Mongolia
NATIONAL STATISTICAL OFFICE

FIRST STATE AGRICULTURAL CENSUS 2011

GENERAL RESULTS

Ulaanbaatar city
2012

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National Statistical Office of Mongolia

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CONTENT

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LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDIX TABLES

DEFINITIONS ON ABBREVIATIONS

BUO	Business unit, organization
NBFO	Non-Bank Financial Organization
MEGD	Ministry of Environment and Green Development
AF	Arable Farming
ALACGC	Administration of Land Affairs, Construction, Geodesy and Cartography
LB	Livestock Breeding
DPTA	Data Processing and Technology Authority
MNB	Mongolian National Broadcaster
MDG	Millennium Development Goals
UN	United Nations
F	Forestry
LOI	Local-Owned Industry
UB	Ulaanbaatar
MIA	Ministry of Industry and Agriculture
NSO	National Statistical Office
A	Agriculture
AC	Agricultural Census
ХААТ-1А	Questionnaire of households, running livestock production
ХААТ-1Б	Questionnaire of business units, organizations, running livestock production
ХААТ-2А	Questionnaire of households, running arable farming
ХААТ-2Б	Questionnaire of business units, organizations, running arable production
ХААТ-4А	Questionnaire of business units, organizations, running forestry activities
ХААТ-4Б	Questionnaire of business units, organizations, running hunting activities
ХААТ-4В	Questionnaire of business units, organizations, running Fishery activities
ХААТ-5	Questionnaire on primary administrative units
SCC	Savings and Credit Cooperative
FAO	Food and Agricultural Organization of UN
MFALI	Ministry of Food, Agriculture and Light Industry
DES	Department of Economic Statistics
CEAS	Classification on all kinds of Economic Activities Sector
MED	Ministry of Economic Development
ISIC	International Standard Industrial Classification

FOREWORD

Under Statistic Law of Mongolia and resolution no.137 on “Conducting regular agricultural census” by Government of Mongolia in 2012 our country has successfully organized and conducted the census for the first time.

According to the recommendations to member countries from the Food and Agricultural Organization of UNO the ‘mixed’ method was used to collect basic agricultural indicators by general observations and more detailed indicators by sampling studies, as well the census range was created during preliminary registration of Population and Dwelling census, conducted in 2010, and on this basis the sampling survey model was developed, which was the specific feature of this census works.

Also, the space photos were used in the census of arable farming, which provided the possibilities to control the crop-fields by locations; as well the first geographic database was created by the information from the households, business units, organizations, running arable farming, which was another important result and feature of this census.

This census involved wider range than the traditional annual livestock census and included all the indicators of agricultural sector, as well special survey on animal productivity, costs, expenses and product prices and survey at the level of primary administrative unit.

The indicators, included in the world agricultural program of FAO of UN, were involved in the census and totally, more than 500 indicators were collected. Also, the households, business units and organizations, running their activities in agricultural sector, were classified and registered according to the international standard classification.

Except livestock and arable farming production number of households, business units and organizations, running forestry, fishery and hunting activities, production capacity, land exploitation, cultivation, irrigation, workforce, agricultural buildings, facilities, machines and equipment, soil degradation as well a number of new information on agricultural businesses were collected during the agricultural census and as the result, analysis was made with consideration of the changes in development and structure of agricultural, forestry economies, fishery and hunting sectors and more detailed information system, necessary to develop state policies and summarize the implementation for further development of the sector, was created.

The report on census results consists of 17 parts and appendix tables to show the general results of the census.

I would like to emphasize on the active participation of the related ministries, authorities, members of state commission and the employees of all level of administrative and statistic agencies in successful organization of this census, which was organized for the first time in agricultural, forestry, fishery and hunting sector.

Also, I would like to express my sincere gratitude to the FAO of UN, World Bank and all other co-organizations, which provided professional support, counseling and recommendations in organizing the census.

Sincere gratitude from the management of the National Statistical Office to the employees of National Statistical Office, who organized the first agricultural census nationwide, provided general methodology and instructions and summarized the census results, in particular, Statistic Office of Macro Economics and Data Processing and Technology Authority.

My sincere gratitude to B.Badamtsetseg, the Chairman of Statistic Office of Macro Economics of NSO, E.Erdenesan, the Deputy Chairman, M.Oyunjargal, the Head of Department of Economic Statistics, D.Oyunbileg, the Assistant Head of Department, L.Tseveenjav, the Senior Expert, Yu.Batzorigt and R.Enkh-Amgalan, the Experts, Z.Nansalmaa, the Statistician of Data Processing and Technology Authority and Z.Nyambayar and Kh.Zolbadrakh, the Experts.

CHAIRMAN OF NATIONAL
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DEPUTY CHAIRMAN OF CENSUS
STATE COMMISSION  S.MENDSAIKHAN

PART ONE

CENSUS ORGANIZATION

LEGAL BACKGROUND, GOAL, IMPORTANCE

LEGAL BACKGROUND

On the meeting of Parliament of Mongolia, dated on December 1, 2011, it was included in part “I”, clause 1, article 7 of Statistic Law of Mongolia “To conduct regular agricultural census every 10 years and current census and surveys every 5 years”

The first agricultural census was conducted based on the clauses 1, 5 article 7 of “Statistic Law” of Mongolia, part 1 article 43 “Law on Administrative Responsibility” of Mongolia, Resolution no.137 on “Conducting regular agricultural census” by the Government of Mongolia, dated on April 25, 2012 and decision no.61 on “Approving tendencies, forms and instructions of agricultural census” by Chairman of National Statistical Office, dated on April 11, 2012.

GOAL

The main goal of the census is to study the complex indicators of agricultural sector are more detailed level, to create general system of data indicator and information, which meets the international standard and is comparable, and to establish data, necessary for customers’ demands and policy making for the sector.

By conducting this census the master scope of sampling survey in agricultural sector will be prepared, as well the goal will be provided to create basic information, necessary to determine development policies by evaluating Millennium Development Goals, measuring poverty, controlling food safety and provision, evaluating and analyzing.

IMPORTANCE

This census is the first census in agricultural sector, conducted in our country, and the main importance is the establishment of the detailed database, necessary to make analysis, based on the changes in production and structure of agricultural sector, to develop state and governmental policies on developing agricultural sector in the future and to summarizing the implementation.

Also, we consider that the main importance is the establishment of the information, necessary to evaluate the Millennium Development Goals, to measure poverty, to make analysis, to control food safety and provisions, to make analysis, to evaluate roles of the women in agricultural sector, to improve statistic data on agricultural sector and to control the implementation of agricultural development policies.

CENSUS MANAGEMENT AND ORGANIZATION

CENSUS MANAGEMENT

STATE COMMISSION with the task to manage and organize state-level census works was established by the resolution no.137 by the Government of Mongolia, dated on April 25, 2012.

T.Badamjunai, the Minister of FALI, worked as the chairman of the State Commission to organize the first agricultural census, S.Mendsaikhan, the Chairman of NSO worked as the Deputy Chairman of the Commission and E.Erdenesan, the Deputy Chairman of the Statistic Office of Macro economics worked as the secretary.

During the census data processing the Government of Mongolia was changed and Kh.Battulga, the Minister of MIA, worked as the Chairman of the State commission. The representatives from the following organizations worked as members of the State Commission:

Commission members:

- N.Batsuuri, State secretary of the Ministry of Environment and Tourism
- U.Byambasuren, State Secretary of the Ministry of Social Welfare and Labor
- Ts.Gankhuu, Chairman of Administration of Land Affairs, Construction, geodesy and Cartography
- B.Badamtsetseg, Chairman of Statistic Office on Macro economics of National Statistical Office
- L.Choi-Ish, Chairman of Administration of Strategic Planning and Policy of the Ministry of Food, Agriculture and Light Industry
- P.Gankhuyag, Chairman of Administration of Coordination of Livestock Policy Implementation of the Ministry of Food, Agriculture and Light Industry
- L.Bayartulga, Chairman of Administration of Coordination of Arable Farming Policy Implementation of the Ministry of Food, Agriculture and Light Industry
- B.Burmaa, Chairman of Administration of Information, Monitoring and Evaluation of the Ministry of Food, Agriculture and Light Industry

Census commissions and working groups of provinces, capital city, soums and districts were established by the ordinances of the related Governors and with the task to manage and organize agricultural census in local area, to take measures of full involvement of the households, business units and organizations, running agricultural activities, and to provide management and organizational support to the census works.

Also, the recommendations and proposals on census tendencies, questionnaires and its filling and other organizational issues from the advisors and specialists, who were working under international projects, were included in order to make the census more effective and matching the international standard.

STATE COMMISSION

CHAIRMAN

T.BADAMJUNAI
Minister of Food, Agriculture And Light Industry

DEPUTY CHAIRMAN

S.MENDSAIKHAN
Chairman of National Statistic Office

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BAYANKHONGOR PROVINCE

Deputy Governor, Commission Chairman

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First Deputy Governor
of Capital city
Commission Chairman

CH.BAYANCHIMEG
Head of Statistic Office
of Capital city,
Commission Deputy Chairman

HEADS OF STATISTIC DEPARTMENTS OF DISTRICTS

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Head of Statistic Department of Bayangol district

N.ENKHTUYA
Head of Statistic Department Of Bayanzurkh district

J.BUD
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B.ALTANGEREL
Head of Statistic Department of Songinokhairkhan district

TS.NARANTUYA
Head of Statistic Department Of Sukhbaatar district

T.NERGUI
Head of Statistic Department of Khan-Uul district

D.MUNKHZUL
Head of Statistic Department of Chingeltei district

PREPARATORY WORKS, ORGANIZATION, MEASURES IMPLEMENTED

1. Households, running agricultural production, were registered within the preparatory works of population and dwelling census, as well households, business units and organizations, to be involved in the agricultural census, were determined by using the database of livestock census at the end of 2011 and business units, organizations census of 2011.

2. Partnership meeting on agricultural census was organized together with MFALI and FAO of UN in 2011.

3. Under resolution no.158 by the Government, dated on May 9, 2012, the capital, necessary to conduct the agricultural census, survey, was decided to be issued from Government supply fund and hence, the census expenses were distributed to the local areas.

4. Under decision no.61 by the Chairman of National Statistical Office, dated on April 30, 2012, the tendencies of the agricultural census, questionnaire and the instruction for filling were approved.

5. Totally, about 130 thousand questionnaires, forms of 7 types to conduct the agricultural census, were distributed and sent. Special certificates were published for the enumerators and supervisors and sent to the capital city, districts and provinces.

6. Under decision no.58 by the Chairman of NSO, dated on April 26, 2012, NSO management was appointed to provide the capital city, provinces and departments with urgent management in order to organize the agricultural census effectively.

7. General guidance was developed and followed, which involved all the census-related activities, like conducting agricultural census and sending the results to NSO.

8. General map was prepared and geographic database was created to be used at provincial, soum and bagh level with the purpose to put the information about the households, business units, organizations, running arable farming, to geographic database.

9. Software task to process the census data was developed, which provided the possibility to computerize each step of data processing.

10. Control was put Selenge, Bulgan, Tuv, Darkhan-Uul and Orkhon provinces, which are the main agricultural regions, with the purpose to organize and conduct the agricultural census nationwide at high quality level and to provide with urgent management. The common issues, occurred during the control process, were sent to the provinces, capital city and local areas and was tasked not to repeat the same issues.

11. Current information on agricultural census was taken every 3 days, necessary measures were taken and necessary instructions and recommendations were given to the related provinces and local areas. Also, information on current processes of the agricultural census and the works made were prepared every 3 days, sent to the members of the census state commission and the necessary measures were taken.

12. The households, business units and organizations with the citizens of Ulaanbaatar city and other provinces and local areas, but running their activities on the territory of other provinces and soums, were also included to the census.

TRAINING AND ADVERTISEMENT

TRAINING

Trainers, enumerators and supervisors for the agricultural census were selected and made contracts and totally, 1967 enumerators, 89 supervisors, 340 leaders and 43 trainers were selected to work in the census and were involved to all trainings.

The employees from professional organizations gave information on census goal, importance, census date, questionnaire sheets and the instructions to fill them and organized trainings for enumerators, leaders, data coders, supervisors, data entry and operators. The trainings on organizing the census in local areas were conducted by the following stages:

- Meeting and introductory discussions were made with the participation of NSO, MFALI and the specialists from other related organizations on the census organization and how to develop the questionnaire sheets.
- On May 17, 2012 a training was organized to the heads of statistic departments of the provinces and the capital city on the organization of the agricultural census, tendencies, forms and instructions.
- The training for trainers to prepare local enumerators was organized to totally 31 trainers of 21 provinces, capital city and districts in Ulaanbaatar city between May 1 to May 5, 2012.
- Training for local enumerators, leaders, supervisors and coders was organized in 2nd week of May, 2012.
- Programs to organize each stage of training and the related officials and schedules were approved.
- Trainings for the enumerators for the agricultural census were successfully organized between May 10-23 in local areas. NSO management and specialists from DPTA participated in the trainings, organized in the main agricultural regions of Selenge, Tuv, Bulgan and Orkhon provinces.

ADVERTISEMENT

Advertisement on the agricultural census was organized in several directions. Posters were located in the related sites, radio advertisements on the agricultural census were broadcast on Mongolian national radio. Also, commercials and live interviews on the agricultural census were prepared and broadcast to the public on MNB. Moving team of MNB interviewed not only the agricultural census activities in Uvs and Selenge provinces, but also interviewed the opening activities and broadcast nationwide.

Also, the information of the agricultural census was put on www.nso.mn, www.news.mn, www.shuud.mn and other websites.

On the day of opening the agricultural census activities or on May 25, 2012 interview was given to “Today” and “Daily News” about the agricultural census as well the photos were published.

Special advertisement on www.nso.mn website of NSO provided the possibilities for the customers to take information on the agricultural census and the introduction on census forms and questionnaires, instructions on filling and general information on the census were located on the website.

Each stage commission and working groups of local census developed plans for advertisement works and organized the works to broadcast on local radio and television and to place advertisement and information boards.

CENSUS DEADLINE, QUALITY CONTROL

CENSUS DEADLINE

The census was conducted for 20 days between May 25 till June 15, 2012. Progress information on the agricultural census was integrated by the commissions of each stage of provinces, capital city, soums and districts and informed to NSO every 3 days. From the total 105.5 thousand households, business units and organizations to be involved to the census nationwide about 80 percent were counted within the first 10 days since the census was started. During census works the commissions of all stages appointed responsible persons in duty between 9 a.m to 9 p.m every day, who answered the phones, gave answers and recommendations on the difficulties, occurred in the local areas and took urgent measures.

The economic indicators, included in the census forms, were filled as of 2011. But the other indicators were filled by current periods.

CONTROL AND INSPECTION

Control and inspection works were made in the districts of the capital city and provinces and soums during the census with the purpose to control the census process, involvement and correctness of the questionnaire answers.

The members of working group of the agricultural census made inspections on the main agricultural regions of Selenge, Bulgan, Tuv, Darkhan-Uul and Orkhon provinces between May 28 – June 1, 2012 with the purpose to introduce with the organization and process of the agricultural census, to provide with management, methodology and recommendations and to solve the problems on site.

The working group introduced with the work processes of the local census commissions, listened to the report on problems and troubles and gave methodological and organizational recommendations, the most common of them were the problems of intensifying the census works and complete filling of the census questionnaires. Special control was made to incomplete filling or incorrect filling on the questions about sort seeds and fertilizers, used in cultivating wheat, potatoes and vegetables, agro-chemical analysis and soil erosion, as well focusing on the census and the livestock census of the first half of 2012, going in parallel, to count the livestock by themselves and to pay attention to complete filling on the forms.

CONCEPT, DEFINITIONS AND CLASSIFICATION OF CENSUS INDICATORS

CONCEPT, DEFINITIONS

Concept	Definition
Household	(a) Household with one person, who supplies own food for living and other consumption without uniting with other people and/or members of other households, (b) all people in household with several people, who supply own food for living and other consumption together in a group of two or more people. The household members may combine their income and may have one budget, but may be legal relatives or may not.
Traditional livestock breeding	Nomadic livestock breeding by traditional methods
Intensified livestock breeding	Livestock breeding, by which productive breeds and pets are bred according to the farmstead and half-farmstead technology and the products are supplied for the centralized demands
Mixed	Activities, by which traditional and intensified livestock breeding is mixed

Concept	Definition
Permanent workers	Citizen, who has official contract to work on permanent workplace and the employer pays his/her tax and social insurance deductions, and the labor relations are coordinated by labor law and civil service law and regulations
Seasonal workers	Citizen, who has official contract to work on seasonal workplace and the employer pays his/her tax and social insurance deductions, and the labor relations are coordinated by the Labor law and other related laws and regulations
Temporary workers	Citizen, whose labor relations are coordinated by the Labor law and Civil law, earns wages and income by making labor, hire and work execution contracts up to six months, depended on the type of activities, relates to the economically active population and pays taxes and social insurance deductions by himself/herself.
Artesian well	Engineering facility, drilled to take out underground water, the walls are fixed, located in water layer of vertical borehole, with pipe filter for water filtering and with water pump and water pipeline inside. In other words, it is a well with the relative diameter /150, 200, 250, 300,350, 400 мм /, with electric or diesel generator water elevator with borehole lower than 30 meters
Short-piped well	Well with same organization as artesian well, drilled with big diameter to take out underground water, walls are thicken with concrete rings with length diameter of 1 m and fixed at depth of 3 m, borehole with small diameter is equipped below 30 m and with relatively small diameters /150, 200, 250 мм /
Simple (manual) well	Well, fenced with woods and stones, with borehole, drilled up to 8 m on the place, where might be water on soil surface after the studies on soil and geological structure
Reservoir	Watering place with the vessel for watering livestock and animals, with the capacity of 4 and more cube meters

Concept	Definition
Shelter fence	Fence with three sides or half circle, having shelter roof, walls with dense warming and having a field in front of the fence for suntan the livestock or feed them
Fence	Fence without roof, square, half circle or circle shaped
Soil erosion, degradation	Soil quality is worsen because of wrong activities of the humans, natural and other factors, the organic substances are lost and soil productivity is reduced
Soil weak level	The soil of this area is polluted less than 5 percent or soil surface is lightly eroded, the reduction of humification supply less than 25 percent.
Medium level of soil erosion, degradation	5-20 percent of the soil area is polluted or the soil surface is degraded, reduction of humification supply reached 25-50 percent.
Strong level of soil erosion, degradation	20-50 percent of the soil area is polluted or soil is deeply degraded, lost its productivity and humification supply reduction reached more than 50 percent.
Food safety	It is determined to have food, which is healthy, enough for active living, normal growth and development, satisfying quality and hygienic requirements, reliable, high calorie and nutritious for every person, and which consists of the 3 main indicators of food supply; food calorie and nutritious; food quality and sanitary.

CLASSIFICATION

"Administrative classification", "Sector classification of all kinds of economic activities" (ISIC-4.0), General classification for products and services, (CPC-2.0), Regionalization code of Mongolia (codes of province, capital city, soum, district, bagh and khoroo) were used and followed in the agricultural census.

Sector classification of all kinds of economic activities

Sector	Sub-sector	Definition
A		**AGRICULTURE, FORESTRY, FISHERY, HUNTING**
	01	Arable farming, livestock production, hunting and related sub-activities
	02	Forestry, lumbering
	03	Fishery, breeding

DATA PROCESSING, TABLE OF RESULTS

Space photo was used in geographic data system in the agricultural census, which was the advantage, compared to the previous censuses, organized from NSO. Policy tasks of all stages to enter the census data to computer, to check and correction software were developed and the software was developed, based on this policy task. The work to enter the data to computer was made in NSO office and the working team of the agricultural census was responsible for all stage development works of checking and correcting in order to provide the information confidentiality and security.

The census results were processed by CS Pro software to enter the data to computer and SPSS program to make statistic analysis. Also, classification and code search network software was used in coding the census data.

Temporary employees were hired in order to execute the data processing of the agricultural census in short time and with high quality. 2 shift leaders and more than 30 operators participated in the census processing works.

DATA COLLECTION, CHECKING

Simple checking to check the correlation between the indicators, included in the 8 types of questionnaires of the census, i.e., whether all the questions are answered, checking to check whether the inter-question moves are correct, checking to check whether special content exists, which exceed the feasible content or possible contents, dependence and logic checks, based on statistic analysis, as well correlation and logic connections of the contents, matching content sum with total result checks were made and the related corrections were made.

REPORT ON CENSUS RESULTS, ITS DISTRIBUTION

It is important to summarize the results of data processing of the agricultural census, make analysis and send the results to the customers. More than 400 tables were developed from the data, collected by the census and the census results were compared with the administrative and official statistic data, collected by the MIA and other related organizations and the final result was developed. The report was prepared based on the census results, discussed on the meetings of the NSO Board and State Commission of the agricultural census and on the Cabinet meeting on March 7, 2013 and the Cabinet resolution no. 84 was approved.

Statistic Office of Macro economics of NSO was responsible for the analysis to the census data and report writing works.

The report on main and general results, based on the census data, was published and sent to the customers, as well the census results were put on NSO www.1212.mn website.

CENSUS SCOPE, METHODOLOGY

CENSUS SCOPE

Households, business units, organizations, running their activities in livestock breeding, arable farming, forestry, fishery and hunting sectors in 2011 were involved to the agricultural census. It includes:

- Household, running livestock production
- Business unity, organization, running livestock production
- Household, running arable farming production
- Business unity, organization, running arable farming production
- Business unity, organization, running forestry activities
- Business unity, organization, running fishery activities
- Business unity, organization, running hunting activities and
- Primary administrative unit or soums.

METHODOLOGY

Census/universal observation and sampling survey methods for data collection were combined in the census according to the recommendations from FAO UN.

Information on the target business units, organizations, running livestock breeding, households, business units, organizations, running arable farming production, business units, organizations, running forestry, fishery and hunting production and information on the primary administrative units were collected by statistic census or universal method, and information on the households, running livestock production was collected by statistic sampling survey method.

Also, the guidance on conducting the agricultural census was approved by decision no. 1/61 by the Chairman of NSO. The agricultural census was conducted according to this guidance.

SURVEY SAMPLING

The sampling amount was determined by representation of the households, running livestock production and in about 33.0 percent or 70.0 thousand households out of total 211.7 thousand households, running livestock production in 2011, were sampled and involved to the livestock breeding survey. The survey sampling was conducted at each province and all the provinces and soums were involved in the sampling.

“Systematic, proportional examination, group sampling” method was used in the sampling. The criteria was put on the number of livestock and divided to 6 groups.

From the 70.0 thousand households, selected to the survey, 96.5 thousand households were involved and the involvement was 99.3 percent.

DEVELOPMENT OF CENSUS QUESTIONNAIRE

We followed the main principle to include the indications, which are comparable to international level, required at national level, satisfying the customers’ demands, recommended from the FAO UN.

Agricultural census data was collected by the 8 main questionnaires of “Questionnaire on the households, running livestock production - ХААТ1А”, “Questionnaire on the business units, organizations, running livestock production - ХААТ1Б”, “Questionnaire on the households, running arable farming production - ХААТ2А”, “Questionnaire on the business units, organizations, running arable farming production - ХААТ2Б”, “Questionnaire on the business units, organizations, running forestry - ХААТ4А”, “Questionnaire on the business units, organizations, running hunting economy - ХААТ4Б”, “Questionnaire on the business units, organizations, running fishery - ХААТ4В”, “Survey on primary administrative units - ХААТ5”. The questionnaire of the agriculture census consisted of the following indicators:

1. Questionnaire on the households, business units, organizations, running livestock and arable farming productions

1.1. Address

Census commission number, name and code of province, capital city, soum district, bagh, khoroo, name and number of enumerator, typist, supervisor, coder, questionnaire page number, registration of households and business units, organizations.

