

**KNOWLEDGE OF POPULATION AND DEVELOPMENT:
TRAINING NEEDS AMONG THE PUBLIC SERVANTS IN
MONGOLIA**

ERDENECHIMEG CHOGDON

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF ARTS
(POPULATION AND REPRODUCTIVE HEALTH RESEARCH)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY**

2004

**ISBN 974-04-5131-4
COPYRIGHT OF MAHIDOL UNIVERSITY**

Thesis
entitled

**POPULATION AND DEVELOPMENT KNOWLEDGE:
TRAINING NEEDS AMONG THE PUBLIC SERVANTS IN
MONGOLIA**

.....
Ms. Erdenechimeg Chogdon
Candidate

.....
Assoc. Prof. Amara Soonthorndhada, Ph.D.
Major advisor

.....
Asst. Prof. Ramon C. Sevilla, Ph.D.
Co - advisor

.....
Assoc. Prof. Waraporn Thitinthapan,
D.D.S, Grad. Dip. Clin. Sc. (Endodontics)
M.Sc.(Clinical Science), Board in Endodontics
Acting Dean
Faculty of Graduate Studies

.....
Assoc. Prof. Amara Soonthorndhada, Ph.D.
Chair
Master of Arts Programme in Population and
Reproductive Health Research
Institute for Population and Social Research

Thesis
entitled

**POPULATION AND DEVELOPMENT KNOWLEDGE:
TRAINING NEEDS AMONG THE PUBLIC SERVANTS IN
MONGOLIA**

was submitted to the Faculty of Graduate Studies, Mahidol University
for the Degree of Master of Arts
(Population and Reproductive Health Research)

on
August 17, 2004

.....
Ms. Erdenechimeg Chogdon
Candidate

.....
Assoc. Prof. Amara Soonthorndhada, Ph.D.
Chair

.....
Asst. Prof. Ramon C. Sevilla, Ph.D.
Member

.....
Mrs. Jawalaksana Rachapaetayakom, Ph.D.
Member

.....
Assoc. Prof. Waraporn Thitinthapan
D.D.S, Grad. Dip. Clin. Sc. (Endodontics)
M.Sc.(Clinical Science), Board in Endodontics
Acting Dean
Faculty of Graduate Studies
Mahidol University

.....
Assoc. Prof. Bencha Yoddumnern-Attig, Ph.D.
Director
Institute for Population and Social Research
Mahidol University

ACKNOWLEDGEMENTS

I would like to extend my gratitude to IPSR and the William and Flora Hewlett Foundation for providing me the opportunity to complete Master Degree. Without their support my goal would not have ever been achievable.

First of all, I would like to express my sincere gratitude and deep appreciation to my major advisor Assoc. Prof. Dr. Amara Soonthorndhada for her guidance, invaluable advice and encouragement throughout. I learnt a lot from her. At the same time, I would like to express my appreciation to my co-advisor Asst. Prof. Dr. Ramon C. Sevilla for his supervision and constructive comments during the thesis writing. Their constant support contributed greatly to this thesis's successful completion. Also, special thanks are extended to my external advisor Dr. Jawalaksana Rachapaetayakom for her helpful guidance and comments.

I also would like to thank Assoc. Prof. Bencha Yoddumnern-Attig, Ph.D, Director of IPSR, all my ajarns and the staff of IPSR, especially our program coordinator Luxana, for their co-operation and generous assistance.

I owe my special thanks and deepest appreciation, to Prof. Uvsh Pureviin, Director of the School of Education and Social Sector Management, Academy of Management, Mongolia. He is one of the most influential people in my life who guided me to do a lot of fruitful things.

Finally, my highest appreciation goes to my respected and loving parents, who devoted their life for their children, for their support, tolerance and encouragement throughout my life.

Erdenechimeg Chogdon

**KNOWLEDGE OF POPULATION AND DEVELOPMENT: TRAINING NEEDS
AMONG THE PUBLIC SERVANTS IN MONGOLIA**

ERDENECHIMEG CHOGDON 4638500 PRRH/M

M.A. (POPULATION AND REPRODUCTIVE HEALTH RESEARCH)

**THESIS ADVISORS: AMARA SOONTHORNDHADA Ph.D., RAMON SEVILLA,
Ph.D.**

ABSTRACT

Training among the public servants supports positive changes in a country's development. One of the essential parts of training involves knowledge about population and development. This study explored the knowledge level regarding population and development among the Mongolian public servants in urban and rural areas and the factors that influence it. The data was collected at the School of Education and Social Sector Management, Academy of Management of Mongolia and was funded by the United Nations Population Fund.

Bivariate analysis and multivariate logistic regression analysis were used. The dependent variable was population and development knowledge level and independent variables were source of obtaining knowledge and amount of information required in the corresponding workplace. The study found that less than half of the public servants had a satisfactory level of population and development knowledge. Higher levels of knowledge were found among older people, more educated people, those working in a city, and those receiving information at work and from colleagues. Gender, number of years at work, and exposure to mass media had no effect on knowledge.

The Government of Mongolia has to intensify activities that focus on increasing the knowledge level regarding population and social development among the provincial and district public servants, especially those who are young and do not receive information on this topic regularly. I recommend conducting a further study to determine the reasons for the unsatisfactory level of knowledge.

**KEY WORDS: KNOWLEDGE ON POPULATION AND DEVELOPMENT/
TRAINING NEEDS/ PUBLIC SERVANTS IN MONGOLIA/
57 pp. ISBN 974-04-5131-4**

CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF ABBREVIATIONS	ix
CHAPTER 1 INTRODUCTION	
1.1 Background	1
1.2 Research problem	3
1.3 Research questions	5
1.4 General objective	5
1.5 Specific research objectives	5
CHAPTER 2 LITERATURE REVIEW	
2.1 Population and development knowledge	6
2.2 Background characteristics influence on population and development knowledge level	7
2.2.1 Age of public servants	7
2.2.2 Gender of the public servants	8
2.2.3 Education level of public servants	9
2.2.4 Work place of public servants	10
2.2.5 Number of working year	11
2.3 Source of knowledge on population and development	11
2.4 Population and development information necessity	13
2.5 Training on population and development	14
2.5.1 Duration and type of training	14
2.5.2 Population and development training curriculum	15
2.6 Summary of literature review	16
2.7 Conceptual framework	17
2.8 Hypotheses	18
CHAPTER 3 DATA AND METHODS	
3.1 Source of data	19
3.2 Population study	19
3.3 Data analysis	19
3.4 Operationalization of variables	20
3.5 Limitation of the research	22
3.6 The expected outcomes	23

CONTENTS (Continued)

	Page
CHAPTER 4 RESULTS	
4.1 Descriptive explanation of the results	24
4.1.1 Background characteristics of respondents	24
4.1.2 Information characteristics	26
4.1.3 Source of knowledge on population and development	30
4.1.4 Knowledge of population and development	32
4.2 Relationship between independent and dependent variables	34
4.2.1 Relationship between knowledge on population and development and the background characteristics of respondents	34
4.2.2 Relationship between information necessity and knowledge on population and development	36
4.2.3 Relationship between knowledge source and knowledge on population and development	36
4.3 Multivariate results	39
 CHAPTER 5 CONCLUSION, DISCUSSION AND RECOMMENDATIONS	
5.1 Conclusion	42
5.2 Discussion	43
5.3 Recommendations	47
5.4 Recommendations for further researches	48
 BIBLIOGRAPHY	 50
 BIOGRAPHY	 57

LIST OF TABLES

		Page
Table 3.1	Operational definition and scales	22
Table 4.1	Percentage distribution of background characteristics of respondents	26
Table 4.2	Percentage distribution of information necessity by background characteristics	29
Table 4.3	Percentage distribution of knowledge source by background characteristics	32
Table 4.4	Percentage distribution of total score on population and development knowledge	33
Table 4.5	Percentage distribution of “correct” and “incorrect” knowledge of population and development	34
Table 4.6	Percentage distribution of relationship between dependent variable knowledge on population and development and independent variables	38
Table 4.7	Regression on population and development knowledge	41
Table 4.8	Mongolian public servants profile	44

LIST OF FIGURES

		Page
Figure 2.1	Conceptual framework	18
Figure 4.1	Percentage distribution of population and development information necessity	27
Figure 4.2	Percentage distribution of population and development information necessity by work place	29
Figure 4.3	Percentage distribution of knowledge source on population and development	30

LIST OF ABBREVIATIONS

AoM	Academy of Management
SESSM	School of Management and Social Sector Management
UN	United Nations
UNFPA	United Nations Population Fund
UNESCO	United Nations Education Science and Culture Organization

CHAPTER 1

INTRODUCTION

1.1 Background

Mongolia is located in the north of central Asia, bordering the Russian Federation and the People's Republic of China. Total size of the territory is 1,566,500 square kilometers. The resident population of Mongolia stood at 3,229,998 (National Statistical Office, 2002). In Mongolia, between 1921 and 1990, for about 70 years, there was an economic system with a socialist label. It has shifted to a market-oriented economy since 1990. The resulting economic hardship became the main explanation for rural-to-urban migration, urbanization, poverty and reduction of industrialization (Ministry of Labor Social Welfare et al., 2001).

After 1990, industrialization has almost stopped because privatization has been undertaken during the same period. All these changes have a major effect on urban population growth, economic and state structure difficulties. The urban population in Mongolia was 44.0 percent in 1969, but increased to 59.0 percent in 2000 (Bolormaa, 2003). More than half of all economic entities are located in Ulaanbaatar city, which produced 51.6 percent of the country's GDP (National Statistical Office, 2000). By contrast, on average, the production of a typical province (aimag) accounts for only 2.3 percent of the GDP (National Statistical Office, 2002).

Internal migration is the cause and effect of urban population growth. There are a number of laws and government orders to regulate internal migration. However, people do not follow these laws. Administration restriction of movement has almost been eliminated since 1992 (Bolormaa, 2003). Mongolian Government policy states that migrants must register at their destination. However, the cost of doing so is excessive to many. Thus, rural-to-urban migration has intensified during the last decade (Ministry of Labor and Social Welfare et al., 2001).

Fertility has decreased sharply since the 1990s. The key determinant is economic hardship faced by the Mongolian families. Annual population growth reduced from 2.5 percent to 1.4 percent between 1990 and 2000 (UN Conference Center, 2002). The government promotes fertility levels. The national goal is to maintain the average annual population growth rate at no less than 1.9 (UNFPA, 2001).

Another important point which should be emphasized here is poverty. Thirty-five percent of the entire Mongolian population lives below the poverty line (National Statistical Office, 1998). In 1995, the National Statistical Office of Mongolia estimated incidence was 34.5 percent in urban areas, 37.9 percent in the provinces (aimag), and 33.1 percent in rural areas.

The Government of Mongolia is implementing population policies such as to eradicate gender inequality in secondary education by 2005, to reduce infant mortality by one-third or down to 50-70 per 1000 live births by the year 2005, and to promote reliable family planning methods in 2015. Also, the Government policy focused more on population development overview, fertility, morbidity, poverty, migration, urbanization and ageing population (United Nations Conference Center, 2002).

