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India's Population Issues and Policies: Professionals' Perceptions

K. Srinivasan

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India's Population Issues and Policies: Professionals' Perceptions

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K. Srinivasan[1]

I.   Background

The perceptions and views of the professionals in any field of human activity are important indicators and many times determinants of the policies and programs implemented in that field. They are both shaped by past activities in the field and also help to shape the future course of activities. The population field is no exception to this rule. Population policies and programs are to be implemented to a large extent taking into account the views and perceptions in this field, especially of professionals, if they have to be sustainable and not face adverse criticisms at a later date from the professionals, if they are implemented rather arbitrarily under some external pressures or because of hastily made international commitments by the governments. Such an approach of assessing the perception of professionals in the field of population on the current or perceived future issues on population, past population policies and programs in the country and perceptions about the future in these dimensions have not so far been attempted. The present study is a maiden attempt in this direction and should be viewed as a pilot run that will be followed by more detailed studies not only in the field of population but also in other fields.

The purpose of this study is to assess the perceptions and views of the professionals on India's population issues, policies and programs and their suggestions for the future. Further we used the web-based information gathering technique, the "Survey Monkey" to compile the views and

perceptions of the professionals in the field, followed by limited personal interviews for the study. The availability of internet facilities with almost all the professionals having now access to email facilities make such surveys not only feasible but also economically viable. We feel that the future course of such surveys of perceptions of people on any topic is more likely to be by using internet facilities that are becoming widespread in India and is relatively more cost effective than using the conventional direct interview methods that are becoming more and more expensive.

The anonymity of the respondents can well be preserved as much as in direct interviews, probably better. Hence, the second objective of this study is to test this methodology of survey of professionals in the country. This is purely a descriptive study.

II. Methodology of the Study.

A. Questionnaire

Since this is a web-based internet survey of professionals in the field, the questionnaire has to be necessarily kept small and essentially of limited categorical responses with very few qualitative explanations of stated views. The major areas covered in the questionnaire for eliciting the views and perceptions of the respondents were population size, growth, distribution, socio-economic disparities, past population policies, strategies and programs, opinions on sterilization as the dominant method of family planning, incentives and dis-incentives, freeze of seats in parliament and future on the institution of marriage in India. Keeping in mind the need for the questionnaire to be kept as simple as possible but at the same time to get the views of professionals on a range of important topics on population of India, after many trial runs, a four-page questionnaire with 11 questions on the background characteristics of the respondents (Section A) and 11

questions on the main topic of the study (Section B) was finalized and sent to the professionals using the "Survey Monkey" web-site. Necessarily there are some sub questions under each type of question and some qualitative responses elicited from the respondents.

B. Universe Covered and sample

In any web based survey of individuals we have no control on the size of the respondents one would get but we have to define the universe clearly. The professionals covered in this web-based survey is the list of professionals enrolled as members of the Indian Association for the Study of Population (IASP) and the Indian Association for Social Sciences and Health (IASSH), both of whom had a total listed membership of 1575 consisting of members of these two associations, excluding overlap of memberships between these two associations, and those without an email id or incorrect id, as on April 2013. Most of the members of these two associations are known to have professional interest and many with work experience in the field of population; though in the latter association (IASSH), a small number did not have any such interest. They were all sent the questionnaire through the Survey Monkey web-site and three reminders sent over a period of two months. The questionnaires were sent on 16 October 2013 and the survey was closed on 16 December 2013. By the end of December 2013, responses on the whole questionnaire were received from 242 professionals or only 15% of the total for whom the questionnaire was sent. This is considered low by traditional standards of sample survey but an examination of past web based surveys revealed that the response rate in such surveys was only around 10%. In order to check whether there were systematic biases in the characteristics of the

respondents vis-à-vis the non-respondents another email questionnaire containing only Section A of the same (only back ground characteristics) were sent through "Google-forms" site. For this we received response from 146 individuals, i.e .those who had not responded to the earlier questionnaire (sections A and B) but responded to only Section A.

III. Methods of Analysis

We analyzed the data compiled in the survey using the SPSS package in four stages.

1. First, we compared the distributions of the background characteristics of the respondents for the whole survey (Sections A and B) with the distributions of a sample of non-respondents for whom only data on the background characteristics (Section A) was collected. This was to make sure that there were no systematic biases in the background characteristics of the sample of respondents with those of the non-respondents.

2. Second, we studied how the perceptions of respondents on the various population issues, policies implemented, past programs and perceived action plans for the future are related to their background characteristics.

3. Third we analyzed how the perceptions of the professionals of the future population policies and programs depend on their perceptions of the population issues currently prevailing in the country as perceived by them, after controlling for their back ground variables.

4. In order to test out whether the smallness of the sample size has affected our results we adopted the method of boot-strapping to increase the sample size to 1000 (through simulation of patterns)

and repeated the analysis done in steps 2 and 3 and compared the findings with the analysis of the original data.

IV. Findings from the analysis

1. Background Characteristics of the Respondents

Information was collected through the "Survey Monkey" from the respondents on their background characteristics and a sample of the non-respondents on the same variable through" Google-Direct". The information collected was on customary variables as age, sex, marital status, institutional affiliation and years of experience in the population field. These were analyzed and comparative distributions of respondents and a sample of non-respondents is given in Table 1.

