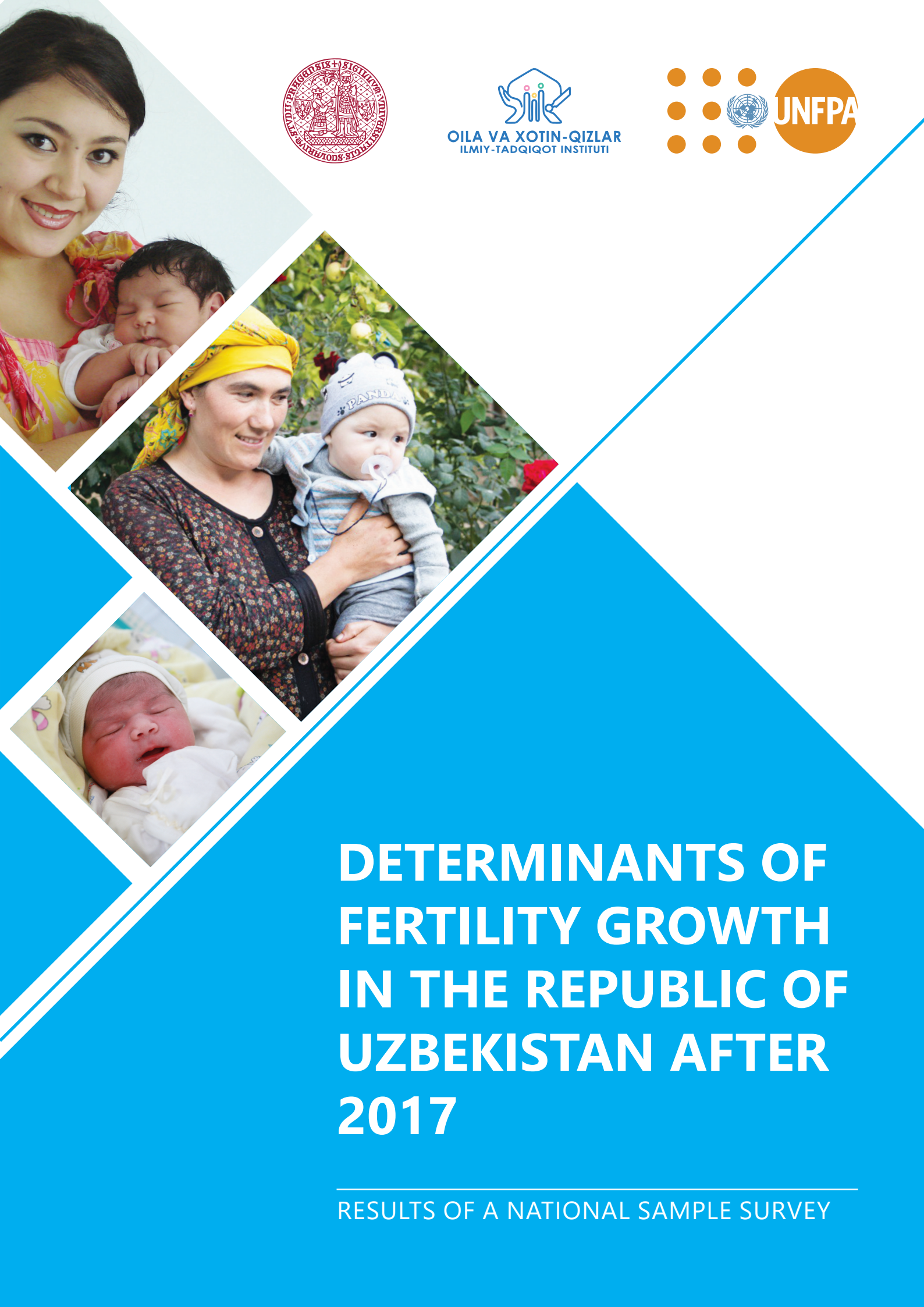





OILA VA XOTIN-QIZLAR
ILMIY-TADQIQOT INSTITUTI



DETERMINANTS OF FERTILITY GROWTH IN THE REPUBLIC OF UZBEKISTAN AFTER 2017

RESULTS OF A NATIONAL SAMPLE SURVEY



DETERMINANTS OF FERTILITY GROWTH IN THE REPUBLIC OF UZBEKISTAN AFTER 2017

RESULTS OF A NATIONAL SAMPLE SURVEY

UDS 314.116(083.41)(575.1)

LBC 60.7(5Uzb)

D 47 Determinants of fertility growth in the Republic of Uzbekistan after 2017. Results of a national sample survey [Text]/ Iryna Kurylo, N. Kadatskaya, K. Ishchanova, A. Ivlev, T. Kučera, Z. Valitova, A. Yessimova, Sh. Akramova, Kh. Abduramanov, S. Khodjayev. - Tashkent: Baktria Press, 2023. - 36 p.

Authors

The report was produced by an international team of authors: Iryna Kurylo, Natalya Kadatskaya, Kamila Ishchanova, Anton Ivlev, Tomáš Kučera, Zulfiya Valitova, Aigul Yessimova (Charles University, Prague, Czechia), Shakhnoza Akramova (UNFPA Uzbekistan), Khamid Abduramanov, Sobir Khodjayev (Family and Women Research Institute under the Committee on Family and Women of the Republic of Uzbekistan).

Suggested citation

Kurylo, I., Kadatskaya, N., Ishchanova, K., Ivlev, A., Kučera, T., Valitova, Z., Yessimova, A., Akramova, S., Abduramanov, K. and Khodjayev, S. (2023). Determinants of fertility growth in the Republic of Uzbekistan after 2017. Results of the national sample survey. Tashkent, United Nations Population Fund (UNFPA).

This report is available in electronic format on the UNFPA's website at www.uzbekistan.unfpa.org.

Rights and Permissions

The material in this work is subject to copyright. As UNFPA endorses the dissemination of knowledge and development, this work may be reproduced, in whole or in part, for non-commercial purposes with indication of a full reference to this work.

No part of the material protected by this copyright notice may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording or by any information storage and retrieval system, without permission from the copyright owner.

The findings, analyses and recommendations expressed in this Report do not represent the official position of UNFPA and do not necessarily reflect the views of those mentioned in connection with the acknowledgement.

It is the reader's responsibility to interpret and use the material. Under no circumstances shall UNFPA be liable for damages arising from the use of this Report.

All requests for rights and permissions, including derivative rights, should be addressed to UNFPA, Uzbekistan
14 Makhmud Tarabi Street,
Tashkent 100090, Uzbekistan

Foreword

The world's population reached 8 billion last year, a sign of major improvements in public health that have increased life expectancy. However, at the same time our globe is more demographically diverse than ever before, with countries facing starkly different population trends ranging from growth to decline.

Along with such diverse trends, concerns about population are causing anxiety and driving more governments to try to influence fertility rates, without realizing that these rates are neither a problem nor a solution.

The truth is that we can build thriving, inclusive societies, regardless of their population size. To do so we must radically rethink how we talk about and plan for population change. We need to take a comprehensive look at the direct causes of, and proven solutions to our societal and environmental challenges. An accurate population forecast is the foundation for this understanding.

Uzbekistan has its own trends. The nation's population has increased from 20.6 million at the year of independence, to 36.0 million at the end of 2022. Last year, along with the 8 billion population milestone being reached globally, the birth of nearly 1 million newborns in Uzbekistan also attracted headlines.

This greater number of births can be explained by the relatively large cohort of the population reaching reproductive age in the last few years. The reason for the rapid increase in total fertility rate from 2.42 in 2017 to 3.17 in 2021, however, has been heatedly debated amongst social scientists, especially in the absence of a population and housing census for more than 3 decades.

It was therefore a great pleasure for UNFPA to support the conducting of Uzbekistan's first large scale survey on fertility growth. This was prepared and implemented by the Institute for Family and Women and Charles University, Prague, Czech Republic. The survey examined changes in fertility rates and the reproductive desires of women in Uzbekistan, and explored underlying factors including cultural and societal norms, economic factors, and access to family planning, reproductive health care, and education.

The survey results suggest that several factors have contributed to the growth of fertility rates in Uzbekistan after 2017. The most significant one is the fulfilment of the reproductive desires of women, thanks to Uzbekistan's unprecedented social and economic transformation which has resulted in increased confidence in the future.

At the same time it is important to note that the younger generation of women plan to have fewer children, compared to middle-aged women, underlining that the long-term population trend will remain dynamic and reflect deeply-rooted social, cultural and economic factors.

I am pleased that the survey has provided critical inputs to Uzbekistan's updated population forecast for 2050, which will be launched soon. It will also provide food for thought for partners to decipher complex linkages between population, sustainable development, and climate change, and to realize a prosperous Uzbekistan for decades to come.

Yu Yu

UNFPA Representative in Uzbekistan

Acknowledgements

The authors gratefully acknowledge UNFPA colleagues from the Country office for their support and overall guidance: Kamolkhon Inomkhodjayev and Azam Toshpulatov (UNFPA Uzbekistan).