1.2. Activities

Information about management of BUO and household heads: age, gender, years worked in the agricultural sector, BUO and household workforce: average number of workers, number of permanent and seasonal workers, workhours, age, gender and educational level

1.3. Owned land and its exploitation

Lands under BUO ownership, rental land, rented or exploited to others, total land size, land exploited from agricultural grassland, irrigation field, land ownership, soil erosion, irrigated field, irrigation types, water source, water bill conditions

1.4. Agricultural activities

Cultivated and stubble field, plant types, total field for greenhouses and cultivated field, plant types, plant protection, fertilizer used in soil improvement, substances, types, fields

1.5. Production and sales of agricultural products

Agricultural products produced, their sales, product and consumption types

1.6. Land, machines and equipment

Land evaluation, number of own and rental machines and equipment, exploitation form, exploited period, years

1.7. Buildings and facilities for agricultural purposes

Office buildings, greenhouses, storehouses, cellars, elevators, barn-floors, facilities to store agricultural machines and techniques, agricultural technical workshops, number of poultry-houses, hog houses, and special technological premises for pets, capacity, ownership and exploitation period

1.8. Wells and reservoirs

Number of total and artisanal, short piped, simple wells, capacity, location, exploitation types, number of reservoirs

1.9. Barnyard

Number of barnyards, capacity, types

1.10. Some services for agricultural production

Involvement to insurance service, loans for agricultural production: source of loans, loan frequency, types of loan mortgage, loan maturity, source of information about agricultural sector, time to reach to the market of agricultural products

1.11. Household food supply

Any food shortage or shortage periods, date of shortage, changes to food consumption due to the food shortage, measures taken to survive from the difficulties, natural difficulties, types of difficulties, loss amount

2. Questionnaire on the business units, organizations, running hunting activities

2.1. Address

Census commission number, name and code of province, capital city, soum, district, bagh, khoroo, name and number of enumerator, typist, supervisor, coder and questionnaire page number

2.2. Registration of business units, organizations

2.3. Activity information

2.4. Number of workers

2.5. Number of hunted animals

2.6. Hunted animals, intended use

2.7. Production and sales of hunted products

Production, sales and consumption types of hunting products

2.8. Activity income

2.9. Activity expense

2.10. Land, machines and equipment information

3. Questionnaire on the business units, organizations, running fishery activities

3.1. Address

Census commission number, name and code of province, capital city, soum, district, bagh, khoroo, name and number of enumerator, typist, supervisor, coder and questionnaire page number

3.2. Registration of business units, organizations

3.3. Activity information

3.4. Number of workers

3.5. Fish caught, intended use

3.6. Number of fish caught

3.7. Production and sales of fishery products

Production, sales and consumption types of fishery products

3.8. Activity income

3.9. Activity expense

3.10. Land, machines and equipment information

4. Questionnaire on the business units, organizations, running forestry activities

4.1. Address

Census commission number, name and code of province, capital city, soum, district, bagh, khoroo, name and number of enumerator, typist, supervisor, coder and questionnaire page number

4.2. Registration of business units, organizations

4.3. Activity information

4.4. Number of workers

4.5. Forestry, intended use

4.6. Lumbering and planted trees, seedlings

4.7. Production and sales of forestry products

4.8. Activity income

4.9. Activity expense

4.10. Land, machines and equipment information

5. Questionnaire sheet on survey on primary administrative unit

5.1. Geography and environment information

5.2. Social and economic situation

5.3. Infrastructure

5.4. Natural disaster inflict, years

5.5. Projects, programs under implementation, types of financing

After the first version of the census questionnaire was developed, it was tested on the 15 households and business units, organizations, running livestock breeding and arable farming production in Bayanchandmani soum, Tuv province, and the related corrections were made.

Also, after the test, proposals on the indications were taken from the related ministries and organizations, such as MFALI, Ministry of Environment, ALACGC, National Monitoring Committee and some additional indicators were included.

Also, proposals on the indications to include to the census questionnaire were taken from the statistic departments of provinces and the capital city and after the related proposals were included it was discussed and approved on the meetings of Standing Committees of Methodology of all stages of NSO and Board meeting.

RESULT ABSTRACT

According to the agricultural census there are 243.1 thousand households, running production in the agricultural sector, from which 209.6 thousand or 86.2 percent run livestock breeding and 33.5 thousand or 13.8 percent run arable farming.

Also, there are 2455 business units, organizations, running agricultural, forestry, hunting and fishery activities, from which 507 or 20.7 percent run livestock breeding and 1705 or 69.5 percent run arable farming.

Totally 232 business units, organizations, running forestry activities, 2 business units, organizations, running hunting and 9 business units, organizations, running fishery and breeding activities, were registered.

According to the census results the main indicators of agricultural, forestry, fishery and hunting sector vary by administration, climate, geographic location and population settlement.

According to the census results livestock breeding production is high in the Western and Khangai region provinces with much population and more number of livestock heads, compared to other provinces, but arable farming is high in the Central region, where Selenge, Tuv, Orkhon and Bulgan provinces are located, is higher compared to other regions.

Totally 403.5 thousand permanent workers work in the households, business units, organizations, running agricultural, forestry, fishery and hunting activities, from which 84.9 percent work in livestock breeding sector, 14.5 percent in arable farming sector and the rest 0.6 percent work in forestry, fishery and hunting sectors.

From the permanent workers, working in agricultural, forestry, fishery and hunting sectors, 43.8 percent or 176.9 thousand are female.

By educational level the majority or 81.7 percent of the permanent workers have primary, secondary and high school education.

Only 8.5 percent of the total workers have agricultural special profession, technical and vocational education. It shows the shortage of professional workers with technical, professional and vocational education.

From the total 243.1 thousand households, running agricultural production, and which were involved in agricultural census 2012, 7.9 percent or 19.1 thousand are involved to risk insurance.

By sub-sectors: from the 209.6 thousand households, running livestock breeding, 8.9 percent or 18.6 thousand households and from the total 33.5 thousand households, running arable farming, 547 or 1.6 thousand were involved to risk insurance.

Also, from 507 business units, organizations, running livestock breeding 7.9 percent or 40 percent and from 1705 business units, organizations, running arable farming, 7.0 percent or 119 were involved to risk insurance.

As we can see, the above indicators are unsatisfied for the households and business units, organizations of our country, running agricultural production, who have frequent possibilities to suffer from extreme climate and who have suffered many times from the natural disasters for the last few years.

From the total households, running livestock breeding and arable farming, 16.6 percent or 40.4 thousand have taken loans for their activities for the last 5 years.

Also, from the total business units, organizations, running livestock breeding and arable farming, 38.6 percent or 0.8 thousand have taken loans for their activities for the last 5 years.

The number of the households, taken loans, shows that from the households, running agricultural activities, the households, running livestock breeding involved much to the loan service, but as for the business units, organizations, then, the business units, organizations, running arable farming involved much to the loan services.

The main loan sources for the households and business units, organizations, running agricultural activities, are commercial banks and state organizations. The main loan mortgages are livestock, land, machines and equipment.

PART TWO

HOUSEHOLDS, BUSINESS UNITS AND ORGANIZATIONS, RUNNING AGRICULTURAL ECONOMY, FORESTRY, FISHERY AND HUNTING ECONOMIES

HOUSEHOLDS, BUSINESS UNITS AND ORGANIZATIONS, RUNNING AGRICULTURAL ECONOMY, FORESTRY, FISHERY AND HUNTING ECONOMIES

In 2011 totally 243.1 thousand households, running agricultural activities, were involved to the agricultural census, from which 209.6 thousand or 86.2 percent run livestock breeding and 33.5 thousand or 13.8 percent run arable farming.

The number of the business units, organizations in agricultural, forestry, fishery and hunting sector reached 2455, from which 2212 business units, organizations were running agricultural activities. From which 507 or 22.9 percent run livestock breeding and 1705 or 77.1 percent run arable farming.

Also, 232 business units, organizations, running forestry, 2 BUO, running hunting activities and 9 BUO, running fishery, were involved in the agricultural census.

4.5 percent of the total households of our country and 3.5 percent of the total working business units, organizations are running arable farming production.

TABLE 2.1. NUMBER OF HOUSEHOLDS, BUSINESS UNITS AND ORGANZIATIONS, RUNNING AGRICULTURAL, FORESTRY ECONOMY, FISHERY AND HUNTING ECONOMIES, by sub-sectors of economic activities

	TOTAL		
		Households	BUO
Livestock breeding	210 070	209 563	507
Arable farming	35 166	33 461	1 705
Forestry	232	-	232
Hunting	2	-	2
Fishery	9	-	9

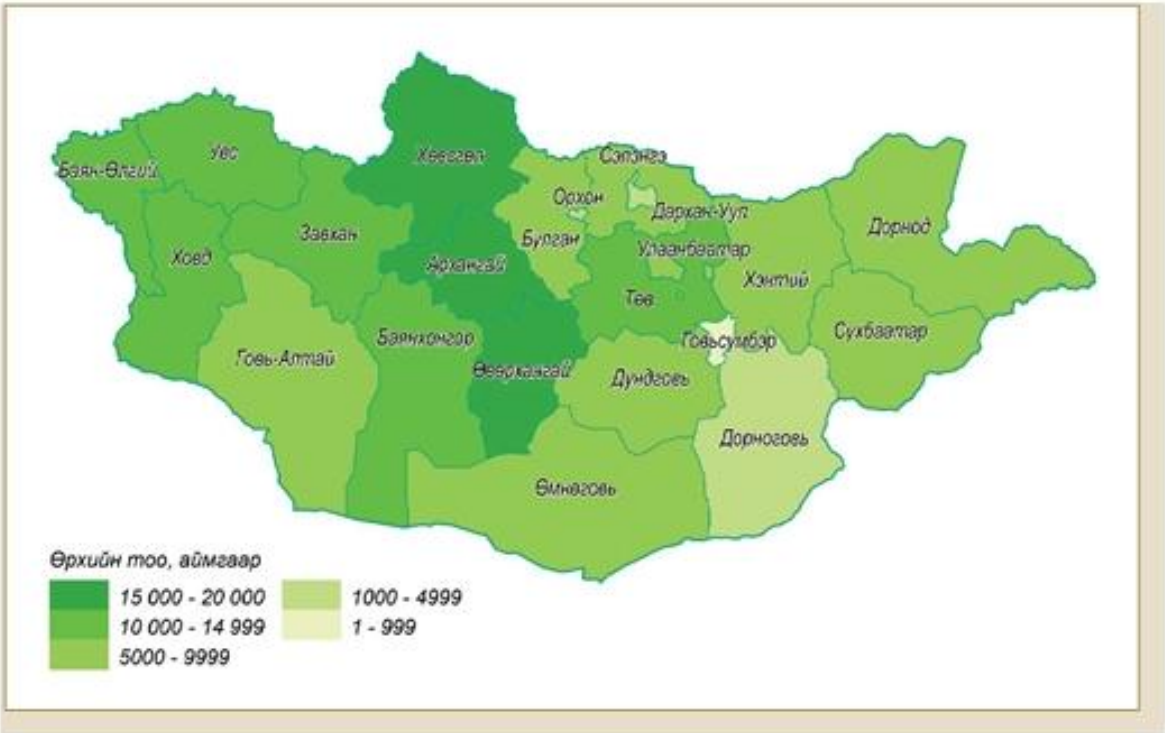
According to the census results agriculture, forestry, fishery and hunting sector, including livestock breeding, is based mostly on household activities.

37.1 percent of the households, running livestock breeding, run their activities in Khangai region and 39.4 percent of the households, running arable farming, run their activities in Central region. The provinces with domination of livestock production (Arkhangai, Bayankhongor, Uvurkhangai, and Khuvsgul) and arable farming production (Selenge, Tuv) are located in the mentioned regions.

The number of the business units, organizations, running agricultural activities, dominate in Central region, and occupies 31.8 percent of its livestock production and 48.0 percent of arable farming production.

No households, running forestry, fishery and hunting activities alone were registered during the agricultural census, but there were 75.0 thousand households, which combine these activities with their agricultural production as sub-activity, most of them lived in Khangai and Central regions, where it is possible to run forestry, fishery and hunting activities.

FIGURE 2.1. NUMBER OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING



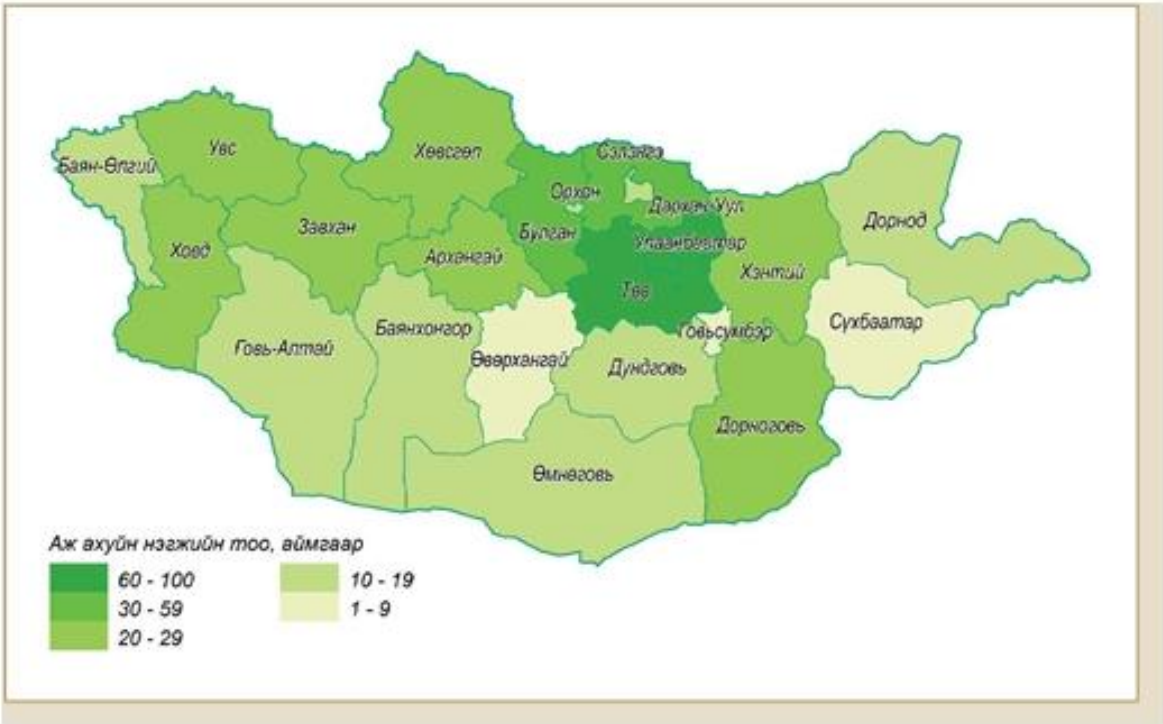
Totally 209 563 households, running livestock breeding, were involved to the agricultural census, from which 64.7 percent belong to western and khangai regions and most households are from Bayan-Ulgii, Arkhangai, Bayankhongor, Uvurkhangai, Khuvsgul and Tuv provinces.

TABLE 2.2. NUMBER OF HOUSEHOLDS, BUSINESS UNITS AND ORGANZIATIONS, RUNNING AGRICULTURAL, FORESTRY, FISHERY AND HUNTING ECONOMIES, by regions

	Total	Western	Khangai	Central	Eastern	UB
			Households			
Livestock breeding	209 563	57 833	77 748	44 788	24 113	5 081
Arable farming	33 461	5 076	7 917	13 190	2 307	4 971
			Business units, organizations			
Livestock breeding	507	105	118	161	43	80
Arable farming	1 705	368	282	818	48	189
Forestry	232	28	33	102	5	64
Hunting	2	1	-	1	-	-
Fishery	9	-	9	-	-	-

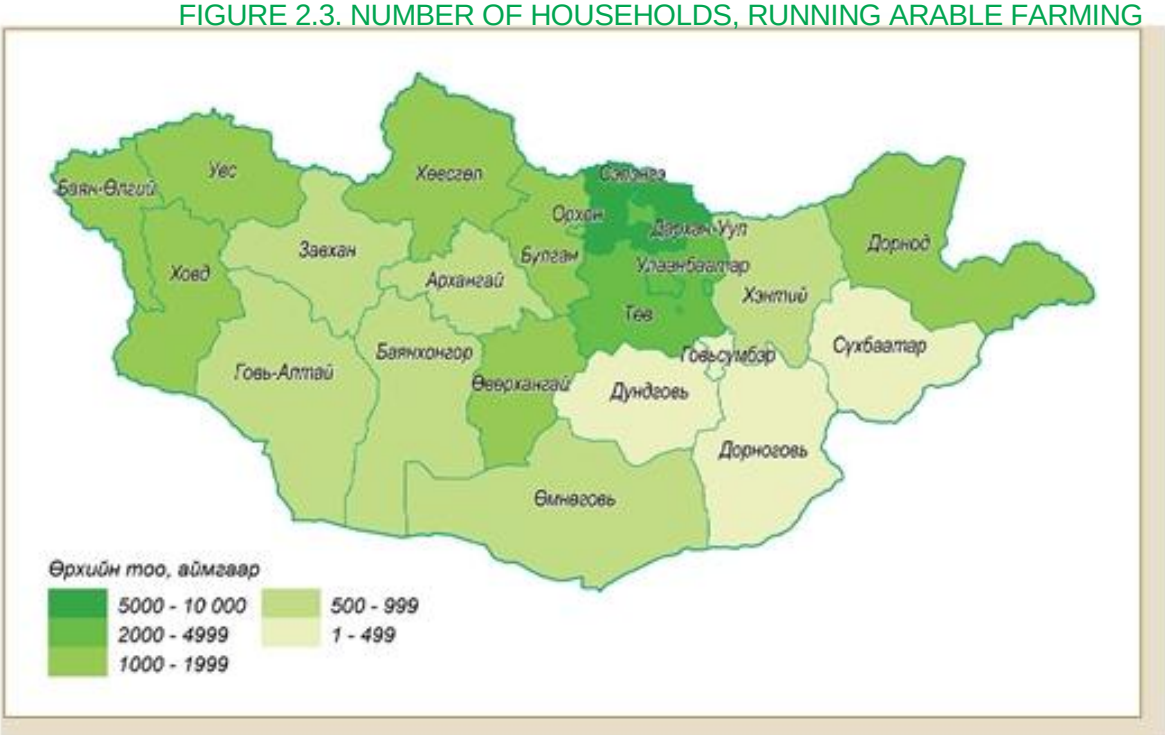
The majority of the 232 business units, organizations, running forestry, or 81 are located in Selenge (72), and Tuv (9) provinces, 2 hunting business units are located in Bayan-Ulgii (1) and Khuvsgul (1) provinces and 9 fishery business units are located un Bulgan (1) and Khuvsgul (8) provinces.

FIGURE 2.2. NUMBER OF BUSINESS UNITS, ORGANZIATIONS, RUNNING LIVESTOCK BREEDING



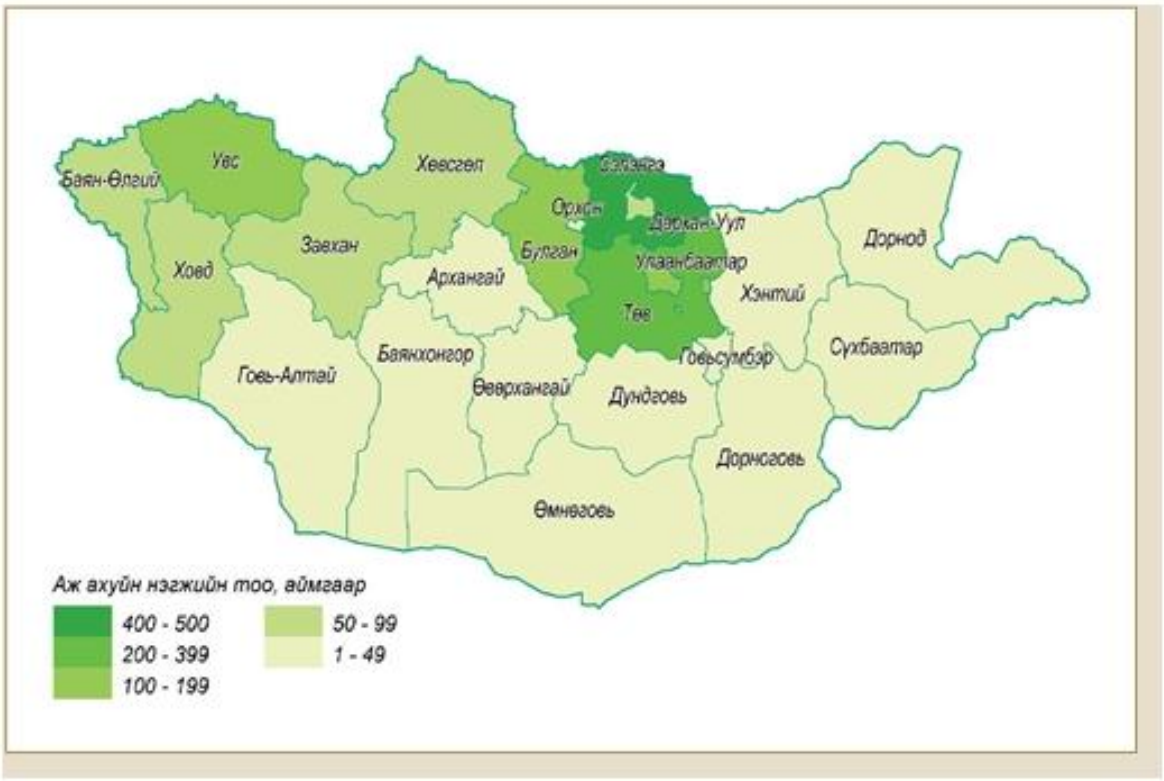
Percent is located in central and khangai region. The majority of the business units, organizations is located in Tuv, Bulgan, Selenge provinces and Ulaanbaatar city.

FIGURE 2.3. NUMBER OF HOUSEHOLDS, RUNNING ARABLE FARMING



Totally 33461 households, running arable farming, were involved to the agricultural census, from which 39.4 percent is located in central region and the majority is located in Selenge and Tuv provinces.

FIGURE 2.4. NUMBER OF BUSINESS UNITS, ORGANZIATIONS, RUNNING ARABLE FARMING



48.0 percent belongs to central region and the majority of the business units, organizations is located in Selenge and Tuv provinces.

PART THREE

HOUSEHOLDS, RUNNING AGRICULTURAL ECONOMY AND THEIR HEADS, BUSINESS UNITS AND ORGANIZATIONS AND THEIR MANAGEMENT

HOUSEHOLDS, RUNNING AGRICULTURAL ECONOMY, AND THEIR HEADS, BUSINESS UNITS AND ORGANIZATIONS AND THEIR MANAGEMENT

The census questionnaire included the information on the households, running agricultural activities, their leaders and their ages, genders, level of education, employment period, involvement to insurance, household members, dwelling conditions, electricity and water sources, transportation of drinking and household water; the results were summarized.

The information on the management of the business units, organizations, running agricultural activities, was collected by such indicators as age, gender, level of education, years worked, years managing that organization and number of founders; the results were also summarized.

HOUSEHOLDS, RUNNING AGRICULTURAL ECONOMY, AND THEIR HEADS

HOUSEHOLDS, RUNNING AGRICULTURE, AGE AND GENDER OF THEIR HEADS

In 2011 totally 209.6 thousand households run livestock breeding and 33.5 thousand households run arable farming.

TABLE 3.1. NUMBER OF HOUSEHOLDS, RUNNING AGRICULTURAL ACTIVITIES, by gender of household heads

Thous.households

	Total	Livestock breeding	Arable farming
Number of households, thous,households	243.1	209.6	33.5
With male heads	209.6	182.1	27.5
With female heads	33.5	27.5	6.0

86.9 percent of the households, running livestock breeding, or 182.1 thousand have male heads, 13.1 percent or 27.5 thousand have female heads and 82.1 percent of the households, running arable farming, or 27.5 thousand have male heads and 17.9 percent or 6.0 thousand have female heads.

The households with livestock breeding have higher percentage from the total households with female heads.

Household heads' age groups: 28.5 percent of the household heads, running livestock breeding, or 59.7 thousand is the youth between 15-34 years old, 38.3 percent or 80.4 thousand between 35-49 years old, and 33.2 percent or 69.5 thousand is above 50 years old.

Households, running arable farming: 14.9 percent of the household heads, running arable farming, or 5.0 thousand is youth between 15-34 years old, 39.9 percent or 13.4 thousand between 35-49 years old and 45.2 percent or 15.1 thousand is above 50 years old.

TABLE 3.2. NUMBER OF HOUSEHOLDS, RUNNING AGRICULTURAL ACTIVITIES, by age groups of household heads

	Total	Livestock	Arable farming
Total	243.1	209.6	33.5
15-34 years old	64.7	59.7	5.0
35-49 years old	93.8	80.4	13.4
Above 50 years old	84.6	69.5	15.1
Percentage			
Total	100.0	100.0	100.0
15-34 years old	26.6	28.5	14.9
35-49 years old	38.6	38.3	39.9
Above 50 years old	34.8	33.2	45.2

EMPLOYMENT PERIOD OF THE HOUSEHOLD HEADS IN STATE AND AGRICULTURAL SECTOR

A household head, running agriculture, has worked for the state on average 20.9 years, from which 12.1 years he/she worked in agricultural production. By sectors: household head, running livestock breeding, has worked for the state on average 21.2 years, from which 16.2 years he/she worked in livestock breeding sector and household head, running arable farming, has worked for the state on average for 20.5, from which on average 8 years he/she worked in arable farming.

The years of the household heads, running arable farming, worked in that sector is fewer, compared to the household heads, running livestock breeding.

TABLE 3.3. EMPLOYMENT PERIOD OF HOUSEHOLD HEADS, by sectors

	Worked years on average	Livestock	Arable farming
Years worked for state	20.9	21.2	20.5
From which: in that sector	12.1	16.2	8.0

INVOLVEMENT OF HOUSEHOLD HEAD TO INSURANCE

The information on involvement of the household heads to insurance was collected with the purpose to study the involvement of the agricultural businessmen to social insurance and health insurance.

From the total 209.6 thousand households, running livestock breeding, the household heads of 84.4 percent or 176.8 thousand households were involved to health insurance and 19.1 percent or 40.0 thousand household heads were involved to social insurance.

There are 31.8 thousand household heads, who are not involved to health and/or social insurance, which occupies 15.2 percent of the household heads, running livestock production.

From the total 33.5 thousand households, running arable farming, the household heads of 83.7 percent or 28.0 thousand were involved to health insurance and 40.0 percent or 13.4 thousand household heads were involved to social insurance.

There are 5.2 thousand households, who are not involved to health and/or social insurance, which occupies 15.5 percent of the household heads, running arable farming.

The involvement of the household heads, running arable farming, to social insurance is higher than the household heads, running livestock breeding, by 0.3 points.

TABLE 3.4. INVOLVEMENT OF HOUSEHOLD HEADS TO INSURANCE, by types of insurance

	Total	Livestock	Arable farming
To health insurance	204.8	176.8	28.0
To social insurance	53.4	40.0	13.4
Not insured	37.0	31.8	5.2
Percentage of insurance involvement			
To health insurance	84.3	84.4	83.7
To social insurance	22.0	19.1	40.0
Not insured	15.2	15.2	15.6

By regions: involvement to health insurance of the household heads, running livestock breeding, is similar in Western, Khangai, Central and Eastern regions with 83.3-87.3 percent and in Ulaanbaatar city 3823 citizens were involved with 75.2 percent.