From the table it can be seen that there were 242 respondents to the Survey Monkey questionnaire (SM) and 146 for a sample of non-respondents (NR) on their basic characteristics. From this table it can be seen that in SM, 73% were males and 27% females and in NR sample it was 72 and 28 respectively. With regard to marital status the percent married were 81 in SM and 72 in NR; the percent having Ph.D in SM was the same in both at 67. On these variables the SM sample is comparable with NR sample. With regard to their age distributions, there was some differences with SM sample percentages in the age groups <30, 30-44, 45-59 and 60+ being 8,32, 45 and 15 respectively; while in NR they were 10, 50, 27 and 13 respectively. Thus the SM sample is slightly older than the NR sample. We felt that the agreements between the SM and NR samples is quite close on many variables indicating that we can proceed with an analysis of the SM data without any weighting to draw valid conclusions on the professional population as a whole. As expected the background variables, are between

themselves significantly correlated (though the correlation coefficients are not that high) as seen from Table 4. The correlation coefficient (Kendall's tau) is highest between age and marital status at 0.45.

2. Findings from perception data

The perceptions of the respondents on many variables such as population size, growth, distribution, socio-economic disparities etc. were elicited on a 4–point scale according to the perceived seriousness of the issue. We preferred a 4-point scale to a usual 5-point scale since many respondents in such an odd category scale tend to check the middle grade. On the other hand a four point or any even scoring would tend to push the respondent on one side or the other. For example on India's current population size the respondents were asked to check one of the codes 1 to 4, where the codes represent perceptions as follows:

1: Not at all an issue (an asset); 2: Of some concern; 3: Moderate concern, needs some attention; 4: Serious and urgent concern.

Table 2 gives the perceptions as percentages to the total under different codes for different variables. The table also presents the standard deviation and coefficient of variation of each variable. Table 5 gives the bi-variate correlation coefficients (Kendal's tau) between the levels of perceptions and the variables.

A: Population.

First, we present the distribution of the perceptions of the respondents on the basic demographic features of India.

a) India's Population size is considered as of "serious and urgent concern" (code 4) by more than half the respondents and another quarter said that

it is of" moderate concern" (code 3). The average score is 3.33 with a coefficient of variation of 26.5% Further we did cross tab analysis of this perception by the background characteristics of age, sex years of association with the population field and location of the work place of the respondents which revealed no significant difference by these variables (vide Table 5).

b) India's population growth is also considered as "Very Serious" or "Moderately serious" by 80% of the respondents. The average score is 3.2 with a coefficient of variation of 26.9%. There was no significant difference by age of the respondent but there is a significant correlation with the type of institutional affiliation of the respondent (vide Table 5 on bivariate correlation coefficients), negatively implying considered less serious by those in private institutions. There was no significant difference by other back ground variables such as sex, years of experience or location of the work place of the respondents.

c) India's population distribution. As in the case of size and growth factors, the population the "distribution" issue is also considered to be "serious" by the respondents. About 40% of the respondents view the problem of spatial distribution of the population as "serious and requires urgent attention" and another 44% view the problem as "moderately serious". The average score is 3.14 with a coefficient of variation of 26.5%. There was no significant differences by any background variable.

d) Socio-economic disparities.

This seems to be the most serious of all the issues posed to the respondents. As high as 83% of the respondents perceived the problem of socio-economic differentials " serious and of urgent concern" and another 14% of "moderately serious concern". This high concern cuts across all age and

educational categories and duration of association with the population field and location of the work place. Thus concern on this issue seems to be universal among the respondents and it is considered as more important than population size or growth or distribution and it is uniform across all background characteristics, though the latter set is also of good concern (97% versus 80%). The average score is 3.77 with a coefficient of variation of 14.9%.

What is striking in the above findings is that there are significant diversity in the perceptions of the respondents, who are professionals in the field of population working in the field of population or related fields, even on such basic population issues as growth, size , distribution and socio-economic disparities. Only on the issue of socio-economic disparities there is almost a unanimous agreement in perceptions.

B. Past Population Policies and Programs until 1994

Second, we turn our attention to the perception of the respondents on India' population policies in the past, until 1994. The year 1994 is considered a big divide in the history of family planning programs in the world since the International Conference on Population and Development (ICPD) convened under the auspices of the United Nations at Cairo in 1994 made some recommendations that were accepted by many developing countries including India that changed the direction of family planning programs for ever. The conference recommended that family planning programs should focus on reproductive health of women should be based on women's reproductive rights and reproductive health and should not be driven by demographic goals. Until 1994 family planning programs in India and in many other developing countries were intended to achieve pre- set crude birth rate or TFR targets and the number of acceptors to be recruited by the

program were based on the desired fertility goals. Family planning targets became the sin-qua-non of family planning programs. This target chasing by the program in India reached its climax during the national emergency period of 1975-77 when sterilizations (vasectomies) were done in large camps, schools and in other public places and various coercive measures were taken by the central and state governments. Various types of incentives and disincentives were given to attract couples for sterilization.

Thus from the policy and programmatic points of view this period was considered in three sub-periods, before 1975 (the pre emergency period), 1975-77 (emergency period) and 1977 to 1994 (the post emergency period). For the period after 1994, which is the post ICPD period, separate questions on the specifics of the period were asked in the later part of the questionnaire.

a) **Perceived appropriateness of India's population policies until 1994.**
The perception on population policies by the respondents was assessed in terms of their appropriateness to the situation and coded 1 to 4, defined as below.,
1: Extremely inappropriate for the situation; 2: Somewhat inappropriate; 3: Moderately appropriate; 4: Extremely appropriate

Population policies until 1975 are perceived as "Extremely inappropriate "or only "somewhat inappropriate" by 60% of the respondents. A higher percentage of married females tended to view the population policy during this period as more significantly "moderately" or "extremely" appropriate (Vide Table 5). The average score is 2.29 with a coefficient of variation of

34.7%. There were no significant differentials by age or place of work of the respondent.

