
If the editor of this journal was given to that type of language slant, this review could begin with the question "Why is Pakistan fertility as low as it is?", or with the statement "Forty percent of Pakistan infertility is due to sterility"; or still differently "Pakistani mothers of sons are less fertile than those of daughters". However, as matters stand, we have to begin more soberly.

This book has been there now for six years and it is rather late in the day to review it. Yet, it probably remains unknown to many readers and it does contain unusual information. The work is strong methodologically, and it applies in parts analytic methods not ordinarily used among demographers and social scientists in the English-speaking world. Most importantly, it relates Islam with fertility – analytically, seriously and respectfully.

This reviewer is no judge of the religion-related parts of the book, but he knows the author personally. In fact, Kouaouci, a professor of demography and economic planning at the University of Algiers, spent the summer of 1988 at the University of Alberta preparing his paper for presentation to the Second African Population Conference at Dakar the following November. The author displayed not only all the external symptoms of a pious person, but carried the inner dignity and all-round friendliness of a truly religious man. More convincingly and objectively, all his important statements are generously documented in footnotes for experts to review.

The book consists of five chapters. The first presents the model of the Islamic family and the norms associated with nuptiality and fertility. The second reports on the sources of the data used in the book and their quality. The third chapter is methodological and describes the techniques applied in the comparisons among the three countries. The fourth chapter builds the very hinges upon which the entire book turns; it determines the intermediate variables, through which fertility is affected in each of the three countries. In the fifth chapter, the author recalls the arguments advanced in the first chapter and tries to assess how far the norms are or are not reflected in fertility behaviour. Five pages of general conclusions close the book. There is a generous bibliography and 16 pages of an appendix with numerous data to supplement the 45 tables used in the text.

The main path through which Islam affects fertility is its strong family orientation. Some of these norms, as well as others, are explicit, some are implicit, but in any case they are easy to identify, because they are often sanctioned by law and internalized by individuals. Because of this twin and variable influence of law and
custom, the family models encountered by the author in the three societies differ from the fundamental model and from each other. Taking lactation as an example, Islam favours an application complete and precise lasting for two years, but then limits it to mothers that "can do it" (p. 13). Average lactation in Indonesia and in Pakistan lasts almost the complete two years and accounts for protecting 15 percent of the time of exposure to conception, while in Jordan the average is one year and gives 6 percent of protection (p. 141). That the study of lactation and its impact on fertility is wrought with difficulties (e.g., should the breastfeeding duration of infants dying before they complete their breastfeeding be included in the calculation of average exposure to lactation?) has been shown by Shah [in Alam and Dinesen (1984)]; he came up with somewhat shorter estimates of lactation for Pakistan than Kouaouci, though his distribution spreads right into 42 months (p. 132).

The law itself varies among countries in attitudes to religious canons: from pretty general application, as in Iran, Saudi Arabia, and Pakistan (at least outside the political domain, as Kouaouci qualified in 1984), through respectable distancing as in Jordan, Egypt, and Morocco; modifications as in Tunisia: application limited to voluntary acceptance as in Indonesia; outright abolition in favour of imported civil codes (Swiss in the case of Turkey); and utter illegalities in the case of the Soviet Union and Albania (p. 25). That ideology affects law in a manner far from uniform has been known in various circumstances for a long time. In the case of fertility, we have the astonishing and recent examples of Quebec in Canada, and of Italy in Europe, showing fertility levels among the lowest in the world in both the predominantly Catholic societies. Somewhat earlier, it has been shown in this journal (vol 1, nr 3, Winter 1961 pp. 89-97) that the centrally planned and Marxist societies, in spite of their uniform ideologies, exercised extreme gyrations not only among the societies affected but also within each society from time to time.

Religious canons in the Islamic world are far from monolithic. For acceptability they depend on their source, arranged by Kouaouci in the following descending order of importance: the Qur'an itself, the Sunna tradition, as practised or as reflected in texts (Hadith), deductions of the learned masters (Qiyas), and the consensus of the Moslems (Ijma, p. 26). The Kouaouci conclusion in this situation is that the variables to be studied from the perspective of fertility fall into three categories. Under nuptiality, there are five: proportion married, incidence of polygamy, age at marriage, divorce, and remarriage. Another five can be grouped under birth spacing: lactation, contraception, abortion and infanticide, sterility (he says sterilization, but it is clear from p. 100, that he means sterility, contraceptive sterilization having been put under the rubric of contraception), and abstinence. No doubt feminist groups and the so-called "pro-choice" lobbies will rise in arms because of the lumping together of abortion and infanticide as one cause of infertility (p. 32). To these ten variables, arising apparently out of perusal of
religious literature by Kouaouci, another four are added, the importance of which for some Islamic societies became apparent during the analysis: the sex of the child, the value of virginity, the value of sexuality, and the rules of inheritance.