But involvement to social insurance is relatively different by regions among the household heads, running agricultural activities, and the highest or about 30 percent involvement is in Ulaanbaatar city, in Central region 26.2, in Eastern region 20.2, in Western region 18.0, but the lowest or 14.7 percent is in Khangai region.

Involvement to health insurance of the household heads, running arable farming, is similar in Western, Khangai, Central and Eastern regions with 83.2-88.3 percent and in Ulaanbaatar city the involvement is 79.6 percent.

But involvement to social insurance is relatively different by regions and the highest or about 44.1 percent is in Central region, in Ulaanbaatar city 43.8, in Eastern region 40.4, in Khangai region 34.6, but the lowest or 33.9 percent involvement is in Western region.

NUMBER OF HOUSEHOLD MEMBERS, ENGAGED IN AGRICULTURAL ACTIVITIES

Totally, 795.4 thousand people live in 209.6 thousand households, running livestock breeding and the average number of a household members is 3.8.

Totally 133.8 thousand people live in 33.5 thousand households, running arable farming and the average number of a household members is 4.

TABLE 3.5. HOUSEHOLDS, RUNNING AGRICULTURAL ACTIVITIES, by family members

	Total	Livestock	Arable farming
Number of households, thous.households	243.1	209.6	33.5
Family members, thous.people	929.2	795.4	133.8
From which: number of children up to 16	293.9	257.9	36.0
Average number of members per household	3.8	3.8	4.0

There are 257.9 thousand children up to 16 years old in the households, running livestock breeding and on average 1.2 children per household.

There are 36.0 thousand children up to 16 years old in the households, running arable farming and on average 1.1 children per household.

DWELLING, POWER SUPPLY AND WATER SOURCE OF THE HOUSEHOLDS, RUNNING AGRICULTURAL ECONOMY

TYPES OF DWELLINGS OF THE HOUSEHOLDS, RUNNING AGRICULTURE

The information on types of dwellings of the households, running agricultural activities, was collected during the census. From total 243.1 thousand households, running agricultural activities, 70.7 percent live in traditional gers and 28.7 percent live in houses.

By sector: from total 209.6 thousand households, running livestock breeding, 76.4 percent live in traditional Mongolian gers, 22.9 percent live in houses, 0.5 percent live in non-purpose dwelling and 0.2 percent live in other types of dwelling.

From total 33.5 thousand households, running arable farming, 34.5 percent live in traditional Mongolian gers, 64.9 percent live in houses, 0.4 percent live in non-purpose dwellings and 0.2 percent live in other types of dwelling.

As for the households, running livestock breeding, then, the most live in gers, but the households, running arable farming, mostly live in houses.

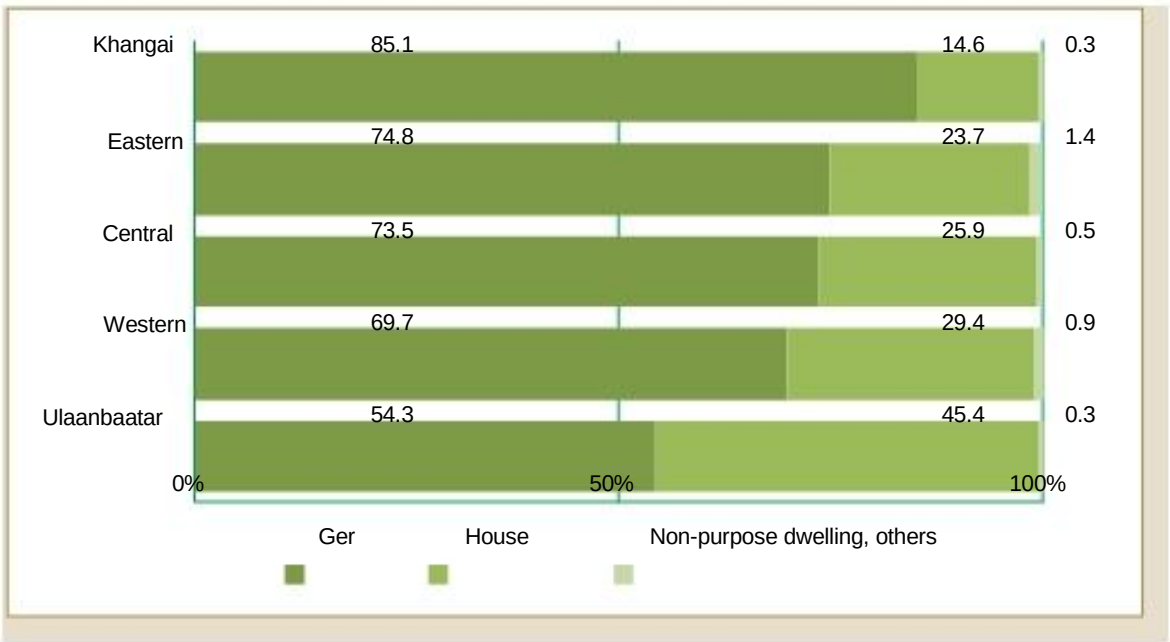
TABLE 3.6. NUMBER OF HOUSEHOLDS, RUNNING AGRICULTURE, by types of dwelling

Thous.households

	Total	Livestock	Arable farming
Number of households, thous.households	243.1	209.6	33.5
Number of households, living in gers	171.8	160.2	11.6
Number of households, living in houses	69.7	48.0	21.7
Number of households, living in non-purpose dwellings	1.1	1.0	0.1
Others	0.5	0.4	0.1
Percentage to households			
Number of households, living in gers	70.7	76.4	34.5
Number of households, living in houses	28.7	22.9	64.9
Number of households, living in non-purpose dwellings	0.5	0.5	0.4
Others	0.2	0.2	0.2

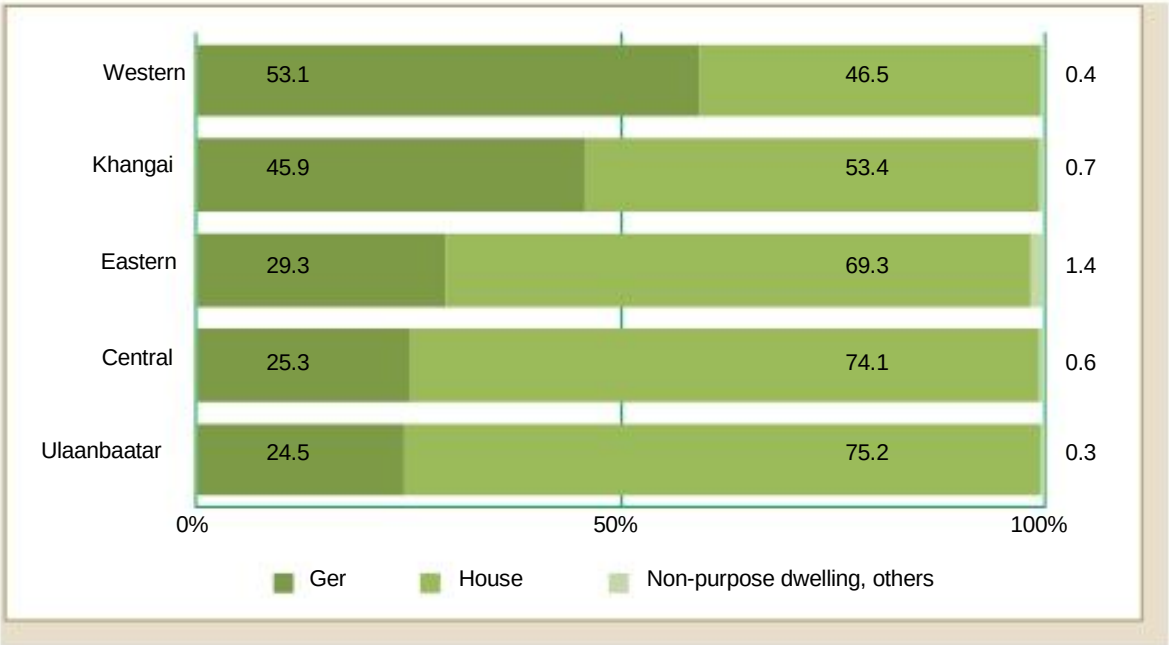
By regions: 85.1 percent of the households, running livestock breeding in Khangai region, live in traditional gers, which is higher compared to other regions, but 29.4 percent in Western region live in houses, which is higher than in other regions.

FIGURE 3.1. NUMBER OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by types of dwelling, regions, percent



53.1 percent of the households, running arable farming in western region, live in traditional gers and 75.2 percent in Ulaanbaatar city live in houses, which higher than in other regions.

FIGURE 3.2. NUMBER OF HOUSEHOLDS, RUNNING ARABLE FARMING, by types of dwelling, regions, percent



POWER SUPPLY OF THE HOUSEHOLDS, RUNNING AGRICULTURE

Power supply is one of the important indicators for household livelihood and comfortable living and therefore, the information on household power supply was studied by classification of centralized system, diesel station, equipment for renewable energy, no electricity source, and small scale electric generator.

From the total 243.1 thousand households, running agriculture, 35.5 percent are connected to the centralized system, and 55.7 percent have solar and wind renewable energy equipment.

From the total 209.6 thousand households, running livestock breeding, 62.4 percent provide their electricity from renewable energy, 28.1 percent from centralized system, 4.2 percent from small scale electric generators and 1.8 percent from diesel stations. According to the census results the main electricity source for the households, running livestock breeding, is renewable energy (62.4 percent).

3.5 percent from the total households, running livestock breeding, or 7.3 thousand households do not have any electricity sources.

81.4 percent of the total 33.5 thousand households, running arable farming, provide their electricity from the centralized system,
14.1 percent from renewable energy, 2.4 percent from diesel stations, 1.4 percent from small scale electric generators, which shows that the main electricity source is centralized system (81.4 percent), and it is related to the fact, that the arable farming is mostly run in the settlement areas. 0.8 percent from the total households, running arable farming, or 251 households do not have any power supply.

TABLE 3.7. NUMBER OF HOUSEHOLDS, RUNNING AGRICULTURE, by electricity source

Thous.households

	Total	Livestock breeding	Arable farming
Number of households	243.1	209.6	33.5
Connected to centralized system	86.2	59.0	27.2
Connected to diesel station	4.6	3.8	0.8
Having renewable energy equipment	135.4	130.7	4.7
Having small scale electric generators	9.3	8.8	0.5
No electricity	7.6	7.3	0.3
Percentage			
Connected to centralized system	35.5	28.1	81.4
Connected to diesel station	1.9	1.8	2.4
Having renewable energy equipment	55.7	62.4	14.1
Having small scale electric generators	3.8	4.2	1.4
No electricity	3.1	3.5	0.8

WATER SOURCE OF THE HOUSEHOLDS, RUNNING AGRICULTURE

56.9 percent of the households, running agricultural activities, provide their water consumption mostly from rivers, lakes, unprotected wells, springs, and 25.5 from protected wells.

61.2 percent of the households, running livestock breeding, provide their drinking water consumption from rivers, lakes, unprotected wells, and springs, 23.9 percent from protected wells, 8.1 percent from portable water, 2.5 percent from protected springs, 1.6 percent from water distribution kiosks, connected to centralized system, 1.6 percent from water distribution kiosks, not connected to centralized system, 1.0 percent from centralized system, and 0.1 percent from other sources.

TABLE 3.8. HOUSEHOLD DRINKING WATER SOURCE, by household percentage

	Total	Livestock breeding	Arable farming
Sum	100.0	100.0	100.0
Centralized system	1.3	1.0	3.5
Water kiosk, connected to diesel station	2.3	1.6	6.6
Protected well	25.5	23.9	35.3
Protected spring	2.5	2.5	2.4
Water kiosk, not connected to centralized system	3.2	1.6	13.3
Portable water	8.2	8.1	8.8
Rivers, lakes, unprotected wells, springs	56.9	61.2	30.0
Others	0.1	0.1	0.1

35.3 percent of the households, running arable farming, provide their drinking water consumption from protected wells, 30.0 percent from rivers, lakes, unprotected wells, springs, 8.8 percent from portable water, 6.6 percent from water distribution kiosks, connected to centralized system, 3.5 percent from centralized system, 2.4 percent from protected springs, 13.3 percent from water distribution kiosks, not connected to centralized system and 0.1 percent from other sources.

AVERAGE DISTANCE TO CARRY DRINKING WATER FOR THE HOUSEHOLDS, RUNNING AGRICULTURE

The households, running livestock breeding, carry their drinking water from the average distance of 1.2 km.

By seasons: the households, running livestock breeding, carry their drinking water on average from 0.9 km far in summer, 1.2 km in autumn, 1.4 km in winter and 1.3 km in spring seasons. In summer season drinking water is carried from the nearest place than in other seasons, but in autumn, winter and spring it is carried from farther place.

The households, running arable farming, carry their drinking water on average from 0.4 km. In summer, autumn and spring the drinking water is carried from on average 0.4 km, and in winter season from on average 0.5 km of distance.

The households, running livestock breeding in central region, in particular in Gobi provinces, carry drinking water from farther place than in other regions, it is higher by 2.0 km.

The households, running arable farming, mostly located in central and settled areas, therefore, the water carriage is closer by about 1 km than the households, running livestock breeding.

TABLE 3.9. AVERAGE DISTANCE OF CARRYING DRINKING WATER BY HOUSEHOLDS, RUNNING AGRICULTURAL ACTIVITIES, by seasons

M

	Livestock breeding	Arable farming
Spring	1346	439
Summer	935	376
Autumn	1198	401
Winter	1436	458

TYPES OF DRINKING WATER CARRIAGE BY THE HOUSEHOLDS, RUNNING AGRICULTURE

55.4 percent of the households, running livestock breeding, carry their drinking water on foot, 34.9 percent on truck and motorcycles, and 8.6 percent by carts and 85.0 percent of the households, running arable farming, carry on foot, 11.7 percent on truck and motorcycles and 2.5 percent by carts and other types.

TABLE 3.10. TYPES OF DRINKING WATER CARRIAGE BY HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by regional percentage

	Total	On foot	By cart	Truck /motorcycle/	Others
Total	100.0	55.4	8.6	34.9	1.1
Western	100.0	74.9	5.7	19.0	0.4
Khangai	100.0	50.3	9.4	39.3	1.0
Central	100.0	42.2	5.9	50.5	1.4
Eastern	100.0	43.9	18.5	35.3	2.3
Ulaanbaatar	100.0	79.7	7.9	12.1	0.3

By regions: the households, running livestock breeding commonly carry their drinking water on foot in Western region (74.9 percent) and on truck and motorcycles in Central region (50.5 percent), but carry drinking water mostly by cart in Eastern region (18.5 percent).

TABLE 3.11. TYPES OF DRINKING WATER CARRIAGE BY HOUSEHOLDS, RUNNING ARABLE FARMING, by regional percentage

	Total	On foot	By cart	Truck /motorcycle/	Others
Total	100.0	85.0	2.5	11.7	0.8
Western	100.0	88.1	1.8	8.2	1.9
Khangai	100.0	76.1	4.9	18.3	0.7
Central	100.0	85.2	1.9	12.4	0.5
Eastern	100.0	82.9	3.4	12.7	1.0
Ulaanbaatar	100.0	96.4	0.8	2.5	0.3

The households, running arable farming, mostly carry water on foot in Ulaanbaatar city (96.4 percent), on truck and motorcycles in Khangai region (18.3 percent). The households, running agricultural production, mostly carry their drinking water on foot.

BUSINESS UNITS, ORGANZIATIONS, RUNNING AGRICULTURAL PRODUCTION, AND THEIR MANAGEMENT

Totally 507 business units, organizations, running livestock breeding and 1705 business units, organizations, running arable farming, were involved to the agricultural census.

NUMBER OF MANAGEMENT OF BUSINESS UNITS, ORGANIZATIONS, BY GENDER

75.6 percent of the management of 2.2 thousand business units, organizations, running agriculture, is male and 24.4 percent is female. One per four BUO has female management, which is relatively high indicator.

71.8 percent of BUO, running livestock breeding, or 364 have male management and 28.2 percent or 143 have female management. But 76.8 percent or 1309 BUO, running arable farming, has male management and 23.2 percent of 396 have female management.

TABLE3.12. NUMBER OF MANAGEMENT OF BUO, RUNNING AGRICULTURE, by gender

	Total	Livestock breeding	Arable farming
Number of BUO	2 212	507	1 705
Number of management, by gender			
Male	1 673	364	1 309
Female	539	143	396

NUMBER OF BUO MANAGEMENT, BY AGE GROUP

47.6 percent or 1052 of management of BUO, running agriculture, are between 35-49 years old, 37.8 percent or 837 are 50 and above years old, 14.6 percent or 323 are between 15-34 years old.

15.6 percent or 79 BUO management, running livestock breeding, are the youth between 15-34 years old, 48.9 percent or 248 are between 35-49 years old or middle aged and 35.5 percent or 180 are above 50 years old.

14.3 percent or 244 BUO management, running arable farming, are the youth between 15-34 years old, 47.2 percent or 804 are between 35-49 years old or middle aged and 38.5 percent or 657 are above 50 years old. 35-49 years old or middle aged dominates among the management of the BUO, running agricultural activities.

TABLE 3.13. NUMBER OF BUO, RUNNING AGRICULTURAL ACTIVITIES, by age groups

	Total	Livestock breeding	Arable farming
Total	2 212	507	1 705
15-34 years old	323	79	244
35-49 years old	1 052	248	804
Above 50 years old	837	180	657

WORK EXPERIENCE OF THE MANAGEMENT OF BUO

The management of the BUO. running livestock activities, worked on average for 21.3 years, from which in this sector they have worked for 8.4 years.

But the management of the BUO, running arable farming, worked on average for 21.0 years, from which they have worked for 10.5 years in arable farming sector.

TABLE 3.14. NUMBER OF BUO, RUNNING AGRICULTURAL ACTIVITIES, by employment years

	Livestock breeding		Arable farming	
	Years worked for state	From which: in livestock sector	Years Worked for state	From which: arable farming
Total	21.3	8.4	21.0	10.5

PART FOUR

WORKFORCE IN AGRICULTURAL, FORESTRY, FISHERY AND HUNTING SECTOR

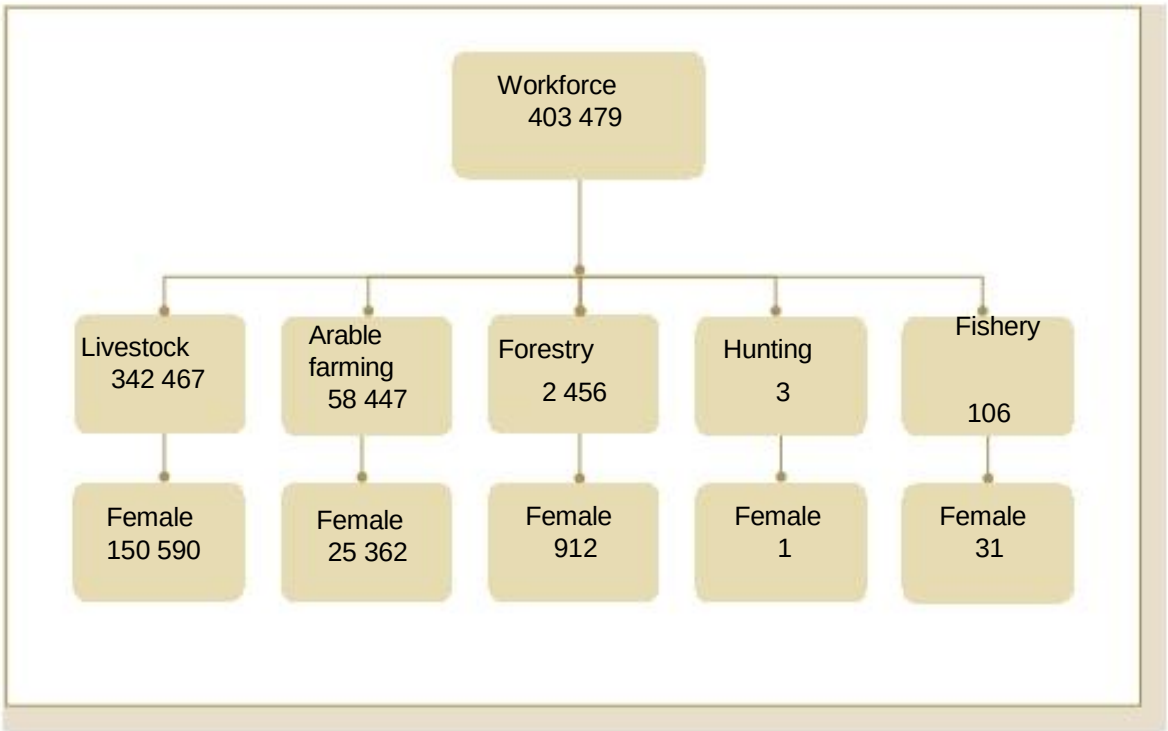
WORKFORCE IN AGRICULTURAL, FORESTRY, FISHERY AND HUNTING SECTOR

In this part we discussed the indicators, including workforce status in agricultural, forestry, fishery and hunting sector, number of permanent, seasonal, temporary and professional workers, their level of education, age groups, marital status, work hours during cultivation and harvesting, difficulties, related to the workforce. Generalization of the structure of the sector workforce, and common difficulties, facing the workforce can be an important data source for policy makers.

According to the results of the households, business units, organizations in agricultural, forestry, fishery and hunting sector in 2011 totally 403.5 thousand workers worked, from which 84.9 percent worked in livestock breeding production, 14.5 percent worked in arable farming production and the rest 0.6 worked in forestry, fishery and hunting sector.

43.8 percent of 176.9 thousand of the permanent workers, worked in agricultural, forestry, fishery and hunting sector, are female.

FIGURE 4.1. NUMBER OF WORKERS IN AGRICULTURAL, FORESTRY, FISHERY AND HUNTING SECTOR, by activity fields



Except the permanent worked in agricultural, forestry, fishery and hunting sector also 28.6 thousand seasonal workers and 55.1 thousand temporary workers worked.

From the temporary workers 17.2 thousand or 31.2 percent worked in livestock breeding, 37.9 thousand or 68.8 percent worked in arable farming sector; from the seasonal workers 13.3 thousand or 46.5 percent worked in livestock breeding and 15.3 thousand or 53.5 percent worked in arable farming sector.

TABLE 4.1. NUMBER OF SEASONAL AND TEMPORARY WORKERS IN AGRICULTURAL, FORESTRY, FISHERY AND HUNTING ECONOMIES, by sub-sector

		Total	Households		BUO	
			No	No of workers	No	No of workers
Livestock breeding	Seasonal	7.0	13.0	0.1	0.3	
	Temporary	6.3	16.8	0.1	0.4	
Arable farming	Seasonal	3.0	9.1	0.7	6.2	
	Temporary	4.3	28.3	0.9	9.6	

As we can see the majority of temporary and seasonal workers worked in arable farming sector and it is related to the fact, that temporary and seasonal workers are hired during cultivating and harvesting periods.

Permanent workers by age groups: 2.5 percent are between 15-19 years old, 18.3 percent are 20-29 years old, 29.3 percent are 30-39 years old, 23.9 percent are 40-49 years old, 26.0 percent are 50 and above years old. Among the permanent workers percentage of 20-49 years old (71.5 percent) is higher than other age groups.

TABLE 4.2. NUMBER OF PERMANENT WORKERS IN AGRICULTURAL SECTOR, by age groups

	Total	Livestock breeding	Arable farming	Percentage		
				Total	Livestock breeding	Arable farming
Total	400.9	342.5	58.4	100.0	100.0	100.0
15-19	9.9	8.3	1.6	2.5	2.4	2.7
20-29	73.5	65.7	7.8	18.3	19.2	13.4
30-39	117.3	104.0	13.3	29.3	30.4	22.8
40-49	95.9	80.2	15.7	23.9	23.4	26.9
50-54	39.6	31.6	8.0	9.9	9.2	13.7
55-59	26.9	21.8	5.1	6.7	6.4	8.7
60+	37.9	31.0	6.9	9.5	9.0	11.8

Level of education of permanent workers: 4.6 percent of the permanent workers are uneducated, 23.1 percent have primary education, 33.1 percent secondary, 26.0 percent high school, 4.7 percent technical and vocational, 3.9 percent special professional, 4.5 percent diploma and bachelor and 0.1 percent have master and doctor degrees. 82.2 percent of the total workers have primary, secondary and high school education.