There were no significant differences in the overall perception of the policies during the periods before 1975 and 1976-77 by the respondents. Probably most of the respondents were not aware of the extreme coercive measures undertaken to get married men for vasectomy during the emergency period. It is sad that traumas of history are easily forgotten in the public minds with passage of time. The population policies during emergency period were perceived by 41% of the respondents as of "moderate" or "extremely "appropriate". The average score is 2.19 with a coefficient of variation of 44.7%

The authors expected this to be close to 0%. However the association between years of work in the population field and the institute of affiliation (government to private) is negatively correlated with the appropriateness of policy. There were no differentials by sex, location or other background variables.

The population policies during the period 1977-94 were perceived as "moderately" appropriate by 63% of the respondents and another 10% viewed it as "extremely" appropriate. The average score is 2.74 with a coefficient of variation of 26.9%

There was significant correlation of this perception with the variables of 'education" (-ve) and institutional affiliation (+ve) (Table 5).

b: Perceived degree of international influence on India's population policies until 1994.

International influence on India's population policy until 1975: A combined 81% of the respondents perceived that there was 'absolutely no influence' (or) 'some influence but not significant' during this period. 19% of the respondents felt that international influence on population policy during this period was 'moderate' or it had 'extremely large and significant'. The average score is 2.01 with a coefficient of variation of 34.8%. Bivariate analysis shows that the perception of international influence on population policy is positively correlated with the respondents' years of association with population policy.

International influence on India's population policy in 1975-77: 71% of the respondents perceived that international influence had 'absolutely no influence' or 'some influence' on India's population policy during the emergency period. Only 29% of respondents perceived international influence was 'moderate' or 'extremely large and significant' during this time. Bivariate analysis showed that the type of institution affiliation of the respondents was negatively correlated and their regional affiliation was positively correlated with their perception of international influence on population policies. The average score is 2.13 with a coefficient variation of 35.5%

International influence on India's population policy from 1977-94: 69% of the respondents perceived that international influence had 'moderate' or 'extremely large and significant' influence on population policies during this period. The remaining 31% perceived that international influence had 'absolutely no influence' or 'some influence but not significant' during this time. The average score is 2.8 with a coefficient of variation of

24.9%.Bivariate analysis showed that there was no background variable which was significantly related to this particular perception.

c: Perceived appropriateness of programs implemented

Appropriateness of program implementation until 1975: Majority of the respondents i.e. 69% perceived that program implementation during the time was 'extremely inappropriate' or 'somewhat inappropriate'. The remaining 31% perceived program implementation was 'moderate' or 'extremely appropriate' during the time. Among these only 4% perceived that the program implementation was 'extremely appropriate' during this time. The average score is 2.1 with a coefficient of variation of 39.5%. Bivariate analysis showed that the institution affiliation of the respondent was negatively correlated with their perception about program implementation.

Appropriateness of program implementation from 1975-77: Once again most of the respondents i.e. 68% perceived that program implementation during this time were 'extremely inappropriate' or 'somewhat inappropriate'. 7% of the respondents perceived that program implementation was 'extremely appropriate' during then. The average score is 1.98 with a coefficient of variation of 48.9.Bivariate analysis once again showed that the institution affiliation of the respondent was negatively correlated with their perception about program implementation.

Appropriateness of program implementation from 1977-94: 63% of the respondents perceived the program implementation during this time was 'moderately appropriate' or 'extremely appropriate'. Among this only 10% of the respondents said that the programme implementation was 'extremely

appropriate'. The remaining 37% of the respondents said the program implementation was 'extremely inappropriate' or 'somewhat inappropriate'. The average score is 2.59 with a coefficient of variation of 32.4%.Bivariate analysis with background characteristics show that their perception of program implementation is positively correlated with the regional affiliation of their working institute.

C. Perceptions on Policies being implemented since 1994. (Post ICPD)

As mentioned earlier after 1994, post ICPD, the family planning program in India became target free, made as part of a package of 13 programs of reproductive health including adolescent sex education, testing of women for cervical cancer etc. It was also decentralized to the panchayats in rural areas and nagar palikas in urban areas level as a part of democratic decentralization. Thus the buzz words governing the program were "decentralization" and "integration".

a) Sterilization as the dominant method.

1. Perception and approval

59% of the respondents perceive sterilization is the dominant method of family planning in India, while a lesser percentage of the respondents, that is, 53% perceive sterilization will be a "sustainable method" of family planning in India in the future. The average scores are 0.59 (sterilization-good), 0.53 (sterilization sustainable) with a coefficient of variation of 83.6% (sterilization-good), 94.3 (sterilization sustainable). Bivariate correlation showed that the perception and approval of sterilization was negatively correlated with the working institution affiliation of the respondent.

2. Incentives and disincentives

When asked about the need for incentives in cash or kind for a family planning acceptor, the perception amongst the respondents was equally divided with 50% of them agreeing for incentives and 50% not agreeing. However, 61% of the respondents said that disincentives should not be given for a non-acceptor as opposed to 31% who said that disincentives should be given a family planning non-acceptor. The average score is 0.5 (incentives needed), 0.39 (disincentives needed) with a coefficient of variation of 100.2 (incentives needed), 125.4 (disincentives needed). Bivariate analysis showed that females were more likely to agree for giving incentives to a family planning acceptor. Educational qualification was also negatively correlated with this perception. However, perception of giving disincentives to non-acceptors was not significantly correlated with any of the background characteristics.

b. Need for a new population policy and separate FP clinics.

