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Imbalanced Sex Ratio at Birth and
Comprehensive Intervention in China

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(i) List of Abbreviations and Indexes

ACWF: All-China Women's Federation

NPFPC: National Population and Family Planning Commission of China

PFPAC: Population and Family Planning Association of China

UNFPA: United Nations Population Fund

UNICEF: United Nations Children's Fund

UNIFEM: United Nations Development Fund for Women

SRB: Sex Ratio at Birth

EFCM: Excess Female Child Mortality

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1. ABSTRACT

This paper reviews studies on girl-child survival in China and corresponding intervention activities of the Chinese government. Discrimination against girls in China was long in existence, and the abnormally high sex ratio at birth (SRB) and excess female child mortality (EFCM) in recent years reflect women's low social status, as well as a deteriorating survival environment for girls. Discrimination against girls has occurred in both pre-natal and post-natal periods: sex-selective abortion of female foetuses leads to the abnormally high SRB, while neglect of girls results in EFCM. This paper analyzes the current situation, trends and regional variations in SRB and EFCM, and discusses proximal, conditional and fundamental causes of deteriorating environment for the survival of girls, as well as the subsequent demographic and social implications.

To protect women's rights and promote gender equality, the Chinese government has introduced a series of laws and regulations on equal rights regarding economic and political participation, education, property inheritance, marriage and old-age support. To lower the abnormally high SRB and EFCM at a fertility rate of 1.8 (meaning the average number of children a woman has in her lifetime), and to improve the social and cultural environment so as to favour girl-child survival, the Chinese government also implemented certain countrywide measures, the most influential of which has been the "Care for Girls" campaign. These policies and interventions have substantially enhanced women's social status in China. This paper also points out potential future research areas, while discussing prospects for the future improvement in girl-child survival.

2. BACKGROUND

With the development of the Chinese economy and implementation of the current family-planning policy, China's fertility rate has declined over the past several decades. Intensive son preference and discrimination against girls have always been a part of Chinese culture, but the decline in fertility has been paralleled by a dramatic concurrent rise in the sex ratio at birth (abbreviated as SRB, and computed as male births per 100 female births) and excess girl-child mortality (abbreviated as EFCM) (Zeng *et al.*, 1993; Das Gupta and Li, 1999; Li *et al.*, 2004). This has led to a phenomenon of Chinese society's "missing girls", which not only violates girls' rights of survival, participation and development, but also produces a dangerously imbalanced sex ratio, as well as numerous demographic and social problems. A number of commentators predict that this situation will lead to increased levels of antisocial behaviour and violence, for instance, and will ultimately present a threat to long-term stability and the sustainable development of Chinese society. (Cai and Lavelly, 2003; Banister, 2004; Hudson and Den Boer, 2004).

The issue of survival rates for girls has aroused broad attention from scholars, the public, Chinese central and provincial governments, and the international community. Since the mid-1980s, scholars have concentrated on the tendency, reasons and consequences of high SRBs (Gu and Roy, 1995; Park and Cho, 1995; Murphy, 2003), though there have also been some analyses of the reasons behind Chinese EFCM (Li and Feldman, 1996; Li *et al.*, 2004). Some authors (Banister, 2004; Attané, 2005) have pointed out that the issue of poor survival rates for girls is a reflection of unequal rights in the first stage of life. Many studies emphasize that "missing girls" will result not only in marriage pressure on young males, but also in a series of social problems, potentially including issues of international security (Klasen and Wink, 2002, 2003; Hudson and Den Boer, 2004). This paper reviews theoretical and empirical research on survival rates for China's girls, and analyzes the history and current situation for the country's girl-child survival rates. This paper also assesses the governmental intervention activities and policies, and examines future prospects for China's girls.

3. SOURCE OF DATA AND EVALUATION

The data used in this paper are mainly from the following sources: China population censuses in 1953, 1964, 1982, 1990 and 2000; 1 per cent population sample surveys in 1987, 1995 and 2005; official statistics and survey data published by government bureaus, as well as results of previous surveys and studies.

Despite the abundant information and relatively high reliability, most of the data sources are flawed due to the frequent misreporting of births and deaths (Banister, 2004). One principal reason of birth misreporting is that people violating the family-planning policy do not report illegal births, in order to avoid penalties (Banister, 1994). The underreporting of girls is more severe than that of boys (Zeng *et al.*, 1993; Croll, 2001; Li *et al.*, 2005). Underreporting, especially serious underreporting of girls,

subsequently influences the accuracy of reported SRB. Furthermore, underreporting of births and deaths of children also reduces the reliability of reported mortality (Li, 1994; Li *et al.*, 2005). Statistical data released by relevant government departments are also problematic. For example, the annual birth statistics released by NPFPC, the Ministry of Public Security, and the National Statistics Bureau are not consistent.

But even while some literature argues that underreporting of female infants and children is more severe than for male counterparts (Li *et al.*, 2005), others claim that there is no sex-selective underreporting – even while admitting that the overall data are still not valid enough, due to underreporting and inaccurate statistics (Banister, 1992; Johansson and Arvidsson, 1994). But China’s abnormally high SRBs and EFCM are not produced by flawed data: these indexes reflect ongoing discrimination against girls (Banister, 2004). Indeed, SRB and EFCM are still remarkably higher than normal levels, even after adjusting for the underreporting and misreporting (Yuan, 2003).

4. HISTORICAL AND CURRENT SITUATION

In general, male infants around the world are weaker than females, due to various biological factors, and their mortality is therefore expected to be greater at all ages. This discrepancy between the sexes should decrease with age, so the sex ratio recorded at age 0-4 should be lower than SRB. Nevertheless, the sex ratio of children under age five can be regarded as reflecting the sex ratio for the overall population. In China, sex ratio in children aged 0-4 has been abnormal now for two decades.

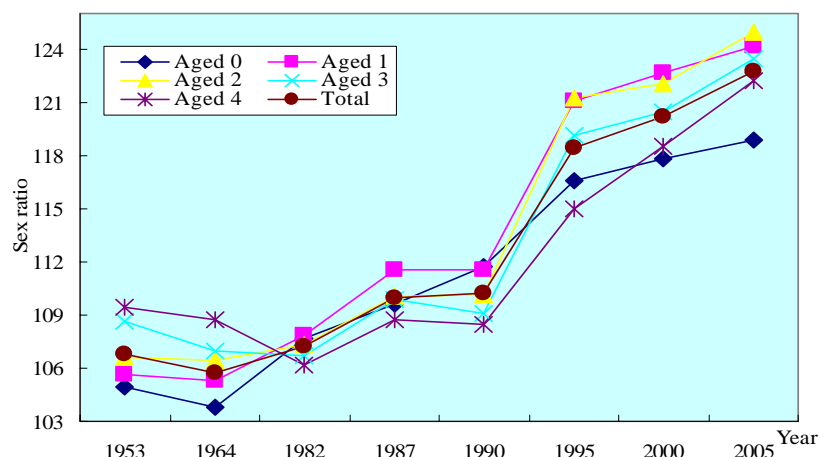


Figure 1: Sex ratio of population age 0-4 in China, 1953-2005

Source: China population censuses in 1953, 1964, 1982, 1990 and 2000; and 1 per cent population sample surveys in 1987, 1995 and 2005.