The analysis is conducted against this ideological, legal, and demographic background. In a review only a few of the more important (and eye-catching) findings can be presented. In the realm of nuptiality, Kouaouci states, marriage is close to a religious duty and its incidence is almost universal, though even within these very high levels of marriage Pakistani women marry more than Jordanians and Indonesians, but Jordanians marry earlier than Pakistanis and Indonesians, in this order (p. 101). Jordanians also divorce less than Pakistanis and Indonesians, again in this order, and remarry more (in spite of divorcing less) than Pakistanis and Indonesians.

Marriage, although close to a religious duty, is in Islam a contract between individuals, rather than a religious and sacred bond (p. 128) as conceived by the Hindus of Bali (p. 202), resulting for Bali in fertility above the Indonesian average. (Come to think of it, marriage is a sacrament to Roman Catholics and yet they ceased having their proverbial high fertility. There are risks apparently in these contrived explanations.) A fertility indication with poor — to this reviewer — explanatory powers, mentioned by Kouaouci more than once, is the role attached to virginity. To some readers it will not be obvious why the high value attached to virginity should translate itself into early age at marriage. Equally logically, it could have the opposite effect: the more valued the longer it should be preserved!

The four fundamental socio-cultural variables (proportion married, age at marriage, incidence of divorce, and remarriage; polygamy dropped for lack of data?) result in differences in the number of children given birth to by an average woman (ever married, TFR, to demographers): 7.3 in Jordan, 6.4 in Pakistan, and 4.7 in Indonesia.

While the four variables arrange the three countries in the expected order, they do not provide all the explanations. To further his investigation, Kouaouci employed a technique known to demographers as the Bongaarts model. Briefly and crudely, the model assumes maximum total fecundity (TF) over all the relevant ages for all women (producing, say, 15 births in the absence of any regulation). Then, if say, only half of the women marry, the model applies a coefficient of 0.5. Other coefficients are used for age at marriage, use of lactation, use of contraceptives, incidence of abortion, and the like. When no hard data are available, best estimates are made. Coefficients employed by Kouaouci resulted in TFR-s (total fertility rates) very close to the empirical TFR-s and are given in the previous paragraph. Another way of thinking about the model is that when all variables except one are reliable, then the remaining one, as a residual, is also likely to be reliable.

It is here that the first front-page news arises. What are the departures from
TF (total fecundity) experienced in terms of actual fertility? First, allowances are made for proportion married, age at marriage, and the like. Then, taking seriously the reported use of contraceptives (22 percent in Jordan, 11 percent in Indonesia, and 7 percent in Pakistan in terms of life-time protection from conception), we are left with 30 percent, 45 percent, and 44 percent infertility due to what the author calls sterility. Much of it is secondary and temporary sterility between births, but it should make family planners thinks. A change in sociocultural conditions and conceivably in some sociobiological conditions could double the task in front of them. In case readers think that the estimates suggested by Kouaouci are straining credulity, these estimates are put into perspective through a conclusion by Bourgeois-Pichat. According to this conclusion, quoted after Bongaarts by Kouaouci, there is a minimum “sterility” of 17 percent, which must prevail in any population even under conditions most favourable to fertility (p. 103).

The national averages used so far in this review conceal, as is their custom, a number of subnational differences. The influence of education of women in the three countries can be culled from three different pages of the book. This has been done below in the form of two intermediate variables through which fertility is affected in the three countries: the first birth interval and age at marriage. Kouaouci presents all his tables in months. You may divide by 12 if you prefer to think in terms of years.