TABLE 4.3. NUMBER OF PERMANENT WORKERS IN AGRICULTURAL SECTOR, by level of education

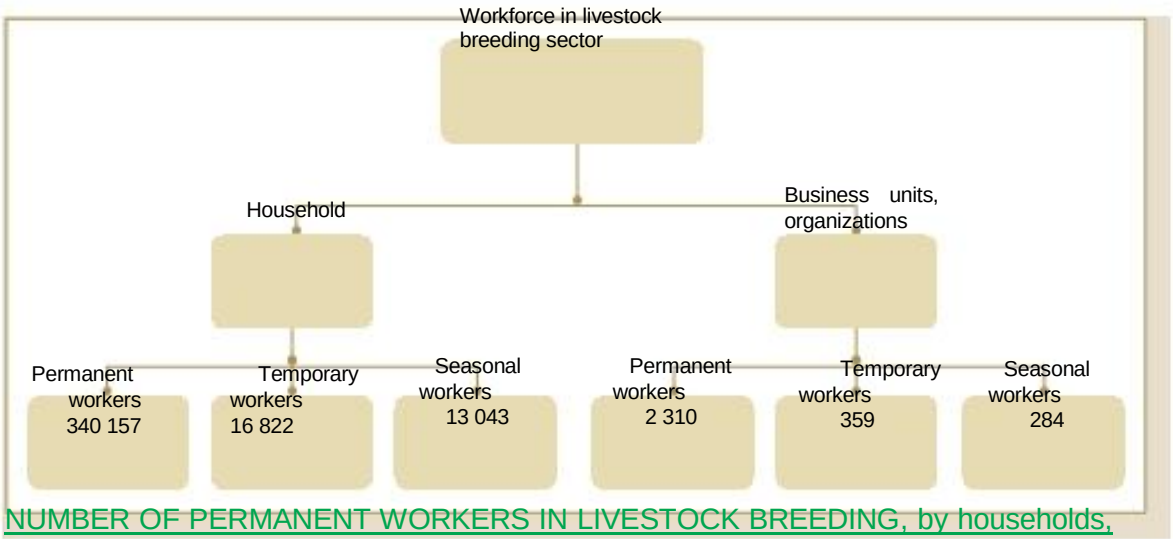
	Total	Percentage				
		Livestock breeding	Arable farming	Total	Livestock breeding	Arable farming
Total	400.9	342.5	58.4	100.0	100.0	100.0
Uneducated	18.5	17.4	1.1	4.6	5.1	1.8
Primary	92.7	87.9	4.8	23.1	25.7	8.2
Secondary	132.6	120.1	12.5	33.1	35.1	21.5
High school	104.3	83.3	21.0	26.0	24.3	35.9
Technical and vocational	18.9	13.2	5.7	4.7	3.9	9.8
Special professional	15.4	10.2	5.2	3.9	3.0	8.9
Higher	17.9	10.1	7.8	4.5	2.9	13.4
Master, doctor	0.6	0.3	0.3	0.1	0.0	0.5

The workers with agricultural professional, technical and vocational and special professional education occupy only 8.6 percent.

WORKFORCE IN LIVESTOCK BREEDING SECTOR

Totally 342.5 thousand permanent workers were registered in livestock breeding sector by the census. Totally 17.2 thousand temporary workers worked in this sector, from which 16.8 thousand worked in households, 0.4 thousand in business units, organizations, and 13.3 thousand seasonal workers worked, from which 13.0 thousand worked in households and 0.3 thousand worked in business units, organizations.

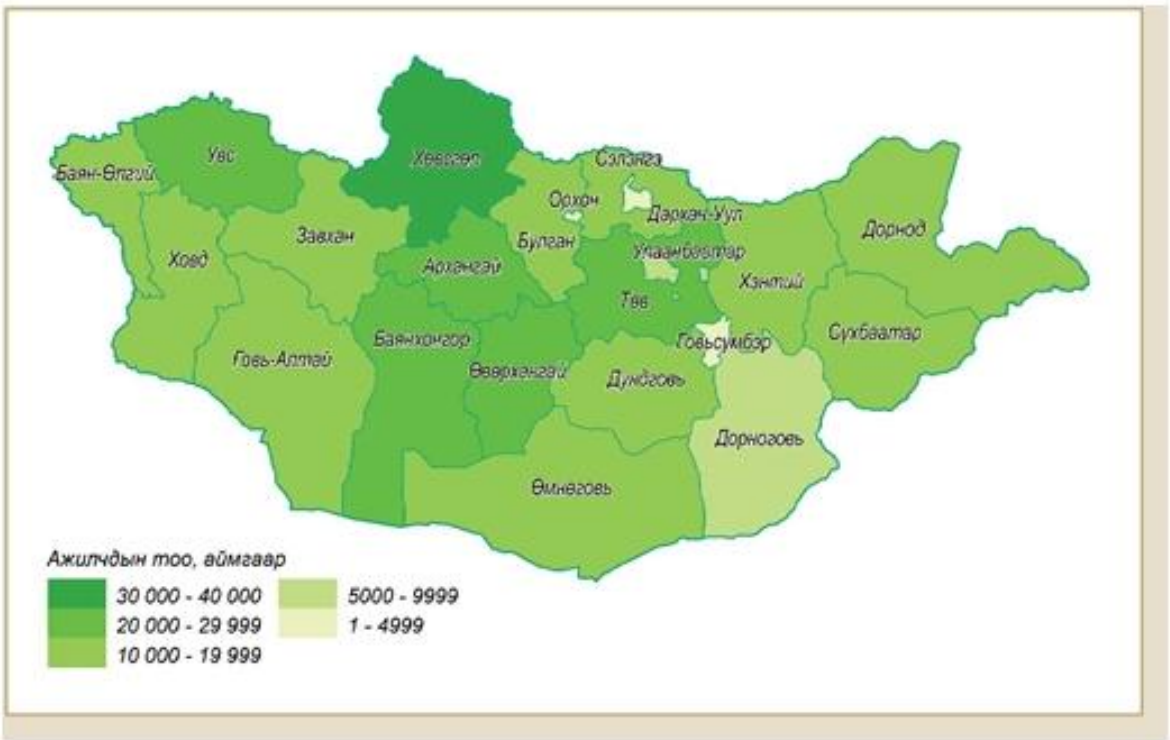
FIGURE 4.2. WORKFORCE IN LIVESTOCVK BREEDING



NUMBER OF PERMANENT WORKERS IN LIVESTOCK BREEDING, by households, business units, organizations

From the total registered 342.5 thousand permanent workers 340.2 thousand worked in households and 2.3 thousand worked in business units, organizations.

FIGURE 4.3. NUMBER OF PERMANENT WORKERS OF HOUSEHOLDS IN LIVESTOCK BREEDING



Totally 340 157 permanent workers work in the households, running livestock breeding, from which 66.6 percent belong to Western and Khangai regions and the majority live in Zavkhan, Khovd, Tuv, Uvs, Bayankhongor, Uvurkhangai, Arkhangai and Khuvsgul provinces.

From the total 209.6 thousand households, running livestock breeding, and which were involved to the agricultural census, 204.3 thousand or 97.5 percent have permanent workers and from 507 business units, organizations 475 or 93.7 percent have permanent workers.

FIGURE 4.4. NUMBER OF PERMANENT WORKERS IN BUO IN LIVESTOCK BREEDING SECTOR

Permanent workers in livestock breeding by gender: 190.5 thousand or 56.0 percent of the permanent workers in households are male and 149.7 thousand or 44.0 percent are female, and from the permanent workers in business units, organizations 1.4 thousand or 61.3 percent are male and 0.9 thousand or 38.7 percent are female.

TABLE4.4. NUMBER OF PERMANENT WORKERS IN LIVESTOCK SECTOR, by households, business units, organizations, gender

	Total	Households	BUO
Total	342 467	340 157	2 310
male	191 877	190 461	1 416
female	150 590	149 696	894
	Percentage		
Total	100.0	100.0	100.0
male	56.0	56.0	61.3
female	44.0	44.0	38.7

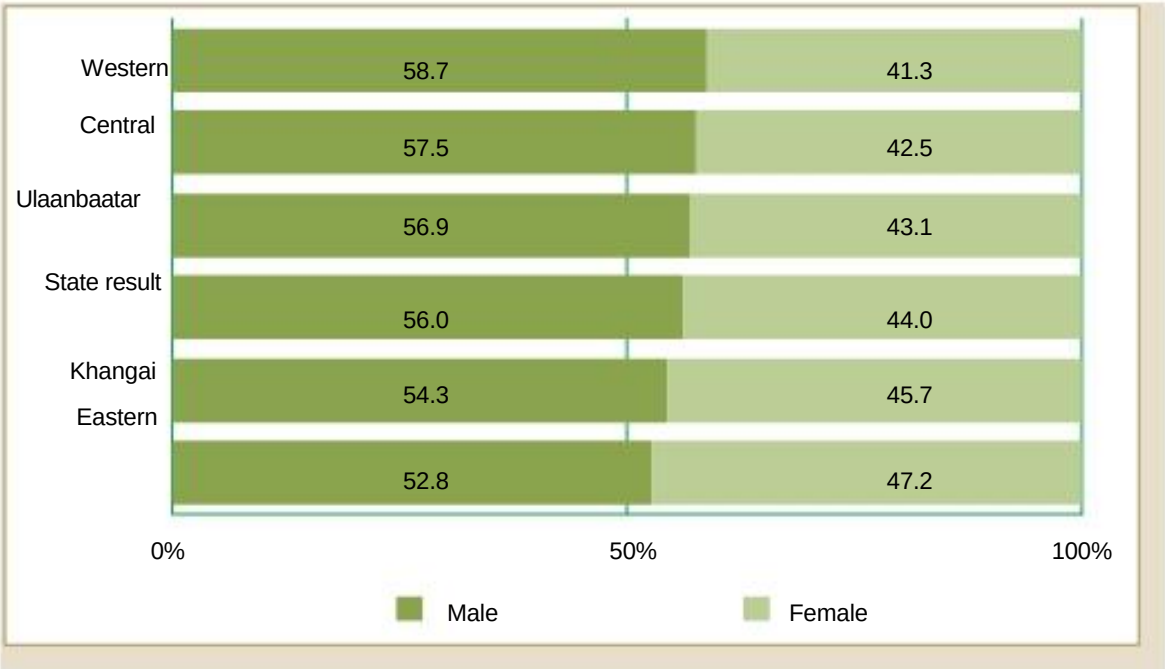
By regions: permanent workers centralize in the main livestock region of Khangai region, 39.7 percent of household permanent workers and 33.9 percent of permanent workers in business units, organizations are imposed to Central region.

TABLE 4.5. NUMBER OF PERMANENT WORKERS IN LIVESTOCK BREEDING SECTOR, by households, business units, organizations, regions

	Total			Percentage		
		Household	BUO	Total	Household	BUO
Total	342 467	340 157	2 310	100.0	100.0	100.0
Western	92 136	91 626	510	26.9	26.9	22.1
Khangai	135 213	134 941	272	39.5	39.7	11.7
Central	68 771	67 989	782	20.1	20.0	33.9
Eastern	39 862	39 470	392	11.6	11.6	17.0
Ulaanbaatar	6 485	6 131	354	1.9	1.8	15.3

Female permanent workers by regions: 41.3 percent of female workers are in Western region. But the gender ratio of the workers in Eastern region is close.

FIGURE 4.5. GENDER RATIO OF PERMANENT WORKERS IN LIVESTOCK SECTOR, by regions



NUMBER OF PERMANENT WORKERS IN LIVESTOCK BREEDING SECTOR, by age groups

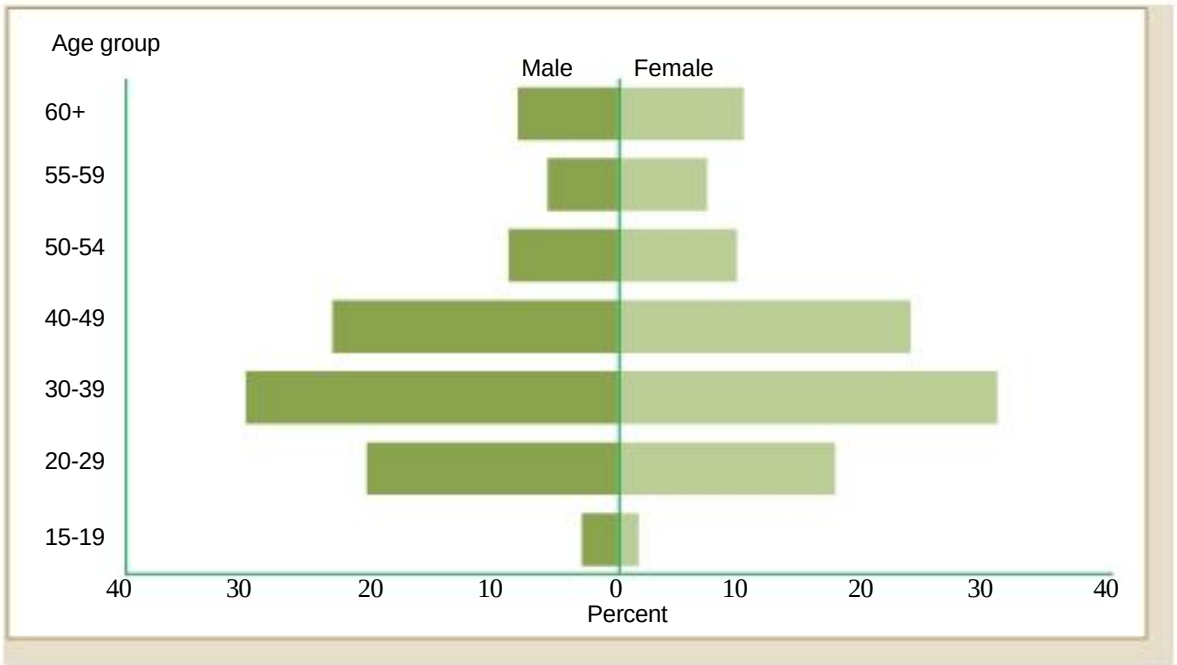
Mostly citizens between 30-49 years old work in this sector and 53.7 percent of them are household workers and 61.8 percent are permanent workers in business units, organizations.

TABLE 4.6. NUMBER OF PERMANENT WORKERS IN LIVESTOCK BREEDING, by age groups

	Total			Percentage		
		Household	BUO	Total	Household	BUO
Total	342 467	340 157	2 310	100.0	100.0	100.0
15-19	8 349	8 308	41	2.4	2.4	1.8
20-29	65 683	65 241	442	19.2	19.2	19.1
30-39	103 995	103 225	770	30.4	30.3	33.3
40-49	80 157	79 500	657	23.4	23.4	28.5
50-54	31 555	31 331	224	9.2	9.2	9.7
55-59	21 769	21 658	111	6.4	6.4	4.8
60+	30 958	30 893	65	9.0	9.1	2.8

From the total male workers, working in households, business units, organizations, 53.5 percent are male workers between 30-49 years old and 54.2 percent are female workers between 30-49 years old.

FIGURE 4.6. STRUCTURE OF PERMANENT WORKERS IN LIVESTOCK BREEDING, by age groups, gender structure, percent



MARITAL STATUS OF PERMANENT WORKERS IN LIVESTOCK BREEDING SECTOR, by gender

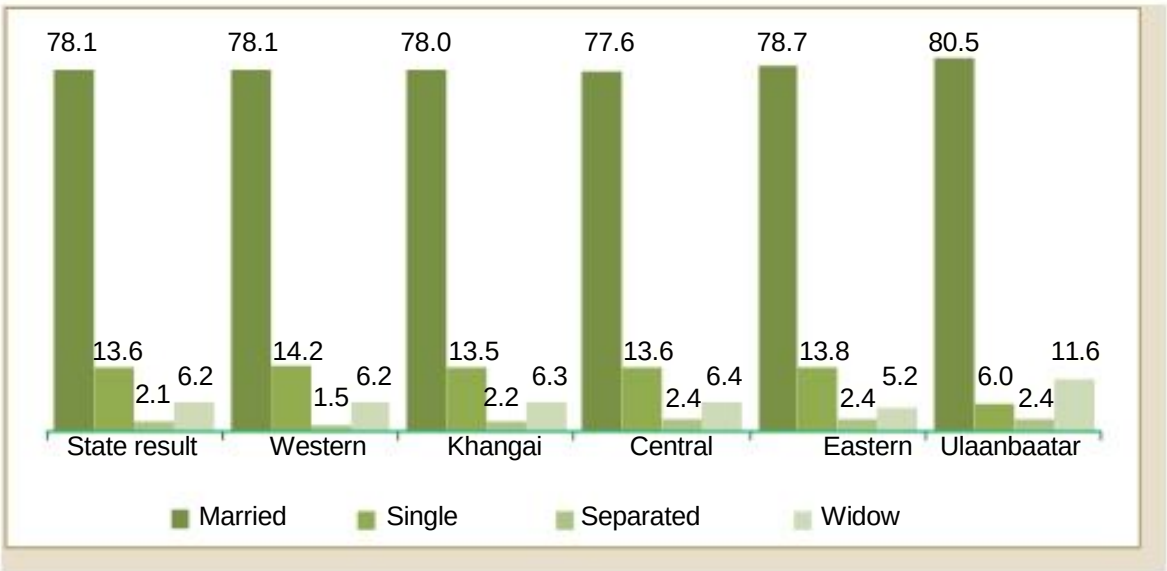
The marital status of the permanent workers were classified by 4 types of married and cohabiter, never married, divorced and widowed, the results were summarized.

TABLE 4.7. MARRITAL STATUS OF PERMANENT WORKERS IN LIEVSTOCK BREEDING SECTOR, by gender

	Total			Percent		
		Male	Female	Total	Male	Female
Total	340 157	190 461	149 696	100.0	100.0	100.0
Married	265 594	147 234	118 360	78.1	77.3	79.1
Single	46 217	32 625	13 592	13.6	17.1	9.1
Separated	7 035	4 328	2 707	2.1	2.3	1.8
Widowed	21 310	6 274	15 037	6.2	3.3	10.0

By marital status 78.1 percent of total permanent workers are married, from which 55.4 percent are male and 44.6 percent bare female, 13.6 percent of the total workers are single, from which 70.6 percent are male and 29.4 percent are female, 2.1 percent from the total workers are separated, from which 61.5 percent are male and 38.5 percent are female, 6.2 percent from the total workers are widowed, from which 29.4 percent are male and 70.6 percent are female.

FIGURE 4.7. MARITAL STATUS OF PERMANENT WORKERS IN LIVESTOCK BREEDING SECTOR, by regions, percentage



PERMANENT WORKERS IN LIVESTOCK BREEDING SECTOR, by level of education, gender

By level of education the permanent workers were summarized by uneducated, primary education, secondary education, high school education, technical and vocational education, special professional education, higher education (diploma, bachelor, master, doctor and above).

35.1 percent of the permanent workers in livestock breeding have secondary education, 25.6 percent have primary education, 24.3 percent have high school education, 5.1 percent uneducated, 3.9 percent have technical and vocational, 3.0 percent have special professional and the rest 3.0 percent have higher education with master and doctor degrees.

TABLE 4.8. NUMBER OF PERMANENT WORKERS IN LIVESTOCK BREEDING SECTOR, by level of education, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	342 467	92 136	135 213	68 770	39 864	6 484
Uneducated	17 428	5 365	6 537	2 803	2 617	106
Primary	87 862	25 033	37 636	15 233	9 224	736
Secondary	120 096	30 408	48 732	24 201	15 193	1 562
High school	83 277	21 949	32 308	17 950	8 423	2 647
Technical and vocational	13 207	3 814	3 896	3 360	1 844	293
Special professional	10 237	2 851	2 810	2 746	1 274	556
Higher	10 068	2 621	3 225	2 408	1 247	567
Master, doctor	292	95	69	69	42	17

According to the survey the majority or 69.3 percent of the workers in livestock breeding sector have above secondary education.

PROFESSIONAL WORKERS, WORKING IN LIVESTOCK BREEDING SECTOR

In order to determine the number of professional workers in the livestock breeding sector, we studied by veterinary, zoologist, qualified farmer and other professions.

In 2011 totally 4.9 thousand professional workers worked in livestock breeding sector nationwide, from which 4.7 thousand or 95.9 percent worked in households and 0.2 thousand or 4.1 percent worked in business units, organizations.

TABLE 4.9. NUMBER OF PROFESSIONAL WORKERS IN LIVESTOCK BREEDING SECTOR, by professional fields

	Total			Percentage		
		Household	BUO	Total	Household	BUO
Total	4 881	4 679	202	100.0	100.0	100.0
Veterinary	438	397	41	9.0	8.5	20.3
Zoologist	416	365	51	8.5	7.8	25.2
Qualified farmer	317	293	24	6.5	6.3	11.9
Other	3 710	3 624	86	76.0	77.5	42.6

Veterinaries and zoologists in business units, organizations occupy 45.5 percent. Male zoologists, veterinaries, qualified farmers occupy more than 50 percent.

TABLE 4.10. NUMBER OF PROFESSIONAL WORKERS IN LIVESTOCK BREEDING SECTOR, by gender

	Total			Percent		
		Male	Female	Total	Male	Female
Total	4 881	2 733	2 148	100.0	100.0	100.0
Veterinary	438	220	218	9.0	8.0	10.1
Zoologist	416	213	203	8.5	7.8	9.5
Qualified farmer	317	165	152	6.5	6.0	7.1
Others	3 710	2 135	1 575	76.0	78.1	73.3

AVERAGE DAILY WORKHOURS OF WORKERS IN LIVESTOCK BREEDING SECTOR

The average daily workhours of permanent, seasonal and temporary workers lasts between 5-11 o'clock in the four seasons.

TABLE 4.11. AVERAGE DAILY WORKHOURS OF WORKERS IN LIVESTOCK BREEDING SECTOR, by seasons, hours

	Number of workers	Spring	Summer	Autumn	Winter
Households					
Permanent	340 157	11	11	10	8
Seasonal	13 043	9	7	6	6
Temporary	16 822	9	6	6	5
Business units, organizations					
Permanent	2 310	10	10	9	8
Seasonal	284	8	8	8	6
Temporary	359	8	7	7	6

The average workhour of the permanent workers in livestock breeding sector in spring season for household workers 11 hours, for business units, organizations 10 hours and for seasonal and temporary workers the average workhour lasts for 8-9 hours.

The average workhours in summer season for permanent workers in households 11 hours, for business units, organizations 10 hours and for seasonal and temporary workers 6-8 hours.

The average workhours in autumn season for permanent workers 9-10 hours, for seasonal and temporary workers 6-8 hours.

The average workhours in winter season for permanent workers 8 hours and for seasonal and temporary workers 5-6 hours.

SEASONAL WORKERS IN LIVESTOCK BREEDING SECTOR

From the total households in livestock breeding, which participated in the agricultural census, 6979 households or 3.3 percent hired seasonal workers and 61 business units, organizations or 12.0 percent hired seasonal workers.

TABLE 4.12 NUMBER OF SEASONAL WORKERS IN LIVESTOCK BREEDING SECTOR, by regions

	Total			Percentage		
		Household	BUO	Total	Household	BUO
Total	13 327	13 043	284	100.0	100.0	100.0
Western	3 815	3 669	146	28.6	28.1	51.4
Khangai	3 898	3 869	29	29.3	29.7	10.2
Central	3 546	3 477	69	26.6	26.7	24.3
Eastern	1 802	1 777	25	13.5	13.6	8.8
Ulaanbaatar	266	251	15	2.0	1.9	5.3

According to the census results totally 13.3 thousand seasonal workers worked in livestock breeding sector, from which 13.0 thousand or 97.9 percent worked in households, 0.3 thousand or 2.1 percent worked in business units, organizations.

The seasonal workers in households are the highest in Khangai region or 29.7 percent and many seasonal workers in business units, organizations work in Western region.

TEMPORARY WORKERS IN LIVESTOCK BREEDING

According to the census results totally 17.2 thousand temporary workers worked in livestock breeding sector, from which 16.8 thousand or 97.9 percent worked in households and 0.4 thousand or 2.1 percent worked in business units, organizations.

TABLE 4.13. NUMBER OF TEMPORARY WORKERS, by regions

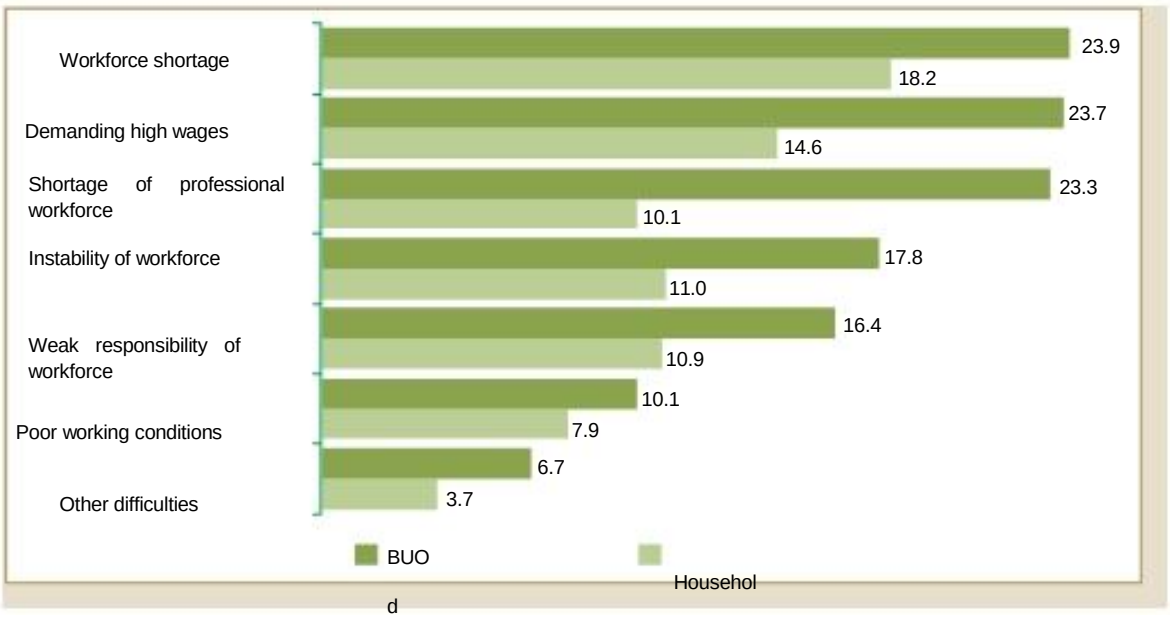
	With temporary workers		Number of temporary workers		
	Number of households	Number of BUO	Total	Household	BUO
Total	6 322	81	17 181	16 822	359
Western	1 550	19	3 830	3 716	114
Khangai	1 664	12	4 414	4 383	31
Central	2 004	20	5 446	5 335	111
Eastern	972	11	3 169	3 136	33
Ulaanbaatar	132	19	323	253	70

From the total households in livestock production, which participated in the agricultural census, 6322 households or 3.0 percent hired temporary workers and 81 business units, organizations or 16.0 percent hired temporary workers. The temporary workers in livestock production mostly belong to Central and Khangai regions, i.e. 57.4 percent.