Almost all (90%) of the respondents who answered this survey have agreed that there is a need for a new population policy at this time. 73% of respondents also agree that there is a need to setup separate family planning clinics throughout the country. Furthermore, 88% of the respondents 'absolutely agree' or 'somewhat agree' that there is a perceived need for affordable, easily accessible and good quality contraceptive services and supplies in the country. The average scores are 0.9 (need for new population policy), 0.73 (separate family planning clinics), 1.67 (need for good quality contraceptive services) with a coefficient of variation of 33.1% (need for new population policy), 61.2% (separate family planning clinics) and 44.9% (need for good quality contraceptive services).

Bivariate analysis showed that the need for new population policy was positively correlated with the sex of the respondent (more among women), the need for setting up separate family planning clinics was negatively correlated with the working institute affiliation of the respondent and the perception of offering affordable good quality family planning services was not significantly correlated with the background characteristics and almost universal.

c. Perception on embedded and women-centric programs.

As high as two third of the respondents (67%) perceive that embedded family planning program are better than stand-alone programs. 70% of the respondents also perceive that family planning programs are currently 'women-centric' and 'women's health' based programs. When asked if they approve of this 'women-centric' approach in family planning programs, 56% of respondents said they disapprove of it while 44% said they approve of it. Probably they view that the program should be "human centric" and not just "women centric". The average scores are 0.67 (embedded programs), 0.7 (women centric programs) with coefficient of variation of 70.1% (embedded programs) and 65.4% (women centric programs). Bivariate analysis of the perception of embedded programs shows that it is negatively associated with the number of years the respondent is associated with population policy. Perceptions of 'women-centric' programs did not have any significant correlations with any background variables.

d. Perceptions on social and political implications of populations.
1. Overtaking China

Respondents were asked if they perceive India's population overtaking China's population by 2030 is an advantage or disadvantage. Almost three

fourth (73%) perceived it as a disadvantage. The average score is 0.27 with a coefficient of variation of 165.2%. Bivariate analysis did not show any significant correlation with any of the background variables.

Freeze of seats in parliament

55% of the respondents perceive that the freeze in the number of seats to parliament and to each state legislature based on the population size of the state in 1971 which is currently in vogue and to be reconsidered by 2012, should be frozen permanently beyond 2021. The average score is 0.45 with a coefficient of variation of 110.7%. Bivariate analysis shows that age of the respondents is negatively correlated with this perception, indicating that younger persons feel more strongly on this issue.

3. Breakdown of the institution of marriage.

Slightly more than half of the respondents (53%) perceive that marriage as "an institution within which child bearing should take place" will break down in India also and child bearing will eventually be delinked from marriage. 47% perceive that this will not happen at any time in the future. The average score is 0.53 with a coefficient of variation of 94.3%. This perception is negatively correlated with the respondents' age, marital status, educational qualification, years of association with population policy and the regional association of their working institute. Hence, a graduate male who is single working for around a decade in population policy from the northern state of India is more likely to perceive that the marriage as an institution will break down.

e. Multivariate analysis.

1. Partial Correlations controlling for background variables

The perceptions of the respondents on the past population policies and programs were correlated with their perceptions on the four population issue variables through partial correlation analysis controlling for their background variables and the partial correlation coefficients with their level of significance is given in Table 7. From this table it can be seen that the respondent's perception on past population policies and programs are not generally significantly correlated with their background variable. This suggests that the respondents tend to become homogenous in their perceptions on population policies and programs, probably because of the common background of training and experience in the field of population. Only with regard to the variables of population growth it is significantly and positively influenced the appropriateness of the program during the emergency and negatively on the international influence on the program during this period.

We then analyzed the relationship between the perceptions on future course of selected population and related social and programmatic issues and selected population issues of size, growth, distribution and socio-economic disparities after controlling for the background variables of the respondent through partial correlation coefficients. The figures are given Table 8. While the earlier Table (Table 7) studies relationships through partial correlation coefficients with earlier policies and programs this table studies the perceptions about the future. From this table we see that more of the partial correlation coefficients, 10 out of 40, are significant while in Table 7 only 4 out of 40 are significant. This implies that while training and

experience in the population field may homogenize the perceptions (or their distributions of population professionals) on the past population policies and programs overriding their individual background factors, such may not be the case with regard to their perceptions about the future policies and programs. Individual factors seem to play a more significant role in their perceptions on population policies and programs for the future.

2. Boot strapping

The technique of 'bootstrapping' in sampling is based on taking repeated sub samples from the observed sample to a desired size, usually 1000, and the augmented data are analyzed with the new increased sample size, to increase the power of the estimate. If the power changes significantly, it will alter the levels of significance of different predictors observed from the original data analysis. We used a binomial logistic regression of the perception of the respondents on "the freeze of seats in parliament" either to be continued indefinitely or de frozen by 2021 with their perception on population issues variables of size, growth, distribution, and socio-economic in equalities. If the power of estimations of the original data set is low then there should be differences between the significance levels of the original estimates of regression coefficients and the levels based on the 'boot strapped' data. Table 9 presents comparative levels of significance of different predictors between the two sets. It can be seen from this table that only the factor "of some concern " in population distribution is significantly affecting the perception on freeze of seats in legislatures and parliament and all other factors are not significant in both the analysis. Hence this adds some degree of validity to the analysis that we have carried out on our sample.