<table>
<thead>
<tr>
<th>Country</th>
<th>First Birth Interval</th>
<th>Age at Marriage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan (p. 123)</td>
<td>39 23 18 15</td>
<td>201 223 242 301</td>
</tr>
<tr>
<td>Indonesia (p. 129)</td>
<td>65 28</td>
<td>162 210</td>
</tr>
<tr>
<td>Pakistan (p. 135)</td>
<td>50 29 23</td>
<td>179 194 233</td>
</tr>
</tbody>
</table>

(Karim estimates for Pakistan: 194 210 233)

The educational levels increase from left to right in the above summary. The first row for each country gives the interval between marriage and first birth. The second row is the age at marriage. Apparently, the later women marry (or rather in terms of the tabular summary above: the more education they have), the more they are in a hurry to have children. This catching up tendency has not apparently been noticed by other investigators [e.g., Karim on p. 55 and Casterline on p. 89 in Alam and Dinesen, (1984)]. We will leave it to an aggressive investigator to find out
why two of the three estimates of age at marriage differ between Kouaouci and Karim, though not monotonically.

Kouaouci asked himself the question ‘Which variable is most significant’? in the meaning of giving largest differentials in each of the three countries. The concern here is not with such obvious intermediaries as age at marriage, but rather with variables further removed, less “intermediate” (p. 149). For Jordan it is the urban-rural dichotomy; for Indonesia uneducated women in the labour force in comparison with the others; for Pakistan the presence of surviving sons in the family as against surviving daughters (p. 149, 159, 161, 184, 201). It is no less than amazing that within the low level of contraceptive use prevailing in Pakistan, Pakistani women would manage to exercise such large differentials as TFR for women with sons equal to 4.4, as against 6.8 for women with daughters. Mothers with sons shorten their child-bearing period to 228 months, as against 336 for mothers with daughters, and have an early end of child-bearing at 458 months (as against 566, p. 149). It is differentials like these that make one dispair of the explanatory powers of the traditional variables used in social sciences. While the effect of the strong sex preferences for children in Pakistan has been studied by many [e.g., Casterline and references therein in Alam and Dinesen, (1984)], it has not been apparently considered a variable relevant to the study of lactation [e.g., Shah in Alam and Dinesen (1984)].

Another curiosity unearthed by Kouaouci is the possible dichotomy in fertility practices and outcomes between the Urdu-Punjab parts of Pakistan with lower fertility and the Pushto-Sindhi-Baluchi parts with higher fertility (p. 132, 146, 202). In the Kouaouci perspective, the former follows the Hindu nuptiality pattern, the latter the Arab-Iran pattern. Indonesia and Jordan have their own minorities: the Hindus of Bali and the Christians, respectively. Students of ethnic relations will note that these minorities do not all behave as some minority behaviour theories would lead us to expect. Ethnic differentials in fertility and lactation did draw the attention of other investigators, e.g., Casterline on p. 100, Sathar on p. 120, and Shah on p. 136 in Alam and Dinesen (1984).

Editorially, the book is not equal to its importance and high quality substance. As is the custom of French publishers (though Belgian in this instance), there is no index. There is also no list of tables and figures, which even French publishers customarily do provide. At first reading one should build up one’s own index; otherwise, no easy reference can be made subsequently to such fascinating topics as, say, exogamy, adultery, polygamy, virginity, dowry, azal (withdrawal), purdah, idda (a cooling down period before divorce). APN and ADN for ages at first and last births are used on p. 93 but not explained until p. 97. DXO for D x O on p. 111 have apparently the same meaning and there are numerous examples of uncertainty with regard to the way algebraic symbols have been set up. The same
table is printed twice on pp. 149 and 159. At least one citation from the Qur'an is given twice on pp. 40 and 53. The first birth interval on p. 119 in urban Jordan cannot be 38. The two lots of 336 months for duration of maternity in Pakistan on p. 149 (and 159) cannot both be correct. The table referred to on p. 27 as appearing on p. 15 does not appear until p. 23. East Pakistan is mentioned in such a way as if it bordered with Sindh (pp. 36, 55, 187). The three countries studied are presented in a variable order so that perusal from table to table is slowed down. Ryder’s conditional probability is mentioned three times, the last time on p. 73. Footnoting is cumbersome. For example, one source indicated on p. 143 is not fully given until one turns back to p. 92 and it is missing from the list of references. At least 26 references given in the text are not explained in the list of references. Some 35 references given in the list are not used in the text. The bibliographic detail varies greatly from title to title in substance and in form. The book is the outcome of a Ph.D. thesis and, substantively, it is a credit to the author and the university; but one wonders whether examining committees have ceased reading thesis drafts with the customary care and attention.

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REFERENCE