The problems such as urban population growth, internal migration, poverty and declining fertility could be solved by the participation of capable public servants' activities and Government policy on population matters. Reviewing the Asian experience, successful training among the public servants and administrators supported positive changes in urgent problems related to migration, urbanization and development (United Nations and Asian Pacific Development Center, 1987). One of the essential parts of training, knowledge of population and development among public servants, should be discussed. Two main points were concerned. First, we explore existing level of population and development knowledge among the public servants. Then, based on the knowledge level, we determine the factors that influence knowledge of population and development among the public servants.

1.2 Research problem

Shortage of trained manpower is a serious obstacle to the Mongolian country development. The main problems for the current Mongolian public servants are their procedural knowledge is unsatisfactory; and their understanding and awareness on population and development issues are limited (Batkhuu, 2002). Public servants' unsatisfactory understanding of population and development creates problems such as ineffective performance in dealing with citizens' complaints and requests related to employment, migration, social security in the provinces (aimag) and districts (soum); and increasing level of bureaucracy that slows down the process of solving them (Tumentsogt, 2003). Public servants can not solve recurring problems in rural development in the provincial (aimag) and district (soum) levels because of lack of procedural knowledge (Bold, 1995). Additionally, successful integration of population factors into the development planning requires quality data collection. At the provincial (aimag) and district (soum) levels, important population data are compiled such as number of births and deaths, marriage and migration which are essential for the policy-making process in Mongolia. However, there are different data sets, due to lack of procedural knowledge of public servants. Lack of the relevant data is seriously hampering policy-making in Mongolia. Furthermore, the majority of internal migrants remained unregistered. Public servants do not pay attention to this matter. It negatively influences the Mongolian population's basic rights to obtain legitimate work, education systems, and social support and health services (Ministry of Labor and Social Welfare et al., 2001).

The public servants' unsatisfactory knowledge of population and development could be explained by the fact that people who graduated from various types of universities such as agricultural, engineering, pedagogical and vocational studies work in the provinces (aimag) and districts (soum) (Implementation support group for MAP-21, 2003) because of the human resource shortage in rural areas. Also, it could be interpreted as a problem arising from the recruitment of young inexperienced professionals into civil service (Bold, 1995). A further explanation is the activities to spread information on population and development are not organized in rural areas (School of Education Social Sector Management, 2002). The most important explanation of unsatisfactory knowledge of public servants is lack of training on

population and development. Those inadequacies can be completely solved by training. Furthermore, it is being recognized that public servants play a key role in promoting development and training makes them more effective as administrators of development programs (Washington DC and World Bank, 1980).

The Government of Mongolia approved the Good Governance for Human Security Program in January 2001 (UNFPA, 2001). One of its priorities is “to have contributed to the improvement of the quality of life of the Mongolian people through the attainment of a harmonious relationship between population and development and gender equality” (UNFPA, 2001). Related to this priority, a number of training programs were carried out to raise awareness on population and development among the Mongolian public servants within the framework of activities of the UNFPA Second Country Programs in 1997-2001. However, these training programs do not satisfy the rising demand because a number of training courses which were organized among the public servants were inadequate and the majority of public servants in rural areas could not attend these training programs (Tumentsogt, 2003). Furthermore, it could be explained by the poor quality of training programs. One explanation of poor training could be suggested that the traditional administrative system can not adequately handle the new training development tasks (Ulschak, 1983). Undoubtedly, a well-organized training effort produces favorable results. However, until recently training for population and development among the public servants has not received enough attention (Tumentsogt, 2003) because it is newly starting work. Same content and type of training are provided among high level city administrators and middle level public servants in rural areas (Academy of Management, 2003). Before starting training courses, training needs of the public servants to be trained should be carefully determined (Washington DC and World Bank, 1980). Needs will vary among the public servants at different levels.

Based on the problems such as unsatisfactory procedural knowledge of population and development among the public servants, shortage of trained manpower and training activities, recruitment of unskilled young public servants in the government sector and recent policies of the Mongolian Government, there is a need to conduct training on population and development for the public servants specifically in rural areas at the provincial (aimag) and district (soum) levels. What is needed to

examine the ways to organize training is studying the factors that influence public servants' level of population and development knowledge, and exploring ways to organize training type based on current public servants' knowledge level. The main reason of this study is to determine existing knowledge level of public servants and to determine factors that influence knowledge level and to set the recommendations for the training.

1.3 Research questions

1. What is the current knowledge on population and development among the Mongolian public servants?
2. What factors influence current knowledge level of population and development among the Mongolian public servants?

1.4 General objective

To identify procedural knowledge level among the Mongolian public servants in urban and rural areas, and to explore factors influencing procedural knowledge that help program administrators to develop new refresher training programs.

1.5 Specific research objectives

1. To explore level of population and development knowledge among the Mongolian public servants in urban and rural areas
2. To determine the factors that influence knowledge of population and development among the public servants

CHAPTER 2

LITERATURE REVIEW

This chapter aims to investigate previous research studies that analyze the factors that influence knowledge level. In this part, five strands of literature will be reviewed. First, we investigate studies related to population and development knowledge. In the second section, background factors such as age, sex, education, work place and number of working years and their influence on the level of population and development knowledge among the public servants will be studied. The third section explores the effects of knowledge source on population and development knowledge level. The association of knowledge level and information necessity will be reviewed in the fourth section. Finally, researches related to population and development training curriculum will be reviewed.

2.1 Population and development knowledge

At the beginning of this section, the concept of procedural knowledge is specified. Knowledge is a very complex concept. There are a number of definitions of knowledge. Ursin (2000) who distinguishes seven different types of knowledge presents well-known knowledge taxonomies. One of his definitions related to procedural knowledge is that it is the facts, skills and understandings that people have gained through learning and experience. Ursin's (2000) definition on procedural knowledge was quite similar to those defined by Goldstein (1993) and Stenmark (2001). Procedural knowledge of population and development is information which a public servant has gained through training education and/ or experience (School of Education and Social Sector Management, 2002). Population and development procedural knowledge includes birth, death, migration; population-health, education, nutrition, housing and employment; country development, human development; and policies on population and development in itself (UNFPA, 2000). There is evidence of

an increasing symbolic rather than concrete knowledge of population and development (Hall and Meile, 1980). For example, there is the lack of procedural knowledge of population matters among the public managers of various levels in Ukraine (Salamatov, 2003). In the same vein, the study found that there has been enormous increase in population-related knowledge in the twentieth century which resulted from the world's population growth; however, middle level administrators still have a lack of knowledge of population and development (Gale, 2000).

Several researchers conducted research on procedural knowledge and its influence on training needs (Goldstein 1993; Marquardt 1996; Pont 1991; Genzo et al., 1994; Carrel et al., 1995; Norris 1994). The training needs assessment is very much related to the determination of procedural knowledge level to perform the job (Pont, 1991; UNESCO, 2003). This general idea was reflected in the studies by Goldstein (1993), and Carrel et al., (1995) that when employees fail to grow due to the lack of procedural knowledge, training needs exist. The employees, who perform their work unsatisfactory because of deficiency skills, are prime candidates of training. In the same way, training needs assessment is a diagnostic process on the variety of needs that potentially can be satisfied through training (Francis, 1982; UNESCO, 2002; Bhadra, 1980).

2.2 Background characteristics influence population and development knowledge level

2.2.1 Age of public servants

Older public servants who work in the government sector for more than several years have good procedural knowledge (Bhadra, 1980; Population IEC meeting committee, 1995). Likewise, Gombo (1998) pointed out that older public servants are more knowledgeable compared to younger public servants. Age, working experience, information through the office, seminars and various kinds of training provide great opportunity for public servants to increase their level of procedural knowledge.

In contrast, newly graduated young public servants have more updated theoretical knowledge of population and development compared to senior servants

(Tseren, 2000; Quebec Federal Public Servants Youth Network, 2003). Theoretical knowledge of population and development is the nature of the relationship between demography and the particular discipline concerned (International Encyclopedia of Population, 1982). The studies by Tseren (2000) and Quebec Federal Public Servants Youth Network (2003) discussed the main limitation concerning more theoretical knowledge of young public servants. It is true that young public servants have a great deal of potential to contribute their ability, innovation and high level of education in the public service; however, their procedural knowledge related to population is limited when they start to work in the government sector. They can widen their procedural knowledge through their number of working years, experience in the government sector and various kinds of training.

More knowledgeable mean age of public servants who attended population training was about 34 years in 1970-1980 (Hall and Meile, 1980) in Asia and Africa. Thirty-four is the exact middle age of young and older public servants. At this age, public servants have plenty of information which was gained through their working years and experience and various kinds of seminars. The weakness of above-mentioned reviews was that the authors provided limited data, to support their conclusion and main idea except Hall and Meile. From the literature review, we summarize that age of public servants relates to their procedural knowledge level of population and development. Public servants' age is one of the factors influencing their knowledge level of population and development. Generally, increasing age leads to higher procedural knowledge level of population and development.

2.2.2 Gender of the public servants

There is no difference when people's general knowledge level is separated by sex (Helen and Catherine, 2003). In contrast, there was a relationship between gender and level of knowledge when individual's abstract concept and cognitive tasks are examined (Garland, 2003; Jerry, 2003). Garland and Jerry argued that when abstract knowledge level and general cognitive tasks are evaluated women were slightly less accurate than men were.

So far, there have been some researches that analyzed the relation between gender and training needs. The ratio of men to women who were involved in population training dropped from 2:1 in the later 1960s and there was still disparity by the early 1970s (Hall and Meile, 1980). Women who work in the public sector reported higher training needs than men (Shaffer, 1995). It means that women are more likely to be involved in training because they tend to underestimate their work skills. Furthermore, the Cairo Population and Development Conference and the Beijing Women's Conference, which was investigated by Ashford (2001), emphasized that there is still disparity between men and women in the work force and work-related training involvement. Based on the studies by Shaffer (1995) and Ashford (2001), we believe that maybe the training need is higher among the female public servants compared to males. Also, we conclude that there is no association between sex of the public servants and their knowledge level based on the studies by Helen and Catherine (2003).

2.2.3 Educational level of public servants

Education level of public servants has a positive influence on procedural knowledge of population and development. The public servants that completed university have higher level of population-related procedural knowledge compared to those who had below the university level (Batkhuu, 2002). So, knowledge of population and development among the public servants with higher education and below the university level is different from each other. The public servants who graduated from university and had higher level of population and development procedural knowledge could be explained by better awareness of information sources such as newspapers, books and mass media. Moreover, when public servants have more education, they have more need to participate in further learning activities to increase their knowledge level (Cross, 1981). Cross's (1981) study was similar to Charles (1976) and Norris's (1994) in that more educated people were more likely to learn more.

As mentioned before, the people who graduated from the various types of universities work in the provincial (aimag) and district (soum) Governor Offices

(Implementing Support Group for MAP-21, 2003) due to human resource shortage in rural areas. The public servants who graduated from economics-oriented universities were more knowledgeable about population matters than those who finished agricultural, pedagogical or engineering universities and vocational training studies (Tumentsogt, 2003). The economics profession is more related to population and development compared to the engineering, teaching and agricultural professions; also, the students of an economics university learn more related subjects on population when they study in university. Tumentsogt's study is valuable in explaining knowledge level difference among the public servants who finished different universities. Nevertheless, based on researches by Batkhuu (2002), Cross (1981) and Tumentsogt (2003), we conclude that procedural knowledge of population and development of public servants is related to their educational level. Educational level of public servants has positive influence on procedural knowledge of population and development.