The study benefited from the valuable inputs and guidance of Yu Yu, UNFPA Uzbekistan Representative, and Eduard Jongstra, UNFPA EECARO Regional Advisor, Population and Development.

The authors would like to express deep gratitude to the Family and Women Research Institute, its staff and collaborators who contributed to this study by collecting the interviews.

Special thanks belong to Olga Kučerová (freelance expert, Prague, Czech Republic) for her careful editing of the original Russian text and to Oksana Opara (Auckland University of Technology, New Zealand) for its translation into English.

Executive Summary

- An analysis of the reproductive attitudes and plans of survey respondents testifies to their current orientation towards an average family size of 3 to 4 children. At the same time, among the youngest cohorts of respondents there is a deviation of their expected fertility (i.e., the number of children expected by the end of the reproductive period) from initial reproductive attitudes and plans.
- The growing gap between the planned number of children (even before the birth of the first child) and the expected number of children among younger respondents (born in the years between 1997 and 2003) can be seen as a first sign of a future decline in fertility.
- Through the survey, a homogeneity of respondents' responses to questions about their calendars of births was established. Most interviewed women identified the best age for having their first child as being between 20 to 25 years, and the most favourable age for the birth of the last child being the age interval of 30 to 35 years.
- The survey results indicate that one should not expect rapid and dramatic changes to Uzbekistan's calendar of births. However, judging by the results of the analysis of reproductive plans, and the desired ages of birth of children in the youngest cohorts, this calendar may undergo certain transformations in the future (not only due to a reduction of high-order births, but also due to the participation of more women in higher education, and their increased engagement in the labour market).
- An analysis of the relationship between the level of education and the reproductive attitudes and plans of respondents allows us to consider the increase in the level of women's education as a factor that will contribute to decreasing Uzbekistan's fertility in the future.
- The study on reproductive attitudes revealed significant differences between respondents who lived in urban areas for most of their lives, indicating lower levels of reproductive attitudes for them. Respondents from rural areas, on the other hand, demonstrated statistically significant differences in their reproductive attitudes compared to those who lived in urban areas for the majority of their lives.
- Respondents who are housewives and self-employed (mainly having private subsidiary plots) showed the greatest desire to have many children in their family.
- The predominant motives for having many children are "hopes that children will become a support in old age", and also the belief that "children strengthen the family" – that is, typical components of traditional values and lifestyle in Uzbekistan.
- The survey results established the continuity of the reproductive attitudes and plans of the interviewed women, namely their relationship with the number of children born and/or raised in the respondents' parental families.

- Among married respondents with children, there was a high level of awareness of issues related to measures of protecting against unwanted pregnancy, and the use of contraceptives. In addition, it was found that the level of contraceptive use for family planning purposes increases as the number of children in the respondents' family increases.
- Considering that unmarried and childless respondents responded to the question about measures of protection against unwanted pregnancy by choosing the options "not aware" and "do not use", we can say that there is a big potential for raising women's awareness of family planning methods.
- The survey did not confirm the hypothesis of a significant decrease in the availability of contraceptive methods, as one of the factors being behind the growth of Uzbekistan's birth rate over the past five years.
- Although the level of respondents' religiosity does not affect their reproductive choices in their opinion, a statistically-significant relationship was found between the reproductive plans of the women surveyed, and the level of religiosity of the families in which they currently live.
- The vast majority of respondents positively assessed not only changes in the country's socio-economic life, and the level of their own well-being over the past five years, but also the expansion of freedom of action in terms of religious matters.
- According to survey results, the main factors regarding fertility growth after 2017 in Uzbekistan may include improvement of the financial situation of families with children, expansion of freedom of action in religious matters, and especially a general increase in the level of people's confidence in the future - factors identified by almost 90 per cent of the interviewed women.

Contents

Introduction	6
Survey design	8
Data collection methods.....	10
Reproductive intentions and plans, and their realization	12
Birth calendars	14
Education level, employment status, and reproductive intentions and plans	17
Reproductive attitudes and plans of urban and rural women	20
Marital status and reproductive attitudes and plans.....	21
Family “continuity” of reproductive attitudes and plans.....	22
Level of religiosity and reproductive choices	24
Family planning and use of contraceptive methods	26
Migration and reproductive plans.....	28
Socio-economic changes as a factor in Fertility dynamics.....	29
Conclusions and recommendations	31

Introduction

Third wave of fertility growth over the last twenty years

Over the past twenty years the Republic of Uzbekistan has experienced an increase in its number of live births. However, this increase has not been steady, in contrast to the changes in this indicator over the period since the Second World War and up to the 1990s. From the start of the 21st century, three distinct waves of increase in fertility can be identified. In the first half of the 2000s the annual number of live births fluctuated between 508,000 and 540,000 children annually, consistent with lowest levels over the previous quarter of the century. During the first wave of growth, between 2005 and 2011, the annual number of live births increased by 22 per cent, from 534,000 to 651,000 children (in 2009). The second wave, between 2011 and 2017, brought an 18 per cent increase in live births from 623,000 to 734,000 (2015). During the current and continuing third wave of fertility growth the annual number of live births has increased by 27 per cent from 2017 to 2021, from 716,000 to 905,000. Thus, significantly more children are born in Uzbekistan today than in the early 1990s (1991-1993), when the annual number of live births exceeded 700,000 for the first time.

The seeming paradox of the current wave: fewer women of the most active reproductive ages, but more newborns

Until the mid-2010s, the reproductive potential – taking into account the number and age structure of Uzbek women and their birth rate – increased almost continuously. Then the first two waves were the outcome of fluctuations in the general level of fertility against the background of a continuous increase in reproductive potential. During the first wave there was a temporary increase in the total fertility rate (TFR) from 2.37 to 2.64 live births. In the course of the second wave, the value of this indicator increased from 2.18 to 2.47 live births. For the third wave, the total fertility rate increased from 2.40 to 3.17 live births per woman and continues to grow. The latest increase in fertility was so significant that it fully compensated for the consistent decline in reproductive potential, namely the number of women in the age group of 20 to 24 years, which traditionally accounted for the largest number of births (about 40 per cent of the total fertility of Uzbek women). Over the past five years the number of women in this age group has decreased by 15 per cent.

The development of national fertility has gone beyond theoretical knowledge

While the first two waves of growth in the number of births can be explained by a somewhat turbulent development in the overall birth rate, with a relatively significant increase in the number of women of the most important reproductive ages, it has been rather difficult to find a satisfactory explanation for the third wave which arose mainly as a result of an increase in the intensity of childbearing. This is especially in terms of demographic theory. The development of fertility in previous periods, including the decline in fertility to the level of simple reproduction of the population over the past decade, took place generally in accordance with previously-observed fertility trends, the theory of demographic transition, as well as the experience of countries comparable to the Republic of Uzbekistan in socio-economic and cultural development. Therefore the current dramatic fertility transformation has been completely unexpected. Moreover the increased birth rate currently observed in the country can hardly be considered compensatory, since the previous decline in the birth rate was not so dynamic or deep as to cause a compensatory surge of such magnitude.

Therefore the current transformation in fertility trends taking place in Uzbekistan, as presented above, demands a thorough scientific inquiry to explain its origins and main determinants. Our discussions with experts in Uzbekistan started in 2019, when analysis of 2018 data revealed that the observed number of live births deviated from previous forecasts and expectations to a significant extent. But so far we have not reached a consensus on how to interpret these changes. Despite the productivity of discussions, their results gave rise to additional questions, the answers to which were mostly speculative – that is, more at the level of initial hypotheses than the identification and realistic assessment of factors in the observed development of fertility. Consequently at the start of 2022 the UN Population Fund (UNFPA) in Uzbekistan decided to provide financial support for a sample survey that could help answer the question of what the key determinants of unexpected fertility growth in Uzbekistan are. In spring 2022 a concept of a survey to explore reproductive behaviour of women in Uzbekistan was developed in collaboration with the 'Mahalla va Oila' research institute of the Ministry for the Support of Mahallas and Families, a group of independent experts from Uzbekistan, demographers and sociologists from Charles University in Prague, and representatives of UNFPA in Uzbekistan. The survey was implemented during the summer months of 2022. Data analysis was completed during October-November 2022 and its results were critically discussed by a group of experts and researchers from four countries, including Uzbekistan, the Czech Republic, Ukraine and Kazakhstan.

*In search
of answers
to explain
a "surge" in
fertility*

Survey design

Survey aims

The main aim of the survey 'Changes in reproductive behaviour of cohorts of women of childbearing age and the determinants of contemporary growth in fertility in Uzbekistan' was to elucidate factors of dynamic fertility growth in Uzbekistan post-2017, and to identify in particular the input of specific cohorts of women of childbearing age into the increase in the total fertility rate (TFR). Due to time constraints and resource limitations, the survey's scope focussed mainly on tasks associated with developing demographic forecasts at the administrative regional level, including in the city of Tashkent and the Republic of Karakalpakstan, and the whole of the Republic of Uzbekistan.