4.1 Abnormal Sex Ratio of Children Age 0-4

Banister and Hill (2004) found that the sex ratio was normal for people age 4-14, while the abnormal sex ratio occurred at earlier ages, after adjusting the data of the last three censuses. Figure 1 shows that sex ratios of children age 0-4 were generally normal before 1982, while those of older children were higher in 1953 and 1964. Since 1982, however, there has been a sharp rise in sex ratio of children age 0-4, with the sex ratios of younger age groups becoming higher than those of the older age groups.

4.2 Distorted Sex Ratio at Birth

Figure 2 shows that the SRB increased steadily during 1982-2005. Although normal in 1982, SRB rose markedly from the 1980s, well above the normal value of 106. Trends in SRB distortion also exhibit variation by birth order, between provinces, and between rural and urban areas.

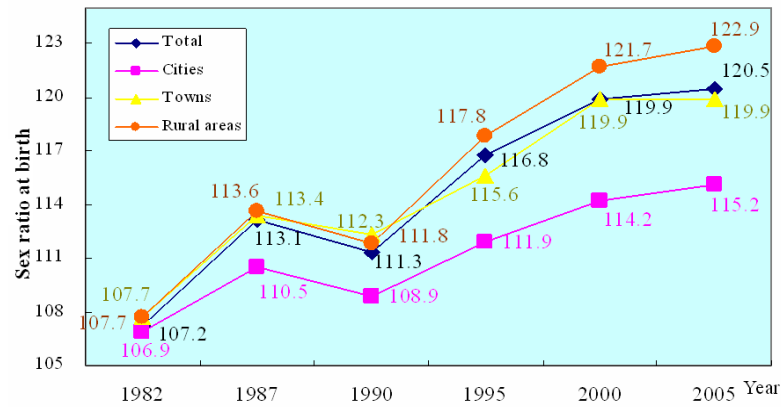


Figure 2: SRB in China, overall tendency and regional differences, 1982-2005

Source: China population censuses in 1982, 1990 and 2000; and 1 per cent population sample surveys in 1987, 1995 and 2005.

Figure 2 also records the SRBs during 1982-2005 for urban and rural areas, and shows that the SRB in rural areas is higher than in urban areas. Since the 1990s, a gradual rise in SRB in urban areas reflects the overall abnormal SRB nationwide.

Figure 3 presents birth-order-specific SRBs in census years, from which we can see that SRB tends to increase with parity, or birth order; in other words, the higher the birth order, the higher the SRB. Normally, SRB would decline very slightly from low to high parities (Banister, 2004), but this is reversed in China. SRB at parity 1 (the first born) has been normal in all the censuses, but has far exceeded the normal value at parity 2 (the second born) and above.

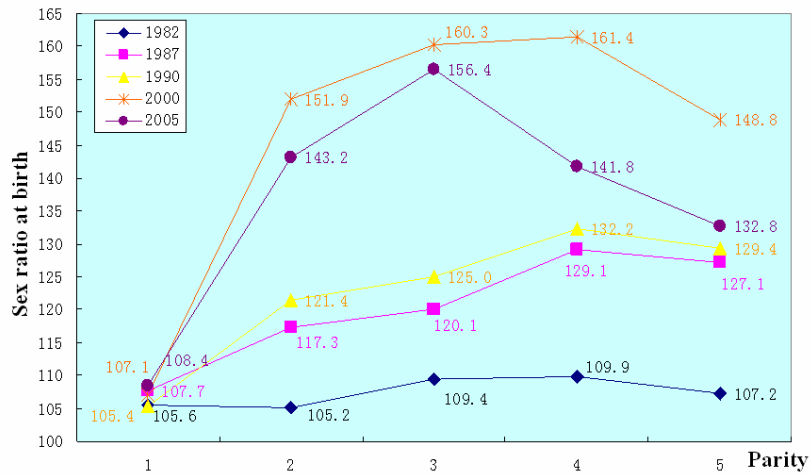


Figure 3: SRB by birth order (parity), 1982-2005

Source: China population censuses in 1982, 1990 and 2000; and 1 per cent population sample surveys in 1987 and 2005.

Figure 4 summarizes the SRB by province according to 2005 information. It shows that, in 1982, SRB was normal in most ethnic autonomous regions, as well as some provinces located in central China and big cities. But then, SRB increased throughout the 1980s, by 1990 remaining normal only in provinces with large ethnic populations, such as Tibet, Xinjiang and Qinghai.

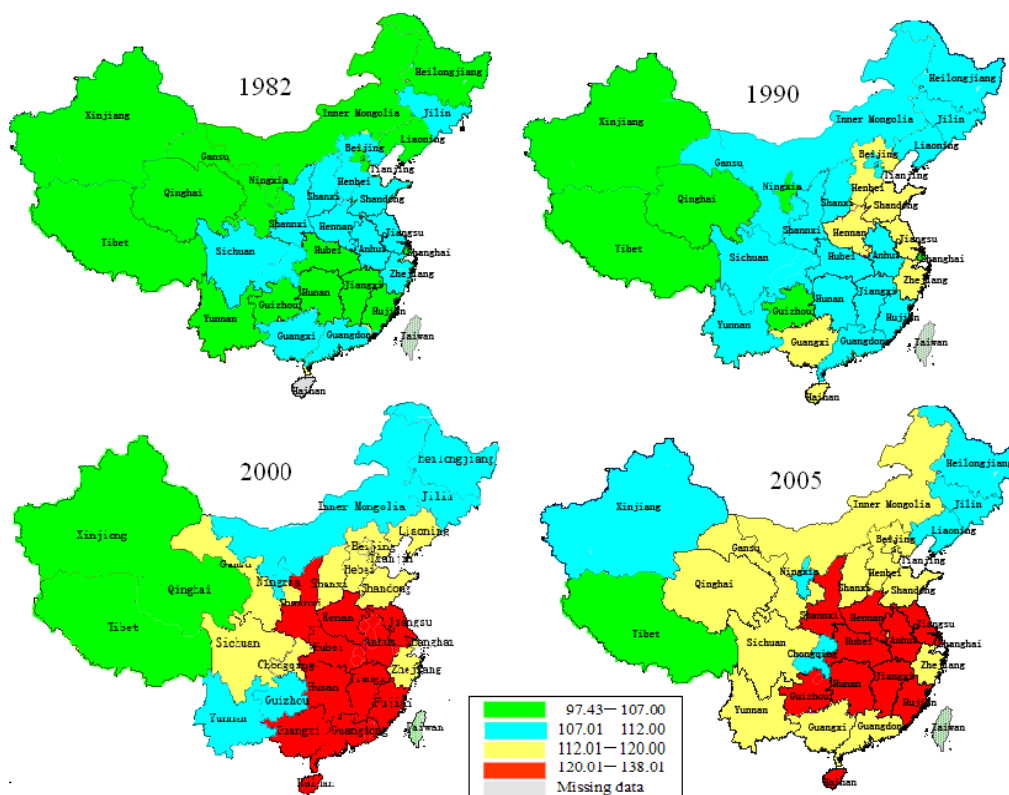


Figure 4: SRB by province in 1982, 1990, 2000 and 2005

Source: China population census in 1982, 1990 and 2000; and 1 per cent population sample survey in 2005.