2.2.4 Work place of public servants

Numerous studies have shown individuals' knowledge level relates to the location of working places (urban or rural). Knowledge of government policy on population among the public servants varied significantly according to their working place in urban and rural areas (Tsetsegdelger, 1995).

A study by Pont (1991) was similar to Tsetsegdelger's (1995) in that those who work in urban areas are more knowledgeable compared to employees who work in rural areas, when their knowledge on latest management tools was examined. Moreover, knowledge level of family planning and population trends among the public servants in urban areas were higher than those who work in rural areas (Bold, 1995; Regional Clearing House on Population Education and Communication, 1995; Kondo, 1995). City public servants' higher level of knowledge was explained by better access to information provided in the newspapers, TV, mass media, office and various kinds of printed materials. Also, short-term training, seminars and conferences are more likely to be organized in urban areas. Therefore, the public servants who work in urban areas have more chance to attend these training and they are more likely to receive recent news. As a result, in this study, we hypothesize that knowledge level of

population and development among the public servants is different depending on whether they work in urban or rural areas. This point will be more helpful in developing different training curriculum with regard to the content and teaching types for public servants in urban and rural areas.

2.2.5 Number of working years

The number of working years of public servants is one of the predictors of procedural knowledge level of population and development. Several researchers' studies focused on the direct effect of the number of working years on employees' procedural knowledge level. For instance, the relationship between procedural knowledge level and number of working years was broadly examined by Hall and Miele (1980), Cross (1981) and Tsetsegdelger (1995). These researchers explored that the relationship between procedural knowledge of population and number of working years is slightly strong. In other words, when public servants' number of working years increases, their procedural knowledge also tends to increase.

In the same vein, recently promoted public servants and many other public servants who just entered the government sector are unskilled to carry out routine activities and their procedural knowledge is lower compared with senior servants (Flamholtz, 1990; Carrel et al. , 1995 and Donal, 1990). Based on this, at the beginning of the working year, new public servants have limited level of procedural knowledge of population and development. Thus, new employees who have a low level of procedural knowledge of their new position seek information and their immediate need is to reduce any uncertainty about the job. For this purpose, they start to become involved in seminars and training and learn job related books. Based on literature, we summarize that number of working years influences public servant's level of population and development knowledge.

2.3 Sources of knowledge of population and development

Sources of knowledge that are accessible to public servants have an important influence on knowledge level. Procedural knowledge can be accessed through several sources such as mass media, printed papers, office, colleagues, local in-service seminars, workshops, independent study and research. Among these sources, in-service training, workshops and information from office play a large role in diffusing public servants' procedural knowledge level (Regional Expert Consultation, 1981). The channel through which information is conveyed is very important in shaping knowledge (UNESCO, 1980; 2002).

The knowledge source is different among the public servants that work in urban and rural areas (Gankhuu, 2002). The public servants in urban areas are more likely to obtain information on government activities and its policies from their offices and colleagues, but it was opposite in the rural areas. The public servants in rural areas receive their knowledge from newspapers, printed materials and mass media. The mass media and newspapers are the best methods for rapid spread of government policies and activities; and information on population and development to a large population at low cost. Especially, radio ownership is high in Mongolia. However, mass media are concentrated more on entertainment (80 percent of the programs) (Bold, 1995). If there is any program related to government activities, the mass media can provide the necessary background information on population, but this information is usually insufficient for gaining level of population and development knowledge.

Also, we should mention that almost all newspapers and printed materials, except government booklets, do not contain much about population and development. Therefore, it leads us to wonder how rural public servants gain their procedural knowledge from the mass media and newspapers. If they gain their knowledge through the mass media and newspapers, their procedural knowledge level of population and development will be lower compared to those who obtain their knowledge through the offices and colleagues. Information provided by high-ranking government officers, training and seminars, morning talks, meetings and work reports through the office play a more important role in spreading population and development knowledge compared to the mass media in Mongolia. In summary, we conclude that source of knowledge directly affects knowledge level of population and development.

2.4 Population and development information necessity

In this study information necessity refers to information on population and development for public servants to carry out their work. A number of studies were conducted in connection with information and its relation with human knowledge (Stenmark, 2001; WHO 2000; Ronald and Kenneth, 1991). Actually, the terms - knowledge and information - are not the same. However, many researchers use these terms very casually (Merlyn et al., 1994). In particular, the terms - knowledge and information - are often used interchangeably (Stenmark, 2001). Information is defined as one form of knowledge (Tseren, 2000). Knowledge and information are similar in some aspects; however, they are different in other aspects (Nonaka, 1995). Furthermore, Nonaka argued that outcome of information usage improves individuals' state of knowledge. This idea is not similar to this reported by Stenmark (1994) that when new facts are informed to individuals it does not become knowledge, and he stated that information alters the existing knowledge by increasing the individual's knowledge state, therefore opening new possibilities to act. In this study, I argue that information affects knowledge. Information, which is relevant for population and development, plays an important role for creating knowledge among the public servants.

Information is essential in the government policy success story because on the basis of informed awareness and knowledge public servants take action (United Nations Economic and Social Commission for Asia Pacific, 2001; Population Council, 1995; Maglalang, 1982). Level of knowledge relates to more adequate and appropriate information. Also, it relates to how much information individuals receive (Population Council, 1984). Dissemination of information plays a vital role in accepting and using new ideas and improving knowledge level of public servants. In other words, adequate information is the most powerful tool, opening up new possibilities and experience.

Information influences public servants to make more appropriate activities interrelated to population and sustainable development. The policy-makers who stated that information on development and gender is very important for their work and who regularly receive information on population matters were more knowledgeable compared to those who viewed that information is less important and who received information rarely (School of Education and Social Sector Management, 2002). In

other words, the public servants whose work required information on population and development will be more knowledgeable compared to those whose work does not require information. Reviewing the literature, we believe that population and information necessity for public servants relates to their knowledge level of population and development.

2.5 Training on population and development

2.5.1 Duration and type of training

Training period depends on learners' understanding of new concepts, development skills and level of knowledge (Thomas, 1992 and Hall and Meile 1980). It is a valuable idea, especially for organizing training according to participants' knowledge level. If the trainer has been given limited time to train the public servants with low knowledge, this would mean that knowledge has not been fully understood.

Training term depends on whom and what purpose training provides (United Nations, 1975, 1995). This idea was similar to the researches by Kim and Shin (2003) and Bold (1995) that training term will vary according to public servants' knowledge of population and development. Extremely low level of knowledge needs long-term intensive programs and limited level of knowledge requires mid-term courses. Short-term courses and seminars should be organized among the public servants with high level of knowledge (Flamholtz, 1990). The training type is generally divided into two main parts: on-the-job training and off-the-job training. On-the-job training is offered by personnel within the organization (Carrel et al., 1995; Kim et al., 2003), but off-the-job training organized outside covers a number of techniques in the classroom provided by universities or specialized consultants (Genzo et al., 1994).

According to Hall and Meile (1980) during 1966-1978 three main types of population training were organized: 1) clinical and field training 2) conferences and meetings (family planning population programs) and 3) classroom training (). The training types on population and development in the 1990s still keep its traditional form (Donal, 1990). However, detailed researches on training duration have shown that it became shorter since 1978 (Kerka, 1990; Kondo 1995). Short-term courses on population and development interpreted economic circumstance, urgency and time

consumption of the participants. Training on population and development is concerned more about public servants' skills and abilities to perform their jobs, and it is mainly based on learner's level of knowledge. Nevertheless, based on the studies by UN (1975; 1995) and Kim and Shin (2003), we conclude that duration and type of training is related to learner's knowledge level.

2.5.2 Population and development training curriculum

In the mid-sixties, UNESCO and UNFPA were attempting to improve education in population matters. The earliest national training programs on population and development were developed in Asia: in India, beginning in 1969, then the Philippines and the Republic of Korea in 1970 and 1972, respectively (United Nations, 1975).

The general definition of population education was clarified that it is designed to develop awareness and understanding of the nature, causes, and personal as well as social implications of population phenomena (UNESCO, 2002). A clearer definition was given in the International Encyclopedia of Population (1982) that its content includes techniques for defining population problems and determinants of population processes. It is intended to assist its students to evaluate actions that they and their communities can take to regulate those processes. Population education training programmes should be revised as appropriate to match changing national situations (UNESCO Regional Office for Education in Asia and the Pacific Bangkok, 1982). This is very useful for training managers when they develop training curriculum on population and development. The training content on population and development for the Mongolian public servants should match the national situation, the urgent problems which Mongolia faces today such as migration, poverty, declining fertility, population housing and improvement of family life (UNFPA, 2001), and the existing quality of human resources and incentive structure, etc.

The course content should be designed to reflect the training needs as determined from time to time. As the needs change so should the curriculum. Training is intended to meet identified, specific needs of personnel and their organization (UN and Asian Pacific Development Center, 1987). Therefore, the first thing to do should

be to determine the training needs more specifically. One important step is to design the course content which should also take into account the knowledge level and background of participants, the period for which they can be conveniently spared for training, and the training methods which will be most effective in the given set of circumstances (Maglalang. 1982).

The population and development training contents for public servants' in India (UNESCO, 1980), Bangladesh (Department of Social Welfare, 1984), Italy (United Nations, 1980), Papua New Guinea, Solomon, Tonga and Fiji (UNESCO, 1980) were generally similar to each other, including population growth, economic development in population, health and nutrition and population, family life, family planning policies and programmes, education, employment, environment and population density. However, the above mentioned countries focused more on certain aspects. For example, in India, population and development education deepened understanding of the effect of population issues on development and family planning and living conditions of an individual and community (UNESCO, 1980). In Bangladesh, they were concerned more with consequences of rapid population growth to ecology, malnutrition and high infant mortality rate; in Italy, distribution of the population, population growth and women employment. In Fiji, internal migration, mortality and population growth and in Papua New Guinea migration and poverty, land use and nutrition were of more concern. In summary, based on the researches conducted by UNFPA (2001) and UNESCO Regional Office for Education in Asia and the Pacific Bangkok (1982), the contents of population and development for public servants' training in Mongolian context could generally include techniques for determining population problems and methods of determinants and consequences of population processes and change and regulation of those processes. It will be more deeply focused on the population problems that should take immediate actions such as rural-to-urban migration, poverty, country development and gender equality.

2.6 Summary of the literature review

Improving the level of population and development knowledge among the public servants is a very urgent issue not only in Mongolia but also in other countries.