Main objectives

The survey's main objectives were:

- To identify factors that prompted changes in the TFR of the Republic of Uzbekistan during 2018-2022, and to describe the mechanism of their influence.
- To explore the reproductive intentions and plans of women of different age cohorts and socio-economic groups.
- To evaluate the significance of influence of selected factors on women's reproductive intentions and the calendars of their realization (distribution of births across time and age of women) among the different cohorts.
- To identify main trends in the development of these factors and their influence on the fertility levels and calendar of births of different cohorts of Uzbek women.

Probable determinants of fertility growth

In addition, it was anticipated that the survey results could contribute to testing the hypotheses put forward during expert discussions by the international expert group. Therefore the following additional factors were considered:

- Availability and accessibility of contraceptive means, and changes in the system of distribution of free contraceptives among the population.
- Changes in the level of religiosity and forms of religious practices.
- Changes in the standard of living since 2016, and level of confidence in the future.
- Changes in the educational system since 2017.
- Removal of selected measures aimed to reduce fertility levels, as put in place by previous governments. Influence of these factors on the reproductive attitudes and plans of Uzbek women and their realization. To a limited extent the influence of migration processes, especially its circular form, was also considered.

Presentation of results

This report presents detailed study results only for factors whose relationship with reproductive intentions and plans was found to be statistically significant. (According to the analysis using the statistical criterion χ^2 at the level of significance $Pr < 0.05$.)

Given the available time and other resource limitations, the analysis results can be considered reliable only at the overall national level. The survey results represent weighted results for the Republic of Uzbekistan as a whole. The population count of selected territorial units included in the survey as of 1 January 2022 was used as weights.

Data collection methods

Key elements of survey design and methodology

The survey was conducted among women of reproductive age in all 14 regions, including in the Republic of Karakalpakstan, 12 administrative regions, and in the city of Tashkent. The main instrument used to collect data was a structured face-to-face interview. The Statistical Committee of the Republic of Uzbekistan provided necessary statistical data to ensure the sample's representativeness.

The survey questionnaire consisted of 30 questions, including 16 closed-end questions, 7 semi-closed questions, 3 open-ended questions, and 4 questions with tables.

It should be noted:

- The target population of the survey were women in the age group of 16 to 46 years, living in urban and rural areas of all 14 regions of the country.
- A pilot survey was conducted on a sample of 52 women to test the questionnaire, which resulted in some modifications to the survey questions.
- The survey sample consisted of 4,125 female participants, including 1,926 in urban settlements and 2,199 in rural areas, coming from 15 cities, 33 regions, and 204 mahallas (neighbourhoods).
- The survey sample of respondents represents 31 age cohorts (women born during the 1976-2006 period, being 16 to 46 years old at the time of the survey). The average number of each age cohort was 133 women, with the deviation of size of each cohort from the average not being larger than one.

To achieve representativeness of survey results, a multistage sample was used. The criterion of selection was the number of women living in different regions, cities and mahallas (see Table 1 below).

TABLE 1. TERRITORIAL DISTRIBUTION OF SURVEY PARTICIPANTS

Region	Number of women-survey participants	Proportion in the survey sample (by percentage)
Andijan region	373	9.0
Bukhara region	237	5.7
Jizzakh region	171	4.1
Navoiy region	126	3.1
Namangan region	336	8.1
Qashqadaryo region	404	9.8
Samarqand region	480	11.6
Sirdaryo region	107	2.6
Surxondaryo region	326	7.9
Tashkent region	349	8.5
Xorazm region	236	5.7
Fergana region	442	10.7
Tashkent	298	7.2
Karakalpakstan	240	5.8
Total	4,125	100.0

At the first stage of selecting respondents by regions of residence, a quota sample was used - respondents were selected according to the population of regions and settlements, i.e., cities and villages in regions covered by the survey. At the second stage, the selection of cities/districts in the regions was carried out by the method of non-random selection, taking into account the geographical, ethnic and cultural characteristics of the regions. According to the population count criterion, four districts/cities with large populations and three districts/cities with small populations were selected. At the third stage, mahallas were chosen by random selection in urban areas and semi-random selection in rural areas, i.e., random selection among mahallas far from the district centre. At the fourth stage of the sampling, the selection of households was carried out through a mechanical method of random selection (step sampling). At the fifth stage, firstly based on the age cohorts included in the survey, a random selection of respondents from among women of reproductive age in households was carried out while women of a certain age were selected. Subsequently a non-random selection was carried out, aimed at identifying a specific age cohort. Only one woman was interviewed in each selected household.

How survey participants were selected

Structured interviews to collect data were administered by 16 interviewers. Before the survey began all interviewers were given special training. Every interviewer received written instructions on how to select and locate relevant mahalla, households and survey participants.

Interviewers' selection and training

Reproductive intentions and plans, and their realization

Predominant orientation is towards a middle-sized family with 3-4 children

To examine reproductive intentions and plans as well as their realization, answers to the questionnaire questions regarding ideal, planned and actually numbers of children were analysed using quantitative data analysis techniques. This allowed for identifying the relationship between reproductive intentions and plans, and their actual realisation, including differences between different age cohorts of women respondents.

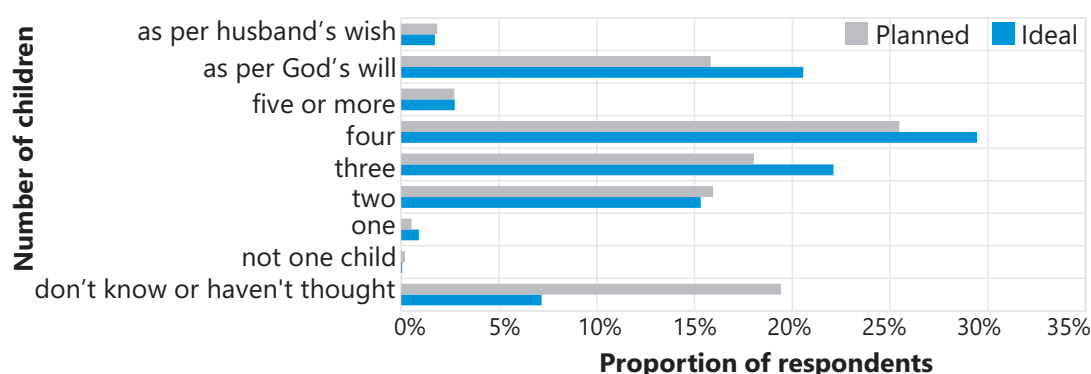
The predominant answers to the question about the ideal number of children in the family were – a family with 4 (29.5 per cent) or 3 (22.1 per cent) children. It is of note that a very similar distribution of answers was present in answers to the question about planned number of children (before the birth of the first child) (See Figure 1).

Survey results indicate that most survey participants identified a middle-size family with 3 to 4 children as being their preferred family model. The proportion of women who preferred a family with no children or just one child was very low. Similarly, and despite the currently growing fertility in Uzbekistan, only a limited number of respondents identified a family with a large number of children (5 children or more) as being their ideal or planned model.

An average ideal number of children among respondents who gave specific exact/numerical answers to this question was 3.27, while the average planned number was 3.23 children. The modal number of ideal and planned children was 4 children (see Figure 1).

Around 30 per cent of respondents identified their planned number of children as being 4 or more children. More than half of these respondents (53.0 per cent) justified their reproductive intentions with the “hope that the children will be supporting parents in their old age.” About a quarter of respondents (24.5 per cent) indicated that “a large number of children makes family stronger.” Therefore it can be concluded that Uzbek women prioritize and value a family with children. At the same time, analysis of answers about family size demonstrates a functionalist approach to children. It can be suggested therefore that the focus of the family is not on children, per se, but rather on parents and their needs.

FIGURE 1. DISTRIBUTION OF SURVEY PARTICIPANTS BY ANSWERS ABOUT IDEAL AND PLANNED NUMBERS OF CHILDREN, BY PERCENTAGE



The average number of children born to respondents, according to the survey, was 2.43 children per woman. Survey participants who already gave birth also had to answer a question about how many children they additionally plan to have. The identified relationship between planned and actual numbers of births (See Table 2) demonstrates a predominant preference for a middle-size family (with 3-4 children) and at the same time some deviation from this model among a proportion of women with two children (more than 28 per cent), and among almost half of respondents with three children who have not been planning to have another child in their family (Table 2). These respondents, especially mothers with two children, belong to younger cohorts of survey participants.