In 2000, SRB was abnormally high in provinces with strong traditional cultures, such as Shaanxi, Henan, Anhui, Jiangxi, Hunan, Hubei, Fujian and Guangdong. Compared with SRB in 2000, SRB of most provinces were higher in 2005. Noticeably, SRBs in the Western regions increased rapidly. For instance, in 2005, SRBs in Qinghai and Guizhou were 10 and 20 percent higher, respectively, than those in 2000. The imbalanced SRB has also expanded geographically. Actually, except for Tibet, SRBs in all provinces have deviated from the normal level. Even though the imbalance in SRB is more severe in rural areas, SRBs of big cities in 2005 are all higher than those in 2000, including Beijing (increasing from 115 to 118), Tianjin (113 to 120) and Shanghai (116 to 120). At the same time, however, SRB of some provinces that had extremely high SRB in 2000 declined markedly by 2005 – Hainan, for instance, declined from 135 to 122, while Guangdong declined from 138 to 120.

4.3 Excess Female Child Mortality

In studying excess female-child mortality (EFCM), it is important first to determine the normal pattern of infant and child mortality. EFCM can be measured by comparing the observed pattern with the standard one (Li and Feldman, 1996).

As with SRB, the sex ratio of child mortality is commonly used to measure EFCM. In this paper, we compute the sex ratio of male to female infant mortality rates at different ages below 5, starting at age 0 and going up to age 4. Empirical data from many countries indicate that the normal value of this sex ratio is 120-130 for infant mortality, while it is 100-120 for age 1-4 (Li and Feldman, 1996). When the observed sex ratio of mortality rate is lower than these standard values, it indicates the presence of excess female-child mortality.

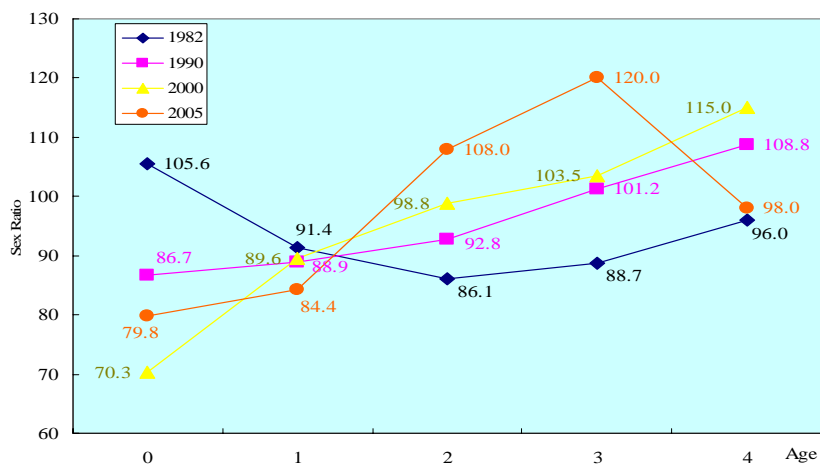


Figure 5: Sex ratio of mortality rates of children age 0-4, China, 1982-2005

Source: China population censuses in 1982, 1990 and 2000; and 1 per cent population sample survey in 2005.

Figure 5 depicts these mortality ratios for children age 0-4 in China. In 1982, the ratio for all ages was below normal, and was especially low for age 1-4. Since 1990, this sex ratio has improved for children age 2-4, but has declined dramatically for infant children, to values below 90 (against standard ratios of 120-130). This suggests that discrimination against girls has shifted from children age 1 or more to children below 1. In 2005, the ratio was 80 for children age 0, and 84 for age 1 – still a severe deviation from normal.

5. CAUSES

The factors causing the rise in China's SRB and EFCM can be classified into three categories: proximal, conditional and fundamental causes.

5.1 Proximal Causes

The proximal reasons for the rise in SRB can be summarized as follows: female infanticide (Coale and Banister, 1994; Banister, 2004), underreporting and misreporting of female infants (Johansson and Nygren, 1991; Zeng *et al.*, 1993), and sex-selective abortion of female foetuses (Gu and Roy, 1995; Croll, 2001; Li *et al.*, 2004). But recent studies have found that it is sex-selective abortion, rather than female infanticide or underreporting, that is actually behind the rise in China's SRB (Croll, 2001; Banister, 2004, Wei *et al.*, 2005).

Since the early 1980s, the uses of ultrasound machines and surgery to induce abortion have been both cheap and widespread in rural areas. After 1982, a large number of ultrasound machines, manufactured both domestically and abroad, came into the Chinese market. It has long been indicated that the popularity of these machines is significantly related to the country's increasing SRB (Johansson and Nygren, 1991). To study pre-natal sex determination and sex-selective induced abortion, Chu (2001) conducted a small-scale survey in a dozen villages in central rural China, in which all respondents were women of reproductive age. It was claimed that, among 427 male foetuses and 279 female foetuses, over 25 per cent of the female foetuses were aborted, compared to just 1.6 per cent of the male foetuses (Chu, 2001).

The main reason for EFCM is the inequity of medical care between male and female children (Croll, 2001). Son preference, deeply rooted in Chinese traditional culture, results in discrimination against girls in nutrition, as well as preventive and curative health care, subsequently leading to excess female mortality. With improvement of living standards in recent years, discriminatory treatment against girls with regards to nutrition has become less significant, but discrimination in medical care continues to have a dramatic influence on female mortality. While studies of child mortality have shown that medical treatment for boys is significantly better than for girls (Li *et al.*, 2004), female infanticide does still exist (Banister, 2004; Li *et al.*, 2004).

5.2 Conditional Causes

Some important demographical and socio-economic factors have also stimulated and intensified son preference, which was traditionally embedded in Chinese culture even when the fertility rate was 6 and above. The total fertility rate has declined from about 6 in the early 1970s to about 1.7 in 2000, far below the replacement level (Retherford *et al.*, 2004). In populations with strong son preference, a major drop in fertility is often followed by a rise in SRB. Under a situation of low fertility, the opportunity for a couple to have a son diminishes, which may be the main reason why SRB tends to increase with each additional birth.