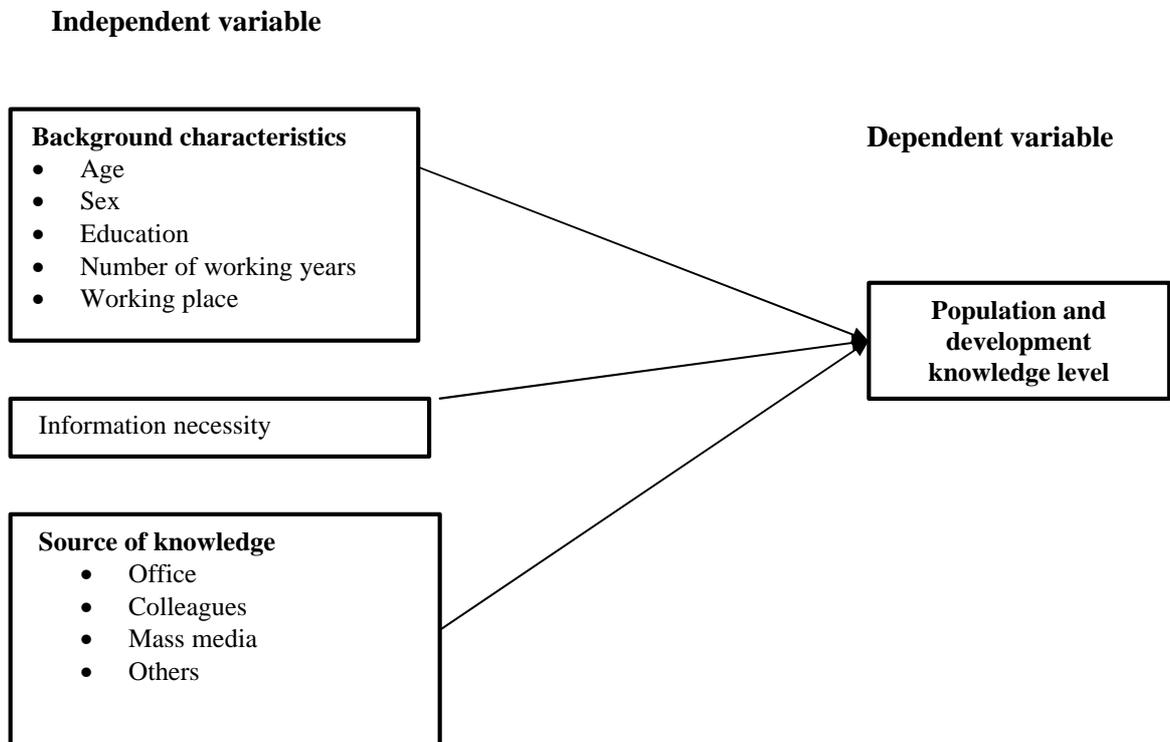
Well-organized training plays a significant role in increasing level of population and development knowledge. Exploring the factors which affect knowledge determine the way that training managers should start activities that equip knowledge level of public servants and which issues they should be more concerned with.

Age, sex, education, number of working years, working place of public servants, source of knowledge and information necessity affect the level of population and development knowledge among the public servants.

Public servants' knowledge level of population and development will be more helpful to plan and develop training curriculum and also the ways to organize training and seminars. With regard to the knowledge level of public servants, type and duration of population and development training should be organized.

2.7 Conceptual framework

Based on the literature review, this study uses the conceptual framework shown in Figure 2.1. Firstly, the analysis examines the relationship between background characteristics such as age, sex, education, number of working years and work place of the respondents and level of population and development knowledge. Secondly, the relationship of information necessity and knowledge level will be investigated. Then, source of knowledge and its influence on knowledge of population and development will be explored.

Figure 2.1 Conceptual framework

2.8 Hypotheses

Based on the literature review and conceptual framework, the following hypotheses to be investigated are:

1. There is a relationship between background characteristics and knowledge level
2. Information necessity has a positive effect on knowledge level
3. Knowledge through the office is more effective than knowledge received through the media in terms of population and development

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Source of the data

The data was collected at the School of Education and Social Sector Management, Academy of Management of Mongolia and was funded by the United Nations Population Fund in 2002. The survey was conducted in 21 provinces, 40 districts and capital city Ulaanbaatar, Mongolia for identifying training needs on population and development among the policy makers, public servants and citizens. A total of 1339 respondents including 609 citizens, 409 policy makers and 321 public servants were interviewed through questionnaires.

3.2 Population of study

This thesis is based on survey of 321 public servants collected at the School of Education Social Sector Management, Academy of Management in 2002. Both males and females aged 22-56 from 21 provinces, 40 districts and Ulaanbaatar city were interviewed.

3.3 Data analysis

SPSS program is used to analyze the data. To meet the objectives of the study, first descriptive statistics (cross-tabulations, means and frequencies) was used. Chi-square test and multiple regressions are applied testing hypothesis of the study.

3.4 Operationalization of variables

3.5 Based on the conceptual framework and data source, the variables are as follows:

Dependent variable: Knowledge on population and development is the information which a public servant has gained through the training, education and /or experience. It includes: birth, death, migration; population-health, education, nutrition, housing and employment; country development, human development; policies on population and development (UNFPA, 2000). Population and development knowledge level is identified questions which were asked to measure how much respondents know about population and development basic understandings. These questions were prepared from “Mongolian Statistical Year Book-2000” published by National Statistical Office, “Population, poverty and sustainable development” published by School of Education and Social Sector Management and UNFPA in 2002. Each question’s correct response represented by a value of 1 and an incorrect scored 0. The knowledge score of each respondent ranges from 1 to 12.

Independent variable: Independent variables are classified into three sets: background characteristics, information necessity and source of knowledge.

Background characteristics include age, sex, education, number of working year and work place of the respondents.

- Public servant refers to the person who works in the province and district Governor Office who temporarily and permanently involve in the population related issues such as coordination and registration of population death, birth and migration.
- Age of the public servants in this study refers to measured in completed years since birth. As mentioned earlier, the public servants aged 22-56 will comprise the study population. For the descriptive analysis, age will be taken as an ordinal level variable as shown in Table 3.1.
- Gender of the respondents examines gender differentials on level of population and development knowledge. Two categories male and female were used for gender.

- Education of the public servants is the highest completed years of schooling. It is divided into two categories as shown in Table 3.1: below the university and university level. Below the university level refers to public servants that completed vocational studies in a various professional field which lasts for 2-2.5 years. University education refers to university level graduates who hold bachelor degree.
- Number of working year of public servants refers to length of year worked in the public sector. It will be independent variable of the study to examine the relation of knowledge and length of working year. It categorized into two categories; less than 10 and more than 10 as shown in Table 3.1.
- Work place indicates place of working where the public servants are employed in urban or rural. It will be categorized into three categories: city, province (aimag) and district (soum).

Information characteristic

- Information necessity refers to required information on population and development for public servants to carry out their work. Information necessity derived from the question whether information on population and development important for public servants' or not. It will be categorized into three groups: very important (1), some importance (2) and less important (3) as shown in Table 3.1.

Source of knowledge

- Source of knowledge that are access to public servant have an important influence their knowledge level. Office includes seminars, meetings and weekly discussions at work place. Colleague refers to public servant's workmates. Respondents were asked which sources of information they had learned the most about population and development. The source of knowledge is divided into four groups: office (1), colleagues (2), mass media (3) and other channels (4).

Table 3.1 Operational definition and scales

Table. 1	Operational definition of variables	
Variable name	Description	Measurement
scales		
Dependent variables		
Knowledge	Knowledge on population and development	<i>Nominal</i> 0. incorrect 1. correct
Independent variables:		
Age	Reported complete age	<i>Ordinal</i> 1. Less than 30 2. 31-40 3. 41-50 4. 51 and above
Gender	Sex of the respondents	<i>Nominal</i> 1. Male 2. Female
Education	Highest completed educational level	<i>Nominal</i> 1. Below the university 2. University
Number of working year	Years worked in public sector	<i>Ordinal</i> 1. Less than 10 2. More than 10
Work place	Place of working	<i>Nominal</i> 1. City 2. Province 3. District
Information necessity	Information required to carry out activity	<i>Nominal</i> 1. Very important 2. Some important 3. Less important
Source of knowledge	Channels receive knowledge	<i>Nominal</i> 1. Office 2. Colleagues 3. Mass media 4. Others

3.5 Limitation of the research

The survey, which was conducted at School of Education and Social Sector Management, aimed to assess training needs on population and development among the public servants. Due to some of other important factors which influence knowledge level such as public servants' professional background, work position, regional difference, and length of the working year related to coordination of population issues, and attendance of previous courses on population and development

are not examined. Also, the measures of the outcome variables are weak. Second, limited conclusions on knowledge regarding population and development among the public servants were made. The questions regarding population and development were limited.

3.6 The expected outcomes

The results and recommendations of the thesis will be disseminated to the administrators and managers of training institutions responsible for training on population and development for further use.

CHAPTER 4

RESULTS OF THE STUDY

This chapter presents the main results of the study. In this part, three strands of analysis will be examined. The first section provides descriptive explanation of background characteristics, information characteristics, sources of knowledge characteristics and respondents' knowledge of population and development. The second section explores the relationship of population and development knowledge with background characteristics, information necessity and sources of knowledge characteristics. Finally, in the third section, the multivariate analysis of population and development knowledge with source of knowledge, information necessity and background characteristics of the respondents will be analyzed.

4.1 Descriptive explanation of the results

This part presents the results as a tabular presentation along with explanation for the readers, as needed, for prescribed factors for the study under:

1. Background characteristics
2. Source of knowledge
3. Information necessity
4. Knowledge of population and development

4.1.1 Background characteristics of the respondents

The aim of this section is to describe background characteristics of the respondents, which include age, sex, education level, number working years and work place. The descriptive statistics results of background characteristics are shown in Table 4.1.

The respondents in this study consisted of 321 public servants, of whom about 46 percent are male and 54 percent are female. Age is assumed to be one factor which

relates to the level of population and development knowledge. Most of the respondents (47.4 percent) are in the age group of 31-40. The age group 41-50 years comes second (25.5 percent). About 21.5 percent of the respondents are less than 30 years, and there are very few respondents (5.6 percent) who are 51 and above. The mean age of the respondents is 38.04 years with a standard deviation of 8.393.

This section describes education level of the respondents. As shown in Table 4.1, education level of the respondents is divided into two categories: below the university and university. Regarding educational level of the respondents, descriptive result reveals that the majority of the respondents had university level education (80.4 percent) while 19.6 percent had below the university level education.

Regarding number of working years, about 54.5 percent of the respondents have been working in the government sector for less than 10 years while 45.5 percent had more than 10 working years. The mean number of working years is 10.37 with a standard deviation of 6.182. Descriptive data of number of working years of the respondents reveals that the majority of the respondents have been working in the government sector for less than 10 years.

Working place is assumed to be one factor which affects level of population and development knowledge. Working place is divided into three types: city (Ulaanbaatar), province (aimag) and district (soum). In fact, the result of the respondents' working place shows that 22.4 percent work in the city (Ulaanbaatar) while 43.3 percent and 34.3 percent of the respondents work in the provinces (aimag) and districts (soum), respectively. There are 22 provinces (aimag) in Mongolia. Each province (aimag) is subdivided into 30 districts (soum). The result of descriptive statistics indicates that a higher proportion of the respondents work in the provinces.