V. Summary and Conclusions.

The present survey of the population professionals through a web based questionnaire should be considered as a pilot run of such surveys which may be launched to different categories of professionals in the country to quickly assess their opinions and perceptions on different topics of the day. It is a descriptive study testing the method of survey as well as the validity of the results. There is no modeling or testing of any hypothesis. We surveyed a sample of 242 professionals in the field which was just 15% of the professionals to whom the questionnaire was sent. A sample of non-respondents was also later surveyed through Google-direct to get just their background details in order to assess the differences between the distributions of the respondents and non-respondents. Since there were no significant differences between the two distributions on a number of variables we decided to proceed with an analysis of the unweighted sample of the respondents as representing the perception of the population professionals.

A summary of the major findings from the survey with the modal responses of their perceptions on crucial population related issues is given in Table 10. Most of the responses are in the expected direction from the professional group. Serious concerns on population size, growth, distributions and more serious concern on the socio-economic inequalities have been expressed by the respondents. The earlier population policies and programs until 1994 have been perceived to be only moderately effective.

However, a major finding of this survey is the presence of a large variation, measured by the coefficient of variation, on all important population issues, policies and programs. The population professionals are supposed to be a

relatively homogenous group, having a common background of training in population studies/demography and hence can be expected to be more homogenous in their perceptions on population issues such size, growth and distribution. This is not the case. The maximum convergence of views of this group is on socio-economic disparities in the country. If such diversity is present in this group, then we can expect a larger divergence of views from other groups such as the political parties, religious leaders, administrators and members of other disciplines. The field of population, its problems and needed policies and programs is a highly controversial and opinionated field and irrespective of their professional background, knowledge and experience of working in the field people may hold divergent views.

The population policy presently governing the country is the National Population Policy of 2000 (NPP 2000). This policy, in tune with the recommendations of the International Conference on Population and Development (ICPD) organized in Cairo in 1994 advocated a target free, women-centric, reproductive health and reproductive rights based family planning program. Since 1995 the family planning program in India is implemented as an integrated and decentralized program as a part of a package of reproductive health services. The money spent on the family welfare program by the central government increased enormously during the 15-year period, between the eighth plan (1992-97) and the twelfth plan (2007-12) from Rs. 65 to Rs. 906 billion or by 14 times. However, the impact on many fertility and mortality indicators is poor and not commensurate with the big money spent nor the targets stipulated in NPP 2000. The infant mortality rate (IMR) declined from 68 in 2000 to 47 in 2010 when the NPP 2000 target for 2010 was 30. The TFR declined from

3.2 in 2000 to 2.7 in 2010 against a target of 2.1. The couple protection rate (CPR) actually declined from 46.2 in 2000 to 41.6 in 2010 against a target of 60 commensurate with TFR of 2.1. Hence family planning and fertility goals were net losers in this "integration- decentralization" package of services.

However, there is a general approval by the respondents of this study of the current "woman-centric "embedded" family planning programs by the professional community. The method of sterilization has a wide approval in the professional community and seems to be sustainable. Incentives were favored more than dis- incentives for family planning acceptors. There is however a greater demand for good quality family planning services throughout the country and there is a recommendation to set up well funded contraceptive service facilities through a large network of family planning clinics which will provide easily accessible, affordable and good quality family planning services. There is well expressed perception on the need for a *new population policy* in the country. There is also well expressed need to *continue the "freeze" of seats for parliament and state legislature* indefinitely in the country. There is growing perception, especially among the younger respondents that the institution of marriage may eventually breakdown in India and will be delinked from child bearing as is happening in the western world. The qualitative statements in support of the categorical responses given by the respondents are being analyzed separately and published later.

The present study has some major limitations. First, the response rate to our email questionnaire is rather low, 15%. Though we have tried to establish that the respondents do not differ significantly in their background

characteristics from a sample of non-respondents enquired later in the survey, still the findings from the survey have to be viewed with a bit of caution. The second limitation is that some professional who do not want to be identified by any remote chance even under the guarantee of anonymity might not have responded to the survey questionnaire. This group might have been underrepresented in the survey. This study points out an urgent need to set up an expert committee drawn from different disciplines to formulate the next population policy rather than confining to the group of demographers and population specialists.

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Table 1: Comparison of background characteristics of respondents and non-respondents

Variable	Category	Characteristics of respondents		Characteristics of non-respondents	
		Frequency	Valid Percent	Frequency	Valid Percent
Sex	Male	176	73.0	105	71.9
	Female	65	27.0	41	28.1
	N	241	100.0	146	100.0
Age	≤29	18	7.8	14	9.6
	30-44	75	32.3	73	50.0
	45-59	104	44.8	40	27.4
	60+	35	15.1	19	13.0
	N	232	100.0	146	100.0
Marital Status	Single	39	16.3	35	24.3
	Married	193	80.8	104	72.2
	Widowed	3	1.3	4	2.8
	Divorced	4	1.7	1	.7
	N	239	100.0	144	100.0
Highest educational qualification	Graduate	6	2.5	1	.7
	Post Graduate	73	30.3	39	26.9
	Ph.D.	162	67.2	97	66.9
	Others	0	0.0	8	5.5
	N	241	100.0	145	100.0
Years associated in population policy	Never Associated	14	5.9	21	14.7
	0-9 years	81	34.3	59	41.3
	10-19 years	53	22.5	27	18.9
	20-29 years	52	22.0	16	11.2
	30+ years	36	15.3	20	14.0
	N	236	100.0	143	100.0
Regional location of affiliated institute	North	135	55.8	107	73.3
	South	101	41.7	35	24.0
	Foreign	6	2.5	4	2.7
	N	242	100.0	146	100.0
Working institute affiliation	Govt.	40	18.1	14	9.7
	University	113	51.1	94	64.8
	NGO	15	6.8	2	1.4
	Private	49	22.2	26	17.9
	Others	4	1.8	9	6.2
	N	221	100.0	145	100.0