China's economy has been rapidly growing over the last 20 years, and the stratification of Chinese society has likewise accelerated. At the same time, China is still an under-developed country in a transitional stage; the social-security system is not sound in urban China, while remaining nonexistent in the rural areas. As such, family support for the elderly continues to be the dominant form of care for the elderly in rural areas, and will remain so in the foreseeable future. The traditional division of labour by gender makes women economically dependent on men (Chow and Berheide, 2004). Partly due to this dependence, married-off daughters provide only auxiliary help, such as emotional support and daily care for their parents, while sons have the formal responsibility to provide significant economic support to their parents (Sun, 2002). Moreover, in contemporary China, women still do not enjoy equal rights and opportunities for education, employment and participation in political affairs. Gender equality is also often missing or neglected in the formulation and implementation of some policies for socio-economic development. Together, all of these have led to the lower social, economic and political status of Chinese women today. These factors also make up the practical conditions for son preference in China.

5.3 Fundamental Causes

The strict patrilineal family system (meaning that the child belongs to the father's lineage) vests responsibilities upon male descendants for economic, socio-cultural and religious functions, all of which encourage son preference. To a great extent, state policies also affect gender equity (Murphy, 2003; Das Gupta *et al.*, 2004). When male-dominated family power is replaced by a country's male-dominated social systems, laws, ideologies and resource allocation, control over women becomes part of the public patriarchy. The combination of both private and public patriarchy constitutes an entirely dominant system, which puts women in a firmly subordinate position (Chow and Berheide, 2004).

China's traditional culture is based on Confucianism, which puts the continuity of a family line as an essential part of traditional childbearing culture. In traditional Chinese rural society, since only sons are able to carry on family names, inherit family properties and host their parents' funeral ceremonies, having a male descendant is extremely important for a family. Indeed, socio-cultural determinants of son preference exert a much more significant effect on childbearing-related decision-making than do economic factors. As such, this problem cannot be solved merely through economic development (Chu, 2001).

Furthermore, strict patriarchy, patrilineality and patrilocality (the latter in which a family lives near the husband's relatives) determines the dominant status of men in inheriting property, in living arrangements, in continuity of families, and in family power structure. Women have to depend on men, which results in women's low status (Skinner, 1997; Das Gupta *et al.*, 2004). Bossen (1999) pointed out that Chinese women were typically portrayed as a unified group sharing the same experience of devaluation and subordination to males, and other effects of living in a patriarchal society with patrilineal descent. Yet subtle shifts in women's status are evident throughout China's history, among different groups, classes and regions (Hudson and Den Boer, 2004). While women's status has greatly improved in contemporary China, traditional culture and customs do tend to delay the improvement of women's status.

6. DEMOGRAPHIC AND SOCIAL IMPLICATIONS

6.1 Demographic Implications

Gender discrimination leads directly to the phenomenon of “missing girls”. From the census in 1990, Klasen and Wink (2002) estimated the number of missing girls to be 34.6 million, and the percentage of missing girls to be 6.3 percent. According to the 2000 census, the estimated number of China’s missing girls was 40.9 million, reaching 6.7 percent.

The “missing female” phenomenon leads to an imbalanced sex structure within China’s population, and exerts an indirect effect on demographic issues such as population size, ageing, working-age population and marriage. Li and Jiang (2005) simulated the effect of gender discrimination on population development by setting up various SRB and EFCM levels. They used four different SRB scenarios to project the impact of gender discrimination on future population size, sex structure, ageing and the “marriage squeeze”. China’s public policies, aimed at eliminating gender discrimination, have significant impacts on long-term population size and structure due to their direct effect on SRB and EFCM. If SRBs remain at 2000 levels, and if EFCM continues to exist, by 2030 the population size will only be 84.2 per cent of what it would have been under normal SRB and mortality patterns. This indicates that 15.8 per cent of the total population will disappear due to the effect of missing girls. The simulation results also showed that the proportion of excess males could eventually reach 20.7 per cent, as against only 4.7 percent when SRB and mortality patterns are normal.

Although the number of missing girls may exert little effect on the current population size, the phenomenon has significant effect on the future population size. Since these missing girls are never born, their opportunity to give birth to their female offspring likewise disappears, thereby inducing a decreasing ability for a society’s population growth. Although a lower population growth rate is a priority for governments around the world, in this case the “benefit” of a shrinking population is obtained by sacrificing the birth rights of a female foetus, and the survival rights of female children.

The cumulative effect on population growth caused by these factors should not be underestimated (Cai and Lavelly, 2003). The phenomenon of missing girls decreases the number of births, thereby accelerating China’s ageing process, which inevitably has negative effects on economic growth, while exerting severe pressure on the country’s unsound social-security systems. The total size of the working-age population will also be affected by the reduction of population size. Finally, the phenomenon of missing girls will lead to a shortage of marriageable females, thus bringing about a likely “marriage squeeze” in China (Tuljapurkar *et al.*, 1995; Das Gupta and Li, 1999).

6.2 Social Implications

Discrimination against women and girls, by affecting population development, has brought about significant social impacts, foremost of which is harming quality of life. This process hurts girls’ rights to survival, economic development and participation in society; it also hinders a society’s overall productivity, efficiency and economic progress, damages the general welfare, and affects the sustainable development of a country.

First, high SRB and EFCM have deprived female infants and children of their birth rights, with the female foetus and infants suffering directly. This violates not only China’s Constitution and related laws, but also the International Human Rights Pact. Furthermore, mothers suffer tremendous psychological pressure and health risks while undergoing sex-selected abortions, which affect both their physical and reproductive health (Zhu *et al.*, 1997; Li *et al.*, 2004).

Second, discrimination against women is detrimental for both women and men, hampering women’s development and eventually hindering overall economic development (Pritchett and Summers, 1996). A number of reports have revealed young women being kidnapped or lured by job offers and sold as forced brides into distant poor areas in China. Meanwhile, men also suffer from gender discrimination against girls, especially in poorer regions, becoming more vulnerable when the number of available spouses plummets (Das Gupta and Li, 1999). Once the shortage of women occurs in the marriage market, the custom of Chinese women “marrying-up” (hypergamy) inevitably causes those “undesirable” men to face the difficulty in getting married at all (Zeng *et al.*, 1993). Already today, in many communities, there is a growing number of young men at lower socio-economic status in remote

areas who have been marginalized because they are unlikely to have a family.

Third, gender imbalance has a negative impact on marriage and families. The marriage squeeze will lead to instability in the institutions of marriage and family, which will cause an increase in both domestic violence and divorce. Moreover, "abnormal" marriages and families will appear, with new measures being utilized to secure wives in some regions. For example, families may engage their infants to each other, or adopt and raise a young girl as a future bride for their son (Tuljapurkar *et al.*, 1995).

Finally, the unbalanced Chinese gender structure caused by "missing girls" will result in a series of social problems. These will include inferior physical and psychological health of the unmarried, an increasing number of non-marital births, difficulties of old-age support for those who never married, increasing prostitution, sexual violence and trafficking of women. These and related social problems will damage the society's overall welfare, and harm the long-term sustainable development of the Chinese population and society (Li *et al.*, 1995; Hudson and Den Boer, 2004).