Table 4.1 Percentage distribution of background characteristics of the respondents

Background characteristics	Number (N=321)	Percent
Age		
Less than 30	69	21.5
31-40	152	47.4
41-50	82	25.5
51 and above	18	5.6
	<i>Min=22; Max=56</i>	<i>Mean=38.04</i> <i>Std. Dev=8.393</i>
Sex		
Male	147	45.8
Female	174	54.2
Educational level		
Below university	63	19.6
University	258	80.4
Working year		
Less than 10	175	54.5
More than 10	146	45.5
	<i>Min=1; Max=29</i>	<i>Mean=10.37;</i> <i>Std. Dev=6.182</i>
Work place		
City (Ulaanbaatar)	72	22.4
Province (aimag)	139	43.3
District (soum)	110	34.3

Note: Row percentages

4.1.2 Information characteristics

The percentage distribution of population and development information necessity is shown in Figure 4.1.

Figure 4.1 Percentage distribution of population and development information necessity

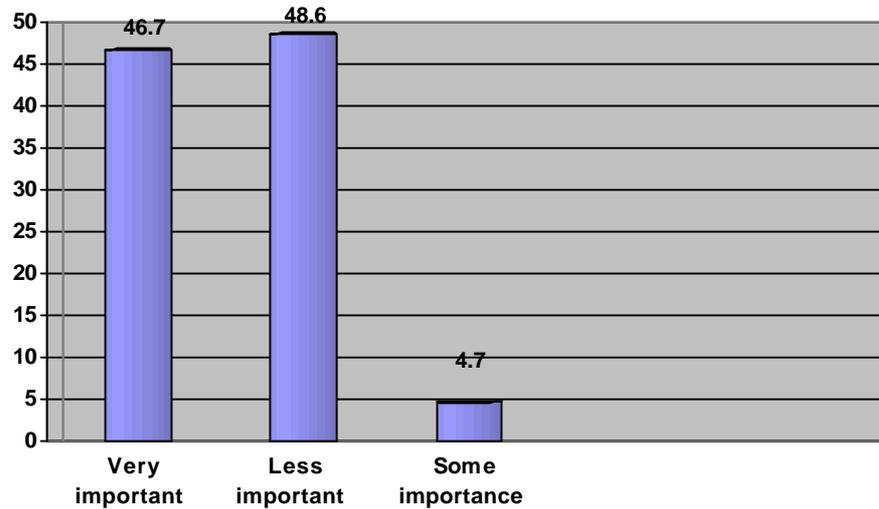


Figure 4.1 highlights the descriptive analysis of the population and development information necessity for the respondents. As mentioned before, information necessity perceived by the respondents was divided into three categories: very important, some importance and less important. The respondents of this study are the public servants who work in the city, provinces (aimag) and districts (soum) that temporarily and permanently were involved in coordination of population-related issues. Therefore, all the respondents required information on population and development. However, less than half of the respondents (46.7 percent) replied that the information related to population and development is very important for their work. Furthermore, 48.6 percent of the respondents stated that information on population and development has some importance, and 4.7 percent evaluated the role of population and development information for their work is less important.

The next section describes population and development information necessity by background characteristics. Table 4.2 shows percentage distribution of information necessity by background characteristics. More than half of the respondents (about 61 percent) aged 41-50 and 51 and above replied that information on population and development is very important for their work. 57.9 percent and 52.6 percent of the

respondents in age groups 20-30 and 31-40, respectively, stated that information on population and development has some importance.

Regarding educational level, half of the respondents (50.3 percent) who had university level education viewed that information on population and development is very important while the majority of the respondents (58.7 percent) who had below the university level education said that information on population and development has some importance for their work.

Regarding number of working years, among the respondents who have been working in the government sector for less than 10 years, 45.7 percent said information is very important while 48 percent said information has some importance. A few of the respondents (6.2 percent) answered information is less important. Moreover, among the respondents who have been working in the government sector for more than 10 years, about 47.9 percent and 49.3 percent viewed that information is very important and has some importance, respectively, while 2.7 percent replied less important.

Among the respondents working in the city, about 63 percent stated that information on population and development is very important to their work compared with those who work in the provinces (28 percent) and districts (59.9 percent). Among those who viewed that the information is less important for their work, the respondents working in the city hold the highest percentage compared with those in the provinces and districts. (See Figure 4.2)

Figure 4.2 Percentage distribution of population and development information necessity by work place

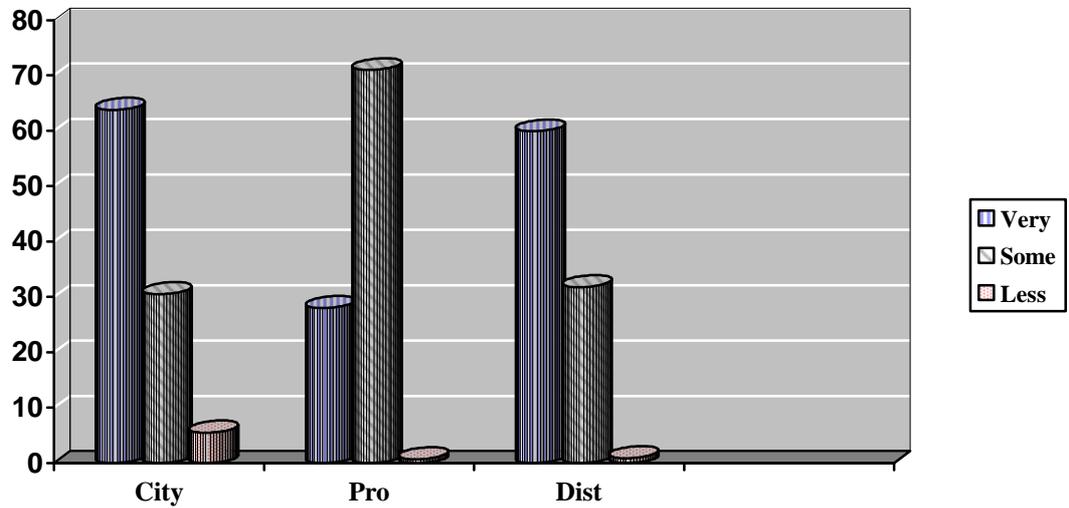


Table 4.2 Percentage distribution of information necessity by background characteristics

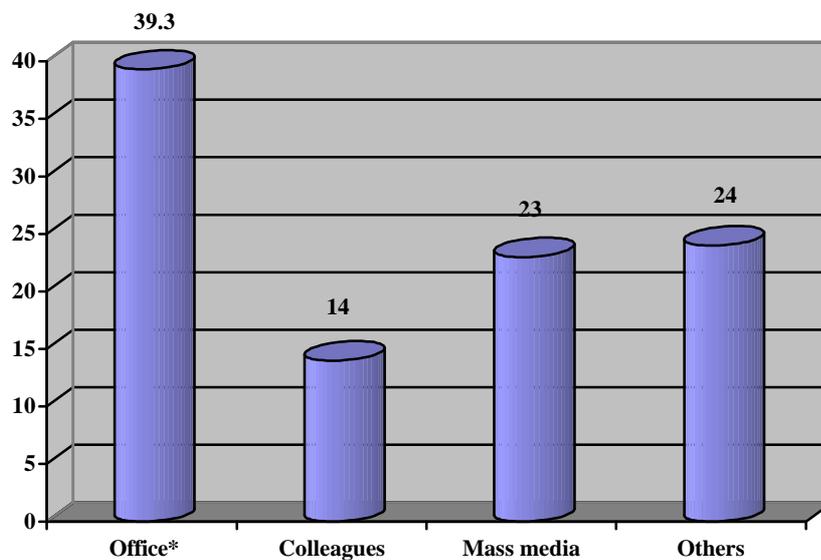
Characteristics	Information Necessity		
	Very important	Some importance	Less important
Age			
Less than 30	34.7	57.9	7.2
31-40	42.7	52.6	4.6
41-50	60.9	37.8	1.2
51 and above	61.1	27.7	11.1
Sex			
Male	45.5	51.0	3.4
Female	47.7	46.5	5.7
Education			
Below the university	31.7	58.7	9.5
University	50.3	46.1	3.4
Number of working years			
Less than 10	45.7	48.0	6.2
More than 10	47.9	49.3	2.7
Working place			
City	63.8	30.5	5.5
Province (aimag)	28.05	71.2	0.7
District (soum)	59.9	31.8	0.9

Note: Row percentages

4.1.3 Source of knowledge of population and development

Figure 4.3 shows percentage distribution of knowledge source from where the respondents had learned most about population and development.

Figure 4.3 Percentage distribution of knowledge source on population and development



*Office (seminars, meetings and weekly discussions at work place)

Figure 4.3 depicts that the office plays an important role in disseminating information because 39.3 percent of the respondents said they had learned most about population and development from the office. Quite a small proportion of the respondents (14 percent) viewed that colleagues are a source of knowledge. About 23 percent of the respondents reported that they obtained information on population and development from the mass media, and 24 percent replied that they learned from other channels. Other channels include self-study and printed materials.

Source of knowledge by the respondents' background characteristics is described in this section. As shown in Table 4.3, there are clear differences in source of knowledge by age groups. 35 percent of the respondents in the age group less than 30 years learnt knowledge of population and development through the mass media and other channels. 34.8 percent of the respondents aged 31-40, 56 percent aged 41-50 and

55.5 percent of the respondents aged 51 and above obtained their knowledge through the office.

There is a difference regarding source of knowledge between those who had different education levels. Less than half of the respondents (47.6 percent) who graduated from university obtained their knowledge through their offices compared to those who had below the university level education (4.7 percent). Also, there was a significant difference between the respondents who had university and below the university education gaining their knowledge of population and development through the mass media and other channels. A low percentage (16.2 percent) of the respondents who had university level education and more than half of the respondents (52.3 percent) who had below the university level education obtained their knowledge of population and development through the mass media.

Regarding number of working years, the respondents who have been working for less than ten years (34.8 percent) and for more than ten years (44.5 percent) in the government sector gained their knowledge through the office rather than through their colleagues.

Regarding working place, more than half of the respondents (58.3 percent) who work in the city gained their knowledge through the office. The result was almost similar for those who work in the provinces and districts. One-third of the respondents who work in the provinces (32.3 percent) and districts (around 35 percent) obtained knowledge of population and development through the office rather than colleagues, mass media and other channel (self-study and courses).

Table 4.3 Percentage distribution of knowledge source by background characteristics

	Office	Colleagues	Mass media	Others
Age				
Less than 30	24.6	5.7	35	34
31-40	34.8	11.8	26.9	26.6
41-50	56.0	23.1	9.7	10.9
51 and above	55.5	22.2	16.6	5.5
Sex				
Male	38.0	14.9	21.7	25.1
Female	40.2	13.2	24.7	21.8
Education				
Below the university	4.7	1.5	52.3	41.2
University	47.6	17.0	16.2	18.9
Number of working years				
Less than 10	34.8	12.5	26.8	25.7
More than 10	44.5	15.7	19.1	20.5
Work place				
City	58.3	27.7	12.5	1.3
Province (aimag)	32.3	10.7	27.3	29.4
District (soum)	35.4	9.0	25.4	30.0

Note: Row percentages

4.1.4 Knowledge of population and development

Population and development knowledge level was measured according to twelve items of question. Based on these twelve items, scores have been computed. The scoring criteria depend upon the allocation of one score for the correct answer and zero for the wrong answer. Hence, adding up scores for all the questions and getting the frequency for overall score, only one respondent answered all the questions correctly and received a score of 12. The minimum score of the knowledge of population and development was 3 and the maximum score was 12. The mean of the total knowledge score is 7.3084 with a standard deviation of 1.73428. The median score of population and development knowledge is 7.308. The overall score of population and development knowledge then was grouped into two parts: low and high as shown in Table 4.4.

