

**RESEARCH ON THE COMPILING DESIGN AND EXPRESSING
METHOD OF SOCIAL GENDER EQUALITY AND WOMEN'S
DEVELOPMENT ATLAS IN CHINA**

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Abstract

In China, social gender equality and women development are the important factor that influences the national politics, economy, culture, environment and social development. Gender equality and women development factor in all walks of life in the society as long as the area is populated and their functions with the rapid development of the society. Quality of social gender equality and women development factor refers to women engaged in various careers while quantity of social gender equality and women development factor includes population of men and women, the increase of it and the density of men and women among the whole population, etc. The construction of social gender equality and women development factor includes the construction of men and women age, the construction of men and women career, the ratio of men and women and the percentage of men and women in the whole professional population. The dynamic change of social gender equality and women development factor refers to the rule of men and women population change along time, the rule of ratio between male and female, the ratio of men and women in all walks of life. The collected materials are mainly statistic data. Signs are designed in post-shaped graph that is obvious in comparison and in pancake-shaped graph that is easy to cut and in three-dimensional graph that is able to show the overall feature and the multi-faceted structure. Study on

the indicating method of social gender equality and women development map will make a necessary preparation for the future national compiling of social gender equality and women development.

Key words: gender's map; thematic map; thematic atlas; the method of cartographic representation; symbol design;

INTRODUCTION

China is a big country of population in the world, while woman's population is also large. Chinese women play an important role in society development and economy growth in China. Chinese government always pays great attention to development issues of women. ICA regards gender and cartography as important issue and has established commission for research. After the Beijing World Conference of Women convened in 1995, as the development and achievement of national gender statistical data, as the development of theory and method as well as statistical system, we proposed to compile Social Gender Equality and Women Development Atlas. Through the "Social Gender Equality and Women Development Atlas", it could reflect the change of Chinese women in society status reveal living statement and contribution for society. It would be an important resource for researches associated with Chinese women/gender issues. It could also be an ideal way for public to find out the status and change of women in China. The "Social Gender Equality and Women Development Atlas" would play an important role for women/man to know women/man themselves, to enable the government and the world to know Chinese women/gender.

The "Social Gender Equality and Women Development Atlas" is designed to be a thematic atlas, which reflects comprehensive change both in space and time of our Chinese women/ gender in all aspects. It would contain each aspect of the women/gender studies, including politics, economy, education, culture, health, legal system, environment, national minority women/ gender and development of women. It would be an important document to reflect women status and developing course in China and a synthetic database for women/ gender issue researches. To some extent, the "Social Gender Equality and Women Development Atlas" is an innovative of mapping development in China and has significant meaning for history of women/ gender study. It is the first Social Gender Equality and Women Development Atlas in Chinese mapping history.

The "Social Gender Equality and Women Development Atlas" will be the basis for "Electronic Social Gender Equality and Women Development Atlas" in future. It would be helpful for government and women/ gender administration to build digital information system, and as the foundation to build women/ gender database and "digital women/ gender" system.

1. Purpose, character and design guiding ideology of the "Social Gender Equality and Women Development Atlas"

The "Social Gender Equality and Women Development Atlas" is a thematic atlas that focuses on woman/gender as the subject. It is with every effort to reflect comprehensive aspects of woman/gender in participating in government and political issues, employment, education, marriage, family, raising child, health, legal system, environment, population, intermediary, religion, literature, history, folk custom and ethical character. The atlas includes 8 chapters, which is composed of about 80 maps and photographs, diagrams as well as explaining. It is a synthetic atlas and map data base.

1.1 Target and allocation of Social Gender Equality and Women Development Atlas

The target of "Social Gender Equality and Women Development Atlas" is to comprehensively and systematically reflect women/gender in the field of political, economy, educating culture, health, legal system, environment, developing issue and so on. It mainly provides information for governmental organizations, policy makers, research institutions education and training agencies as well as other organizations in all professionals, which are associated with women/gender. It is the reference and basis for leaders, women/gender research institutions and educational organizations, as well as other women/gender organizations. It could be also used by public that are interested in current situation of women in China.

According to this target, the "Social Gender Equality and Women Development Atlas" have the characteristic as national large scale document. It not only contributes to use for reference in all aspect, but also has function of showing women status in China. Consequently, the "Social Gender Equality and Women Development Atlas" is required to be rich in content, well designed, exquisite solemn and carried out by advanced technology. Therefore, it would be an atlas with high quality and good taste.