7. CHINA'S ACTIONS

The issue of sex-ratio imbalance has received increasing attention in China. The Chinese government has adopted and carried out a series of policies, laws and strategic actions to address the issue of abnormally high SRB in an active and comprehensive way, in order to improve girl-child survival, increase women's status, and promote gender equality.

7.1 Policy Evolution

7.1.1 Laws and regulations to promote gender equality

Improving women's status is helpful to official attempts to mitigate SRB, which is in turn an efficient approach to eliminate the causes of high SRB. The Chinese government pays special attention to women's legal rights and interests, and emphasizes the economic development of women and children. This is reflected in national laws and regulations concerning women's economic and political status; the right to be educated and to inherit family property; as well as those concerning marriage, employment and old-age support, etc (see Appendix, Table 1).

These laws and regulations have played an important role in improving Chinese women's status in terms of political participation, economic development, education level and health. Likewise, the achievements in promoting gender equality in China are significant. For example, the proportion of female cadres in national authorities has reached 40 per cent; the overall proportion of female employees is about 44 per cent, higher than the worldwide average of 34.5 per cent; the illiteracy rate for females has declined rapidly, dropping from 13.9 per cent in 1995 to 8.2 per cent in 2004; the difference between the proportions of boys and girls enrolled in primary school has become insignificant - 98.97 per cent for boys and 98.93 percent for girls, according to 2004 statistics.

7.1.2 Regulations and policies against gender discrimination and sex-selective abortion

The Chinese government has also adopted a series of active regulations and policies against pre-natal sex determination and sex-selective abortion, in response to the rise in SRB. All organizations and individuals are strictly forbidden from performing non-medical foetal sex determination and sex-selective induced abortion (see Appendix, Table 1).

In rural China, some families with strong son preference have utilised illegal channels, such as visiting private clinics offering ultrasound services, to identify a foetus's sex, and have subsequently made efforts to abort a female foetus in order to have a son. In addition, some families with strong son preference continue to commit female infanticide. Non-medical sex identification and sex-selective abortion, the so-called "Two Illegalities" under the "Care for Girls" campaign, are strictly prohibited in corresponding laws and regulations. However, the implementation of these policies is difficult.

Such legislation, mainly designed to eliminate proximal causes of rising SRB, are not expected to eliminate the conditional and fundamental causes of son preference?, which would result in declining SRB levels. Therefore, it is imperative for the Chinese government to take comprehensive and efficient countermeasures with emphasis on the proximal, conditional and fundamental causes for the country's rise in SRB levels.

7.2 Strategic Action

Starting in 2000, China started to implement a special campaign aimed to lower abnormal SRB and improve girls' survival. This campaign included the following three stages.

7.2.1 Stage 1: "Chaohu Experimental Zone Improving Girl-Child Survival"

Supported by the Ford Foundation and UNICEF, in 2000 the "Chaohu Experimental Zone Improving Girl-Child Survival Environment" was established by the NPFPC, the Anhui Provincial Population and Family Planning Commission (Xi'an Jiaotong University) and the Chaohu government in 2000. The programme ran through 2003.

The experimental zone was intended to establish a favourable survival environment for girls in Chaohu city of Anhui province, through both direct and indirect intervention in reproductive-health training and social-development activities. Combined with a national project called "New Culture of Marriage and Childbearing Entering into Families", the main activities of the Chaohu programme included: establishing specialized organizations, conducting trainings, punishing those found to be committing non-medical sex-selective abortions and infanticide, advocating for regulations and laws addressing gender equality, holding focus-group discussions for mothers-in-law, helping women to participate in socio-economic activities by providing economic support, encouraging active male participation in the improvement of women's status, enhancing the social-security system, and popularizing "uxorilocal" marriages (in which husbands marry into wives' birth families), in addition to other activities.

Within three years, the main objectives of the experimental zone had been achieved. The SRB in Chaohu decreased from over 125 in 1999 to 114 in 2002 (Li *et al.*, 2006: 163).

The activities in Chaohu were [are?] expected to produce intervention measures and to implement strategies that could eventually be extended to the whole county, through training programmes and social-development projects at all levels. The results of relevant studies and community-intervention projects have likewise been publicized internationally.

7.2.2 Stage 2: Piloting "Care for Girls" campaign in 24 counties

Based on the experience in Chaohu, from 2003 to 2005 NPFPC expanded the pilot "Care for Girls" campaign to 24 counties in 24 provinces around the country. These 24 counties (districts) all have extremely high SRB, and were selected according to the data from the 2000 census and relevant surveys.

7.2.2.1 Main activities

China's official attempts to lower abnormally high SRB and EFCM, and to improve girl-child survival, fall into six categories: fighting against illegal foetal sex identification and sex-selective abortion; "whole-course" services, in which governments at grassroots levels provide both women and men with sustainable family-planning and reproductive-health services throughout their lifetimes; advocacy; benefit-and-interest orientation, in which governments issue local preferential policies to reward families who engage in family planning; management and evaluation; and organizing and leadership. The details are shown in Table 2 (see Appendix).

In Table 2 (Appendix), the activities in the "Contents" column are to be implemented in all counties by the national office of the "Care for Girls" campaign. At the beginning of the campaign, two elements – cracking down on the "Two Illegalities" (non-medical sex identification and sex-selective abortion), and whole-course services – have proven the more efficient in quickly stopping the growth of SRB. In the long run, however, advocacy and benefit-and-interest orientation are more efficient in changing people's preference for sons and eventually preventing SRB from rebounding.

For benefit-and-interest orientation, each county promulgates its own social and economic policies, according to its own economic capacity. The activities of the benefit-and-interest orientation are financially supported by both the central and local governments, while funding from the Ministry of Finance is used to reward families that engage in family planning. Funding from local departments, as the major financial resource for the "Care for Girls" campaign, is mainly used to support local preferential reward policies. In some sense, the feasibility and sustainability of the benefit-and-interest orientation depends on local economic development; thus, in some economically under-developed counties, the benefit-and-interest orientation is only sparsely implemented.

Finally, the activities included under "organizing and leadership", as a kind of institutional support,

are assigned to governments at all levels. The activities included under “management and evaluation” are conducted to monitor the overall progress of the “Care for Girls” campaign.

7.2.2.2 Intervention results

This project has efficiently reduced SRB, with levels in the 24 counties declining from 133.8 in 2000 to 119.6 in 2005. This latter figure, however, is still significantly above normal. Since rural couples who have a girl are allowed to have a second child, some of them use ultrasound to identify the sex of the fetus, potentially then committing sex-selective abortions. This subsequently leads to high SRB with regards to the second birth. This is a problem that deserves more attention in future work.

7.2.3 Stage 3: Scaling up “Care for Girls” to whole country

At the beginning of 2006, the national implementation outline of the “Care for Girls” campaign was stipulated (the programme was formally initiated in July of that year). This campaign aims to lower countrywide SRB to normal levels within 15 years. The pilot counties were extended to hundreds of counties, indicating a new phase of combating rising SRB.