According to Table 4.4, it is found that more than half of the respondents (52.4 percent) had a low level of knowledge while 47.6 percent had a high level of knowledge. The findings signal that more than half of the respondents had unsatisfactory understanding of population and development.

Table 4.4 Percentage distribution of the total score on population and development knowledge

Score	Number	Percent
Low	168	52.4
High	153	47.6
Median=7.3084		
Std. Dev=1.73428		

Furthermore, two categories of correct and incorrect knowledge were set up based on the respondents' answers to the knowledge of population and development. The analysis is shown in Table 4.5. Most correct answers were given to the questions on knowledge of population social environment and security (72.9 percent), and less correct answers (50.8 percent) were given to the statements on population and country development. The question on basic concepts of population and development was asked and the majority of the respondents (69.5 percent) gave correct answers while one-third (30.5 percent) gave incorrect answers. About 61 percent of the respondents had correct understanding about migration and urbanization concepts as well as the concept of population food and environment. About 54.8 percent and 52.6 percent gave correct answers regarding the concept of population and employment and human development. Moreover, 56.1 percent provided a correct answer to the question related to the definition of population death, birth and marriage concepts. Regarding family planning knowledge, around 59 percent of the respondents had a correct understanding about this matter. The percentages of the correct answers on population policy and population education are quite similar to each other, and they were about 66 percent. Respondents showed less correct answers towards the following questions: population employment, country development, human development, concepts on death, birth and marriage, family planning, and population structure.

Table 4.5 Percentage distribution of “correct” and “incorrect” knowledge of population and development

Items	Incorrect		Correct	
	Number	Percent	Number	Percent
1. Basic concepts on population and development	98	30.5	223	69.5
2. Migration and urbanization	126	39.3	195	60.7
3. Population and employment	145	45.2	176	54.8
4. Population and country development	158	49.2	163	50.8
5. Human development	152	47.4	169	52.6
6. Death, birth and marriage	141	43.9	180	56.1
7. Family planning	130	40.5	191	59.5
8. Population structure and characteristics	132	41.1	189	58.9
9. Population food and environment	123	38.3	198	61.7
10. Population policy	106	33.0	215	67.0
11. Population education	109	34.0	212	66.0
12. Population social environment and security	87	27.1	234	72.9

Note: Row percentages

4.2 Relationship between independent and dependent variables

4.2.1 Relationship between knowledge of population and development and background characteristics

The analysis also focused on the relationship between population and development knowledge and background characteristics of the respondents. Table 4.6 describes population and development knowledge level by characteristics of the respondents. It was revealed that knowledge level of population and development is significantly associated with age. Respondents are classified by age groups “less than 30”, “31-40”, “41-50” and “51 and above”. Among those who are less than 30 years of age, 81.5 percent had a low knowledge level, and 18.3 percent had a high knowledge

level. Among the age group of 31-40, 64.4 percent were in a low knowledge category and 35.6 percent showed high knowledge level. Among the age group of 41-50 years, 14.6 percent had a low level of knowledge. Among the age group of 51 and above, there appeared to be negligible number of respondents to be considered. The majority of the respondents (88.8 percent) had a high knowledge level of population and development. This study found that age is statistically associated with the level of population and development knowledge (P-value=0.05). In total, considering all age groups, 47.6 percent had a low knowledge level and more than half (52.4 percent) had a high knowledge level of population and development. Respondents in the age groups of 41-50 and 51 and above hold the highest percentage of the level of knowledge compared to the younger groups.

Level of knowledge was classified by sex, and data revealed that 50.4 percent of males had a high knowledge level while 49.7 percent of females had a high knowledge of population and development. There is no relationship between gender of the respondents and their knowledge level of population and development (P-value=.872). Considering sex, 45.7 percent of the respondents had a low level of population and development knowledge, and 54.3 percent had a high level of population and development knowledge.

There is a relationship between educational level of the respondents and level of population and development knowledge. (see Table 4.6) Among those with education lower than university level, 1.5 percent had a high level of population and development knowledge. Among those with university level education, about 41 percent of the respondents had a low level of knowledge while 58.9 percent had a high knowledge level.

Regarding the number of working years, it was found that 61.3 percent of those with less than 10 working years had a low knowledge of population and development. Among those who worked for more than 10 years, 41.1 percent of them displayed a low level of knowledge, and about half (58.9 percent) showed a high level of population and development knowledge. The number of working years of the respondents stands for non-significance on the chi-square. (P-value = .092). It indicates that the length of working years in the government sector has no relationship with the level of population and development knowledge.

Regarding working place, 22.2 percent had a low level of knowledge while 77.7 percent had a high level. Furthermore, among the respondents who work in the provinces (aimag), 62.5 percent had a low knowledge level. Among the respondents who work in the districts (soum), more than half (59.1 percent) had a low knowledge level. There is a relationship between work place and knowledge of population and development (P-value=.000).

4.2.2 Relationship between information necessity and knowledge of population and development

Table 4.6 presents the relationship between information necessity and knowledge level of population and development. Information necessity refers to information on population and development that public servants found useful for their work. It was divided into three categories: very important, some importance and less important. One-third (31.3 percent) of the respondents who replied that information on population and development is very important for their daily work had a low knowledge level while most (68.6 percent) had a high knowledge level. About 70 percent of the respondents who stated that the information has some importance had a low knowledge level while 30 percent had a high level of knowledge. Moreover, 80 percent of the respondents who answered that the information is less important had a low level of knowledge, and 20 percent had a high level of knowledge. Respondents who said information on population and development is very important for their work had higher level of population knowledge compared to those who answered some importance and less important. The results highlight that there is a relationship between knowledge level of population and development and information necessity (P-value=.000). Inferential statistics data found that information necessity has an effect on the level of population and development knowledge.

4.2.3 Relationship between knowledge source and knowledge of population and development

There were four options on source of knowledge of population and development: office, colleagues, mass media and other channels (self-study and

various printed materials). Less than one-third (25.3 percent) of the respondents who received their knowledge of population and development through the office had a low knowledge level, and the majority of the respondents (74.6 percent) had a high knowledge level. Moreover, 13.3 percent of the respondents who obtained their knowledge of population and development through their colleagues had a low level of knowledge. A majority of the respondents (85.3 percent) who obtained their knowledge through the mass media had a low knowledge level, and only 14.6 percent had a high level of population and development knowledge. Among the respondents who received their knowledge through other channels (self-study, various printed materials), 88 percent had a low knowledge level while 12 percent had a high level of knowledge. Those who gained their knowledge of population and development through the office and colleagues hold the highest percentage of a high knowledge level. There is a statistically significant relationship between source of knowledge (P-value=.000).

Table 4.6 Percentage distribution of relationship between dependent variable
knowledge on population and development and independent variables

Independent variables	Knowledge on population and development		X (df)	P value
	Low (N=168)	High (N=153)		
Age groups			151.6	.000
Less than 30	81.5	18.3		
31-40	64.4	35.6		
41-50	14.6	85.3		
51 and above	11.1	88.8		
<i>Total (47.6%= low, 52.4 %= high)</i>				
Sex			4.54	.872
Male	49.6	50.4		
Female	50.3	49.7		
<i>Total (45.7%= low, 54.3 % high)</i>				
Education			129.4	.000
Below the university	98.4	1.5		
University	41.	58.9		
<i>Total (41%= low, 58.9 % high)</i>				
Working year			14.9	.092
Less than 10	61.3	38.6		
More than 10	41.1	58.9		
<i>Total (54.5%= low, 45.5 % high)</i>				
Working place			75.6	.000
City	22.2	77.7		
Province (aimag)	62.5	37.4		
District (soum)	59.1	40.9		
<i>Total (52%= low, 47.7 % high)</i>				
Information necessity			89.7	.000
Very important	31.3	68.6		
Some importance	70.0	30.0		
Less important	80.0	20.0		
Knowledge source			182.6	.000
Office	25.3	74.6		
Colleagues	13.3	86.6		
Mass media	85.3	14.6		
Others	88.0	12.0		

Note: Row percentages

4.3 Multivariate results

This study examines the relationship between population and development knowledge level, source of the knowledge and information necessity, controlling for the background characteristics of the respondents. Multiple regression method was applied to test for association. Table 4.7 shows the result of multiple regression analysis.

Model 1 includes population and development knowledge source variables: office, colleagues, mass media and other channels. When information necessity characteristics are added in model 2, it includes two characteristics: knowledge source and information necessity. Model 3 includes source of knowledge, information necessity and background characteristics of the respondents: age, sex, education, length of working years and working place along with all variables related to source of knowledge and information necessity to test the association between characteristics and population and development knowledge after controlling for selected background characteristics.

The results show that model 1 which includes office, colleagues, and mass media variables significantly explains variation in population and development knowledge by 42 percent. It indicates that source of the knowledge is the strongest predictor of population and development knowledge. The knowledge gained through the office and colleagues is significant in model 1. Also, there is strong evidence that the source of knowledge, which is significantly related to knowledge of population and development, are office and colleagues. Respondents who received their knowledge through the office and colleagues are more knowledgeable compared to those who mentioned other channels. Those who received population and development knowledge from the office and colleagues have mean knowledge scores 2.26 and 2.15 higher than those who received knowledge from other channels. The mass media is not significant in model 1.

When information necessity variables such as “very important” and “some importance” are added in model 2, the source of knowledge and information necessity significantly explain knowledge of population and development by 52 percent. Therefore, the ability to predict population and development knowledge increases by 10 units. In this model, if each source of knowledge and information necessity

increased, the mean knowledge score increased by 10 units. In model 1, the coefficients for the office and colleagues were 2.26 and 2.15. After adding information necessity in model 2, the coefficient for office drops to 2.01 and the coefficient for colleagues dropped to 1.97. Source of knowledge such as office and colleagues is still significant in model 2. Furthermore, information necessity at the office “very important” and “some importance” are significant. The coefficient for variables “very important” is 1.61 and for “some importance” is 0.58. It indicates that the respondents who received the information on population and development regularly have a mean knowledge score 1.61 higher than those who received information rarely. In other words, the respondents who received information on population and development regularly are more knowledgeable compared to those who received it rarely.

In model 3, age, sex, education, number of working years and work place variables significantly explain variation in population and development knowledge by 69 percent. Therefore, the ability to predict the population and development knowledge increases by 17 percent when background characteristics are controlled. When background characteristics are added in model 3, age, educational level and working in a city significantly explained variation in population and development knowledge. The results indicated that older respondents have a mean knowledge score .628 higher than younger respondents. University level of education and working in the city also have significant relationship at the level of .001. University level respondents have a mean knowledge score of 1.15. It indicates that those who graduated from university are more knowledgeable about population and development than those who completed below the university studies. In comparison, the mean knowledge score of the respondents who work in the city is 0.53 higher than those who work in the provinces. This suggests that working in the city has a greater effect on population and development knowledge. Gender, length of working years and working in the provinces have no relationship with population and development knowledge. The number of working years, working place and sex are not statistically significant in model 3.