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Table 2: Perceptions on population size, growth, distribution, socio-economic inequalities and past population policies and programs

Variables	Codes (All values given in percentages)							Key/Legend
	1*	2*	3*	4*	Mean	SD	CV (%)	
Perceived seriousness of India's population size	4	15	24	56	3.33	0.88	26.5	1=Not at all an issue (an asset) 2=Of some concern 3=Moderate concern 4=Serious and urgent concern
Perceived seriousness of India's population growth	4	17	34	45	3.20	0.86	26.9	
Perceived seriousness of India's population distribution	5	14	44	37	3.14	0.83	26.5	
Perceived seriousness of India's socio-economic inequalities	1	3	13	83	3.77	0.56	14.9	
Perceived appropriateness of India's **population policies** until 1975	17	42	37	4	2.29	0.79	34.7	1=Extremely inappropriate for the situation 2=Somewhat inappropriate 3=Moderately appropriate 4=Extremely appropriate
Perceived appropriateness of India's **population policies** between 1975-77	31	28	32	9	2.19	0.98	44.7	
Perceived appropriateness of India's **population policies** between 1977-94	8	20	63	10	2.74	0.74	26.9	
Perceived appropriateness of India's **programme implementation** until 1975	26	43	27	4	2.10	0.83	39.5	
Perceived appropriateness of India's **programme implementation** between 1975-77	40	28	24	7	1.98	0.97	48.9	
Perceived appropriateness of India's **programme implementation** between 1977-94	13	24	53	10	2.59	0.84	32.4	
Perceived degree of international influence on India's **population policies** until 1975	21	60	16	3	2.01	0.70	34.8	1=Absolutely no influence 2=Some influence but not significant 3=Moderate but significant influence 4=Extremely large and significant influence
Perceived degree of international influence on India's **population policies** between 1975-77	20	51	26	3	2.13	0.76	35.5	
Perceived degree of international influence on India's **population policies** between 1977-94	3	28	56	13	2.80	0.70	24.9	
Perceived need for affordable, easily accessible and good quality contraceptive services and supplies	47	41	9	3	1.67	0.75	44.9	1=Absolutely agree 2=Somewhat agree 3=Disagree 4=Totally disagree

Table 3: Perceptions on current programs, incentives, disincentives and political and social effects

Variables	Codes (All values given in percentages)		Mean	SD	CV (%)	Key/Legend
	0	**1**	**Mean**	**SD**	**CV (%)**	
Sterilisation is the dominant method of family planning in India (Good)	41	59	0.59	0.49	83.6	0=No 1=Yes
Sustainability of sterilisation as the dominant method of family planning in India.(sustainable)	47	53	0.53	0.50	94.3	
Embedded family planning programs are better than 'stand alone' programs	**33**	**67**	0.67	0.47	70.1	
Agee or disagree with FP being ' women-centric ' and ' women's health' based programs	**30**	**70**	0.70	0.46	65.4	
Approve or disapprove the ' women-centric ' and ' women's health' based fp programs	56	44	0.43	0.50	115.6	
Need for a new population policy	**10**	**90**	0.90	0.30	33.1	
Need for setting up family planning service clinics throughout the country	**28**	**73**	0.73	0.45	61.2	
Need for some form of incentives in cash or kind should still be provided to a family planning acceptor	50	50	0.50	0.50	100.2	
Need for some kind of disincentives to be given to FP non-acceptors.	**61**	**39**	0.39	0.49	125.4	
Should the disincentives, if given, be related to birth order of the mother?	**26**	**74**	0.74	0.44	59.3	
Perception about the break down of the institution of marriage in India.	47	53	0.53	0.50	94.3	
Do you think that India's population projected to surpass that of China by 2030 is an advantage or disadvantage?	**73**	**27**	0.27	0.45	165.2	0=Disadvantage 1=Advantage
Freeze in the number of seats to parliament	**55**	**45**	0.45	0.50	110.7	0=Frozen permanently 1=De-frozen in 2021

Table 4: Bivariate correlation coefficients between the background variables of respondents (Kendall's tau-b)

	Sex	Age	Marital Status	Current position	Educational Qualification	Institute affiliated	Associated years with population policy	Regional location of the working institution
Sex	1.000	-.179**	-.065	-.042	-.149*	-.018	-.143*	.002
Age	-.179**	1.000	.449**	.113*	.382**	.038	.597**	.116
Marital Status	-.065	.449**	1.000	.275**	.287**	.064	.375**	.120
Current position	-.042	.113*	.275**	1.000	-.005	.128*	.094	.024
Educational Qualification	-.149*	.382**	.287**	-.005	1.000	.096	.291**	.048
Institute affiliated	-.018	.038	.064	.128*	.096	1.000	.081	-.152*
Associated years with population policy	-.143*	.597**	.375**	.094	.291**	.081	1.000	.144*
Regional location of the working institution	.002	.116	.120	.024	.048	-.152*	.144*	1.000