Since 2005, the central government has begun an additional series of actions. That year, the State Council issued the “Action Plan for Expanding the Care for Girls Campaign and Comprehensively Addressing the Issue of Abnormally High SRB”, which developed a national plan for the campaign. Since 2006, the “Care for Girls” campaign has been carried out, with a series of training workshops having taken place throughout the country.

National advocacy has also been undertaken, aiming at changing son-preferential ideologies and behaviour by publicizing information related to laws and regulations, parenthood and reproductive health, and various incentive policies. The major activities include several nationwide initiatives: a youth volunteer programme; a programme under which journalists of national mass-media organizations travelled through Beijing, Anhui, Jiangxi, Henan, Hunan, Guangxi and Guizhou provinces, to advocate for the “Care for Girls” campaign and report on corresponding activities; nationwide competitions; and the publishing of a series of guidebooks for related trainings.

The central government has attempted to summarize the working models for the 24 pilot counties, and to explore new social-policy systems that could improve gender equity. The basic working models include a series of mechanisms that focus on behaviour restriction, benefit orientation and institutional innovation (the latter pertaining to public administrative and social-system reform), in order to improve the environment for girls’ survival and to restore normal SRB in China.

“Care for Girls” is now being scaled up to the whole country, currently operating in 32 national pilot counties and more than 100 provincial pilot counties. Since “Care for Girls” is a nationwide social campaign, a comprehensive intervention framework was needed to guide relevant work by local governments. The comprehensive intervention framework has now been designed and launched, which will be introduced in the last section of this paper.

7.3 Civil Society

7.3.1 International/civilian organizations, research institutes and NGOs

In an attempt to solve the abnormally high SRB and EFCM levels in China, many national intervention projects have not only been supported by local and central governments in China, but also by a broad spectrum of national and international research and civil-society organizations. Supported by international organizations – including UNFPA, UNICEF, UNIFEM, the Ford Foundation, Plan International and the Asia Foundation – some research institutes have collaborated with the government to study gender-based issues in China. The Asia Foundation currently assists civil-society organizations and the government to adapt to a new era of open politics and citizen participation, and to support further democratization and socio-economic reform.

Many national institutes and universities – including China Academy of Social Sciences, Renmin University of China, Beijing University and Xi’an Jiaotong University – are also very active in related research. For instance, Xi’an Jiaotong University proposed policy suggestions and a systematic framework for the intervention to improve the survival environments of girls, based on a study by EFCM in cooperation with NPFPC and local population and family-planning commissions (Zhu *et al.*, 1997; Li and Zhu, 2001; Li *et al.*, 2004). The experience was first introduced in a programme called “New Culture of Marriage and Childbearing Entering into Thousand Families”, which was carried out by the NPFPC in

39 counties from 1998-2000. Since 2006, funded by the Ford Foundation, Renmin University and Xi'an Jiaotong University have also been participating in several pilot counties of the "Care for Girls" campaign.

Since the Fourth World Conference on Women, held in Beijing in 1995, some international organizations, in cooperation with the Chinese government, have introduced gender-equality in their programmes and have supported innovative new projects. Activities of UNFPA in China mainly fall into three categories: helping the Chinese government to realize the country's gender-based demographic situation, and the relationship between gender equality and development; working on women's empowerment and equality, by supporting intervention projects; and improving reproductive health and rights by promoting quality family-planning services.

NGOs, such as the All-China Women's Federation (ACWF) and the Population and Family Planning Association (PFPA), also play an important role in relevant national policymaking. This is particularly so in the corresponding monitoring that needs to take place, as well as in representing and protecting women's rights, and promoting international exchanges. The category of civilian organizations also includes women's organizations in academic, service and other domains; these usually focus on one specific problem concerning gender equity and women's development, and have been well developed since the 1990s. NGOs and civilian organizations play increasingly important roles in improving women's development, and in ensuring environments conducive to girls' survival.

7.3.2 Mass media

These intervention activities have drawn national and international attention, while also improving the image of the Chinese government (Zhu and Li, 2000). In 1999, the newspapers *China Women's Daily* and *China Youth Daily* reported on an address given at the Symposium of Girl-Child Problems in China, which looked at the research on excess female-child mortality in rural China. Later, China's influential mass media reported in detail the achievements made by the Chaohu experimental zone. The Ford Foundation's report, "A Great Leap Forward for Girls", published on the foundation's website in 2000, has attracted also wide attention, subsequently being re-published in an online magazine, *World Health News*, sponsored by the Harvard School of Public Health. Such reports have introduced China's endeavours to improve the survival rates of its girls to an international audience.

In particular, the official launch of the "Care for Girls" campaign, in 2003, attracted great attention from the mass media, triggering a significant number of reports on China's imbalanced SRB. In March 2004, an address to the National Committee of the Chinese People's Political Consultative Conference, titled "Over Thirty Million Bachelors Cannot Find Wives", was reported on by a large number of newspapers and websites. In 2004, the state-run *People's Daily* newspaper reported on an address by President Hu Jintao, which pointed out that carrying out the "Care for Girls" campaign was an important national strategy, and that the government would stringently attempt to stop the country's SRB from increasing any further within 3 to 5 years.

7.4 Gap Analysis

7.4.1 Policies and laws

The gap between the ideal situation and current reality with regards to China's sex imbalance remains significant. This gap is determined by multiple factors, the most significant of which is a lack of gender sensitivity in both content and implementation with regards to the country's relevant laws and policies. This lack of gender sensitivity is embodied in four aspects. The first is the lack of necessary elements for the realistic protection of women's rights and benefits, including prohibition of illegal foetal sex identification and sex-selective abortion, and old-age support for women. The second is regulations concerning gender discrimination. For example, the legal retirement age for women is 5 years younger than for men. The third is weak implementation of the related laws and policies. The regulations that promote women's political participation are too flexible; the standard used in labour and employment laws and policies for punishing gender discrimination is not feasible; and no specific implementation programme in related documents focuses on prohibiting illegal foetal sex identification, female foeticide or female infanticide. The fourth is the ambiguity of the value judgment in the relevant laws and policies. Although related laws and policies are initially designed to promote gender equality and women's development, it remains very hard to judge whether these items are in fact feasible.

The lack of gender sensitivity at the operational levels of the relevant laws and policies includes two aspects. The first is the implementation resulting from the cultural and social environment. For example, the regulations of China's Land Law, the so-called "30-Year Land Contract", conflict with the

strict patrilineal family system and prevalence of "virilocal" marriage (when wives marry into husbands' birth families) in rural China. Such a situation subsequently makes very insecure the rights of married women residing with their husband's parents, as well as those of divorced and widowed women. Moreover, neutral policies for promoting women's participation in political affairs are influenced by the traditional male-biased norms.