Table 4.7 Regression on population and development knowledge

Variables	Model 1	Model 2	Model 3
Office	2.263 ***	2.016 ***	1.136 ***
Colleagues	2.156 ***	1.974 ***	.936 ***
Mass media (others#)	-.067 NS	-.022 NS	-.003 NS
Very important		1.613 ***	1.251***
Some important (less important #)		.586 ***	.456 NS
Older (younger#)			.628 ***
Male (female#)			.062 NS
University (below university #)			1.155 ***
More than 10 (less than 10#)			.143 NS
City			.534 ***
Province (district#)			-.132 NS
Constant	6.133	5.207	2.192
R square	.428	.524	.696

***significant at .001 level

NS: not significant #reference category

CHAPTER 5

CONCLUSION, DISCUSSION AND RECOMMENDATIONS

5.1 Conclusion

Training among the public servants supports positive changes in a country's development. One of the essential parts of training involves knowledge of population and development. This study concentrated on the knowledge level of the respondents and the relationships between background characteristics, information necessity and knowledge source related to population and development knowledge. On the basis of the interpretations drawn from the results of this study, the following conclusions are made:

There are a number of factors which could determine population and development knowledge level. Age, education level of public servants and working in the city significantly contributed to the level of knowledge. The results showed that gender and number of working years of public servants have no effect on knowledge level. The results of background characteristics, age, education level and work place are consistent with the first hypothesis that there is a relationship between background characteristics and knowledge level.

Population and development information necessity contributed to the knowledge level. It is consistent with the second research hypothesis that population and development information necessity has a positive effect on knowledge level.

Thus the public servants' population and development knowledge differs between knowledge sources. Mass media in Mongolia, including television, newspaper, and radio plays a role in the diffusion of government policy. Radio is the most common source of information. However, the study results showed that mass media has no effect on increasing the level of population and development knowledge. Information from the office is the effective knowledge source to maximize the correct knowledge of population and development. This conclusion is consistent with the third hypothesis that knowledge through the office is more effective than knowledge

received through the media on population and development.

This study concludes that more than half of the public servants had unsatisfactory level of population and development knowledge. Respondents had less correct knowledge level of population employment, country development, human development, concepts on death, birth and marriage, family planning and population structure. Thus, the public servants are not equipped with a satisfactory level of population and development knowledge.

Therefore, the study results conclude that there is a need to conduct training directed at raising awareness of population and development among the Mongolian public servants. The Government of Mongolia has to intensify activities that focus on increasing the knowledge level regarding population and development among the provincial and district public servants, especially those who are young and do not receive information on population and development regularly.

5.2 Discussion

This study was designed to describe public servants' knowledge level of population and development by their background, source of knowledge and information necessity characteristics. Cross sectional and multivariate analyses were therefore conducted to explore the relationship between population and development knowledge and the above mentioned characteristics.

5.2.1 Population and development knowledge

In this study population and development knowledge is the dependent variable of the study. The minimum score of the knowledge of population and development was 3 and the maximum score was 12. The mean of the total knowledge score is 7.3084 with a standard deviation of 1.73428. Regarding population and development knowledge, the majority of respondents (52.4 percent) had a low knowledge level. Respondents showed less correct knowledge towards the following: population employment, country development, human development, concepts on death, birth and marriage, family planning and population structure. This creates further problems when public servants have to be involved in data collection of birth, death, marriage,

and migration and dealing with citizen's requests related to population matters. Low level of population and development knowledge could be related to lack of information, inadequate training and seminars among the public servants, recruitment of young or inexperienced professionals into civil service and shortage of information source. Also, it could be explained by the fact that people attended different subject-oriented universities and were recruited into the government sectors. The Mongolian public servants' profile is shown in Table 4.8.

Table 4.8 Mongolian public servants' profile

Profile	Percentage
Lawyer	6.4
Politician	12
Economist	9.3
Engineer	4.9
Agricultural specialist	3.4
Doctor	4.9
Teacher	9.8
Journalist	0.5
Others (geology, water researcher, etc)	46.9
Practical employees	12.7

Source: Academy of Management, 2003

5.2.2 Background characteristics of the respondents

5.2.2.1 Age

In this study, the minimum age of the respondents (public servants) was 22 and the maximum was 56. Two-thirds (2/3) of the Mongolian public servants are aged 26-45 (Academy of Management, 2003). In Mongolia, public servants who work in the provinces (aimag) and districts (soum) are older than those who work in the city. For example, 52.5 percent of the public servants who work in the provinces (aimag) and districts (soums) are in the age group 30-45 (Academy of Management, 2003). In this study, 21.5 percent of the respondents were aged less than 30 while the rest (88.5 percent) were aged 31-51 and above.

This study found that age has a positive influence on the level of population and development knowledge. In other words, older respondents have a higher level of population and development knowledge than younger respondents do. This result is

consistent with the studies conducted by Bhadra (1980), Gombo (1998) and the Population IEC meeting committee (1995) that found that increasing age has a strong relationship with increased knowledge level. Elder public servants higher knowledge levels could be explained by continual participation in seminars and trainings on government activities and issues including population and development which aimed to widen their knowledge before the 1990s (Bold, 1995).

5.2.2.2 Sex

Between 1921 and 1990, Mongolia achieved favorable outcomes with respect to female issues. Mongolian women and men equally work in all sectors including the government sector (United Nations Conference Center, 2002). According to the data of 2003, among the estimated number of the total public servants, 47 percent was female and 53 percent was male (Academy of Management, 2003). This study found that gender had no significant relationship with knowledge of population and development. Regarding the sex of the respondents, the percentage of females was 54.2 and 45.8 percent for males. Also, inferential statistics show that females and males had almost the same level of population and development knowledge.

5.2.2.3 Educational level

This study found that education has a significant effect on the level of population and development knowledge. The results of multivariate analysis showed that the respondents who completed university have significantly higher knowledge in comparison to those who attended below the university level. This result is also supported by the study of Batkhoo (2002) that public servants who completed university have higher level of knowledge compared to those who completed below the university level. The public servants who attended university had higher level of population and development knowledge could be explained by their base knowledge gained during their studies in university, especially in economics-oriented universities, and better awareness of information. However, when level of population and development knowledge among the respondents who had university level education

was studied, the descriptive results showed that about 41 percent of the respondents had a low knowledge level of population and development.

5.2.2.4 Number of working years

Regarding number of working years, more than half of the respondents (54.5 percent) have been working for less than 10 years, and the rest (45.5 percent) have been working for more than 10 years in the government sector. It was interesting to note that the study found that length of working years has no relationship with population and development knowledge. Those who have been working for more than ten years did not have a better knowledge of population and development in comparison to those who have been working for less than 10 years. This result is not consistent with the studies by Hall and Meilie (1980), Cross (1981) and Tsetsegdelger (1995) that as length of working experience increases, their knowledge also tends to increase.

5.2.2.5 Work place

The descriptive results of working place show that 22.4 percent of respondents work in the city (Ulaanbaatar), 43.3 percent in the provinces (aimag) and 34.3 percent work in the districts (soum). The study reveals that working in the city has a great effect on population and development knowledge level. There is no relationship between working in the provinces (aimag) and population and development knowledge level. The result is consistent with the studies by Charles (1976), Pont (1991) and Bold (1995) that knowledge level varies significantly according to working place in urban or rural areas. Urban public servants' higher level of knowledge can be explained by better access to information provided in the offices. Also short-term trainings, seminars and conferences are more likely to be organized in Ulaanbaatar city. Therefore, the public servants that work in the city have more chance to attend such courses and training. They have more access to up-to-date population and development issues.

5.2.3 Information necessity

Less than half of the respondents (46.7 percent) stated that information about population and development is very important for their work while 48.6 percent viewed that it has some importance and 4.7 percent stated less important. The study explores whether information necessity at the office is significant. It was found that the respondents who viewed information on population and development is very important and has some importance for their work place are more knowledgeable compared with those who stated less important. The public servants that received population and development information regularly were more knowledgeable than those who received information irregularly. Accordingly, regular information through the office plays a significant role in maximizing knowledge level of population and development among the public servants.

5.2.4 Source of knowledge

About 40 percent of the respondents had learned most about population and development from their office, 14 percent from colleagues, 23 percent from mass media and 24 percent from other channels. The knowledge of population and development differs by knowledge source, and it is the strongest predictor of population and development knowledge level. This result coincides with the studies by UNESCO (1980; 2002) that the channel through which information is conveyed is very important in shaping knowledge. This study found that knowledge from the office and colleagues has its impacts on population and development knowledge level. Mass media has no effect on population and development knowledge. Actually, almost all newspapers and printed materials, except government booklets, do not contain much about population and development. The mass media does not spread much information on population and development issues. Also, the number of courses, which were conducted among the public servants, focused more on management and public administration.

5.3 Recommendations

The following recommendations are made for general policy interventions aimed at increasing population and development knowledge level of the Mongolian public servants.

1. To increase the knowledge of population and development and to educate public servants, special consideration should be directed to those young groups who work in rural areas where access to information is limited.
2. Future courses for public servants should focus more on the following issues: population employment, country development, human development, concepts on death, birth and marriage, family planning and population structure.
3. The Academy of Management, a Mongolian Government Implementing Agency and Population Training and Research center, Mongolian National University can take part in providing population and development courses in public servants' work places.
4. Population and development training among public servants should be organized at the work place according to this study. It was found that the office and colleagues played an important role in disseminating information on population and development.
5. Public servants have two key roles to play: promoting and training. This would help them more effectively to be administrators implementing development programmes. Duration and types of the training should be directly associated with learners' knowledge level. Public servants who work in the city need short-term training organized on-the-job form. Young public servants who work in rural areas with a low level of knowledge may need longer period training programs.
6. Publications dissemination should be improved in terms of activity and quality to promote public servants' knowledge of population and development.

5.4 Recommendations for further researches

1. Research on promoting publication dissemination on population and development should be strongly emphasized.
2. Further analyses should examine variables which could determine knowledge of population and development such as the public servants' professional backgrounds, work position and regional differences, length of the working years related to coordination of population issues and attendance of previous courses.
3. Qualitative study may also be implemented to explore factors affecting unsatisfactory knowledge level such as information availability in rural areas, content of materials related to population and development, and the quality of training on population and development.