1.2 Format and size of "Social Gender Equality and Women Development Atlas"

According to the standard of GB/T788-1999 "PRC book, magazine format and their breadth dimension ", the paper size of 890 X 1240mm² and A4 formats (210 X 297 mm²) is adopted to the "Social Gender Equality and Women Development Atlas" The expanded size of each map is 420 X 297 mm², In total, there are 80 maps arranged in 176 pages. It is composed of 11 units for printing paper. We adopt two kinds of binding and layout, which are the hard-face hardback and the universally the soft paste to hold.

1.3 The design guiding ideology of "Social Gender Equality and Women Development Atlas"

① The "Social Gender Equality and Women Development Atlas" should reflect the overall current situation of women in China. Therefore, topics should be comprehensive and systematic. And the arrangement of content should be scientific and logically. The atlas would have unified designs, standard generalization level and unified map decoration style.

②The "Social Gender Equality and Women Development Atlas" is an representative illusion of women/gender in China. The contents are not only acquired to be scientific and systematic, but also could reflect the characteristic of our national women/gender and particularity in some aspects. At the same time, it could illustrate women/ender in participating in politics, employment, economic status and effect, health care of women, birth control, environmental conservation national minority women and women developing issue etc.

③The "Social Gender Equality and Women Development Atlas" is designed to be attractive with fine decoration and modern sense . It is rich in content, and making fully use of data. The maps are designed in various formats. Map elements would be arranged mixed with statistical charts, graphs illustrations and illustrate photos, which could combines the advantages of them. Thus it could better reveal the meaning of maps and strongly improve the legibility of the map.

Based on the frame of unified map format, adopting various map layout method could enhance the utilization of space and improve information transform efficiency, while providing a lively form. At the same time, it could achieve the unique style of "Social Gender Equality and Women Development Atlas", demonstrating women/gender unique characteristics.

④To improve the legibility and most important, the artistic quality of the "Social Gender Equality and Women Development Atlas", the design of thematic maps is simple and striking, but with various representation methods. The design of graphic symbol system is aimed to be simple, legible with clear meaning, vivid and consistency color.

⑤Digital mapping technology is adopted to improve quality of map design and map making with drawing and design function available in graphics software.

2. The frame of the atlas and selection of topics

2.1 Establishment of the criteria system of women/gender's factor

The international measurement standard of women/gender's development is mainly shown in four fields: participation in politics, employment, education and health. On the basis of the gender signaling frame that is delivered by the UNESCAP and translated by the Women and Children's committee office of China's state council, and on the basis of the supervising and statistical criteria system of Chinese women's development from the year 2001 to 2010 that is released in February 17, 2003, a quantified assessing criteria system for compiling "Social Gender Equality and Women Development Atlas" is proposed as follows:

① Gender population: total population of gender, population of 0 to 4 years old gender, population of 0 to 17 years old gender, population of childbearing-age gender (15 to 49 years old), birth rate and rate of natural population increase.

② Gender and economy: all the males and females in employment, employed males and females in cities and towns, the ratio of females to males in respective professions in cities and towns, registered unemployed males and females in cities and towns, handicapped males and females in employment, average wages of males and females in the principal professions, different kinds of male and female technicians, intermediate and advanced male and female specialized technicians.

Numbers of male and female employees who have joined in the fundamental old age insurances, numbers of male and female employees who have joined in the fundamental medical insurances, numbers of male and female employees who have joined in the insurances of injury suffered on job, numbers of male and female employees who have joined in the insurances for giving birth, percentage of rural and urban male and female employees who have joined in the insurances for giving birth, numbers of males and females in the country who have joined in the social old age insurances, rural and urban population in poverty, rural and urban social relief receivers. Rural and urban low-level life allowance received.

Percentage of labors, rate of economy involvement, rate of unemployment, women on executive post, comparison of female and male wages, women's participation in the labor's union. Childbearing holiday with wages, numbers of day-care nurseries for 0 to five years old children whose mothers are professionals, hours of housework.

③ Gender's participation in policy decision and administration: male and female people's representatives, male and female national political council members, the

number of proposals made by female people's representatives, the number of proposals made by female Political Consultative Committee members. Numbers of male and female people's representatives in different districts and cities, Numbers of male and female Political Consultative Committee members in different provinces, Numbers of female principal leaders of county, provincial and ministry levels respectively. Numbers of female leaders in the county, municipal and provincial government leader staff respectively...numbers of male leaders , reserve male and female leaders above county level, male and female leaders with a bachelor's degree or above, percentage of female members in villagers' committees, percentage of female members in neighborhood committee, percentage of female representatives in worker's representative conference in entrepreneurs, percentage of female representatives in board of directors and board of supervisors, assessment of works in giving play to women's unions of various levels for participation in democracy and supervision.