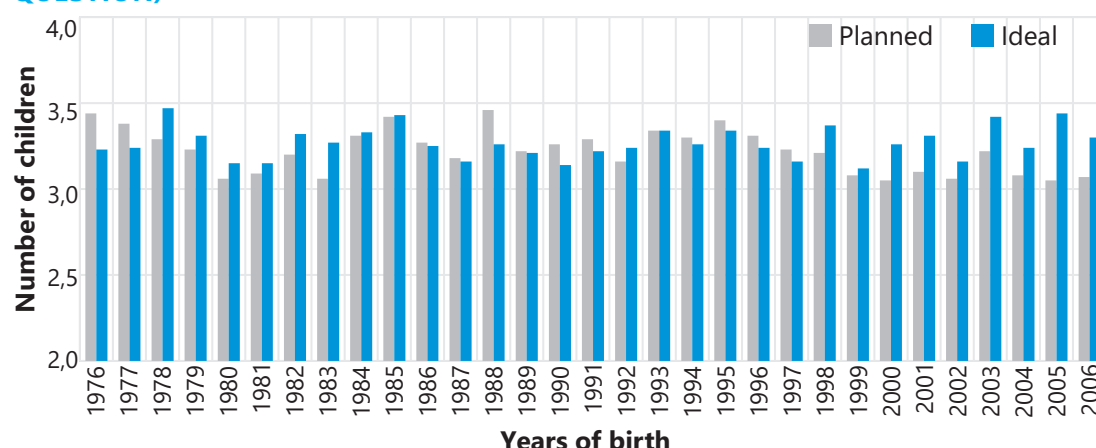
TABLE 2. DISTRIBUTION OF SURVEY PARTICIPANTS WITH DIFFERENT NUMBERS OF CHILDREN IN THEIR FAMILIES, BY ADDITIONAL NUMBER OF CHILDREN THEY PLAN TO HAVE (ABSOLUTE NUMBERS)

Number of "additionally planned" children	Number of children respondents already have				
	1	2	3	4	5
1	110	269	193	22	2
2	136	259	22	5	0
3	119	8	44	0	1
4	12	4	5	6	0
5+	1	1	0	0	1
As per God's will	129	151	82	14	2
As per husband's wish	9	15	8	5	1
Don't know or haven't thought	41	119	87	39	6
Don't plan on having more	54	328	481	263	85
Total	611	1,154	922	354	98

A similar relationship was identified when comparing the ideal and planned number of children among different age cohorts of mothers (Figure 2). More often those of older cohorts, respondents from the younger age cohorts demonstrated a notable deviation of the planned number of children from the ideal number, indicating a clear reduction in their reproductive plans.

Younger women plan to have fewer children than their ideal number

FIGURE 2. AVERAGE IDEAL AND PLANNED NUMBERS OF CHILDREN ACCORDING TO YEAR OF BIRTH OF RESPONDENTS (WHO GAVE A SPECIFIC ANSWER TO THE QUESTION)



Birth calendars

First child before 25 years

The trend of postponing giving birth to a first child has not yet become widespread in Uzbekistan, given that, according to survey results, the average age of a woman giving birth to their first child was 22.5 years.

For almost half of the respondents (47.5 per cent) the preferred age to give birth to a first child was in the interval between 20 and 25 years, inclusive. This age interval was identified as an optimal time to give birth to a first child not only by the respondents who already had one child (52.6 per cent), but also by respondents who did not have children (30.9 per cent), as indicated in Table 3. It should also be noted that a relatively large proportion of young respondents without children could not give a definitive answer to the question "At what age would you want to give birth to your first child?" - 42.4 per cent of those respondents gave an answer "don't know or haven't thought about" and 21.6 per cent said "as per God's will."

TABLE 3. DISTRIBUTION OF RESPONDENTS BY PREFERRED AGE AT BIRTH OF A FIRST CHILD, BY PERCENTAGE

Age	Respondents with at least one child	Respondents without children
Below 19 years	9.5	2.3
20 – 25 years	52.6	30.9
26+ years	4.7	2.1
As per God's will	10.6	21.6
As per husband's wish	0.3	0.6
Don't know or haven't thought about	22.3	42.5
Total	100.0	100.0

Optimal calendar of births

26.8 per cent of respondents have identified the optimal time for having their last child as being the age interval between 30 and 35 years (inclusive). This age interval was identified more often by women who already have children (30.1 per cent) and almost twice as less by women who at the time of the survey did not yet have any children. Interestingly, most women without children answered this question with "as per God's will" (22.0 per cent) and "don't know or haven't thought about" (50.9 per cent), which was very similar to their answer to the question about the preferred age to have a first child. This lack of a definite opinion on these survey questions among women without children could be attributed not only to their young age, but also to their desire to offer a socially-acceptable answer in line with widespread cultural practices.

TABLE 4. DISTRIBUTION OF RESPONDENTS BY PREFERRED AGE AT BIRTH OF A LAST CHILD, BY PERCENTAGE

Age	Respondents with at least one child	Respondents without children
Below 24 years	3.8	1.2
25 – 29 years	12.4	3.7
30 – 35 years	30.1	16.5
36 + years	12.6	4.6
As per God's will	16.4	22.0
As per husband's wish	1.3	1.1
Don't know or haven't thought	23.4	50.9
Total	100.0	100.0

It is important to emphasize that the differences between the distribution of answers to questions about the preferred age to have a first and a last child for participants with children and participants without children are statistically significant. Therefore, it can be suggested that the younger respondents with no children have views about when to have children that are quite distinct from respondents of older age and who already have children, or maybe have not yet formulated any opinion on the matter.

At the same time, despite the differences identified above, survey results demonstrate a certain homogeneity among all respondents regarding their perception of survey questions related to calendar of births. On the one hand, this reflects the persistence of an established fertility model in Uzbek society. On the other hand, analysis of data about number of births and number of planned children among the younger cohorts of respondents suggests that this established fertility model can undergo significant transformation in the future, as a result of decline in the number of births of higher orders. Also, more active participation of women in education and the labour force could lead to postponed childbirth, including birth of a first child.

Another notable survey result is that a very small proportion of the respondents chose as their answer to the questions about reproductive preferences the option "as per husband's wish". These results deserve to be further investigated in more depth. However, it could be suggested that a low value is attributed to a husband's wishes in regards to reproductive preferences and decision-making about whether and when to have children. This may reflect the real situation in society, whereby the key role in determining family fertility preferences currently belongs to women who are driven by their own attitudes and plans, or by a socially-expected model of behaviour.

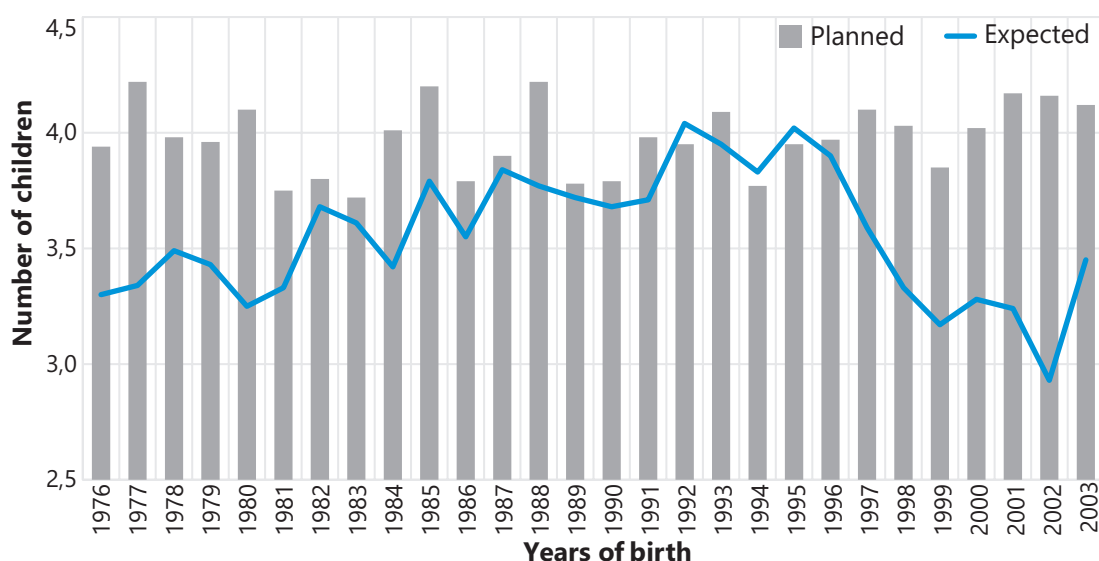
From the perspective of developing fertility forecasts, in our view the most significant survey result is the identified deviation of the total expected number of children (number of children women already have plus the number of children additionally planned for the future) from the average planned number of children (before the first childbirth), as shown in Figure 3.

For cohorts of respondents born before the mid-1980s, this deviation could be an outcome of unfavourable economic and social conditions at the end of the 20th century – beginning of this century, as well as a result of government policies to limit fertility which were removed only in 2016.

In the future, calendars of births could change

Younger cohorts adjust their original reproductive plans

FIGURE 3. AVERAGE NUMBER OF PLANNED CHILDREN (BEFORE THE FIRST CHILDBIRTH) AND TOTAL EXPECTED NUMBER OF CHILDREN (INCLUDING EXISTING CHILDREN AND ADDITIONALLY-PLANNED CHILDREN), BY AGE COHORT OF RESPONDENTS BORN FROM 1976 TO 2003



However, for respondents from younger 'reproductive' cohorts born during the 1997-2003 period, who have only started having children and have already demonstrated the most significant deviation of their reproductive plans from original reproductive preferences, the reasons for such changes may be quite different. Analysis of answers by these respondents to survey questions did not produce a definite explanation of the reduction of the expected number of children compared with the initially planned, as most respondents noted both "improving living standards" and "increasing confidence in the future" as reasons for changes to their plans. Most likely there may be a new shift taking place in the level and calendar of births among younger cohorts of potential mothers, resulting from changes in their worldview, individualization of life trajectories, and growing trends for self-realization in education, labour force participation, and in other regards. A contributing role for this shift may be attributed also to already gained childbirth and childrearing experience of women in these cohorts.