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 5: Bivariate correlation coefficients (Kendall's tau-b) between perception and background variables and their significance *(Perceptions on current population issues and past policies)*

Variables	Sex	Age	Marital Status	Educational Qualification	Current Position	Institute Affiliated	Years associated	Regional Affiliation
Population Size	0.061	-0.016	-0.053	-0.069	-0.015	-0.101	-0.097	-0.061
Population Growth	0.11	-0.021	-0.022	-0.089	-0.001	-0.122*	-0.076	0.012
Population Distribution	-0.002	0.084	-0.038	0.076	-0.044	0.084	0.022	-0.037
Socio-economic inequalities	-0.013	0.031	-0.085	-0.026	-0.074	0.015	0.014	-0.065
Appropriateness of Population policies (until 1975)	0.150*	-0.028	0.119*	-0.069	0.046	-0.032	0.085	0.064
Appropriateness of Population policies (1975-77)	0.004	-0.009	-0.045	-0.061	0.016	-0.160**	-0.132*	0.98
Appropriateness of Population policies (1977-94)	-0.037	-0.102	-0.094	-0.136*	0.074	5	-0.005	0.009
Appropriateness of Programme implementation (until 1975)	0.078	-0.066	0.053	-0.035	0.039	-0.134*	0.033	0.103
Appropriateness of Programme implementation (1975-77)	-0.01	-0.067	-0.057	-0.115	-0.084	-.206***	-0.109	0.067
Appropriateness of Programme implementation (1977-94)	-0.093	-0.034	-0.107	-0.004	0.022	0.006	-0.022	0.139*
International influence on population policies (until 1975)	-0.007	0.101	-0.018	0.009	-0.008	0.036	0.117*	0.091
International influence on population policies (1975-77)	0.037	-0.091	-0.064	-0.101	-0.027	-0.164**	-0.05	0.126*
International influence on population policies (1977-94)	-0.084	-0.119	-0.075	-0.038	-0.048	0.003	-0.015	0.071
Offer good quality FP services	0.042	0.026	-0.008	-0.055	0.049	0.037	0.005	-0.083

*Significance at 5% level, ** Significance at 1% level, *** Significance at one in thousand level

Table 6: Bivariate correlation coefficients (Kendall's tau-b) that are significant between perceptions and background variables *(Perceptions on current population policies, FP programs and future political and social issues)*

Variables	Sex	Age	Marital Status	Educational Qualification	Current Position	Institute Affiliated	Years associated	Regional Affiliation
Sterilisation is the dominant method of family planning in India	-0.07	0.017	0.02	0.047	0.006	-.253***	-0.01	0.123
Sustainability of sterilisation as the dominant method of family planning in India.	0.094	-0.074	-0.067	0.027	-0.048	-.184*	-.134*	0.064
Embedded family planning programs are better than 'standalone' programs	0.029	-0.092	-0.058	-0.048	-0.013	0.051	-.151*	-0.089
Agee or disagree with ' women-centric ' and ' women's health' based fp programs	-0.087	-0.08	-0.05	-0.001	0.77	-0.009	-0.111	-0.015
Approve or disapprove the ' women-centric ' and ' women's health' based fp programs	0.001	-0.066	0.002	0.062	0.06	0.077	-0.115	-0.03
Need for a new population policy	0.132**	-0.086	0.063	-0.05	0.075	-0.014	0.009	0.005
Need for setting up family planning service clinics throughout the country	0.033	0.021	0.004	0.056	0.011	-.164*	-0.077	0.007
Need for some form of incentives in cash or kind should still be provided to a family planning acceptor	.194**	-0.058	-0.065	-.134*	-0.11	-0.094	-0.049	0.094
Need for some kind of disincentives to be given to FP non-acceptors.	-0.086	0.073	0.035	-0.015	0.056	0.04	0.001	-0.093
Should the disincentives be related to birth order of the mother?	-0.183	0.019	-0.008	0.023	0.04	-0.04	0.115	0.02
Perception about the break down of the institution of marriage in India.	0.117	-.278***	-.181**	-.173**	-0.061	0.058	-.149*	-.167**
Do you think that India's population projected to surpass that of China by 2030 is an advantage or disadvantage?	-0.071	-0.033	0	0.087	-0.063	0.07	-0.069	0.033
Freeze in the number of seats to parliament	-0.042	-.141*	-0.012	0.026	0.05	0.045	-0.074	-0.038
*Significance at 5% level, ** Significance at 1% level, *** Significance at one in thousand level								

Table 7: Partial Correlation Coefficients of perceptions on current population size, growth, distribution and se differentials with past policies and programs controlling for background variables.

Variables	Population Size	Population Growth	Population Distribution	Socio-economic inequalities
Appropriateness of Population policies (until 1975)	-0.133	-0.132	0.038	-0.004
Appropriateness of Population policies (1975-77)	0.095	0.13	0.059	-0.011
Appropriateness of Population policies (1977-94)	0.046	0.016	-0.021	-0.034
Appropriateness of Programme implementation (until 1975)	-0.056	-0.025	-0.036	-0.078
Appropriateness of Programme implementation (1975-77)	0.114	0.179*	0.123	-0.026
Appropriateness of Programme implementation (1977-94)	0.062	0.009	-0.013	-0.175*
International influence on population policies (until 1975)	-0.204**	-0.195*	-0.07	-0.013
International influence on population policies (1975-77)	-0.108	-0.085	-0.072	0.057
International influence on population policies (1977-94)	-0.008	-0.045	-0.006	0.019
Offer good quality FP services	0.028	-0.008	0.007	0.07