DIFFICULTIES, RELATED TO THE WORKFORCE IN LIVESTOCK BREEDING SECTOR

The difficulties, related to the workforce in livestock breeding sector, were classified to 7 types, from which shortage of professional workforce and high wage demand from the workforce were the most common..

FIGURE 4.8. DIFFICULTIES, RELATED TO WORKFORCE IN LIEVSTOCK BREEDING SECTOR, by percent



18.2 percent of the households and 23.9 percent of business units, organizations, running livestock production, answered they have workforce shortage; 14.6 percent of the households and 23.7 percent of the business units, organizations answered that workers demand high wages and 10.1 percent of the households and 23.3 percent of the business units, organizations answered they have shortage of professional workforce.

TABLE 4.14. DIFFICULTIES, RELATED TO WORKFORCE IN BUO, RUNNING LIVESTOCK PRODUCTION, by regions, regional percentage

	Total	Western	Khangai	Central	Eastern	UB
Workforce shortage	23.9	29.5	18.6	21.1	30.2	26.3
Shortage in professional workforce	23.3	24.8	21.2	18.6	30.2	30.0
Instability of workforce	17.8	14.3	13.6	19.3	20.9	23.8
Weak responsibility of workforce	16.4	14.3	15.3	16.8	16.3	20.0
Demand high wages	23.7	31.4	16.9	22.4	34.9	20.0
Poor working conditions	10.1	11.4	7.6	9.3	14.0	11.3
Others	6.7	6.7	3.4	6.8	7.0	11.3

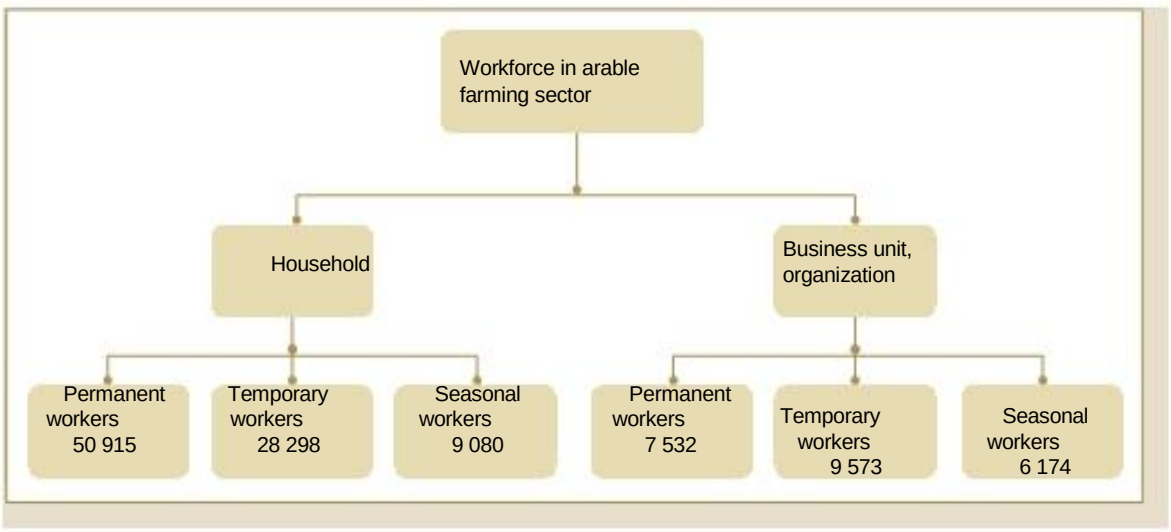
By regions: workforce shortage and deficiency dominate in Western region. But demanding high wages dominate in Eastern region.

WORKFORCE IN ARABKLE FARMING SECTOR

According to the survey totally 58.4 thousand permanent workers were registered in arable farming.

Totally 37.9 thousand temporary workers worked in this sector, from which 28.3 thousand worked in households and 9.6 thousand worked in business units, organizations and totally 15.3 thousand seasonal workers worked, from which 9.1 thousand worked in households and 6.2 thousand worked in business units, organizations.

FIGURE 4.9 WORKFORCE IN ARABLE FARMING SECTOR

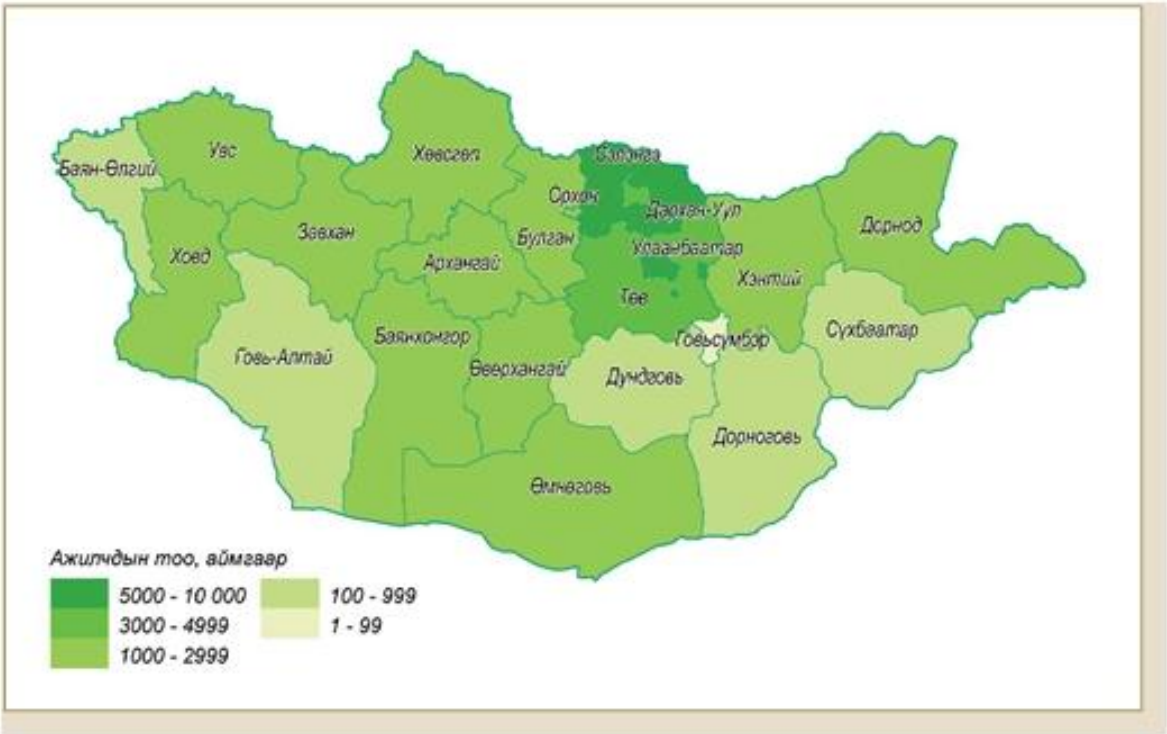


NUMBER OF PERMANENT WORKERS IN ARABLE FARMING SECTOR, by households, business units, organizations

From the total registered 58.4 thousand permanent workers 50.9 thousand work in households and
7.5 thousand work in business units, organizations.

95.3 percent of the total households in arable farming, which participated in the agricultural census, and 92.8 percent of the business units, organizations have permanent workers.

FIGURE4.10. NUMBER OF PERMANENT WORKERS IN ARABLE FARMING SECTOR



Totally 50915 permanent workers work in households, running arable farming, from which 48.4 percent are in the main agricultural provinces of Selenge, Tuv, Darkhan-Uul provinces and Ulaanbaatar city.

NUMBER OF PERMANENT WORKERS IN ARABLE FARMING SECTOR, by gender

Permanent workers in arable farming by gender: 28.1 thousand or 55.2 percent of the permanent works, worked in households, are male and 22.8 thousand or 44.8 percent are female, 5.0 percent or 66.1 percent of the permanent workers, worked in business unit, organizations, are male and 2.6 thousand or 33.9 percent are female.

FIGURE 4.11. NUMBER OF PERMANENT WORKERS IN BUO, RUNNING ARABLE FARMING

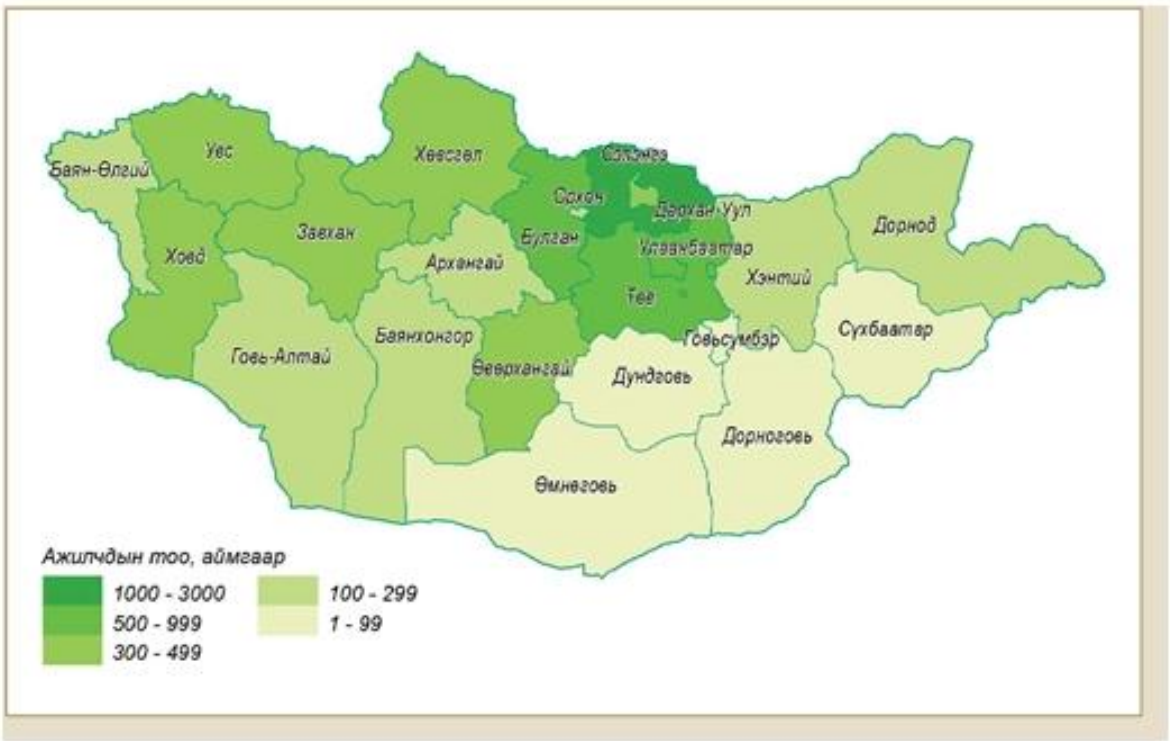
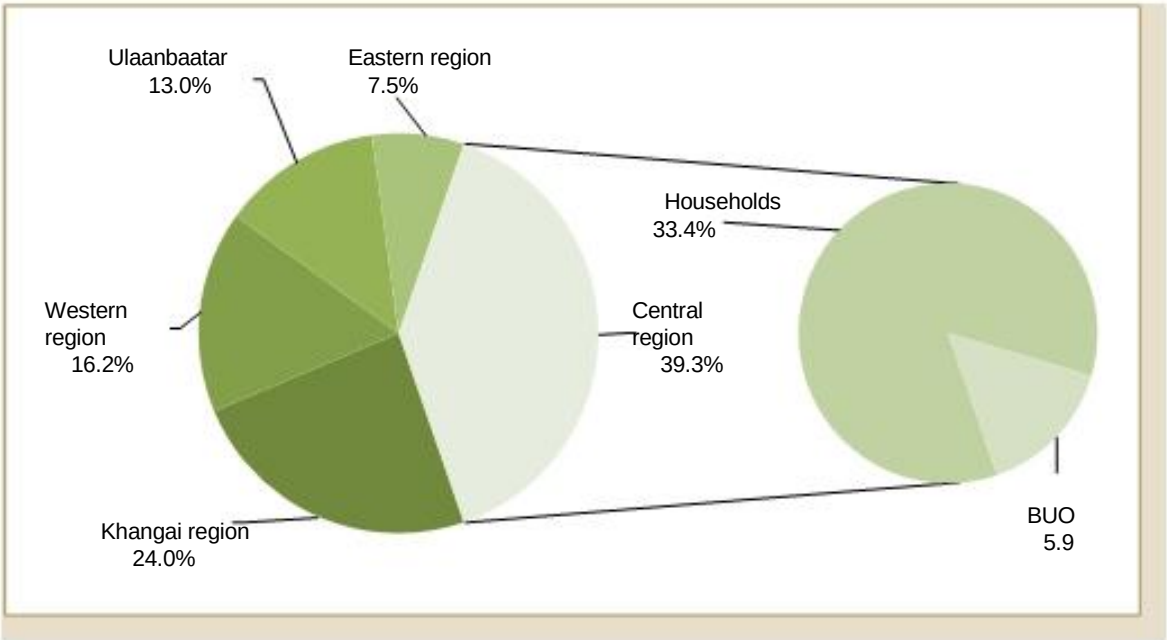


TABLE 4.15. NUMBER OF PERMANENT WORKERS IN ARABLE FARMING SECTOR, by households, business units, organizations, gender, regions

	Total	Households		BUO	
		Total	Female	Total	Female
Total	58 447	50 915	22 809	7 532	2 553
Western	9 497	8 042	3 208	1 455	549
Khangai	14 015	12 317	5 509	1 698	625
Central	23 000	19 532	8 906	3 468	1 021
Eastern	4 365	4 058	1 984	307	109
Ulaanbaatar	7 570	6 966	3 202	604	249

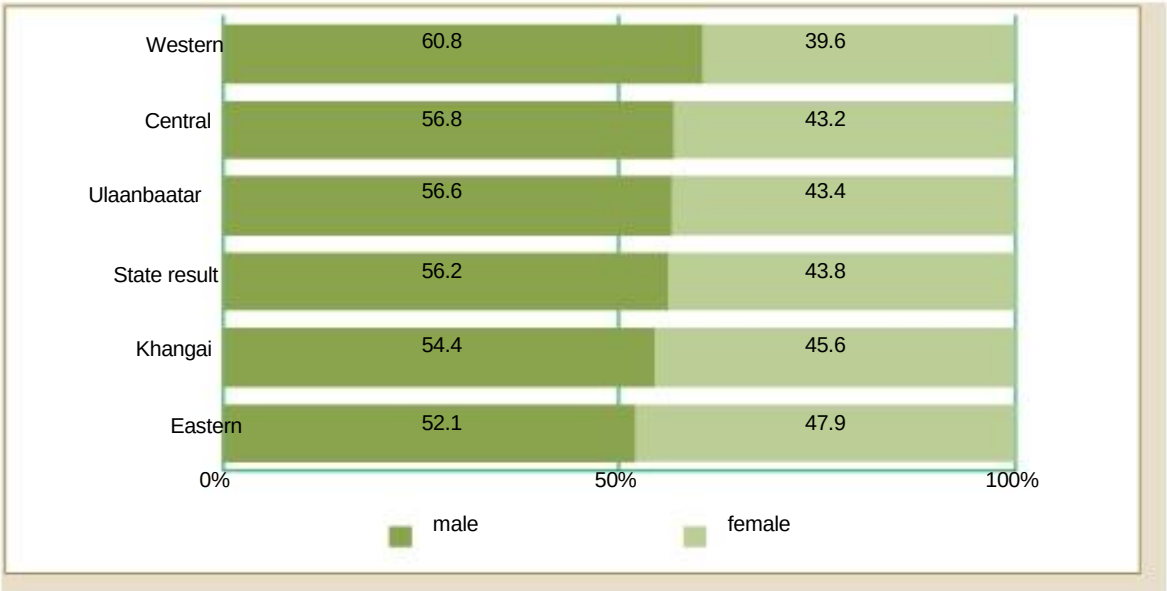
The permanent workers centralize in the main agricultural production region of Tuv province and have reached 39.4 percent, from which 33.4 percent are in households and 5.9 percent in business units, organizations.

FIGURE 4.12. PERMANENT WORKERS IN ARABLE FARMING SECTOR, by region, percent



Number of female permanent workers in arable farming by regions: the above situation is same, 39.0 percent of female workers and 40.0 percent of business units, organizations centralize in the main agricultural region of Tuv province.

FIGURE 4.13. GENDER RATIO OF THE WORKERS IN ARABLE FARMING SECTOR, by regions



Gender ratio of the workers in arable farming: percentage of male permanent workers is the highest in Western region – 60.8 percent and percentage of female permanent workers is the highest in eastern region – 47.9 percent.

NUMBER OF PERMANENT WORKERS IN ARABLE FARMING SECTOR, by age groups

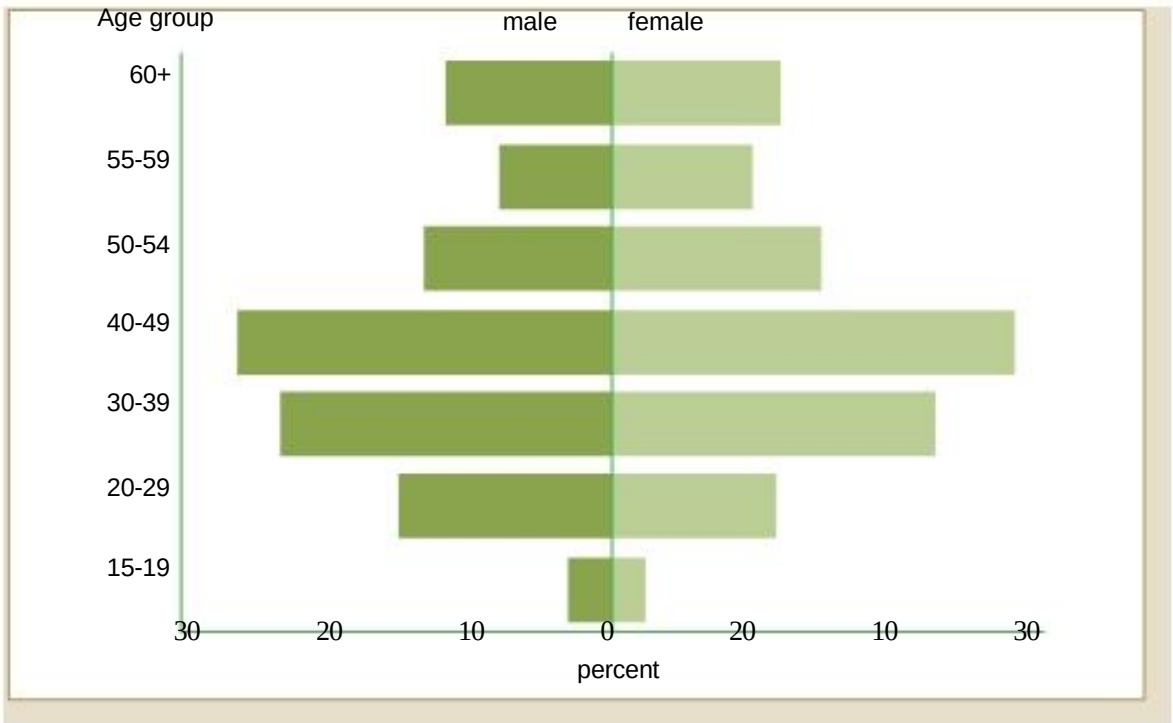
Number of permanent workers in arable farming by age groups: mostly citizens between 30-49 years old work in this sector and 48.1 percent work in households and 60.4 percent work in business units, organizations.

TABLE 4.16. NUMBER OF PERMANENT WORKERS IN ARABLE FARMING SECTOR, by age group

	Total			Percentage		
		Household	BUO	Total	Household	BUO
Total	58 447	50 915	7 532	100.0	100.0	100.0
15-19	1 573	1 473	100	2.7	2.9	1.3
20-29	7 822	6 406	1 416	13.4	12.6	18.8
30-39	13 345	11 009	2 336	22.8	21.6	31.0
40-49	15 735	13 520	2 215	26.9	26.6	29.4
50-54	8 026	7 174	852	13.7	14.1	11.3
55-59	5 084	4 717	367	8.7	9.3	4.9
60+	6 862	6 616	246	11.8	13.0	3.3

Workers in arable farming production by gender: male workers between 30-49 years old in households, business units, organizations are 38.7 percent and female workers between 30-49 years old occupy 50.4 percent.

FIGURE 4.14. GENDER STRUCTURE OF PERMANENT WORKERS IN ARABLE FARMING SECTOR, by age groups, percent



MARITAL STATUS OF PERMANENT WORKERS IN ARABLE FARMING SECTOR

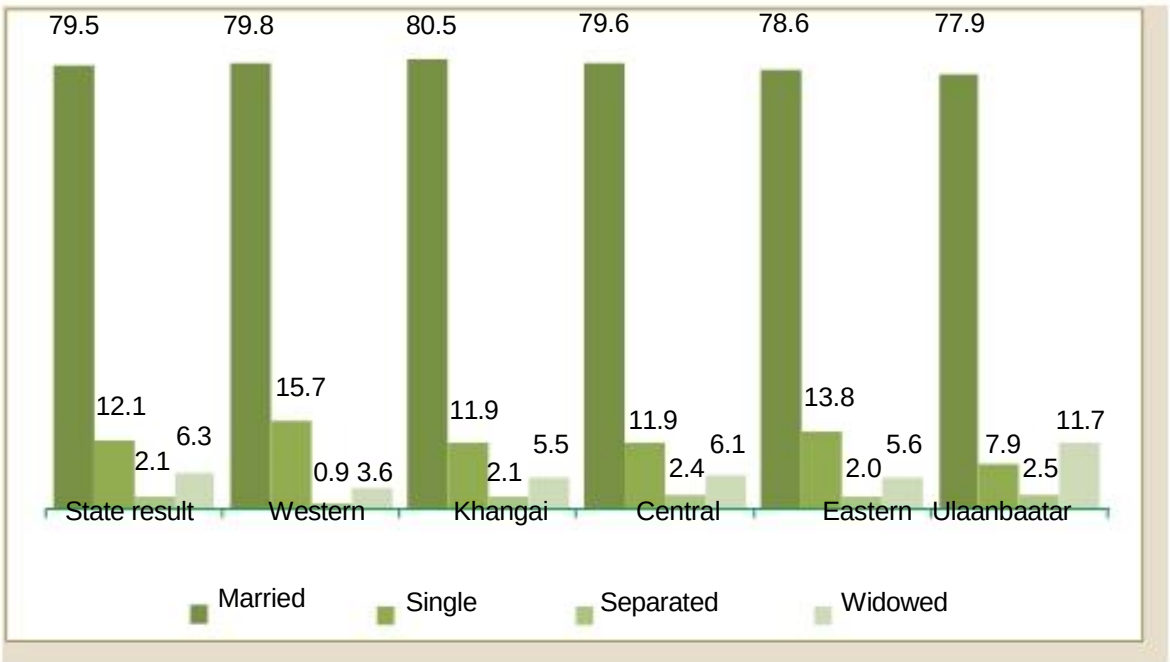
The marital status of the permanent workers was classified by 4 types of married and cohabiter, never married, separated and divorced and widowed.

TABLE 4.17. MARITAL STATUS OF PERMANENT WORKERS IN ARABLE FARMING SECTOR

	Total			Percentage		
		Male	Female	Total	Male	Female
Total	58 447	33 085	25 362	100.0	100.0	100.0
Married	46 494	27 013	19 481	79.5	81.6	76.8
Single	7 090	4 700	2 390	12.1	14.2	9.4
Separated	1 206	512	694	2.1	1.6	2.8
Widowed	3 657	860	2 797	6.3	2.6	11.0

79.5 percent of the permanent workers in arable farming sector are married, from which 56.6 percent are male and 43.4 percent are female; 12.1 percent of the total workers are single, from which 58.1 percent are male and 41.9 percent are female; 2.1 percent are separated, from which 42.5 percent are male and 57.5 percent are female and 6.3 percent are widowed, from which 23.5 percent are male and 76.5 percent are female.

FIGURE 4.15. MARITAL STATUS OF PERMANENT WORKERS IN ARABLE FARMING SECTOR, by regions, percentage



LEVEL OF EDUCATION OF PERMANENT WORKERS IN ARABLE FARMING SECTOR

The level of education of the permanent workers was classified as uneducated, having primary education, secondary education, high school education, technical and vocational education, special professional education, higher education (diploma, bachelor, master, doctor and above)

35.9 percent of the permanent workers in arable farming sector have high school education, 21.5 percent secondary, 13.4 percent diploma and bachelor, 9.8 percent technical and vocational, 8.9 percent special professional, 8.2 percent primary, 1.8 percent uneducated and 0.5 percent have master and doctor degrees.