Overall, taking into consideration the persistent high level of fertility in Uzbek society on the one hand and the current instability of the economic and geopolitical situation in the region on the other, a further significant increase in Uzbekistan's birth rate in the near future seems to be an unlikely scenario.

Education level, employment status, and reproductive intentions and plans

One of the important socio-economic characteristics of women, which are traditionally considered to be differentiating factors in fertility, is their level of education.

Most survey respondents of reproductive age had either a specialized secondary education (about 45 per cent) or a general secondary education (more than 34 per cent). Almost every sixth female respondent had a higher education, and women with primary or incomplete secondary education were in the minority (Table 5).

TABLE 5. DISTRIBUTION OF RESPONDENTS BY LEVEL OF EDUCATION

Level of education	Number of women	Percentage of total number of respondents
Higher education	665	16.1
Specialized secondary	1,834	44.5
General secondary	1,419	34.4
Primary/incomplete secondary	207	5.0
Total	4,125	100.0

Level of women's education as factor for differentiation of their reproductive attitudes and plans

The survey results indicate that women's level of education is a significant determinant of the formation of their reproductive intentions and plans. In particular analysis of the relationship between the level of education of the respondents and their ideas about "ideal" and "planned" numbers of children show that respondents with a higher level of education have lower reproductive orientations, and this applies to their ideas not only about "planned" but also about "ideal" numbers of children in a family (Figures 4a-b).

FIGURE 4A. DISTRIBUTION OF RESPONDENTS WITH DIFFERENT LEVELS OF EDUCATION BY IDEAL NUMBER OF CHILDREN, BY PERCENTAGE

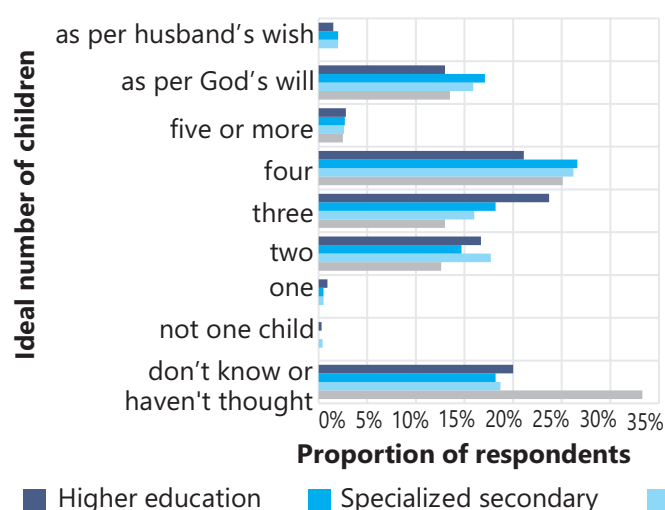
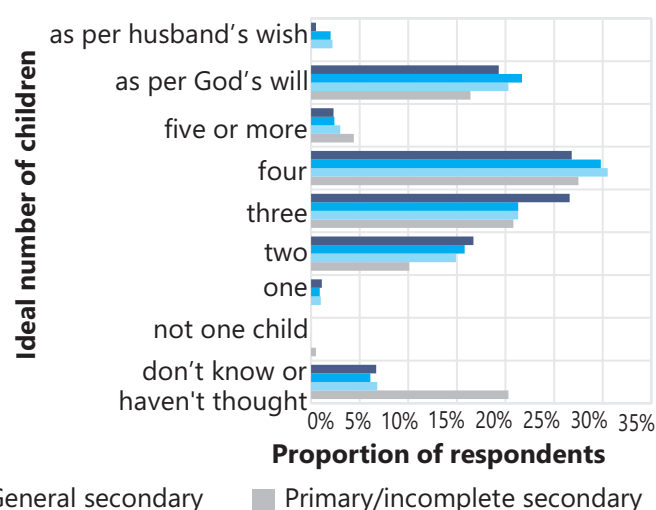


FIGURE 4B. DISTRIBUTION OF RESPONDENTS WITH DIFFERENT LEVELS OF EDUCATION BY PLANNED NUMBER OF CHILDREN, BY PERCENTAGE



The increasing level of women's education will lead to decreased fertility

It should be noted that respondents with a higher level of education, in general, more often than respondents with a lower level, considered it "ideal" and "planned" to have between 1 child and 3 children inclusive, and less often chose the answer option "How many God will give." At the same time respondents without vocational education (general secondary, incomplete secondary or primary education), when giving opinions about their "ideal" number of children, more often preferred families with many children.

The statistical significance of the education factor as a determinant of social differences in reproductive orientations was also confirmed through the course of subsequent modelling of the relationship between respondents' level of education and their opinions about "ideal" numbers of children, provided that the influence of such variables as the woman's age and the type of settlement in which she lived most of her life was controlled.

TABLE 6. DISTRIBUTION OF RESPONDENTS WITH DIFFERENT LEVELS OF EDUCATION BY THE NUMBER OF CHILDREN BORN, BY PERCENTAGE

Respondent's level of education	Number of children born						Total
	1	2	3	4	5+	A*	
Higher education	17.7	31.0	19.6	5.1	1	25.6	100.0
Specialized secondary	18.1	32.7	23.4	8.0	2.3	15.5	100.0
General secondary	10.9	23.2	24.5	11.6	3.4	26.4	100.0
Primary/incomplete secondary	3.4	9.2	6.8	4.3	0.5	75.8	100.0
All respondents	14.8	28.0	22.3	8.6	2.4	23.9	100.0

* – haven't given birth yet

Housewives and self-employed women are more focused on having many children

Finally, depending on the level of education, it was not only the reproductive attitudes of respondents that differed significantly, but also the number of children they actually have (Table 6).¹

The distribution of respondents by employment status showed that the most numerous groups among respondents were housewives (33.5 per cent) and employees (24.3 per cent). Pupils and/or female students made up 13.8 per cent of respondents, while 10.1 per cent of respondents were on parental

TABLE 7. DISTRIBUTION OF FEMALE RESPONDENTS WITH DIFFERENT EMPLOYMENT STATUS ACCORDING TO THEIR IDEAL NUMBER OF CHILDREN, BY PERCENTAGE

Respondent's employment status	Ideal number of children									Total
	A*	1	2	3	4	5+	B**	C***	D****	
Pupil/student	0.0	0.4	12.1	23.3	23.6	3.6	18.2	0.4	18.4	100.0
Entrepreneur	0.0	2.0	17.0	16.3	26.8	2.6	26.8	2.6	5.9	100.0
Employee	0.0	1.1	19.8	23.6	29.3	2.3	18.2	0.3	5.4	100.0
Self-employed	0.0	0.9	15.9	18.0	32.6	1.3	21.5	2.1	7.7	100.0
Housewife	0.0	0.8	12.9	22.1	32.8	3.0	21.1	3.1	4.2	100.0
Unemployed	0.0	1.3	17.9	14.7	24.5	3.0	27.2	1.6	9.8	100.0
On maternity leave	0.2	0.7	14.0	27.7	30.1	2.5	19.0	1.9	3.9	100.0
All respondents	0.0	0.9	15.3	22.1	29.5	2.7	20.6	1.7	7.2	100.0

* - none; ** - as per God's will; *** - as per husband's wish; **** - I don't know or haven't thought

¹ This conclusion was confirmed by controlling for the influence of the "age" variable.

leave. At the time of the survey, 8.9 per cent of respondents were unemployed, about 5.7 per cent were self-employed, and 3.7 per cent were entrepreneurs.

The results of the analysis of differences in the reproductive orientations of respondents, depending on their employment status, indicate the significance of the relationship between these characteristics (Table 7). Most often women employed in households, as well as self-employed women, preferred having many children.

Thus the obtained survey results indicate the need to take into account expected changes in the population's socio-economic characteristics, including increase in the level of education and economic activity of women, when developing medium and long-term fertility forecasts for the country.

Reproductive attitudes and plans of urban and rural women

Among the women surveyed, 57.5 per cent stated they had lived most of their lives in the city. Accordingly, 42.5 per cent had lived in rural areas for most of their lives.

Even though in the last five years in Uzbekistan high and continually-growing fertility rates have been observed in both rural and urban areas, identified differences in the reproductive attitudes and plans of respondents by type of settlement were statistically significant. Figures 5a-b give an idea of these differences.

A generalized comparative analysis of reproductive orientations of urban and rural respondents who gave exact (numeric) answers to the question about their ideal number of children showed that, on average, urban residents consider it ideal to have a somewhat smaller number of children (3.22 children), compared to the preference of women who have lived most of their lives in the countryside (3.40 children).