④ Gender and education: percentage of male and female children in schooling, net percentage of primary- school-age boys and girls, percentage of boys and girls who finished the 5 years of primary school, and percentage of drop-out of primary school boys and girls, gross percentage of boys and girls' entering into junior middle schools, numbers of handicapped boys and girls in ordinary middle schools, gross percentage of boys and girls' entering into senior middle schools, percentage of literate males and female adults, percentage of literate adolescent males and females, numbers of males and females in adult higher schools, male and female students in high schools and junior middle schools respectively, average years of education of males and females, percentage of adult illiterates, percentage of professional training, number of women in ICT field, numbers of people who use internet, gender distribution of teachers, public education expenditure, women's participation in life-long education, women's participation in the nation's compulsory education.

⑤ Gender and health: rate of medical test before marriage, rate of gynecological test, rate of gynecological diseases, average expected life spans of males and females, women who have received medical cares and rate of medical tests of pregnant women, pregnant women who suffer from anemia, lying-in women whose child is delivered by skillful midwife, rate of childbirth in hospital, rate of childbirth in hospital given by rural women, rate of childbirth in hospital given by rural women who are in high danger. Rate of disinfected childbirth out of hospital, death rate of pregnant and childbearing women, death rate of infants, death rate of children under 5 years old, rate of low birth weight, rate of pregnancy before marriage, assessment of the degree to which childbearing-aged women know about cares of health, Rate of contraception of married childbearing-aged women, rate of artificial abortion, rate of contraception, rate of complication from birth-control operation. Percentage of popularization of basic knowledge of birth control to child-bearing population, contraception measurements, rate of informed selective schooling, rate of male measurements of contraception,

number of HIV infected males and females over the country by the national report. The total number of HIV infected population, The number of cases of sexual diseases according to the yearly report, Rate of popularization of HIV diseases knowledge in the rural and urban areas, Percentage of women smokers, foundations for medical research on women's health, hygiene and health working staff, expenditures for public sanitary service.

⑥ Gender and law: number of solved rape cases, numbers of solved abduction of women and children, number of solved cases of forcing, seducing and taking in women to prostitute themselves. Cases of rescuing abducted women and children, ratio of women among criminals, family violence, complaints from women whose possession rights are infringed, cases of divorce and ceases of living together in civil cases. Jurors appointed by women's union, institutions that provide lawful help to women and children, and the numbers of women and children who have received lawful help from these institutions, Rate of family violence, rate of sexual violence on women, legislation against sexual violence, supportive system for women sexual violence victims, occurrence of statistical data of sexual violence, fund for research on women sexual violence victims.

⑦ Gender and environment: women in the environmental policy decision, training of women on leading ability in environment and resource administration, gender analysis in environmental policies and projects, data corpus of women' local information of resource administration and environment protection, numbers of adoptive welfare units in rural and urban areas. Numbers of welfare hospital beds for per 10,000 people, Numbers of community social service facilities for per 10,000 people in rural and urban areas, numbers of points of network service for per 10,000 people in rural and urban areas. Percentage of adoptive welfare institutions for rural seniors, five-good civilized families, numbers of schools for students' parents, yearly numbers of trainees in schools for students parents, rate of hygienic rural water closets, rate of harmless disposal of rural water closet , harmless disposal of rural excrements, percentage of people that benefit form innovation of water supply in rural areas, popularization of piped water supply in the rural areas, percentage of people that benefit form innovation of water supply in rural areas in shortage of water. Rate of disposal of polluted water, rate of harmless life garbage disposal in urban areas, numbers of March the 8th Green projects above county level all over the country. Number of women's all over the country who have participated in the voluntary tree planting, assessment of women's participation in the environment protecting policy decisions, assessment of women's knowledge of environment protection.

⑧ Gender and poverty: population under poverty line all over the country, percentage of poverty at community level, PPP that is below 1 dollar for daily expenditure,

beneficiaries from the social subsidies, families with women as the head that are below the poverty level, policies and projects aiming at supporting women family head with low income, legislative guarantee for women's equal inheriting rights, loan programs for poor women.

⑨ Gender and armed conflicts: women in participation of policies for sustaining peace, military expenditure, and gender consciousness based education about peace.

⑩ mechanism for women's development: liaison men of sexual matters in different units, core group of gender in the parliament, Periodicals of gender statistics and criteria, Investigation of time distribution.