TABLE 4.18. NUMBER OF PERMANENT WORKERS IN ARABLE FARMING SECTOR, by level of education

	Total	Female	
		Total	Percentage
Total	58 447	25 362	43.4
Uneducated	1 062	411	38.7
Primary	4 775	1 954	40.9
Secondary	12 546	5 215	41.6
High school	21 011	9 329	44.4
Technical and vocational	5 704	2 021	35.4
Special professional	5 181	2 673	51.6
Higher	7 811	3 609	46.2
Master, doctor	357	150	42.0

57.4percent or the majority of the workers in arable farming have secondary and high school education.

PROFESSIONAL WORKERS, WOKRING IN ARABLE FARMING SECTOR

In order to determine the number of professional workers, they were summarized by fruit and vegetable agronomist, agronomist of irrigation cultivation, other agronomist, qualified farmer, agricultural engineer, mechanic and other professions.

Totally 5.9 thousand professional workers worked in arable farming sector nationwide in 2011, from which 4.4 thousand or 74.1 percent worked in households and 1.5 thousand or 25.9 percent worked in business units, organizations.

TABLE 4.19. NUMBER OF PROFESSIONAL WORKERS IN ARABLE FARMING SECTOR, by professional disciplines

	Total			Percentage		
		Household	BUO	Total	Household	BUO
Total	5 905	4 375	1 530	100.0	100.0	100.0
Fruit/vegetable agronomist	271	188	83	4.6	4.3	5.4
Irrigation cultivation agronomist	146	103	43	2.5	2.4	2.8
Other agronomist	417	265	152	7.1	6.1	10.0
Qualified farmer	247	151	96	4.2	3.4	6.3
Agricultural engineer	340	176	164	5.7	4.0	10.7
Mechanic	1 542	913	629	26.1	20.9	41.1
Others	2 942	2 579	363	49.8	58.9	23.7
		Female				
Total	2 224	1 865	359	100.0	100.0	100.0
Fruit/vegetable agronomist	171	115	56	7.7	6.2	15.6
Irrigation cultivation agronomist	68	48	20	3.0	2.6	5.6
Other agronomist	200	144	56	9.0	7.7	15.6
Qualified farmer	114	78	36	5.1	4.2	10.0
Agricultural engineer	77	48	29	3.5	2.6	8.1
Mechanic	187	148	39	8.4	7.9	10.9
Others	1 407	1 284	123	63.3	68.8	34.2

As we can see from the table the number of professional workers in agricultural sector in households 4.4 thousand or 74.1 percent, in business units, organizations 1.5 thousand or 25.9 percent and the workers in business units, organizations have higher unit weight, compared to the households.

AVERAGE WORKHOURS OF THE WORKERS IN ARABLE FARMING SECTOR

The average workhours of the permanent, seasonal and temporary workers in arable farming sector lasts between 8-11 hours during cultivation and harvesting periods.

TABLE 4.20. AVERAGE WORKHOURS OF THE WORKERS IN ARABLE FARMING SECTOR

	Household		BUO	
	Cultivation period	Harvesting period	Cultivation period	Harvesting period
Permanent	8	8	10	11
Seasonal	8	9	10	11
Temporary	9	10	10	10

Average workhours of the workers in households, during cultivation period: the average workhours of the permanent and seasonal workers lasts for 8 hours and temporary workers for 9 hours.

The workers in business units, organizations work more hours during cultivation and harvesting periods.

SEASONAL WORKERS OF ARABLE FARMING SECTOR

From the total households in arable farming, participated in the agricultural census, 2993 households or 8.9 percent hired seasonal workers and 745 business units, organizations or 43.7 percent hired seasonal workers.

TABLE 4.21. NUMBER OF SEASONAL WORKERS IN ARABLE FARMING SECTOR

	Total	Seasonal workers	
		Total	Percentage
Households	2 993	9 080	59.5
BUO	745	6 174	40.5

According to the census results totally 15.3 thousand seasonal workers worked in arable farming sector, from which 9.1 thousand or 59.5 percentage worked in households and 6.2 thousand or 40.5 percentage worked in business units, organizations.

TABLE 4.22. NUMBER OF SEASONAL WORKERS IN ARABLE FARMING SECTOR, by regions

	Total			Percentage		
		Household	BUO	Total	Household	BUO
Total	15 254	9 080	6 174	100.0	100.0	100.0
Western	3 026	1 936	1 090	19.8	21.3	17.7
Khangai	3 152	1 836	1 316	20.7	20.2	21.3
Central	7 140	4 031	3 109	46.8	44.4	50.4
Eastern	916	550	366	6.0	6.1	5.9
Ulaanbaatar	1 020	727	293	6.7	8.0	4.7

Majority of seasonal workers centralize in the main agricultural region of central region and almost half or 46.8 percent is imposed to this region.

Seasonal workers of Central region by provinces: 41.7 percent is in Selenge province, 9.2 percent is in Darkhan-Uul province and the rest few percentage is in other provinces.

TEMPORARY WORKERS IN ARABLE FARMING SECTOR

According to the census results totally 37.9 thousand temporary workers worked in arable farming sector, from which 28.3 thousand or 74.7 percent worked in households and 9.6 thousand or 25.3 percent worked in business units, organizations.

TABLE 4.23. NUMBER OF HOUSEHOLDS, BUSINESS UNITS, ORGANZIATIONS WITH TEMPRORARY WORKERS IN ARABLE FARMING SECTOR, NUMBER OF TEMPORARY WORKERS, by households, business units, organizations

	With temporary workers		Number of temporary workers		
	Households	BUO	Total	Households	BUO
Total	4 317	931	33 871	28 298	9 573
Western	598	150	3 978	2 887	1 091
Khangai	1 212	148	7 910	6 404	1 506
Central	2 241	555	23 861	17 610	6 251
Eastern	110	25	764	493	271
Ulaanbaatar	156	53	1 358	904	454

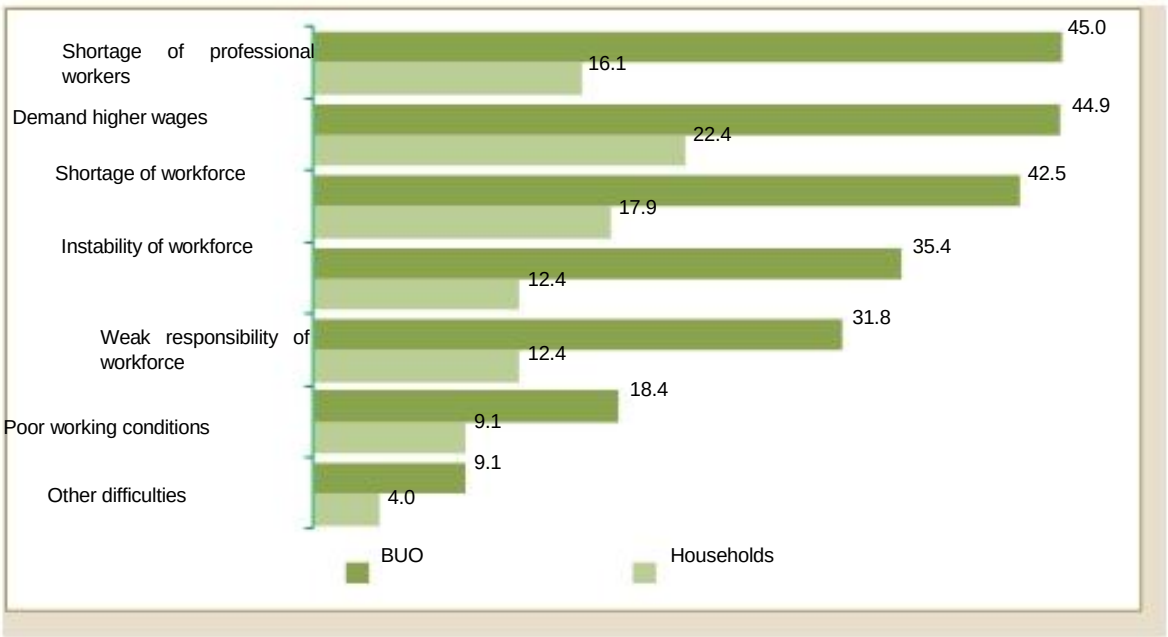
From total households in arable farming, participated in the agricultural census, 4317 households or 12.9 percent and 931 business units, organizations or 54.6 percent hired temporary workers.

The temporary workers also centralized in the main agricultural region of Central region and 63.0 percent is imposed to this region. In the Central region 32.1 percent is in Selenge province, 45.2 percent in Tuv province, 21.2 percent in Darkhan-Uul province and the rest few percentage is imposed to other provinces.

DIFFICULTIES, RELATED TO THE WORKFORCE IN ARABLE FARMING SECTOR

The difficulties, related to the workforce in arable farming sector, were classified to 7 types and according to the data, collected from the households and business units, organizations, participated in the survey, the most common difficulties are shortage of professional workforce and demanding higher wages.

FIGURE 4.16. DIFFICULTIES, RELATED TO WORKFORCE, by households, business units, organizations



45.0 percent of the business units, organizations, running arable farming, answered that they have shortage of workforce , 44.9 percent demand higher wages, 42.5 percent have shortage of professional workforce. But for the households, running arable farming, the most difficult problem was demanding higher wages.

TABLE 4.24. DIFFICULTIES IN RUNNING ARABLE FARMING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Workforce shortage	24.6	40.3	20.3	27.1	20.2	11.0
Shortage of professional workforce	18.4	33.8	16.2	17.9	17.1	8.3
Instability of workforce	14.2	20.6	11.6	17.0	13.6	4.9
Weak responsibility of workforce	14.0	19.9	11.2	17.4	12.3	4.5
Demand higher wages	20.0	33.5	16.4	23.0	14.0	7.0
Poor working conditions	10.1	18.3	7.9	10.8	10.3	3.2
Others	4.5	4.9	3.2	5.6	6.5	2.1

Difficulties in arable farming sector by regions: Central, Western and Khangai provinces suffer from shortage of workforce, which is the most difficult problem there.

PART FIVE

PRODUCTION AND SALES OF AGRICULTURAL PRODUCTS

PRODUCTION OF AGRICULTURAL PRODUCTS

In 2011 in livestock breeding sector totally 202.1 thousand tons of meat by slaughtering weight, 520.0 thousand tons of milk, 19.0 thousand tons of sheep wool, 5.5 thousand tons of cashmere and 8.7 million pieces of skin were produced.

Households produced 93.4 percent of the total produced meat, 98.7 percent of milk, 98.4 percent of wool, 99.4 percent of cashmere and 97.4 percent of skins and hides and the business units, organizations produced 6.6 percent of meat, 1.3 percent of milk, 1.6 percent of wool, 0.6 percent of cashmere and 2.6 percent of skins and hides.

A household, running livestock breeding, produced on average 900 kg of meat by slaughtering weight, 2.5 thousand kg of milk, 89 kg of wool, 26.0 kg of cashmere, and 40.6 skins and hides; a business units, organization produced on average 26.5 thousand kg of meat by slaughtering weight, 13.7 thousand kg of milk, 592 kg of wool, 62.7 kg of cashmere, and 447.3 skins and hides.

In 2011 in arable farming sector 457.2 thousand tons of wheat, 223.3 thousand tons of potatoes, and 109.7 thousand tons of vegetables were harvested. Households harvested 9.5 percent of wheat, 70.9 percent of potatoes, and 83.9 percent of vegetables. And business units, organizations harvested 90.5 percent of the wheat, 29.1 percent of potatoes and 16.1 percent of vegetables.

A household, running arable farming, on average harvested 1.3 tons of wheat, 4.7 tons of potatoes, and 2.8 tons of vegetables. And the business units, organizations, running arable farming, harvested 242.7 tons of wheat, 38.1 tons of potatoes and 10.3 tons of vegetables.

PRODUCTION AND SALES OF LIVESTOCK BREEDING PRODUCTS

Totally 209.6 thousand households and 507 business units, organizations, running livestock breeding, were involved to the state agricultural census 2012.

These households and business units, organizations produced totally 202.1 thousand tons of meat, 520.0 thousand tons of milk, 19.0 thousand tons of wool, 5.5 thousand tons of cashmere and 8.8 million skins and hides.

TABLE 5.1. PRODUCTS, PRODUCED IN LIVESTOCK BREEDING SECTOR, by types of products

	Total	Household	BUO	Percentage		
				Total	Households	BUO
No. of households, BUO		209 563	507			
Amount of produced products						
Meat, t	202 097.0	188 675.0	13 422.0	100.0	93.4	6.6
Milk, t	519 969.2	513 025.5	6 943.7	100.0	98.7	1.3
Wool, t	18 951.9	18 687.3	264.6	100.0	98.6	1.4
Cashmere, t	5 472.0	5 440.2	31.8	100.0	99.4	0.6
Skin, thous.	8 743.8	8 517.0	226.8	100.0	97.4	2.6

The majority of the products, produced in livestock breeding sector, or 93.4-99.4 percent was produced by households and the rest was produced by business units, organizations.

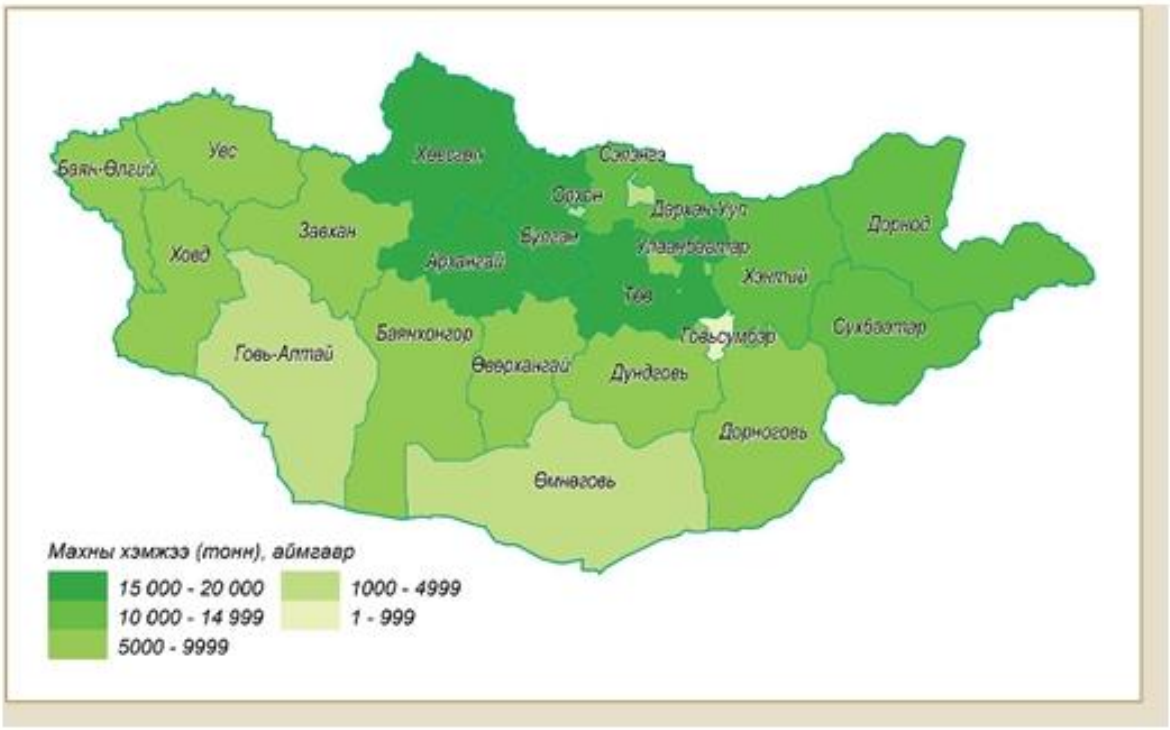
Livestock breeding production by regions: more than one third percent of each product is produced in Khangai region. Khangai region is the main livestock breeding region of our country and Khuvsgul, Arkhangai, Bulgan and Bayankhongor provinces, leading with the number of livestock, are located in this region.

TABLE5.2. PRODUCTS, PRODUCED IN LIVESTOCK BREEDING SECTOR, by types of products, regions

	Total	Western	Khangai	Central	Eastern	UB
Meat, t	202 097.0	34 223.3	69 500.5	53 957.9	37 702.0	6 713.5
Milk, t	519 969.2	111 072.9	181 406.2	119 519.3	94 282.3	13 688.5
Wool, t	18 951.9	4 718.0	6 501.0	4 867.8	2 765.1	100.0
Cashmere, t	5 472.0	1 563.1	1 894.3	1 342.9	644.3	27.3
Skin, thous.	8 743.8	1 868.0	3 066.9	2 048.7	1 651.4	108.8

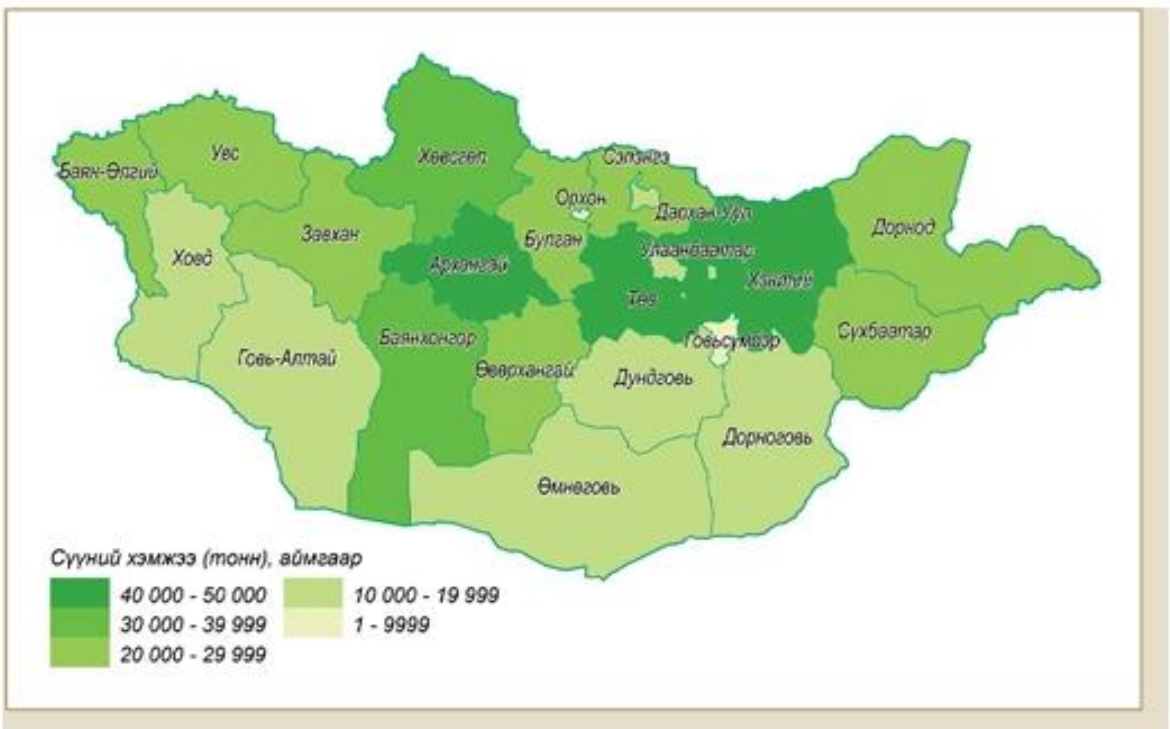
Meat is the main food consumption of the population of our country and 69.5 thousand tons or 34.4 percent of meat production is produced in Khangai region, 54.0 thousand tons or 26.7 percent in Central region, 37.7 thousand tons or 18.7 percent in Eastern region, 34.2 thousand tons or 16.9 percent in Western region and 6.7 thousand tons or 3.3 percent is imposed to Ulaanbaatar city.

FIGURE 5.1. MEAT PRODUCTION, PRODUCED IN LIVESTOCK SECTOR



34.7 percent of the meat production, produced in livestock sector, is in Khentii, Tuv, Bulgan and Khuvsgul provinces.

FIGURE 5.2. MILK PRODUCTION, PRODUCED IN LIVESTOCK SECTOR



85.5 percent of the milk, produced in livestock sector, is in Khentii, Tuv, Khuvsgul and Arkhangai provinces.

YEARLY MEAT AND MILK CONSUMPTION OF COMPARED POPULATION

The main food products of the population of our country – meat and milk consumption was calculated to the compared population of 2011 and by nationwide level the yearly milk consumption is 172.7 thousand tons.

TABLE 5.3. DOMESTIC PRODUCTION OF MEAT AND MILK, SUPPLY PERCENTAGE

Types	Yearly food consumption per compared person*, kg	Yearly food consumption of compared population, t	Domestic production, t	Supply percentage
Meat	63.9	172 746.7	202 097.0	117.0
Milk	63.9	172 746.7	519 969.2	301.0

*-According to food studies center

Yearly meat consumption of compared population in 2011 was provided by 117.0 percent and milk consumption by 301.0 percent.

According to the livestock census of end of 2011 the number of livestock reached 36.3 million heads and increased by 11.0 percent or 3.6 million heads, compared to the previous year. By types: horse 2112.9 thousand, cattle 2339.7 thousand, camel 280.1 thousand, sheep 15668.5 thousand, and goat 15934.6 thousand and compared to the previous year, horse increased by 192.6 thousand heads, cattle by 163.7 thousand, camel by 10.5 thousand, sheep by 1188.1 thousand and goat by 2051.3 thousand heads.

TABLE 5.4. LIVESTOCK HEADS, by types of livestock, in 2011

	Total	Horse	Cattle	Camel	Sheep	Goat
Total livestock	36 335.8	2 112.9	2 339.7	280.1	15 668.5	15 934.6
Raised young	12 504.7	429.1	662.9	42.3	5 887.9	5 518.5
Reduced suddenly	651.3	27.6	52.9	2.4	284.0	284.4
Used for consumption	8 283.2	208.9	446.3	29.4	4 415.8	3 182.8
For private use	8 038.9	183.1	405.3	29.4	4 303.7	3 117.4
For domestic production	190.6	10.4	17.5	0.0	109.7	53.0
For export	53.7	15.5	23.5	0.0	2.3	12.4

As of 2011 from the total females at the beginning of the year 84.6 percent or 13139.5 thousand female animals delivered offspring, and 94.9 percent of the offspring or 12540.7 thousand young animals were raised.

But totally 2.0 percent at the beginning of the year or 651.3 thousand heads of livestock died.

Totally 25.3 percent of the total livestock at the beginning of the year or 8283.2 thousand livestock was used for consumption. By intended use: 8.3 million heads or 97.1 percent was used for private consumption, 190.6 thousand heads or 2.3 percent was used for domestic production and 53.7 thousand heads or 0.6 percent was exported.

SALES OF LIVESTOCK PRODUCTS

The information on how the households and business units, organizations, running livestock breeding, sell their products, what kind of difficulties, related to the product sales, occur and how the products are priced was collected during the agricultural census and the results were summarized.

The types of sales of the agricultural producers were studied by classifications “Sell directly to traders”, “Sell to business units, organizations”, “Sell themselves on the market” and “Other”.

Totally 209.6 thousand households, running livestock breeding, were involved in the census, from which 160.9 thousand or 76.8 percent sell their products themselves on the markets, 77.9 thousand or 37.2 percent sell directly to traders from the production units, 12.1 thousand or 5.8 percent sell to business units, organizations. But 7.3 thousand or 3.5 percent sell by other types.

TABLE 5.5. SALES TYPES OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by percentage

	Total	Directly to traders	To BUOs	By themselves on market	Others
Total	100.0	37.2	5.8	76.8	3.5
Western	100.0	44.2	6.1	77.7	1.9
Khangai	100.0	34.1	5.0	78.6	3.2
Central	100.0	31.0	7.4	77.6	5.5
Eastern	100.0	44.4	3.5	69.2	3.0
Ulaanbaatar	100.0	26.5	11.1	67.8	10.7

From the total 507 business units, organizations in livestock breeding, participated in the agricultural census, 363 or 71.6 percent sell by themselves on the markets, 100 or 19.7 percent sell to traders, 60 or11.8 percent sell to BUOs. But 75 or 14.8 percent sold by other types.

TABLE 5.6. SALES TYPES OF BUSINESS UNITS, ORGANIZATIONS, RUNNING LIVESTOCK BREEDING, by regions, percent

	Total	Directly to traders	To BUOs	By themselves on market	Others
Total	100.0	19.7	11.8	71.6	14.8
Western	100.0	27.6	11.4	84.8	6.7
Khangai	100.0	11.0	7.6	78.0	14.4
Central	100.0	23.6	13.7	63.4	16.8
Eastern	100.0	25.6	20.9	65.1	11.6
Ulaanbaatar	100.0	11.3	10.0	65.0	23.8

Types of sales of the households, running livestock breeding, by regions: In Western and eastern regions it is more common for the traders to go and purchase the products on-site, compared to other regions.

Among the business units, organizations the type of selling products by themselves on the markets is high or 63.4-84.8 percent.

DIFFICULTIES, RELATED TO SALES OF LIVESTOCK PRODUCTS

The census results show many difficulties, related to the sales of products by the households and business units, organizations, running livestock breeding. Sales is slow, few customers, many competitors, cheap cost, shortage of storehouses and cellars to store the products and far from the markets.