FIGURE 5A. DISTRIBUTION OF RESPONDENTS WHO LIVED MOST OF THEIR LIVES IN URBAN OR RURAL AREAS, ACCORDING TO THEIR IDEAL NUMBER OF CHILDREN, BY PERCENTAGE

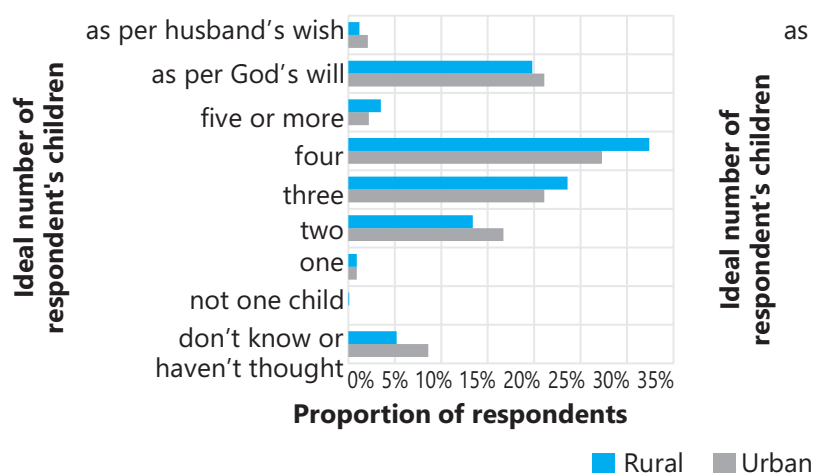
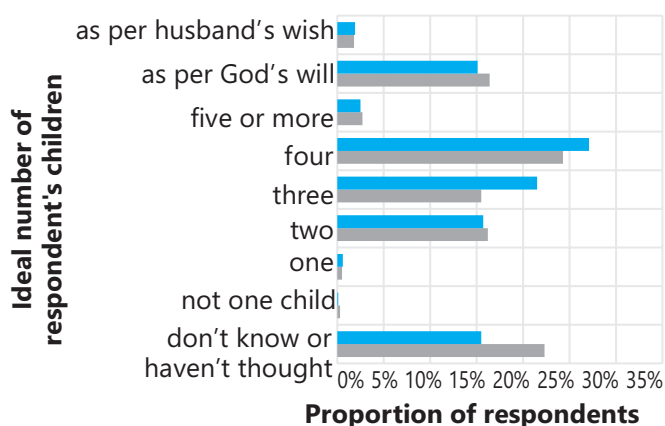


FIGURE 5B. DISTRIBUTION OF RESPONDENTS WHO LIVED MOST OF THEIR LIVES IN URBAN OR RURAL AREAS, ACCORDING TO THEIR PLANNED NUMBER OF CHILDREN, BY PERCENTAGE



Marital status and reproductive attitudes and plans

Most women we interviewed were married (more than 73.0 per cent). Among unmarried women, who represented 18.9 per cent of respondents, women of younger reproductive ages predominated. 5.7 per cent of participating women were divorced at the time of the survey, while the smallest group (2.3 per cent) were widowed.

Data obtained during the survey confirmed the thesis of there being a close relationship between marital and reproductive behaviour in the Republic of Uzbekistan. The majority of married women had children, and only 5.8 per cent of married respondents (mostly from younger age groups) had not yet given birth to a child. Among married respondents, the proportions of women with two or three children were the greatest, with the average number of children per woman in this group being 2.33 children. Unmarried respondents did not have children.

The survey showed that divorced women mostly had a small number of children - they had either one child (42.1 per cent) or two children (32.8 per cent). The distribution of numbers of children born to widowed women were similar to the number born to married women – most often they had two or three children.

With regard to reproductive plans, married respondents most often planned to have more children, except for respondents belonging to the oldest age groups. Meanwhile, when compared to respondents from other groups, divorced and especially widowed women either did not plan to have more children or found it difficult to answer the question.

FIGURES 6A AND B PRESENT DIFFERENCES IN THE REPRODUCTIVE ATTITUDES AND PLANS OF RESPONDENTS, DEPENDING ON THEIR MARITAL STATUS

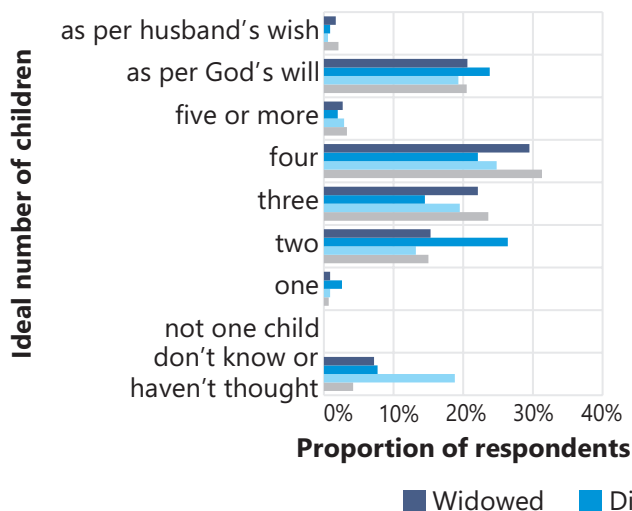
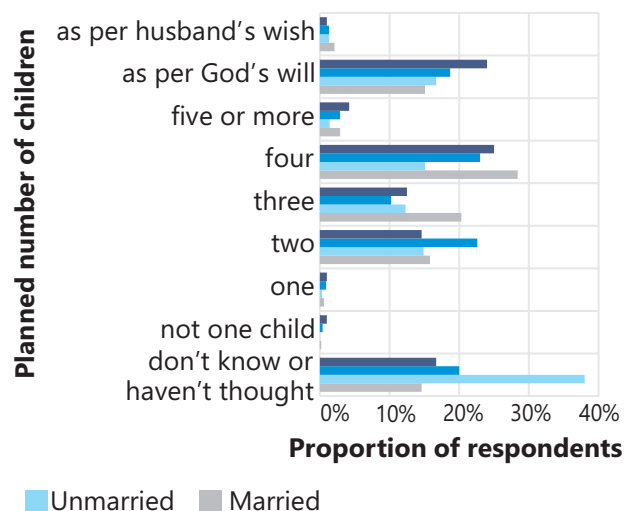


FIGURE 6B. DISTRIBUTION OF RESPONDENTS WITH DIFFERENT MARITAL STATUS, ACCORDING TO THEIR PLANNED NUMBER OF CHILDREN, BY PERCENTAGE



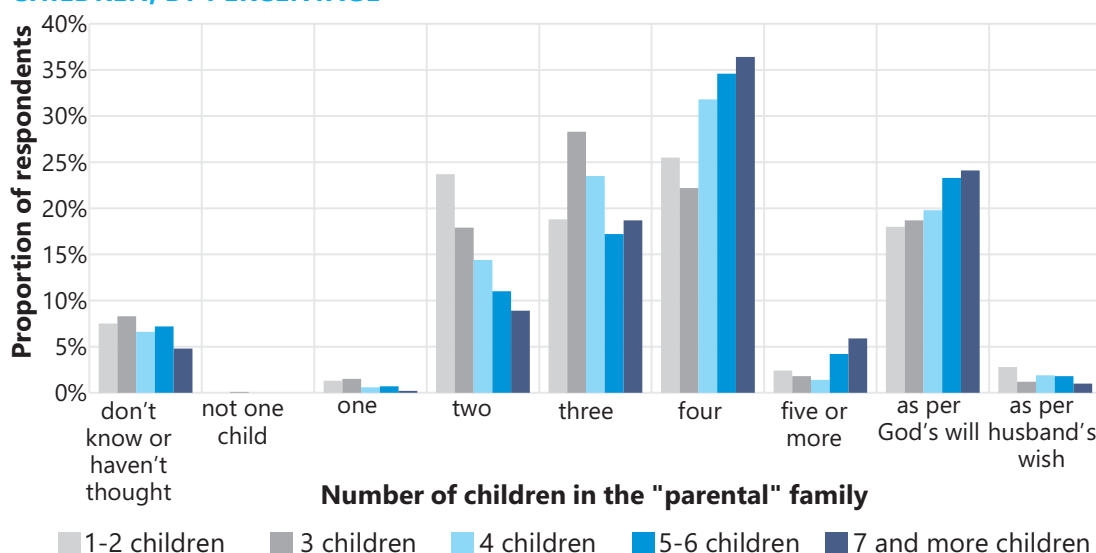
Family “continuity” of reproductive attitudes and plans

Women’s reproductive orientations are usually formed at a fairly young age, and can be largely determined by the “reproductive experience” and family values of their parental families and immediate environment.

Among respondents, the largest proportion was those who grew up in families with 3 or 4 children (25 per cent and 28 per cent respectively). More than 14 per cent of respondents grew up in families with 5 children, and 11 per cent were brought up in families with 2 children.

Based on the survey results, a comparison was made of the structure of women’s reproductive attitudes and plans, with consideration of the number of children in their “parental” families (Figure 7, Table 8).