To summarize on the basis of the above, indexes for women/gender's map are mainly grouped into several types: one is population statistics, female population of 0-4 years old, for example. Another is the rate, like unemployment rate. Another is the ratio between male and female, for instance, the ration of males and females in employment. And the other is complicated assessment criteria, such as women's participation in policy decision of environment protection.

2.2 The frame of the atlas

According the criteria system of women/gender's factor to relevant woman/gender map and various branch statistical data, the frame of "Social Gender Equality and Women Development Atlas" is composed of eight chapters:

- (1) Gender population;
- (2) Gender and politics;
- (3) Gender and economy;
- (4) Gender and education;
- (5) Gender and healthy;
- (6) Gender and law;
- (7) Gender and environment;
- (8) Women development.

The "Social Gender Equality and Women Development Atlas" is aimed to reflect the distributions and relations of women/gender in all aspects, the comparison among provinces and cities in China, and their advantages. The statistical data used are from 1949 to 2007. It is to present the latest statistical data and scientific research results to guarantee the contents of the "Social Gender Equality and Women Development Atlas" are complete, reliable, accurate and scientific. The details of selected topics are as shown in Appendices.

3. Design and editing of "Social Gender Equality and Women Development Atlas"

The "Social Gender Equality and Women Development Atlas" is a thematic atlas, which is composed of many kinds of map types. Thus, various design and editing methods, which could distinguish different topics, are required to represent achievements of studies and researches that related to women/gender. In the aspect of editing, statistical charts, graphs, sketch maps, photographs and illustrations that related the each main topic are required to enrich the contents of the atlas, to fit maps and words, and to prettify the representations.

3.1 Series geography base map

3.1.1 Geographic map at national scale

The geographic map adopts conic equivalent projection with two standard parallels. The maximum scale is 1:15000000. According to the need of map content, geographic map scale of 1:20000000, 1:25000000, 1:30000000 could be selected and applied. Main rivers, main roads, resident areas and the national and political boundaries are showed in geographic maps at the two former kinds of scale. Hill shading method with monochromatic color is to be applied to reflect mountain system, which makes the distributions more distinct. For the two later kinds of scale maps, only represent the main rivers, national and political boundaries, and main residential areas.

3.1.2 Geographic map at global scale

Main administrative regions, rivers, continental and national boundaries are supposed to be showed on geographic map at global scale.

3.2 Content and arrangement of thematic maps

① Women/gender maps are related to many professional fields and subjects, Its data format are various. To express thematic contents properly and easily understood, preparation for editing should be carried out carefully. Firstly, all the data and references should be checked with and analyzed. Secondly, interviews as well as discussions should be carried out with professionals. These steps ensure proper use of data and better design of maps based on sufficient data analysis.

② Women/gender map sheet design is carried out on the basis of mastering all the thematic materials, including maps, author manuscripts, statistical data , words and photographs that related to the topic). Primary map, secondary map and basic map scale should be determined firstly. The women/gender map design is aimed to integrate different map elements, charts, graphs, photos and illustrations on map sheet, and

propose designed draft.

③After examination, improvement and modifying of the design draft, each single component of the map sheet is compiled according to the national map design standard, to ensure the coherence and harmony of the atlas.

④Illustration words is required to be strong related to the main topic in each sheet. There is no length limited of the illustration. Long paragraph could be departed into several sub paragraphs as complementary aligning around corresponding map element, which makes it is easier for reading.

3.3 Methods in indicating Women/gender's map

Content of the already published women/gender's map, take "Map of Population Environment and Sustainable Development in PRC" for instance, mainly includes construction of women's professions, their literate degree, their expected life span, rates of employment and participation in politics, birth rate, death rate of childbearing women, rate of women anemia victims, etc. but without anything of other aspects of women, for example, construction of women's population, construction of women's ages, natural transfer and migration of women, women's organization and construction, rate of girl's schooling, rate of women's schooling, special women education, women's income, percentage of women among people in scientific research, physical education, legislation, crime, etc. women's diseases and medical cares, women's working time and the average allotment of one day, women of minority nationality. With women /gender as the theme, study in topic selection of women/gender's map. Through complete, systematic, and overall topic selection, a systematic, realistic and deep and wide content of women/gender's map is guaranteed. Whether the materials are complete, comparable or possible to locate also influences the application of many indication methods of women/gender's map. According to cartographer Liaoke's indicating methods of specialized map, there are twelve indicating methods in all, namely, individual symbol methods, located statistic scheming method, region-based statistic methods, dot distribution, lineal symbol methods, arrowhead method, isoline method, qualitative bottom representation, quantitative bottom representation, area method, region-based collation statistic methods, grid square method.