The second aspect is the existing conflict between different laws and policies, which often end up counteracting various intended effects. For example, the regulation of different retirement ages for women and men inevitably shortens the duration of women's political participation, which thus conflicts with policies that give priority to women in political affairs. Furthermore, this timeframe also shortens women's career, making women's economic status inferior to that of men's, and worsening the existing lack of gender sensitivity in the pension system.

It needs to be noted that the relevant items and articles against gender discrimination and sex-selective abortion are not easy to carry out in rural China. For example, it is hard to collect evidence of sex-selective abortions because the majority of these cases take place in secret. Additionally, it is difficult to efficiently punish those involved, since sex-selective abortion is not yet treated as a crime.

7.4.2 Civil society

In China, the majority of administrative activities are initiated, implemented and monitored by the government. In the attempt to lower SRB and improve the environment for girls' survival, the participation only of NGOs, civilian organizations and charities is insufficient in the current set-up, for the following three reasons.

The first is civil society's small role in policy-making. Based on the analysis of 56 related laws and policies, NGOs such as the All-China Women's Federation (ACWF) participate only partially in legislation- and policy-making. The second is, likewise, civil society's small role in the implementation of related laws and policies. To date, the intervention campaign is mainly implemented by the NPFPC, as well as the ACWF. Third, civil society currently plays only a small role in the monitoring and assessment of related laws and policies, with NGOs participating in monitoring and assessment of only a few laws and policies.

7.4.3 Intervention activities

China's strategic actions have had a preliminary impact on the attempt to control SRB, and the tendency of increasing SRB has been restrained within a limited range. According to recent censuses, SRB tends to increase slowly, though it does continue increasing. The increment in SRB is 3.1, rising from 116.8 in 1995 to 119.9 in 2000; while the increment of SRB is only 0.6, with SRB rising from 119.9 in 2000 to 120.5 in 2005. Meanwhile, in 2000 SRB at parity (birth order) 2 and 3 was 151.9 and 160.3, respectively, and declined to 143.2 and 156.4 in 2005. However, there are still many weaknesses in China's attempts to control SRB, as follows.

The first is the scarcity of effective collaboration between departments and specific geographic areas. The second is the management failure with regards to the country's "floating" population, who temporarily migrate from rural to urban areas. Both of these two elements have made supervision of the "Two Illegalities" difficult. The third is the absence of an efficient evaluation system, thus making it difficult for the government to collect accurate information about SRB, and also reducing intervention effects. The fourth is the preliminary identification of couples likely to commit female foeticide. Specific intervention is still needed according to the opinions and demands of target couples, and there is no publication focusing on any scientific assessment of these needs. Moreover, raising funds for SRB intervention is difficult in practice, and could make the long-term development of the "Care for Girls" campaign dependent upon political commitment.

8. PROSPECTS

8.1 Comprehensive Intervention Framework

China's sex ratio is severe and complex, and cannot be expected to be solved once and for all. Nonetheless, in the forthcoming 10 to 15 years, the Chinese government will implement a strategic plan of a long-term form of the "Care for Girls" campaign.

According to this framework, China's high SRB is forecasted to stop increasing between 2006 and 2010;

to steadily decline from 2011 to 2015; and to remain at the normal level (106) from 2016 to 2020. For the first phase, from 2006 to 2010, SRB and EFCM will be stopped from increasing by punishing illegal sex identification, female foeticide and infanticide. From 2011 to 2015, the gradual lowering of SRB and EFCM will be accomplished mainly by emphasizing advocacy campaigns and benefit-orientation mechanisms for families with only girls. From 2016 to 2020, to keep SRB and EFCM at normal levels, the framework calls for the emphasizing of institutional-innovation mechanisms (see section 7.2.3 and Appendix, Table 2).

There are three modules in this framework, namely expanding, scaling up, and exploratory and innovative. The first, "expanding", module is intended to popularize related experiences and methods, as well as to establish behaviour restraint and benefit-orientation mechanisms, in order to eliminate the proximal and conditional causes of high SRB. Both the scaling-up and exploratory/innovative modules are expected to generate institutional-innovation mechanisms, in order to eliminate the fundamental causes. The former aims to create working patterns to generate evaluation, cooperation and sustainability mechanisms within the relevant authorities, in order to keep SRB normal; the latter is meant to explore institutional and policy innovations, focusing on cultural evolution, so as to build up a favourable institutional environment for the control of SRB levels. The framework will be carried out at three levels simultaneously: 8 exploratory pilot counties, 30 national pilot counties, and all counties in China. The activities in the expanding module are assigned to all counties in China. Those in both expanding and scaling-up modules are assigned to 30 national pilot counties, and those in all three modules are assigned to the 8 exploratory pilot counties.

8.2 Prospects of Girl-Child Survival Environment

International experience and Chinese practice show that it is possible for the Chinese government to prioritize the country's SRB problems and - through the implementation of the "Care for Girls" campaign - to control the rising SRB (Wei, 2005). Decreasing SRB and protecting girls was made an important part of the country's population policy for 2005, with the general goal being to restore normal SRB before 2016.

To realize this goal, the government has promoted uxorial marriage in some rural areas, in order to attempt to alleviate son preference (Yan *et al.*, 1999). In addition, with the current demographic and economic transition in China, now would seem to be a good time to enhance the activities of several ongoing government interventions that are focusing on alleviating son preference and changing traditional male-biased culture (Jin *et al.*, 2004). However, instituting such changes will inevitably take a long time.

In the current situation, it is the government's responsibility to address the economic and political issues involved, and to make relatively integrated socio-economic development policies, which would contribute to the decline of SRB. Some regions have already introduced pension systems centred on social support, family support or self-support, as well as multi-level rural social-security systems (Sun *et al.*, 2003; Yang, 2005). At the same time, policies and regulations have been developed to promote equal rights and opportunities for women in resource allocation and employment. Considering the fact that son preference has been exacerbated by the strict family-planning policy, the government is currently considering promulgating a new relaxed family-planning policy (Zhou, 2005). Some local governments have also made plans to evaluate performances of their staff in population and family planning, at both the county and city levels, while also putting forward more stringent ratification procedures for pregnancy termination. These measures have led to a decline of SRB in certain regions (Huang and Zhou, 2005).

The practices in China show that it is possible for China to improve the survival environment for girls, and thus to alleviate EFCM. Doing so will also contribute to sustainable social and economic development. Nevertheless, it will take a long time to change the traditional culture and to achieve gender equality. Therefore, SRB may remain at a relatively high level in the near future, but is currently expected eventually to decline and reach a relatively normal level.