FIGURE 7. DISTRIBUTION OF RESPONDENTS FROM “PARENTAL” FAMILIES WITH DIFFERENT NUMBERS OF CHILDREN, ACCORDING TO THEIR “IDEAL” NUMBERS OF CHILDREN, BY PERCENTAGE



As can be seen in the above presented data, respondents who grew up in large families considered 5 or more children to be “ideal”, relatively more often than respondents from small and medium-sized families. They were also more often

TABLE 8. DISTRIBUTION OF RESPONDENTS FROM “PARENTAL” FAMILIES WITH DIFFERENT NUMBERS OF CHILDREN, BY THEIR “PLANNED” NUMBER OF CHILDREN, BY PERCENTAGE

Number of children in “parental” families of respondents	Planned number of children									Total
	A*	1	2	3	4	5+	B**	C***	D****	
1–2 children	0.0	0.8	20.6	13.7	23.8	2.3	18.3	1.8	18.7	100.0
3 children	0.1	0.4	18.8	21.7	19.5	2.9	14.2	1.7	20.7	100.0
4 children	0.1	0.8	15.5	18.4	26.2	1.8	15.9	1.2	20.1	100.0
5–6 children	0.3	0.3	11.9	17.5	29.8	3.4	16.6	2.4	17.8	100.0
7 and more children	0.7	0.2	12.3	15.7	31.5	3.6	14.5	2.7	18.8	100.0
All respondents	0.2	0.5	16.0	18.1	25.5	2.7	15.8	1.8	19.4	100.0

* - none; ** - as per God’s will; *** - as per husband’s wish; **** - I don’t know or haven’t thought about this

inclined to answer “how many God will give”, and also less often chose a small family as being their “ideal” option.

The highest proportion of respondents who planned to have two children was among women who grew up in families with few children. At the same time if there was a greater number of children in the “parental” family, the proportion of women who “planned” to have 3 or 4 children likewise increased. For example, the proportion of women who “planned” to have more than 3 children was significantly higher among respondents who grew up in families with 4 or more children. It was among those whose parents had five or more children that the proportion of women oriented towards having many children was the most significant.

The survey results clearly illustrate dependence of the formation of reproductive attitudes of women in Uzbekistan, on the number of children in their “parental” family – being the family in which they were born and/or brought up in (the relationship is direct and statistically-significant). However, it should be considered that the number of children in the “parental” families of respondents was larger (on average, 4.12 children per family) than what the respondents themselves “plan” or even consider to be “ideal.”

Level of religiosity and reproductive choices

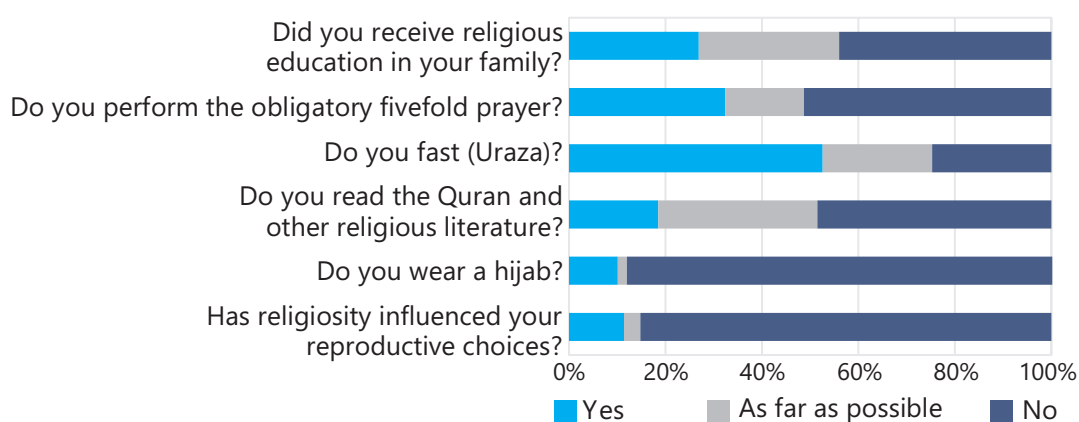
Women's level of religiosity does not significantly affect their reproductive choices

The level of religiosity of a Muslim individual mostly relates to their observance or non-observance of practices such as prayer, reading the Koran, fasting (Uraza), wearing a hijab, and others.

The distribution of respondents according to the observance of religious customs and practices showed that fasting is the most common practice, with more than 52 per cent of

respondents having always adhered to it, and 22 per cent of respondents having fasted if possible¹. Slightly more than half the respondents said they read religious literature (always and/or whenever possible), and about half noted they perform the obligatory five prayers each day (always and/or whenever possible). At the same time, only about 12 per cent of the respondents wore the hijab. In addition, more than half the respondents reported that they had received religious education in the family (Figure 8).

FIGURE 8. DISTRIBUTION OF RESPONDENTS' ANSWERS TO QUESTIONS CONCERNING RELIGIOSITY AND ITS IMPACT ON REPRODUCTIVE CHOICES, BY PERCENTAGE



Particularly noteworthy is the fact that most respondents (85 per cent) gave a negative answer to the question about religion's influence on their reproductive choices. Only 11 per cent of respondents unequivocally recognized the influence of religiosity.

In addition, during the survey the respondents were asked questions regarding the observance of religious customs and practices both in the families in which they were born and raised, and the families they lived with at the time of the survey.

The distribution of answers to these questions showed that both in the "parental" families of the respondents and in the families in which they currently live, similar religious rules and practices have been observed mainly "to the extent

¹ It should be noted that the practice of fasting is currently not so much an indicator of level of religiosity, but is rather a part of socio-cultural life. In closely-knit communities, such as those in Uzbek society, this practice is more of a ritual of community solidarity. Accordingly, a relatively-high proportion of people fasting does not always indicate a high level of religiosity among the population group.

possible." In relation to the "parental" family, this answer option was chosen by more than 72 per cent of the respondents, and in relation to their current family by 67 per cent of the respondents. In this regard, it can be assumed that the observance of religious rites and rules in the families of women participating in the survey was irregular.

Testing of the statistical significance of the relationship between the levels of religiosity of the "parental"/current families of respondents and their reproductive plans, showed that the degree of religiosity of the "parental" family did not have a significant impact on the reproductive orientations of respondents, but rather the influence of the current family's religiosity is more tangible (statistically significant).

Level of families' religiosity and its relationship to reproductive plans

A significant proportion of respondents (from 12 to 20 per cent), when answering questions regarding their reproductive attitudes and plans, chose the answer "as per God's will." At the same time it is interesting that the absolute majority of respondents who gave such an answer simultaneously stated that religiosity does not affect their reproductive choice.

The analysis also showed that "religious beliefs", according to respondents, are one of the motives/factors of their orientation towards having many children. In particular, when answering the question about motives for having 4 or more children in the family, every tenth respondent noted "religious beliefs" as being the main motive. In general this factor ranked third among the main motives for having many children. In a number of cases, "religious beliefs" were also rated as an additional motive (at fifth place).

Family planning and use of contraceptive methods

An important prerequisite for conscious family planning is an awareness of how to prevent unwanted pregnancies.

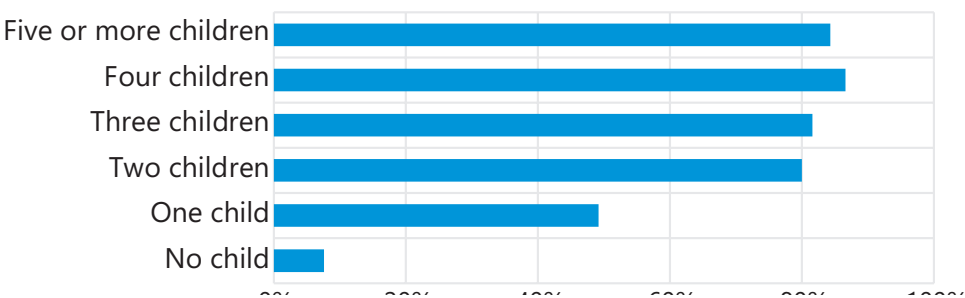
According to respondents' answers, 64.4 per cent of them "fully" and 13.1 per cent "partially" have information about methods of preventing unwanted pregnancy. At the same time, 22.5 per cent of respondents stated that they do not have this information. It should be noted that this answer was much more common among unmarried women without children, which was probably due to the choice of a socially-approved answer for women who are not married, and therefore a priori have not had sexual relations.

Of interest is also the fact that the proportion of respondents who do not have "full" information about methods of contraception (more than 1/3 of respondents) turned out to be quite comparable with the proportion of those mothers who admitted that the birth of at least one of their children was unplanned.

In general, respondents with children classified the birth of their children as being planned in almost 2/3 of cases. The distribution of answers to the question of whether the birth of a child was planned differs by birth order - the proportion of planned births was the highest among births of medium order (3rd–4th child), and was also greater in the case of the 5th and 6th child.

According to survey results, more than 75 per cent of respondents used protection from unwanted pregnancy (always or irregularly) during the study period (since 2017), and this proportion was comparable to the proportion of respondents (more than 70 per cent) who indicated the use of contraceptive means (IUDs, condoms, birth control pills, and others). It is important to note that the level of use of contraceptives among women using protection from pregnancy has been increasing with the increase in the number of children born to them (Figure 9).