TABLE 5.7. DIFFICULTIES, RELATED TO RPODUCT SALES BY HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Total	100.0	100.0	100.0	100.0	100.0	100.0
Sales is slow	11.7	14.0	9.6	13.0	10.8	10.0
Few customers	7.1	7.9	6.7	6.8	6.1	12.0
Many competitors	13.8	11.3	13.8	16.2	12.3	28.7
Cheap price	61.5	62.5	62.7	64.8	51.0	51.9
Shortage of storehouses and cellars to store the products	10.8	8.1	11.0	13.4	11.3	13.4
Far from market	47.4	63.8	44.1	30.8	51.1	37.9
Others	3.5	1.3	3.3	5.7	4.0	10.8

The main difficulties in sales is the cheap price of the products, produced in livestock breeding sector. For the households in Western, Khangai and Eastern provinces the main difficulties are slow sales, few customers, many competitors and far from market.

TABLE 5.8. DIFFICULTIES, RELATED TO PRODUCT SALES BY BUSINESS UNITS, ORGANIZATIONS, RUNNING LIVESTOCK BREEDING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	УБ
Total	100.0	100.0	100.0	100.0	100.0	100.0
Sales is slow	15.4	19.0	11.9	14.3	25.6	12.5
Few customers	7.3	6.7	11.0	3.1	20.9	3.8
Many customers	15.8	14.3	18.6	16.1	4.7	18.8
Cheap price	51.5	57.1	45.8	58.4	48.8	40.0
Shortage of storehouses and cellars to store products	16.4	14.3	22.9	11.8	18.6	17.5
Far from market	29.6	50.5	22.0	24.2	23.3	27.5
Others	12.0	5.7	7.6	13.0	16.3	22.5

Cheap price of the livestock products is the main difficulties for the business units, organizations in all regions and in Ulaanbaatar city, for Western region the difficulties is far from market, for Khangai province is shortage of storehouses and cellars to store the products, for Central region is many competitors and for Eastern province is slow sales, which is related to the natural and geographic features.

TYPES OF TARIFF TO LIVESTOCK PRODUCTS

The types of tariff to the products was summarized by adding profit to the expenses, by mutually negotiating with customers, depending on competitor's price, by market price and other indicators.

TABLE 5.9. TYPES OF PRODUCT TARIFF BY HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by regions, percent

	Total	Western	Khangai	Central	Eastern	UB
Total	100.0	100.0	100.0	100.0	100.0	100.0
By adding profit to the expenses	4.6	7.2	3.2	4.2	4.1	2.3
Mutually negotiating with customers	30.5	31.4	31.1	29.6	28.0	30.1
Depending on competitor's price	9.5	10.8	8.7	9.6	7.8	14.5
By market price	86.3	87.8	86.6	84.8	87.4	72.8
Others	2.1	1.0	1.8	3.6	1.7	8.6

From the households, running livestock breeding, 180.8 thousand or 86.3 percent determine their tariff to products by market prices.

TABLE 5.10. TYPES OF PRODUCT TARIFF BY BUSINESS UNITS, ORGANIZATIONS, RUNNING LIVESTOCK BREEDING, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	100.0	100.0	100.0	100.0	100.0	100.0
By adding profit to the expenses	9.3	10.5	6.8	8.7	14.0	10.0
Mutually negotiating with customers	18.5	14.3	20.3	19.9	20.9	17.5
Depending on competitor's price	7.9	13.3	9.3	5.6	7.0	3.8
By market price	81.3	86.7	83.1	82.6	83.7	67.5
Others	8.9	2.9	5.9	10.6	7.0	18.8

412 business units, organizations, running livestock activities, or 81.3 percent determine their product tariff by market price, which is common in all the regions.

PRODUCTION AND SALES OF PRODUCTS IN ARABLE FARMING SECTOR

Totally 1705 business units, organizations and 33.5 thousand households, running arable farming, were involved to the agricultural census 2012. According to the sums of these households, business units, organizations totally 457.2 thousand tons of wheat, 223.3 thousand tons of potatoes, 109.6 thousand tons of vegetables, 42.4 thousand tons of fodder plants and 6.6 thousand tons of technical plants were harvested.

TABLE 5.11. HARVEST GATHERED, by assortments

	Total			Percentage		
		Household	BUO	Total	Household	BUO
No of households, BUOs		33 461	1 705			
	Harvest, t					
Wheat	457 209.8	43 382.3	413 827.5	100.0	9.5	90.5
Potatoes	223 317.7	158 363.2	64 954.5	100.0	70.9	29.1
Vegetables	109 658.4	92 052.9	17 605.5	100.0	83.9	16.1
Fodder plants	42 354.8	18 826.2	23 528.6	100.0	44.4	55.6
Technical plants	6 617.5	1 693.1	4 924.4	100.0	25.6	74.4

Business units, organizations harvested 90.5 percent of wheat, 29.1 percent of potatoes, 16.1 percent of vegetables and 55.6 percent of fodder plants and citizens and households produced 9.5 percent of wheat, 70.9 percent of potatoes, 83.9 percent of vegetables and 44.4 percent of fodder plants.

Households mostly run potatoes and vegetable production and business units, organizations mostly engaged in wheat production.

By regions: the majority of the harvest is produced in Central region. Central region is the main agricultural region of our country and Selenge and Tuv provinces are located in this region.

TABLE 5.12. HARVEST GATHERED, by assortments, regions

	Total	Western	Khangai	Central	Eastern	UB
Wheat	457 209.8	10 680.5	79 621.4	347 282.8	19 625.2	-
Potatoes	223 317.7	27 956.5	34 458.9	144 585.2	7 574.4	8 742.7
Vegetables	109 658.4	19 126.5	15 285.5	67 468.9	3 453.2	4 324.3
Fodder plants	42 354.8	19 623.4	8 762.0	9 672.8	3 056.0	1 240.5
Technical plants	6 617.5	-	713.5	5 786.9	117.1	-

In 2011 totally 457.2 thousand tons of wheat was harvested nationwide, from which, In Central region is 347.3 thousand tons or 76.0 percent, in Khangai region is 79.6 thousand tons or 17.4 percent, in Eastern region is 19.6 thousand tons or 4.3 percent and in Western region 10.7 thousand tons or 2.3 percent.

The wheat, harvested in central region, occupies high unit weight, compared to other regions. From which: wheat harvested in Selenge province is 223.5 thousand tons or 48.9 percent, in Tuv province 106.8 thousand tons or 23.4 percent.

Potatoes are the main arable farming product, which goes after wheat by the amount of harvest. Totally 223.3 thousand tons of potatoes was harvested nationwide, from which in Central region 144.6 thousand tons or 64.8 percent was produced, in Khangai region 34.5 thousand tons or 15.4 percent, in Western region 28.0 thousand tons or 12.5 percent, in Eastern region 7.5 thousand tons or 3.4 percent and in Ulaanbaatar city 8.7 thousand tons or 3.9 percent was produced.

Totally 109.7 thousand tons of vegetables was harvested nationwide, from which in central regions 67.5 thousand tons or 61.5 was harvested, in Western region 19.1 thousand tons or 17.5 percent, in Khangai region 15.3 thousand tons or 13.9 percent, in Ulaanbaatar city 4.3 thousand tons or 3.9 percent and in Eastern region 3.5 thousand tons or 3.2 percent.

TABLE 5.13. WHEAT HARVESTED, by assortments, regions

t

	Total	Western	Khangai	Central	Eastern
Wheat	457 209.8	10 680.5	79 621.4	347 282.8	19 625.2
Wheat	447 362.9	8 391.4	78 288.9	341 444.3	19 238.3
Barley	4 956.5	847.7	77.5	3 781.3	250.0
Oat	3 592.3	559.6	1 151.0	1 746.8	135.0
Rye	936.4	874.6	8.5	53.3	-
Others	359.7	7.2	95.4	257.1	-

98.0-98.3 percent of harvest in Eastern, Khangai and Central region is wheat. And in Western region 81.4 percent is wheat, 8.2 percent is rye, 5.1 percent is barley and 5.2 percent is oat. 93.5 percent of the rye, harvested nationwide, is imposed to Western region.

FIGURE 5.3. WHEAT, PRODUCED IN ARABLE FARMING SECTOR

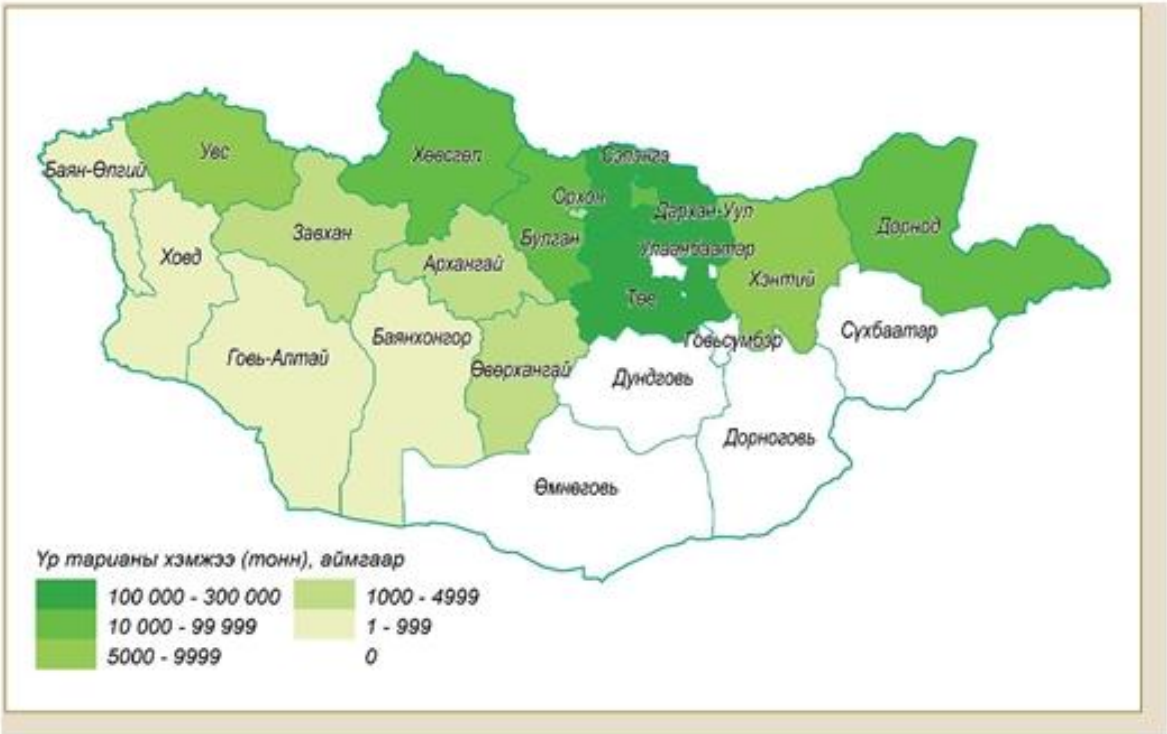
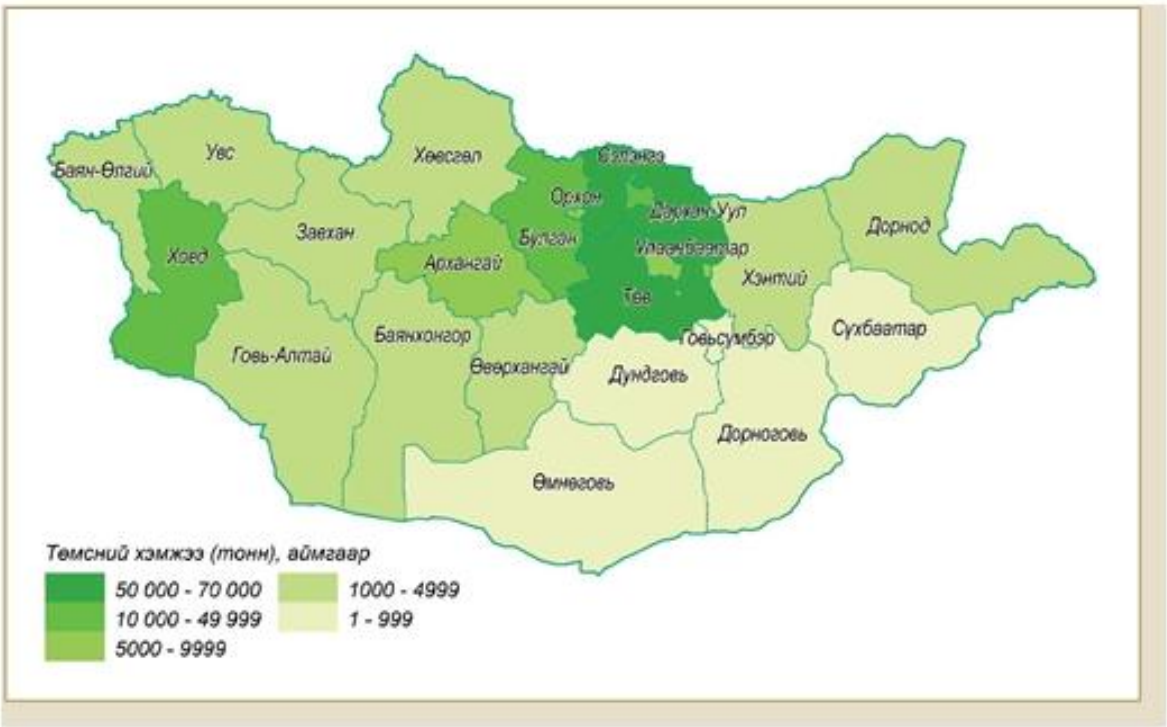


FIGURE 5.4. POTATOES, PRODUCED IN ARABLE FARMING SECTOR



YEARLY CONSUMPTION OF POTATOES AND VEGETABLES OF COMPARED POPULATION

The main food products of our country are potatoes and vegetables, and their consumption of 2011 was calculated to compared population, as the result, the yearly consumption of our country was totally 142.4 thousand tons of potatoes and 203.4 thousand tons of vegetables.

TABLE 5.14. DOMESTIC PRODUCTION OF POTATOES AND VEGETABLES, SUPPLY PERCENTAGE

Types	Yearly food consumption of average compared person*, kg	Yearly food consumption of compared population, t	Domestic production, t	Supply percentage
Potatoes	51.1	142 381.1	223 317.7	156.8
Vegetables	73.0	203 401.5	109 658.3	53.9

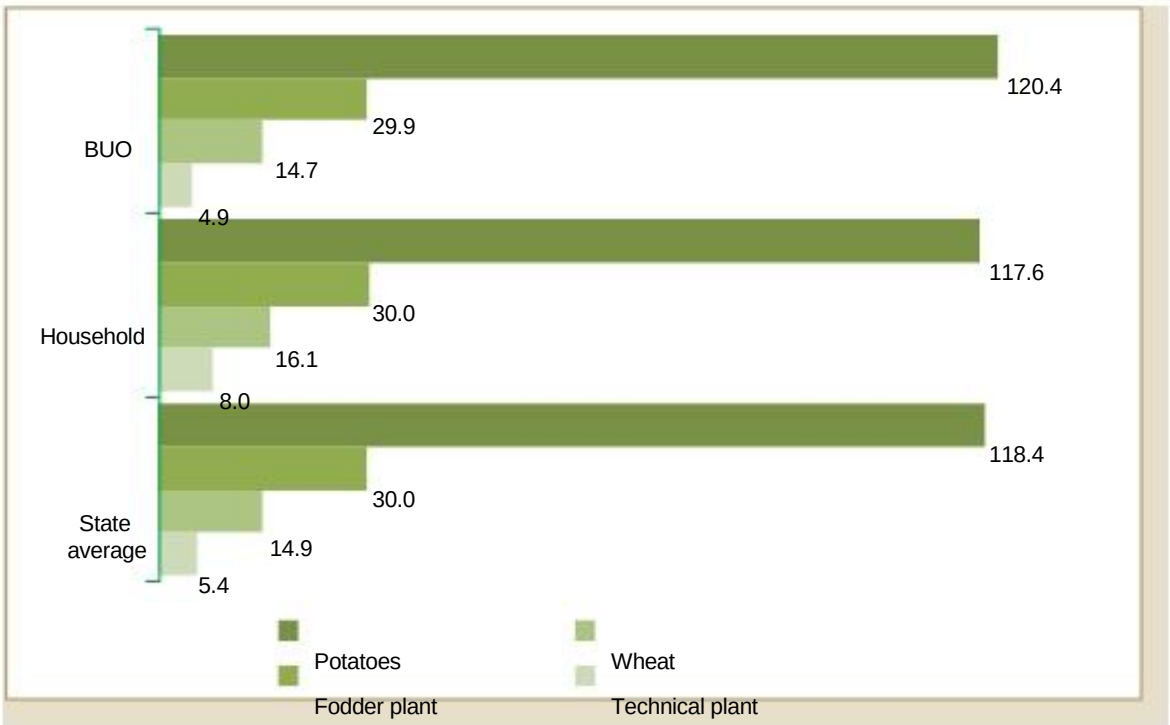
*-According to food studies center

Yearly potato consumption of compared population in 2011 was completely (156.8 percent) provided and 53.9 percent of vegetables was provided by domestic production.

HARVEST PER HA

The households and business units, organizations, running arable farming, harvested on average 14.9 cn of wheat per ha, 118.4 cn of potatoes, 123.8 cn of vegetables, 30.0 cn of fodder plants and 5.4 cn of technical plants per ha.

FIGURE 5.5. HARVEST, HARVESTED PER HA FIELD, cn



Households harvested on average 16.1 cn of wheat per ha field and 117.6 cn of potatoes and business units, organizations harvested on average 14.7 cn of wheat and 120.4 cn of potatoes.

TABLE 5.15. AMOUNT OF HARVEST PER HA FIELD, by regions

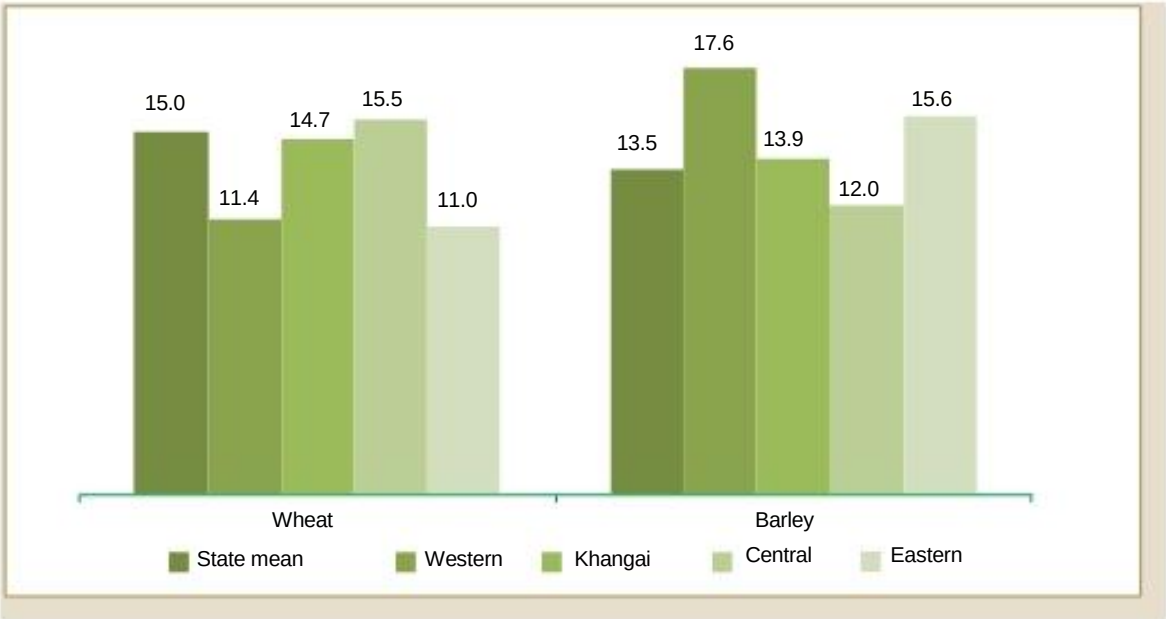
cn

	State average	Western	Khangai	Central	Eastern	UB
Wheat	14.9	12.3	14.6	15.3	10.9	-
Potatoes	118.4	117.2	111.7	120.0	118.5	124.5

The highest wheat, harvested per ha field, is in Central region, it is 15.3 cn and the lowest is in Eastern region, it is 10.9 cn.

Per ha harvest of potatoes is on higher than the state on average by 0.1-6.1 centner in Eastern, Central regions and in Ulaanbaatar city, but less by 1.2-6.7 centners in Western and Khangai regions.

FIGURE 5.6. AMOUNT OF HARVEST PER HA FIELD, by cn, regions



Wheat, harvested per ha field is the highest in Central region, it is 15.5 cn and the lowest is in Eastern region, it is 11.0 cn.

PRODUCTS, PRODUCED IN ARABLE FARMING SECTOR, by consumption use

The total produced/harvested harvest amount of the households and business units, organizations, running arable farming, was summarized by classifications of stored for seeds, used for own production, used for own food consumption, sold, gave to works as wages, preserved and others.

TABLE 5.16. PRODUCTS, PRODUCED IN IN ARABLE FARMING SECTOR, by consumption

t

	Total produced/ harvested	Used for own consumption			Sold	Others
		for seed	for production	for food		
Wheat	457 209.8	41 550.5	26 697.0	23 283.0	331 679.0	34000.4
Potatoes	223 317.7	35 497.8	1 158.0	41 161.9	127 880.0	17619.9
Vegetables	109 658.3	1 576.7	6 211.3	27 446.0	69 612.5	4811.8
Fodder plants	42 354.8	-	9 539.2	-	28 847.2	3968.4
Technical plants	6 617.5	-	268.9	-	5 091.1	1257.5

Households, business organizations, units, running arable farmng, mostly sell their products to the market. In particular, 72.5 percent of the wheat produced was sold, 9.1 percent was stored for seeds; 57.3 percent of the potatoes produced was sold, 18.4 percent was used for food and 15.9 percent stored for seeds. And 63.5 percent of the vegetables produced was sold, 25.0 percent used for private food consumption.

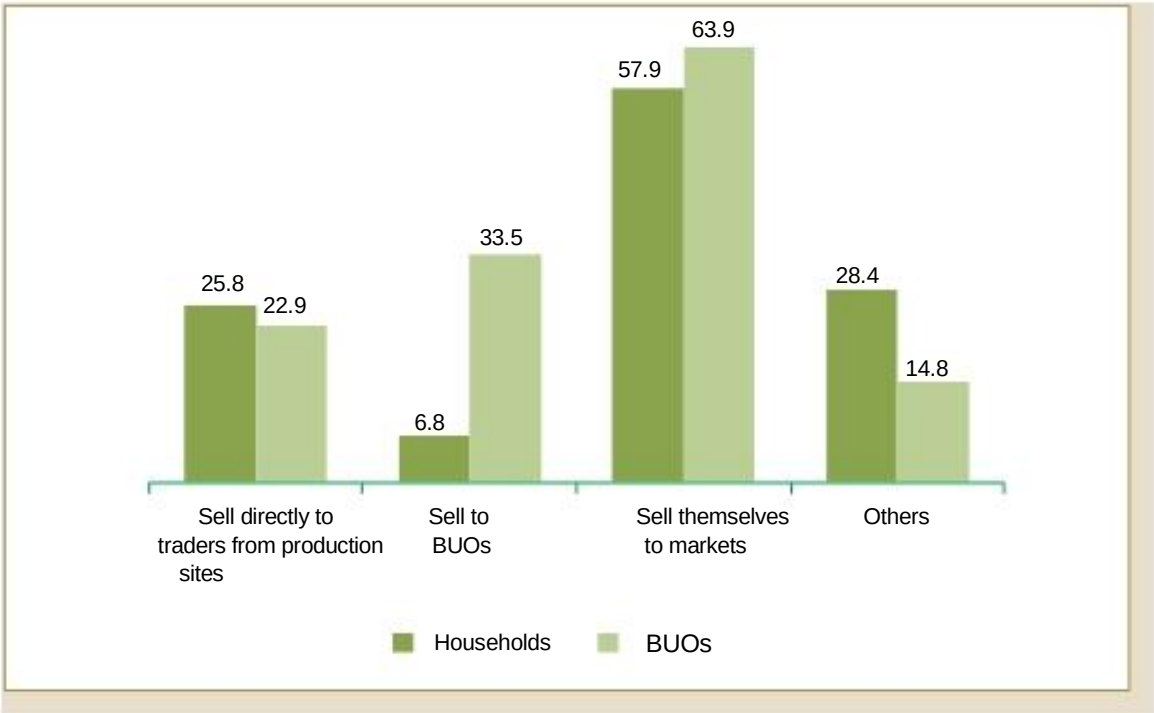
SALES OF ARABLE FARMING PRODUCTS

In this part we will discuss about information on how the households and business units, organizations sell their products, what kinds of difficulties occur and how they determine the product prices.

The types of how the agricultural producers sell their products was studied by classifications “Sell directly to traders”, “Sell to business units, organizations”, “Sell themselves on market” and “Others”.

Totally 33.5 thousand households, running arable farming, were involved to the census, from which 19.4 thousand or 57.9 percent sell their products by themselves on the market, 8.6 thousand or 25.8 percent sell their products directly to traders from production units, 2.3 thousand households or 6.8 percent sell to business units, organizations, and 9.4 thousand or 28.4 percent sell by other methods.

FIGURE 5.7. SALES TYPES FOR HOUSEHOLDS AND BUOs, by percent



Product sales of the households, running arable farming, by regions: the traders go and purchase the products on site commonly in Western and Eastern regions, compared to other regions.

