1.92	2.21	*****	*****
			-34.6	-24.8		*****
3. CENTRAL	12-21	3.25	2.28	3.57	*****	*****
			-30.0	9.7		*****
	22-31	3.56	3.32	3.74	*****	*****
			-6.8	5.0		*****
	32-46	3.11	2.16	2.46	*****	*****
			-30.6	-20.9		*****
4. KARDOFAN, DARFUR	12-21	3.31	2.25	2.99	*****	*****
			-32.0	-9.6		*****
	22-31	3.20	3.11	3.33	*****	*****
			-2.8	4.1		*****
	32-46	3.05	1.86	1.99	*****	*****
			-39.1	-34.8		*****