FIGURE 9. PROPORTION OF RESPONDENTS USING CONTRACEPTIVE METHODS TO PREVENT UNWANTED PREGNANCIES (OVER THE PAST 5 YEARS), AMONG RESPONDENTS WITH DIFFERENT NUMBERS OF CHILDREN, BY PERCENTAGE



The survey results did not confirm the initial assumption about a decrease in the availability of contraceptive means in Uzbekistan after 2017 (indicated by the lack of free contraceptives, and other reasons). Only 9.1 per cent

The level of contraception accessibility and availability has not changed

Potential for improved family planning awareness

of respondents noted an unmet need for contraception due to its unavailability, and 3.5 per cent found it difficult to answer this question.

When assessing changes taken place in Uzbekistan over the past five years, including in the use of contraceptives, about 60 per cent of respondents indicated progress in terms of education and information on family planning, and almost half noted an increase in the availability of contraceptives. At the same time, a considerable part of the respondents (almost 1/3) found it difficult to give an unambiguous answer to the above questions.

Migration and reproductive plans

Only slightly more than 15 per cent of all respondents reported having a “migration experience” and associated separation from their spouse, or an experience of living abroad (either the woman or her husband being abroad alone, or together abroad) over a period of more than three months.

A more detailed analysis showed that the most common type of such experience was the husband or partner of the respondent living abroad alone, while the least common response was a woman living abroad alone. At the same time, more than 70 per cent of the cases of the husbands of interviewed women having migrated outside Uzbekistan had taken place in the period following 2017.

Separation of partners as a result of migration can contribute to planning increased family sizes

Analysis of the relationship between “migration experience” (separate or joint) and reproductive plans showed that women with “migration experience” in the family were somewhat more likely to “plan addition children”, than women who did not have such an experience.

In addition, survey data indicates that residence outside the place of official registration (so-called propiska) is not widespread in Uzbekistan. When answering the question about whether they are registered in their place of residence, only 7 per cent of respondents answered negatively. It should be noted that the proportion of women living outside their place of registration was somewhat higher in industrial regions of the country (the Kashkadarya and Jizzakh regions) and significantly higher in Tashkent city (17 per cent) and the Tashkent region, being undisputed centres of attraction for internal migrants. At the same time the reproductive attitudes and plans of this group of women did not differ in any way from the reproductive orientations of those respondents who lived at the place of their official registration¹.

In conclusion, it is important to emphasize that further research is required for evaluating the impact of migratory activity, and, in particular, the impact of the separation of married couples on their reproductive attitudes and plans. As noted earlier, the design of this survey was not specifically aimed at identifying migration’s impact on the reproductive behaviour of Uzbekistan’s population.

¹ Limited numbers of corresponding populations do not allow for an in-depth comparative analysis.

Socio-economic changes as a factor in Fertility dynamics

A significant factor in fertility dynamics is national socio-economic changes, both positive and negative. Making decisions about the birth of children at the individual level is determined by individual attitudes to these changes, being their subjective assessment. Therefore it is no coincidence that rises in the birth rate and realization of postponed births (compensatory effect) are associated with a growth of people's confidence in the future, and in the future of their children.

Improving standards of living and confidence in the future

The distribution of answers of respondents of reproductive age to questions regarding the nature of changes to certain areas of Uzbekistan's public life, as well as dynamics of the level of material well-being of their families (Figures 10 and 11, respectively) give an idea of the population's assessment of changes that have occurred in the country since 2017.

FIGURE 10. DISTRIBUTION OF RESPONDENTS' ANSWERS TO QUESTIONS REGARDING CHANGES IN VARIOUS SPHERES OF THE COUNTRY'S PUBLIC LIFE OVER THE PAST 5 YEARS, BY PERCENTAGE

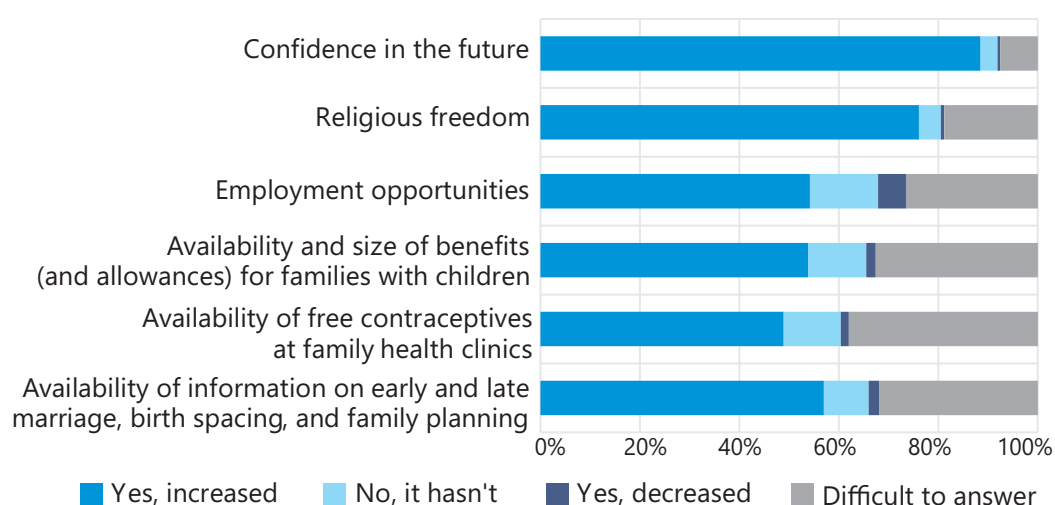
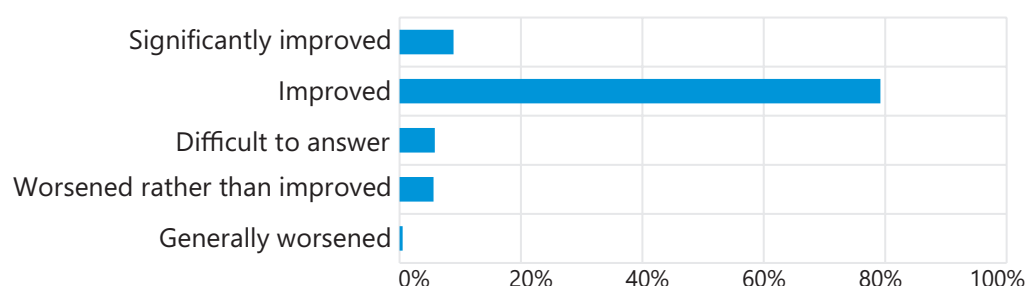


FIGURE 11. DISTRIBUTION OF RESPONDENTS' ANSWERS TO THE QUESTION REGARDING CHANGES IN THE FINANCIAL SITUATION OF THEIR FAMILIES OVER THE PAST 5 YEARS, BY PERCENTAGE



As can be seen in the above figures, almost 90 per cent of respondents indicated an improvement in the financial situation of their families over the past 5 years, and about the same number (more than 88 per cent) noted an increase in their confidence in the future. About 54 per cent of respondents noted an increase

in the availability and size of benefits, subsidies and so forth, while more than 54 per cent of women surveyed noted an increase in employment-related opportunities. At the same time, rather high proportions of respondents had difficulty answering questions about the nature of changes to public life over the years, being a matter that requires attention.

In general, the survey results give reason to believe that the general improvement of the Republic of Uzbekistan's socio-economic situation has led to an increased level of material well-being of families with children, as a result of parents' growing incomes and access to state support. This has in turn led to an increase in the degree of people's confidence in the future and, as a result, more complete implementation of the still-significant reproductive attitudes and plans of the population.

Conclusions and recommendations

Results gathered from this sample survey of women of reproductive age in Uzbekistan make it possible to evaluate it as an effective tool for studying the reproductive attitudes and plans of women of different cohorts, socio-economic groups, types of residence, and other demographic classifiers. The knowledge gained about the specifics of the reproductive behaviour of Uzbek women will of course be very useful for further studying and forecasting fertility as a determining factor of the dynamics of the numbers, age and sex composition of Uzbekistan's population.

Further research into demographic behaviour is required as a basis for forecasts and policy decisions

However, as the experience of conducting this survey has shown, a more comprehensive and in-depth study and analysis of fertility factors requires more time and resources. This survey can be considered to be of an exploratory nature, because with its help some first steps have been taken towards studying factors of atypical development of fertility (the "birth surge"), which has been experienced in Uzbekistan over recent years.

There is no doubt that scientific and practical research in this field should continue, including more extensive and in-depth studies that focus not only on the population's reproductive behaviours, but also on other factors of demographic dynamics. Ultimately this will contribute to both the development of knowledge about the specifics of Uzbekistan's demographic transition, and the creation of a broader evidence base for developing reliable forecasting benchmarks and sound public policy designed to ensure sustainable development of the population and economy of the country.

Editor: D. Sureev
Design and layout: A. Yuldasheva

Permit № 9183-7961

Signed off for printing 25.092023
Format: 60x90 1/8.
Font: Segoe UI. 4,3 printers sheets.
1 copy.

Publishing house «Baktria press»
100000, 15-25, BuyukIpakYuli, Tashkent, Uzbekistan.
Tel.: +998 (71) 233-23-84.
E-mail: baktriapress@gmail.com

Printed in
PRINT MEDIA LLC
Address: 32, Uzbekistan ovozi street, Tashkent
Tel.: +998 (71) 233-03-21.