3.3.1 Select indicating methods according to special distribution features of specialized phenomena

Dot distribution features of specialized phenomena: individual symbol methods, located statistic scheming method, region-based statistic methods, dot distribution. Lineal distribution features of specialized phenomena: lineal symbol methods, arrowhead method, isoline method. Area distribution features of specialized phenomena: qualitative bottom representation, quantitative bottom representation, area method, region-based collation statistic methods, grid square method.

3.3.2 Select indicating methods according to natures of specialized phenomena

Indicating methods for quality features in specialized phenomena: individual symbol methods, lineal symbol methods, qualitative bottom representation, area method, indicating methods for quantity features in specialized phenomena: individual symbol methods, located statistic scheming method, region-based statistic methods, dot distribution, isoline method, quantitative bottom representation, region-based collation statistic methods, grid square method. Indicating methods for structure features in specialized phenomena: individual symbol methods, located statistic scheming method, region-based statistic methods, lineal symbol methods, indicating methods for dynamic features in specialized phenomena: arrowhead method.

3.3.3 Select indicating methods according to features of statistic materials

Qualitative indicating methods on the basis of writing description of type specific and region specific features: qualitative bottom representation.

Quantitative indicating methods on the basis of data materials of specialized phenomena and quantitative grading: dot distribution, quantitative bottom representation, isoline method. Quantitative indicating methods on the basis of statistical materials of statistical data features: located statistic scheming method, region-based statistic methods, region-based collation statistic methods.

3.4 Design of signs

Create and design suitable indicating methods for women/gender's map through carrying out researches on indicating methods, and holding discussions of map signs, color and the combination of them, and with the assistance of computer technology and software. For example: the method of indicating with three-dimensional scheme makes

a full use of the space of a whole page, and make prominence of the theme of the map, which makes the map clear and pleasant to the readers' eyes.

The method also takes advantage of various signs and colors to develop the multi-layer functions of map and to enlarge the information of the map. The design of women/gender's map is mainly out of the following considerations:

Shape of the signs: most of the signs designed are geometric graphs which are simple, direct and easy to distinguish. And most of them are round-shaped and rectangle-shaped.

Color of the signs: in reflecting women's factors, while contrast is emphasized, harmony and integrity should be conspicuous and the application of colors should be basically fresh and delicate. The hue should be mainly warm, bright, and strong enough to show an active spiritual state.

The size of the signs: the size should be in accordance with the number of quantitative indexes.

Then combination of structures of signs: this can indicate the two of women/gender's factors. One is the regional combination of structures such as the structure combination of the whole country or the structure combination of a certain city. Another is the combination of factors such as the combination of various features of women/gender factors.

Synthetic application of signs: statistic signs are mainly post-shaped graphs, curve-line-shaped graphs, and surface area graphs. And in addition to this, cylinder graphs, pancake shaped graphs, cube graphs, and sphere graphs are used with the assistance of computers.

CONCLUSION

The paper carries on "Social Gender Equality and Women Development Atlas" in China the edition design research, and we analyze the social gender equality and women development essential factors, study the basic characteristic of the social gender equality and women development map, the key elaboration of establishing Social Gender Equality and Women Development Atlas in China the goal, the nature and the design guiding ideology, Social Gender Equality and Women Development Atlas in China selects a topic and the overall construction, the map design and the arrangement, the

technical method and the technical process, acquisition of information and so on. Finally, we carry on the edition design experiment and the test result appraisal analysis research of the social gender equality and women development map. This research on "Social Gender Equality and Women Development Atlas" in China the edition design is the ex-period work for publishing "Social Gender Equality and Women Development Atlas" in China.

Most of the already published map of other theme are single-element map, that is one map indicates only one aspect of one element, as a result of which, the map are usually monotonous, and the information on the map surface is not enough for correlation of elements and the analysis of the influence therein. We should study on the synthetic sign design and search for the synthetic graphs that can indicate many aspects of one element on one single map, or for the synthetic graphs that can indicate many aspects of many elements. We should search for the ways and methods of realizing such graph compiling and make out the social gender equality and women development map with clear arrangement, strict structure and strong synthetic features. In compiling the social gender equality and women development map, the most frequently used methods for specialized map are mainly region specific statistical graphs, region and level specific statistical graphs.

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