BIBLIOGRAPHY

- Academy of Management. (2003). The study of the state organization's human resource. Ulaanbaatar. Mongolia.
- Ashford Lori S. (2001). Population bulletin. *New population policies advancing women's health and rights*. A publication of the population Reference Bureau. Kuala Lumpur. Malaysia.
- Batkhuu, D. (2002). Human resource in public sector. *Globalization-Development, Conference articles*. Ulaanbaatar. Mongolia.
- Bhadra, T.R. (1980). Training program on population education field activities for women workers. *Population Education Bulletin* (7): 10-14, October. Pages 52-55.
- Bold, B. (1995). Public officer's knowledge and training. *Public sector's human resource capacity*. Governor Office of Ulaanbaatar. Mongolia.
- Bolormaa, Ts. (2003). Migration, urbanization and development in Mongolia. *Economic and Social Commission for Asia and the Pacific, Ad Hoc Expert Group Meeting on Migration and Development*. Bangkok. Thailand.
- Carrel, Michael R, Elbert, Norbert F. and Hatfield, Robert D. (1995). *Human resource management: Global strategies for managing a diverse workforce*. Fifth Edition. Prentice Hall. International, Inc. New York. USA.
- Charles, C.M. (1976). *Educational psychology: the instructional endeavor*. Second Edition. St Louis Mosby.
- Cross, Patricia K. (1981). *Adults as learners increasing participation and facilitating learning*. Jossey Bass Publishers, San Francisco. USA.

- Department of Social Welfare. (1984). *Curriculum for key project personnel of population activities for out school youth*. Dhaka. Bangladesh.
- Donal, Ford J. (1990). Management perceptions of the benefits of personal training. *Human resource Development Quarterly*. The American society for training and development. Volume 1. Spring 1990. No 1. pages 70-73.
- Flamholtz, Eric G. (1990). Toward a holistic model of organizational effectiveness and organizational development at different stages of growth. *Human resource Development Quarterly*. The American society for training and development. Volume 1. Spring. No 1. pages 25-34.
- Francis, Dave. (1982). *Unblocked manager: a practical guide to self development*. England Wildwood House. England.
- Gale Johnson. (2000). Population, food and knowledge. *The American Economies Review*. Vol. 90. No 1. March 2000. pages 1-14.
- Gankhuu, D. (2002). *The ways to spread information in rural areas*. Ulaanbaatar. Mongolia.
- Garland Diana. (2003). Women in Higher Education. 2003. Does gender affect learning. Source:
http://www.findarticles.com/cf_0/mOKSO/11_12/111170554/p1/articl.jhtml
. Accessed: May 2. 2004
- Genzo, David A. and Robbins De, Stephen P. (1994). *Human Resource management; concepts and practices*. Fourth Edition. John Wiley and Sons. Inc. New York. USA.
- Goldstein, Irwin L. (1993). Training in organizations: Needs assessment, development and evaluation. Pacific Grove, Calif. University of Maryland at College Park. San Francisco.USA.
- Gombo D. (1998). *Human Resource Management*. Ulaanbaatar. Mongolia.
- Hall, Thomas L. and Meile, Richard L. (1980). Training development - world personnel in family planning and population: Accomplishments and patterns. *Studies in Family Planning*, Vol.11, No.5 (May, 1980), pages 167-177.
- Helen, E Appleton and Catherine, L.M. Hill. (2003). Gender and indigenous knowledge in various organizations. Source:

- <http://www.nuffic.nl/ciran/ikdm/2-3/articles/hill.html>. Accessed: 2 May. 2004.
- Implementation support group for MAP-21. (2003). Report on assessment of implementation of local agenda 21. Ulaanbaatar. Mongolia.
- International Encyclopedia of Population. (1982). Center for Population Family Health. College of Physicians and Surgeons. Columbia University. Free Press. New York. USA.
- Jerry Pallier. (2003). Gender differences in the self-assessment of accuracy on cognitive tasks. *Sex Roles: A Journal of Research*, March. Source: http://articles.findarticles.com/p/articles/mi_m2294/is_2003_March/ai_100630998 Accessed: 2 May. 2004.
- Kerka, Sandra. (1990). Job related basic skills. ERIC Digest No.94. Source: <http://www.eric.gov>. Accessed: 19 April, 2004.
- Kim, Hong Kyun and Shin Ilsvon. (2003). Effect of job training on employment and age premium: evidence from Korea panel data. *The development economics*. XLI-4. December. Pages 461-483.
- Kondo, Alan K. (1995). The role of questions in population education. *Population education newsletter forum*. Regional Clearing House on population education and communication. No 41. Bangkok. Thailand.
- Maglalang, Demetrio M. (1982). Agricultural approach to family planning. Communication Foundation for Asia. *Training in out-of-school population education*. Manila. Philippine.
- Marquardt, Michael J. (1996). Building the learning organization: A systems approach to quantum improvement and global success. Mc Craw Hill. New York. USA.
- Merlyn Vaughan, Parkinson John, Bob Philiphs and Roy Youngmon. (1994). Development effectiveness: strategies for organization transition. John Wiley and Sons, Inc. New York. USA.
- Ministry of Labor and Social Welfare, Population Training Research Center and UNFPA. (2001). Micro level study of internal migration. Ulaanbaatar. Mongolia.

- Moore, M and Dutton P. (1978). Training need analysis: Review and critique. *Academy of Management review*. p. 532.
- National Statistical Office. (1998). Living standard measurement survey. Ulaanbaatar. Mongolia.
- National Statistical Office. (2000). National Statistical Office Data. Ulaanbaatar. Mongolia.
- National Statistical Office. (2002). National Statistical Office Data. Ulaanbaatar. Mongolia.
- New Hampshire Educators Center. (2002). Professional growth requirements. Source: <http://www.ed.state.nh.us/certification/professi1.htm>. Accessed: May 2, 2004.
- Nonaka, I. (1995). The knowledge creating company: how Japanese companies create the dynamics of information. Oxford University press. New York. USA.
- Norris, Amelia Marie. (1994). The analysis of the management and leadership development training needs of Texas principals on the Texas state board of the education's core curriculum. University of North Texas. Source: <http://wwwlib.umi.com/dissertations/fullcit/9517632>. Accessed date: March 20, 2004.
- Quebec Federal Public servants' Youth Network. (2003). The QEPSYN: A power of in the making! Learning, exchanges and integration. Business plan 2003-2004. Source: <http://www.tbs-sct.gc.ca/frc-cfr/minutes>. Accessed: 20 April. 2004.
- Pont, Tony. (1991). Developing effective training skills. The Mc Graw-Hill Training Series.
- Population Council. (1984). The International conference on population and development. *Population and development Review*, Vol. 10, No.4. pages 437-461.
- Population Council. (1995). Program of action of the 1994. International conference on population and development (Chapters IX-XVI). *Population and development review*. Vol.21, No 2. pages 209-215.

- Population IEC meeting committee. (1995). Discussion points for follow-up. *Population education newsletter forum*. No.42. pages 17-22. Bangkok. Thailand.
- Ronald K. Workinger and Kenneth E. Ruch. (1991). Work force: Problems and solutions. *Human resource Development Quarterly*. The American society for training and development. Volume 2, Fall 1991. No 3. pages 20-24.
- Regional Clearing House on Population Education and Communication. (1995). An action framework for population education on the eve of the twenty first century. Excerpted from the First International Congress on Population Education and Development. 14-17 April 1993: Final report, *Population education newsletter forum*. No 42. Istanbul. Turkey.
- Regional Consultation Expert. (1981). Improving the Organization and Administration of Agricultural Development in the Near East. (Report of a Regional Consultation held in Nicosia. Cyprus. Dec.1980. Rome F.A.O.).
- Salamatov, Vladimir. (2003). Perception of work by public servants. Ukrainian Academy of Public Administration, Office of the President of Ukraine.
Source: <http://unpan1.un.org/introdoc/groups/public/documents>. Accessed: 23 April. 2004.
- School of Education and Social Sector Management. (2002). Theoretical and practical aspects of the training needs assessment. Ulaanbaatar. Mongolia.
- Shaffer Howard. (1995). Harvard report documents need for public sector training. 10/16/95. Vol 7. issue. 40. Source: <http://web6.epnet.com>.
- Stenmark Dick. (2001). The relationship between information and knowledge. In proceedings of IPIS 24. August, 11-14. Ulvik. Norway
- Thomas, Brain. (1992). Total quality training: the quality culture and quality trainer. The Mc Craw Hill training series. Mc Craw-Hill book company. London. England.
- Tseren, T. (2000). Organizational human resource development. Ulaanbaatar. Mongolia.
- Tsetsegdelger, Ts. (1995). The research on public sector officials' skills and knowledge on state matter. *Public sector's human resource capacity*. Governor Office of Ulaanbaatar. Mongolia.

- Tumentsogt. (2003). Training needs on population and development. Ulaanbaatar. Mongolia.
- Ulschak, Francis L. (1983). Human resource development: The theory and practice of need assessment. Reston Publishing Company. Inc. A Prentice Hall company Reston. Virginia.USA.
- UNESCO. (1980). National seminar on integration of population education in NAEP. 1979. 3-7 March. Bombay. India.
- UNESCO. (1980). Population education in the South Pacific, Report of sub-regional workshop. Regional Office for Education in Asia and Oceania Bangkok. Thailand.
- UNESCO. (2002). UNESCO-Education for sustainable development . Education and population. Source:
<http://www.unesco.org/education/esd/english/population>. Accessed date: 14 March, 2004.
- UNESCO. (2003). Notion of sustainable development_ Education for sustainable development. Source:
<http://www.unesco.org/education/esd/english/population>. Accessed date: 14 March, 2004.
- UNESCO Regional Office for Education in Asia and the Pacific Bangkok. (1982). *Training in out-of-school population education*. Population Education program service. Bangkok. Thailand.
- United Nations. (1975). The population debate: dimensions and perspectives. Reports of the world population conference-Bucharest 1974. Volume 1. New York.
- United Nations. (1980). Food and agriculture organization of the United Nations, Population concepts in agricultural cooperative training courses. Rome. Italy.
- United Nations and Asian Pacific Development Center. (1987). Training of development administrators. Vol 2. No.1. pages. 136-138. Bangkok. Thailand.
- United Nations. (1995). Developments in demographic training and research projects: Aspects of technical cooperation. Department for economic and social information and policy analysis population division. New York. USA.

- United Nations Conference Center. (2002). 11-17 December. Country report Mongolia. Fifth Asian and Pacific Population Conference. Bangkok. Thailand
- United Nations Economic and Social Commission for Asia and Pacific. (2001). Asia-Pacific population information network. A profile of the secretariat and members. Bangkok. Thailand.
- UNFPA. (2000). Agenda 21-Mongolia. Ulaanbaatar. Mongolia.
- UNFPA. (2001). Third program of assistance to the Government of Mongolia. Ulaanbaatar. Mongolia.
- Ursin Jani. (2000). Group Dynamics in the Production of New Knowledge - a Theoretical Framework, Paper presented at the European Conference on Educational Research. 20-23 September. Edinburgh.
- World Health Organization. (2000). Information, education and communication. Geneva.
- Washington DC and World Bank. (1980). Education Sector Policy paper. Third Edition. New York. USA.

BIOGRAPHY

NAME	Erdenechimeg Chogdon
DATE OF BIRTH	9 September, 1971
PLACE OF BIRTH	Ulaanbaatar, Mongolia
INSTITUTIONS ATTENDED	“Otgontenger” University, 1992-1996 Bachelor of Linguistics; Humanitarian and Art University, 1998-2000 Master of Arts;
FELLOWSHIP	The William and Flora Hewlett Foundation
POSITION & OFFICE	1998-present: Lecturer Academy of Management Implementing Agency of the Mongolian Government