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Appendix: Supplementary tables

Table 1: Laws and regulations to prohibit sex-biased discriminations

Laws and regulations to promote gender equality	
Laws and Regulations	Items
<i>Stipulation of Labour of Woman Staff</i> 1988	<ul style="list-style-type: none"> ● Article 3. With the exception of the special types of work or post unsuitable to women, no unit may, in employing staff and workers, refuse to employ women by reason of sex.
<i>Law of the People's Republic of China on the Protection of Rights and Interests of Women</i> (1992, 2005 revised)	<ul style="list-style-type: none"> ● Article 2. The country shall take necessary measures to gradually perfect its systems that safeguard women's rights and interests, and to eliminate all discrimination against women. Discrimination against, maltreatment of, abandonment of, or cruel treatment in any manner causing injury or death of women shall be prohibited.
<i>Constitution of the People's Republic of China</i> (1982)	<ul style="list-style-type: none"> ● Article 49. Marriage, the family and mother and child are protected by the state.
<i>Compulsory Education Law of the People's Republic of China</i> (1986)	<ul style="list-style-type: none"> ● Article 9: All citizens are entitled to have equal opportunities to receive education, regardless of nation, race and sex. ['nation' doesn't make sense here]
<i>Law of Succession of the People's Republic of China</i> (1985)	<ul style="list-style-type: none"> ● Article 9. Males and females are equal in their right to inheritance.
<i>Marriage Laws of the People's Republic of China</i> (1950, 1981, 2006 revised)	<ul style="list-style-type: none"> ● Article 2. A marriage system based on the free choice of partners, on monogamy and on equality between man and woman, shall be applied. The lawful rights and interests of women, children and old people shall be protected. Family planning shall be practiced.
Regulations against pre-natal sex determination and sex-selective abortion	
Laws and Regulations	Items
<i>Law of the People's Republic of China on Maternal and Infant Health Care</i> (1994)	<ul style="list-style-type: none"> ● Article 33. Use of techniques to identify foetal sex for non-medical purposes is strictly prohibited.
<i>Stipulations on Family Planning Technical Services</i> (2001)	<ul style="list-style-type: none"> ● Article 15. No organization or individual shall conduct foetal sex identification or sex-selective pregnancy termination for non-medical purposes.
<i>Population and Family Planning Law of the People's Republic of China</i> (2002)	<ul style="list-style-type: none"> ● Article 35. Use of ultra B or other techniques to identify foetal sex for non-medical purposes is strictly prohibited. Sex-selective pregnancy termination for non-medical purposes is strictly prohibited. ● Article 22. Discrimination against and maltreatment of women who give birth to baby girls or who suffer from infertility are prohibited. Discrimination against, maltreatment and abandonment of baby girls are prohibited.
<i>Stipulation on Forbidding Non-medical Aimed Foetus Sex Determination and Sex-selective Abortion</i> (2003)	<ul style="list-style-type: none"> ● Article 3. Foetal sex identification and sex-selective pregnancy termination for non-medical purposes are strictly prohibited. Without the approval of authorities of health and family planning, no organization or individual shall conduct an operation for foetal sex identification or sex-selective pregnancy termination.
<i>Decision of the Central Committee of the Communist Party of China and the State Council on Fully Enhancing Population and Family Planning Programme and Comprehensively Addressing Population Issues</i> (2006)	<ul style="list-style-type: none"> ● Foetal sex identification and sex-selective pregnancy termination for non-medical purposes is strictly prohibited.

Note Date refers to the year the law or regulation was issued

Table 2: Main activities of pilot “Care for Girls” campaign in the 24 counties

Category	Meaning	Contents	Successful examples
Organizing and Leadership	Providing institutional support by governments at all levels.	<ul style="list-style-type: none"> ● Establish an authority of “Care for Girls” campaign; ● Make annual programme of the campaign by local government; ● Issue special documents on the campaign; ● Provide special fund for the campaign; ● Conduct special events addressing SRB, etc. 	<p><i>Yancheng county, Henan province</i></p> <ol style="list-style-type: none"> 1. Establish a special authority in charge of “Care for Girls” campaign, with the head of county appointed as head of the authority; 2. Cooperate with relevant departments in cracking down on the “Two Illegalities”; 3. Strictly evaluate government performance.
Cracking down on the “Two illegalities”	Cracking down on non-medical aimed pre-natal sex determination and sex-selective induced abortion.	<ul style="list-style-type: none"> ● Crack down on the “Two Illegalities” through cooperation of relevant authorities; ● Encourage individuals to not engage in the “Two Illegalities” by reward; ● Investigate cases of the “Two Illegalities”; ● Supervise use of ultrasound machines and induced abortion. 	<p><i>Huanggang city, Hubei province</i></p> <ol style="list-style-type: none"> 1. Leader groups on different levels all put emphasis on investigating “Two Illegalities” cases; 2. Different offices in every county cooperate closely in cracking down on the “Two Illegalities”; 3. Cooperation with neighbouring counties to prevent migrants from doing sex-selective abortion.
Whole-course family planning and reproductive health services	Offering health-care services to women at reproductive age.	<ul style="list-style-type: none"> ● Provide authorized hospital delivery, abortion and ultrasound check; ● Offer contraceptive services; ● Provide regular IUD check, and treat pregnancy and gynaecologic diseases; ● Regularly call on pregnant and postpartum women. 	<p><i>Donghai county, Jiangsu province</i></p> <ol style="list-style-type: none"> 1. Identify target people; 2. Offer better services to women in pregnancy; 3. Stipulate the approved abortion, report death of girl infants; 4. Supervise and report pregnancy monthly; 5. Treat diseases for women at reproductive age.
Benefits and Interests Orientation	Supporting girl-only families by offering special benefits and interests in order to change preference for sons.	<ul style="list-style-type: none"> ● Enact preferential policies of reward to help girls in families without a son, and to improve girl-child’s survival environment and women’s development in domains of education, medical care, employment, old-age support and political participation. 	<p><i>Anxi county, Fujian province</i></p> <ol style="list-style-type: none"> 1. Build houses for poor families with girls only; 2. Alleviate poverty of families with girls only; 3. Help girls continue their education; 4. Give pension support to families without sons.
Advocacy	Change son-preferential ideology by giving wide publicity on knowledge related to laws and regulations, parenthood and reproductive health.	<ul style="list-style-type: none"> ● Develop networks and organizations of advocacy; ● Create a strong public-opinion atmosphere showing love for girls through slogans, picture posters, theatrical performances, advertising cards and other means; ● Cultivate awareness of “Care for Girls” by training; ● Encourage women to participate in social activities, etc. 	<p><i>Beijing</i></p> <ol style="list-style-type: none"> 1. Taking advantage of various mass media, such as broadcasting, television and internet; 2. Publicizing successful examples in these activities; 3. Establishing various locations for advocacy.
Management and evaluation	Ensure accurate statistics on the data of SRB and evaluation of work addressing SRB.	<ul style="list-style-type: none"> ● Register birth, abortion, infant and children (under 5) death accurately by sex; ● Mutual report of SRB data among relevant authorities; ● Integrating work performance of the “Care for Girls” campaign into evaluation system of relative authorities. 	<p><i>Jinghai county, Tianjin city</i></p> <ol style="list-style-type: none"> 1. Appointing specialized personnel for statistics; 2. Having a clear division of statistic responsibilities, fixing a schedule of reporting relevant data and procedure.