Control variables: sex, age, marital status, educational qualification, current job position, current institute affiliation, years associated with population policy and regional affiliation of working institution

Table 8: Partial correlation coefficients of perceptions on current population issues with current program methods and desire for incentives and dis-incentives controlling for background variable

Variables	Population Size	Population Growth	Population Distribution	Socio-economic inequalities
Sterilisation is the dominant method of family planning in India	0.1	(0.26)***	0.064	0.038
Sustainability of sterilisation as the dominant method of family planning in India.	0.177*	(0.17)*	0.097	-0.04
Embedded family planning programs are better than 'standalone' programs	-0.125	(-0.15)*	-0.052	0.054
Agee or disagree with ' women-centric ' and ' women's health' based fp programs	-0.016	0.003	-0.04	0.057
Approve or disapprove the ' women-centric ' and ' women's health' based fp programs	-0.024	-0.054	-0.121	0.056
Need for a new population policy	0.033	0.048	0.071	0.213**
Need for setting up family planning service clinics throughout the country	0.019	0.153	-0.052	-0.071
Need for some form of incentives in cash or kind should still be provided to a family planning acceptor	0.135	0.181*	0.042	-0.044
Need for some kind of disincentives to be given to FP non-acceptors.	0.232***	0.248***	0.158	0.101
Should the disincentives be related to birth order of the mother?	0.203	0.066	0.249	0.175
Perception about the breakdown of the institution of marriage in India.	0.141	0.085	-0.012	-0.006
Do you think that India's population projected to surpass that of China by 2030 is an advantage or disadvantage?	(-0.257)***	(-0.241)***	0.01	0.179*
Freeze in the number of seats to parliament	(-0.158)*	-0.128	-0.009	-0.03

Control variables: sex, age, marital status, educational qualification, current job position, current institute affiliation, years associated with population policy and regional affiliation of working institution

Table 9: Comparison of levels of significance with and without bootstrapping of perception on freeze of seats in parliament

Predictor Variable		Without bootstrapping		With bootstrapping (N=1000)	
Code 1 for each variable response is taken as reference category		Regression Coefficient	Significance	Regression Coefficient	Significance
Population size	Code 2: Of some concern	.184	.860	.184	.651[b]
	Code 3: Moderate concern, needs some attention	-.053	.960	-.053	.758[b]
	Code 4: Serious and urgent concern	.484	.657	.484	.506[b]
Population growth	Code 2: Of some concern	.098	.924	.098	.729[b]
	Code 3: Moderate concern, needs some attention	.630	.551	.630	.397[b]
	Code 4: Serious and urgent concern	1.024	.344	1.024	.241[b]
Population distribution	Code 2: Of some concern	1.914	.035	1.914	.017[b]
	Code 3: Moderate concern, needs some attention	1.172	.168	1.172	.092[b]
	Code 4: Serious and urgent concern	1.112	.208	1.112	.132[b]
Socio-economic inequalities	Code 2: Of some concern	.284	.866	.284	.328[b]
	Code 3: Moderate concern, needs some attention	.751	.621	.751	.195[b]
	Code 4: Serious and urgent concern	.632	.668	.632	.228[b]
	Constant	-2.704	.155	-2.704	.046[b]

b--at 837 runs of samples from the observed data

Table 10: Modal perceptions to population and program issues

Major population issues	56% say India's population size is "Serious and urgent concern"
	83% say India's socio-economic inequalities is "Serious and urgent concern"
Past Population Policies and Programs (until 1994)	Perceived appropriateness of India's population policies between 1977-94 (63%-Moderately appropriate)
	Perceived appropriateness of India's program implemen between 1977-94 (53%-Moderately appropriate)
	Perceived degree of international influence on India's population policies until 1975 (60%-Some influence but not significant)
	Perceived degree of international influence on India's population policies between 1975-77 (51%-Some influence but not significant)
	Perceived degree of international influence on India's population policies between 1977-94 (56%-Moderate but significant influence)
Sterilization is the dominant method of FP.	59% say it is good
	53% say it is sustainable
Embedded program	67% agree that embedded programs are better than standalone programs
Women centric FP programs	70% agree
	56% approve
Need for new population policy	90% say there is a need for new population policy
Setting up FP service clinics throughout the country	73% say it should be set up
Need for disincentives to FP non acceptors	61% say disincentives should not be given to non acceptors
	74% say if disincentives were to be given, it should be related to the birth order of the mother
Breakdown of institution of marriage	53% say institution of marriage will breakdown in India
India's population surpassing that of China	73% say that this will be a disadvantage
Freeze in the number of seats of parliament	55% say the number of seats should be frozen permanently

Professor K. Srinivasan

Prof K Srinivasan was the Senior Professor and Director of the International Institute for Population Sciences at Mumbai from 1978 to 1992. Prof. K. Srinivasan has made valuable contributions in the country in areas of Population Studies since May 1959. He has a brilliant academic record with first class master's degrees in mathematics, statistics and public health and a doctorate degree in demography. His master's degree in public health is from Harvard University. He is the first doctorate in demography from an Indian University. He has held senior academic positions in the University of North Carolina, Chapel Hill, USA and the Australian National University at Canberra. As a researcher he has 13 books and over 102 research papers published in national and international peer reviewed journals. Many of his books are being used in India and abroad as standard texts in teaching population studies. He has been a recipient of a number of honors including the Scroll of Honor from the People's Republic of China for his assistance in the strengthening of the Population Research Centers in their country in 1983.

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