TABLE 5.17. SALES TYPES OF THE HOUSEHOLDS AND BUOs, RUNNING ARABLE FARMING, by regions, percent

	Total	Western	Khangai	Central	Eastern	UB
Households						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Sell directly to traders from production sites	25.8	44.6	21.1	26.4	34.9	8.2
Sell to BUOs	6.8	8.0	8.8	5.6	7.9	4.6
Sell themselves on market	57.9	69.5	54.1	63.0	49.8	42.3
Other	28.4	10.2	31.2	24.8	26.6	52.7
BUOs						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Sell directly to traders from production sites	22.9	40.2	27.3	15.0	22.9	16.9
Sell to BUOs	33.5	20.7	42.6	40.1	41.7	14.8
Sell themselves on market	63.9	75.3	62.4	63.0	54.2	50.8
Other	14.8	8.2	13.8	13.3	12.5	36.5

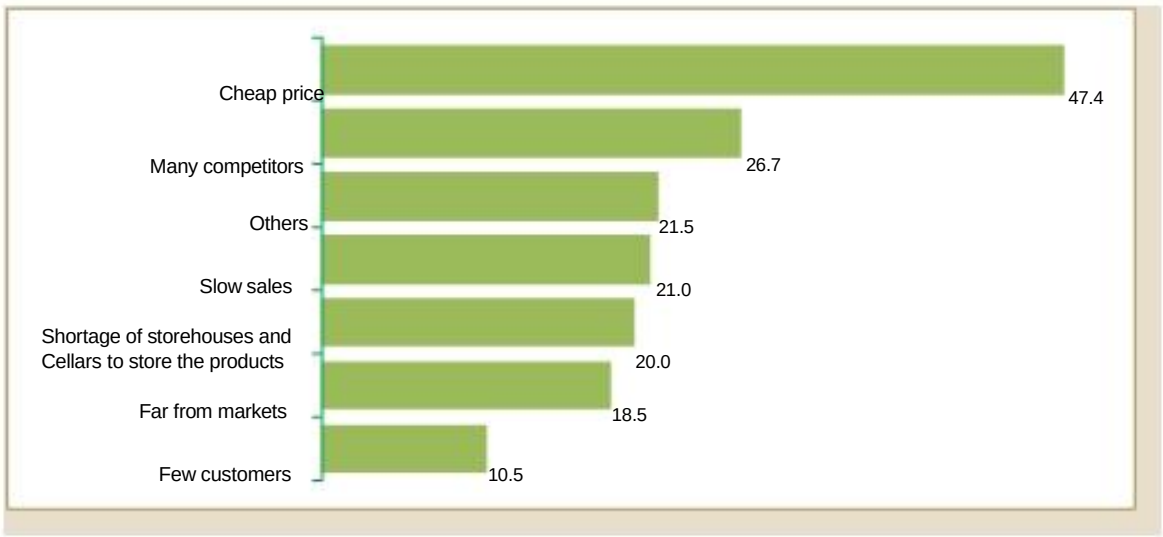
Business units, organizations in all regions mostly sell their products by themselves on the markets, it occupies 50.8-75.3 percent. The type of selling to business units, organizations is relatively higher in Khangai, Eastern and Central regions, it occupies 40.1-42.6 percent. But in Western region the type of selling directly to traders from production site is relatively higher than in other regions, it occupies 40.2 percent.

DIFFICULTIES, RELATED TO SALES OF PRODUCTS FROM ARABLE FARMING

The census results show that the households and business units, organizations face many difficulties, related to the sales of their products.

The difficulties, related to the sales of products, were classified by slow sales, few customers, many competitors, cheap cost, shortage of storehouses and cellars to store the products and far from the markets.

FIGURE 5.8. DIFFICULTIES, RELATED TO PRODUCT SALES IN ARABLE FARMING SECTOR, by percentage



The main difficulties for the households in Western and Eastern regions are slow sales, few customers, many competitors and far from markets and for the households in Western, Khangai and Eastern regions there is much shortage of the storehouses and cellars to store their products, as shown by the census.

The business units, organizations in Eastern, Khangai regions and Ulaanbaatar city have shortage in storehouses and cellars to store their products and for the business units, organizations in Western region the most common difficulty is cheap price and far from the markets. According to the census results, the above mentioned difficulties occur in mixed forms in Khangai, Western and Central regions.

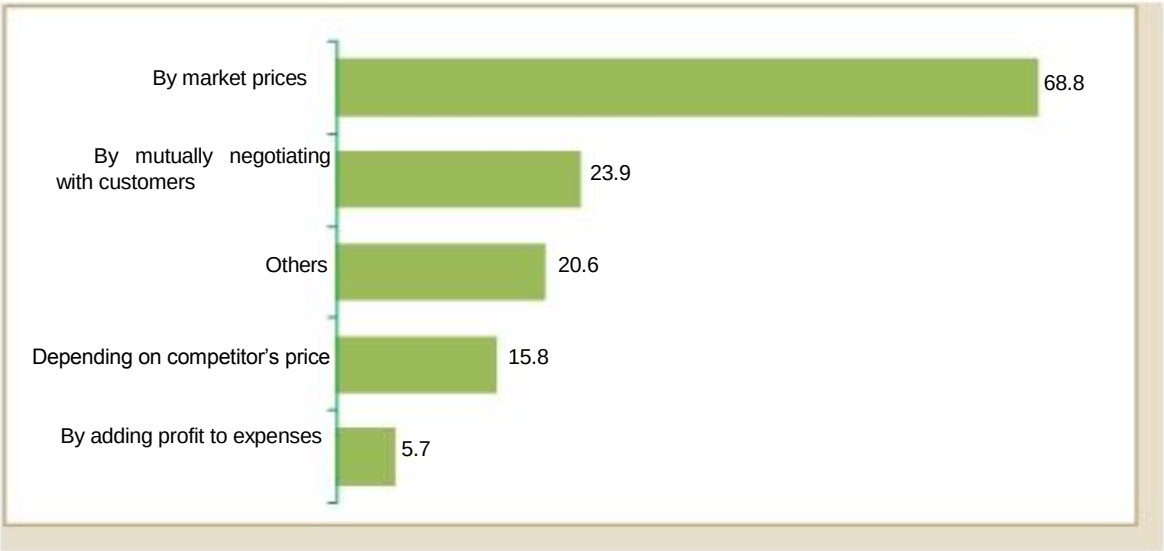
TABLE 5.18. DIFFICULTIES, RELATED TO PRODUCT SALES BY HOUSEHOLDS AND BUSINESS UNITS, ORGANIZATIONS, RUNNING ARABLE FARMING, by regions, percent

	Total	Western	Khangai	Central	Eastern	UB
Households						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Slow sales	20.0	31.1	16.7	22.1	19.5	8.9
Few customers	10.2	16.8	8.7	7.6	12.6	12.0
Many competitors	26.5	30.6	22.0	29.1	20.3	25.4
Cheap price	47.1	48.2	42.7	58.0	31.6	31.1
Shortage of storehouses and cellars to store the products	19.7	22.3	22.7	19.0	23.5	12.3
Far from markets	18.3	28.8	16.0	18.5	21.3	9.0
Others	22.2	6.3	24.8	20.9	21.4	38.1
BUOs						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Slow sales	39.5	36.4	40.4	45.6	50.0	15.3
Few customers	16.6	26.1	15.6	14.4	20.8	7.9
Many competitors	31.0	32.1	35.5	30.0	20.8	29.1
Cheap price	54.4	45.1	52.8	63.9	43.8	36.0
Shortage of storehouses and cellars to store the products	25.8	28.8	30.5	24.7	31.3	16.4
Far from markets	23.6	42.7	25.9	16.6	20.8	14.3
Others	8.3	4.9	5.3	6.7	6.3	27.0

TARIFF TYPES ON ARABLE FARMING PRODUCTS

The types of tariff to the products was summarized by adding profit to the expenses, by mutually negotiating with customers, depending on competitor's price, by market price and other indicators.

FIGURE 5.9. TARIFF TYPES ON ARABLE FARMING PRODUCTS, by percentage



Mostly sell by market prices. Also, the type of selling products by negotiating with the customer is dominated.

TABLE 5.19. TARIFF TYPES TO PRODUCTS BY HOUSEHOLDS, BUSINESS UNITS, ORGANZIATIONS, RUNNING ARABLE FARMING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
			Households			
Total	100.0	100.0	100.0	100.0	100.0	100.0
By adding profit to expenses	5.4	12.4	4.2	4.2	4.0	3.6
By mutually negotiating with customers	23.5	27.9	21.0	26.4	21.8	16.5
Depending on competitor's price	15.6	18.3	14.0	18.0	13.2	10.1
By market price	68.2	79.6	67.4	72.7	67.1	46.9
Others	21.2	5.8	23.6	20.1	18.8	37.2
			BUOs			
Total	100.0	100.0	100.0	100.0	100.0	100.0
By adding profit to expenses	12.8	16.0	16.3	9.4	20.8	13.8
By mutually negotiating with customers	31.6	36.4	32.3	32.6	39.6	14.8
Depending on competitor's price	19.4	23.4	23.4	18.6	12.5	10.6
By market price	79.9	75.0	81.9	86.3	70.8	60.8
Others	8.2	4.6	6.7	6.1	4.2	27.0

68.2 percent of the households, running arable farming, determine their product tariff by the main method of market price and costs.

From the business units, organizations, running arable farming 1362 or 79.9 percent determine product tariff by market prices and 539 or 31.6 percent by mutually negotiating with customers. The method of selling products at market price and costs is widely used in the regions.

PART SIX

MACHINES AND EQUIPMENT FOR AGRICULTURAL PURPOSES

MACHINES AND EQUIPMENT, USED IN AGRICULTURAL SECTOR

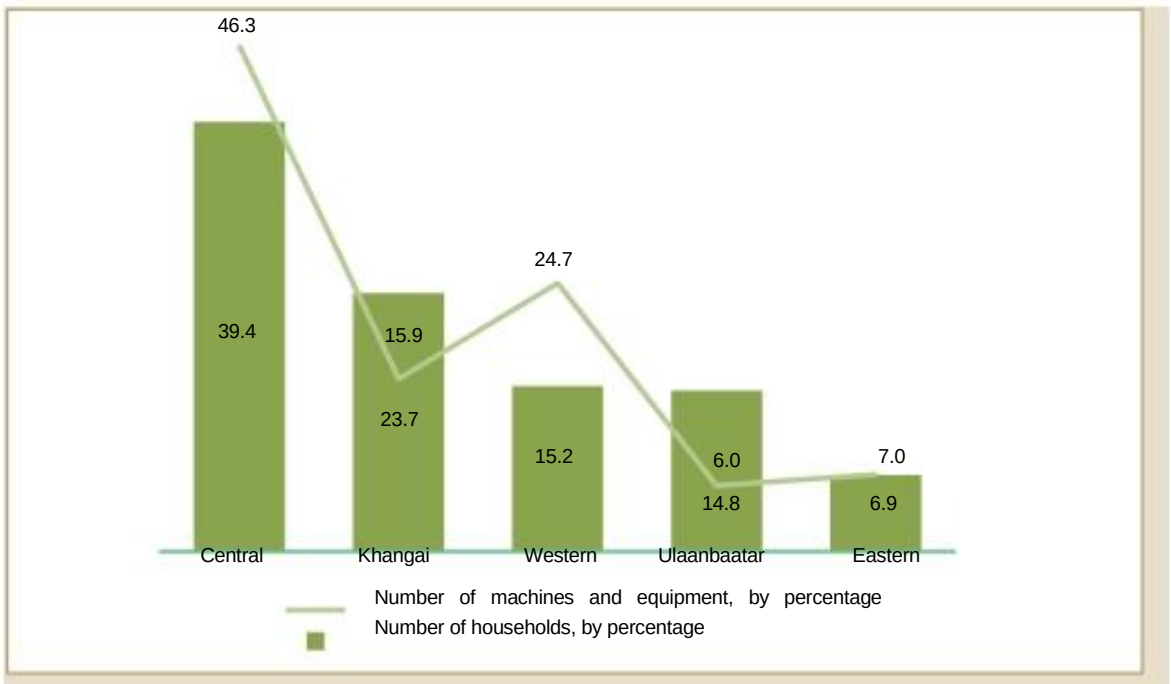
Special group of questions were developed in the questionnaire in order to study the exploitation of the machines and equipment, used in agricultural sector. Totally 33.5 thousand households and 1705 business units, organizations, running arable farming, were involved in the census, from which 13.0 thousand households and 1212 business units, organizations were using agricultural machines and equipment in their activities.

But data was collected by universal survey from 507 business units, organizations, running livestock breeding, and by sampling survey from 69.2 thousand households, out of total 209.6 thousand households and the result distribution was made. Machines and equipment for livestock breeding purpose was classified into 30 assortments and the equipment, used for arable farming purposes, was classified into 62 assortments in the census questionnaire.

TABLE 6.1 MACHINES AND EQUIPMENT FOR AGRICULTURAL PURPOSES

Machines and equipment for agri-cultural purposes		Own			Rented from	
		Being used	Rented to others	Not being used	From state organization	From others
Livestock	BUOs	929 -		23	15	3
	H-holds	191 577	345	1 296	283	3 357
Arable farming	BUOs	13 987	23	133	45	512
	H-holds	26 110	54	159	287	9 484
Total		232 603	422	1 611	630	13 356

FIGURE 6.1 NUMBER OF MACHINES AND EQUIPMENT, by percentage



Households and business units, organizations, running agricultural activities, have 234.6 thousand own machines and equipment. From which 232.6 thousand or 99.1 percent is being used and 2033 or 0.9 percent is not being used. Also, they have rented 14.0 thousand machines and equipment from others to use in own activities.

From the total machines and equipment being used 192.5 thousand or 82.8 percent are in livestock breeding sector and 40.0 thousand or 17.2 percent are in arable farming sector.

86.2 percent of the total households in agricultural sector are engaged in livestock breeding sector. These households are using 82.6 percent of the machines and equipment, being operated. The households, running arable farming, occupy 13.8 percent of the agricultural sector and using 17.4 of the total machines and equipment.

MACHINES AND EQUIPMENT IN LIVESTOCK BREEDING SECTOR

Totally 197.8 thousand machines and equipment for livestock breeding purposes were registered during the census. By ownership and exploitation classification: 97.3 percent use in everyday activities, private, 0.2 percent rented to others, 0.7 percent do not use and 1.8 percent rent machines and equipment from others.

TABLE 6.2. NUMBER OF MACHINES AND EQUIPMENT FOR LIVESTOCK BREEDING PURPOSES, by regions

	Own			Rented from	
	Being used	Rented to others	Not used	From state organizations	From others
Total	192506	345	1319	298	3360
Western	47763	76	178	21	136
Eastern	26319	26	441	34	70
Khangai	63975	164	329	155	190
Central	50382	76	286	82	2923
Ulaanbaatar	4067	3	85	6	41

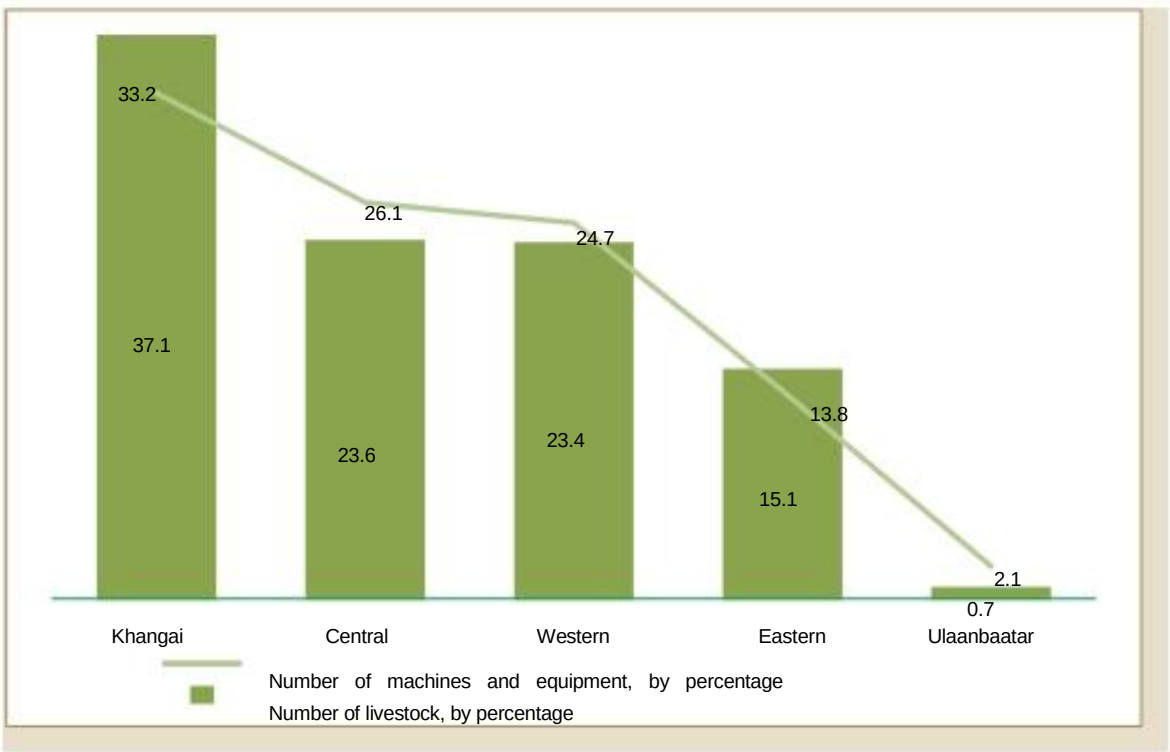
37.1 percent of the households, running livestock breeding and 33.2 percent of the machines and equipment is imposed to Khangai region, 27.6 percent of the total households and 24.7 percent of the machines and equipment is in Western region, 21.4 percent of the total households and 26.1 percent of the machines and equipment is imposed to central region.
as we can see, the usage of machines and equipment in the regions above is higher than in Eastern region and Ulaanbaatar city.

TABLE 6.3 NUMBER OF MACHINES AND EQUIPMENT FOR LIVESTOCK BREEDING PURPOSE

		Being used	Rented to others	Not being used
Hayfork	Households	24644	83	125
	BUOs	77	-	-
All kinds of tractors	Households	7924	15	75
	BUOs	166	-	5
Cars	Households	25079	32	145
	BUOs	131	-	1
Trucks	Households	25167	40	125
	BUOs	118	-	1
Motorcycles	Households	68305	107	246
	BUOs	71	-	3
Creamers	Households	3557	15	36
	BUOs	14	-	8

The above mentioned 6 types of machines and equipment occupy 79.0 percent of the machines and equipment for livestock breeding purposes. The table shows that 1 per 3.1 herder households have motorcycles, 1 per 8.3 households have trucks, 1 per 8.4 households have cars and 1 per 1.8 herder families have motor transportation vehicles.

FIGURE 6.2 NUMBER OF MACHINES AND EQUIPMENT, NUMBER OF LIVESTOCK, by percentage



Comparing number of livestock at the end of 2011 with the number of machines and equipment: 37.1 percent of the total livestock and 33.2 percent of the total machines and equipment is imposed to Khangai region; 23.4 percent of the total livestock and 24.7 percent of the total machines and equipment is in Western region; 15.1 percent of the total livestock and 13.8 percent of the total machines and equipment is in Eastern region; 23.6 percent of the total livestock and 26.1 percent of the total machines and equipment is in Central region and 0.7 percent of the total livestock and 2.1 percent of the total machines and equipment is imposed to Ulaanbaatar city.

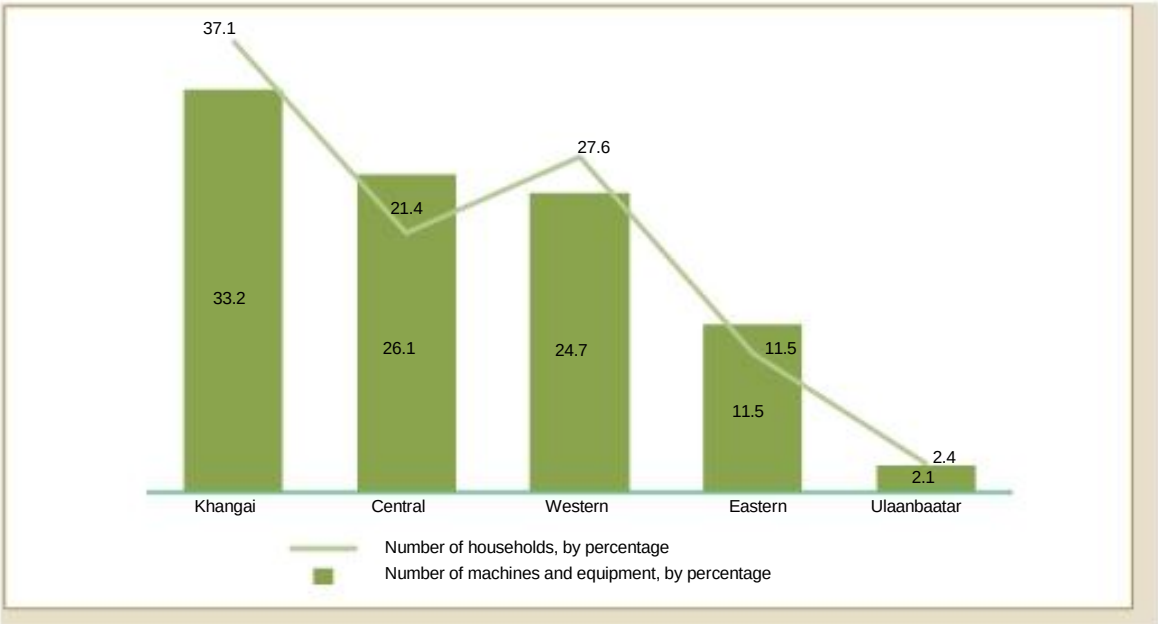
MACHINES AND EQUIPMENT IN ARABLE FARMING SECTOR

The households and business units, organizations, running arable farming, own 40.5 thousand machines and equipment. From which, 40.1 thousand or 99.1 percent is being used for the activities. Also, they rent 10.3 thousand machines and equipment from others.

TABLE 6.4 NUMBER OF MACHINES AND EQUIPMENT FOR ARABLE FARMING, by regions

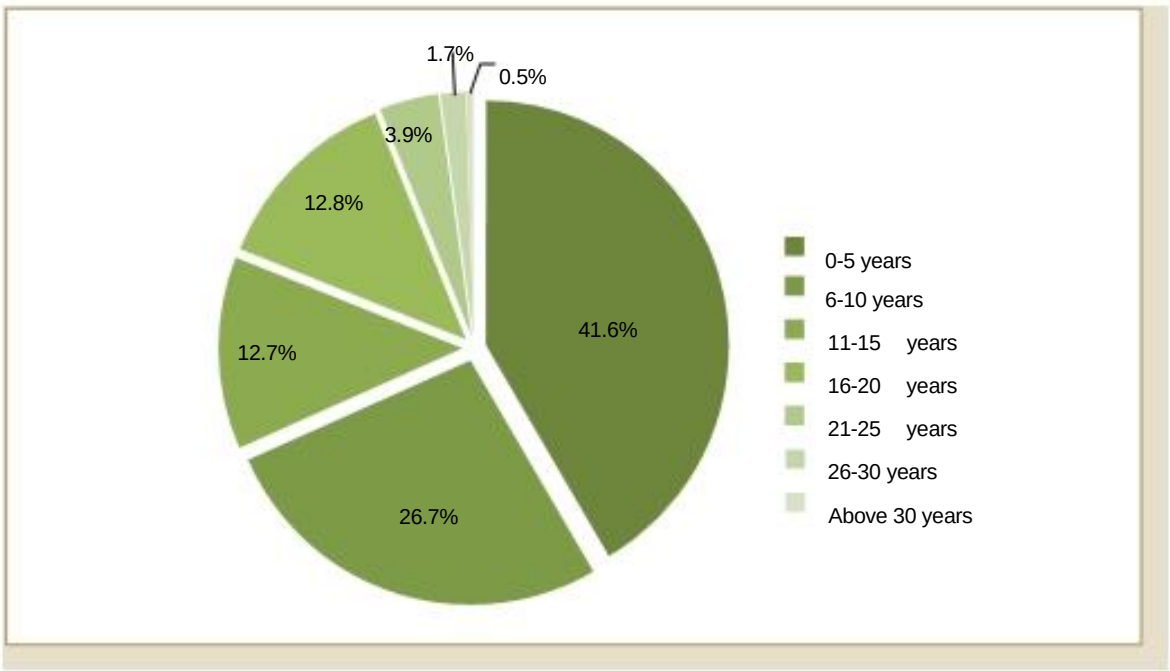
	Own			Rented from	
	Being used	Rented to others	Not used	From state organization	From others
Total	40 097	77	292	332	9996
Western	8 048	26	46	22	1077
Eastern	2 422	-	14	15	1
Khangai	6 430	12	60	7	133
Central	21 397	31	137	271	8609
Ulaanbaatar	1 800	8	35	17	176

FIGURE 6.3 HOUSEHOLDS WITH OWN MACHINES AND EQUIPMENT, BEING USED, NUMBER OF MACHINES AND EQUIPMENT, by percentage



39.4 percent of the total households, running arable farming, and 59.9 percent of the machines and equipment is imposed to Central region; 23.7 percent of total households and 13.1 percent of the machines and equipment is in Khangai province; 15.2 percent of the total households and 18.1 percent of the machines and equipment is in Western province; 14.8 percent of the total households and 4.0 percent of the machines and equipment is in Ulaanbaatar center; and 6.9 percent of the households and 4.8 percent is imposed to Eastern province. As we can see, usage of machines and equipment of the households in Western and Central regions is high and the usage of machines and equipment of the households in Ulaanbaatar city and Khangai regions is small. The majority households running arable farmig, is in Central region.

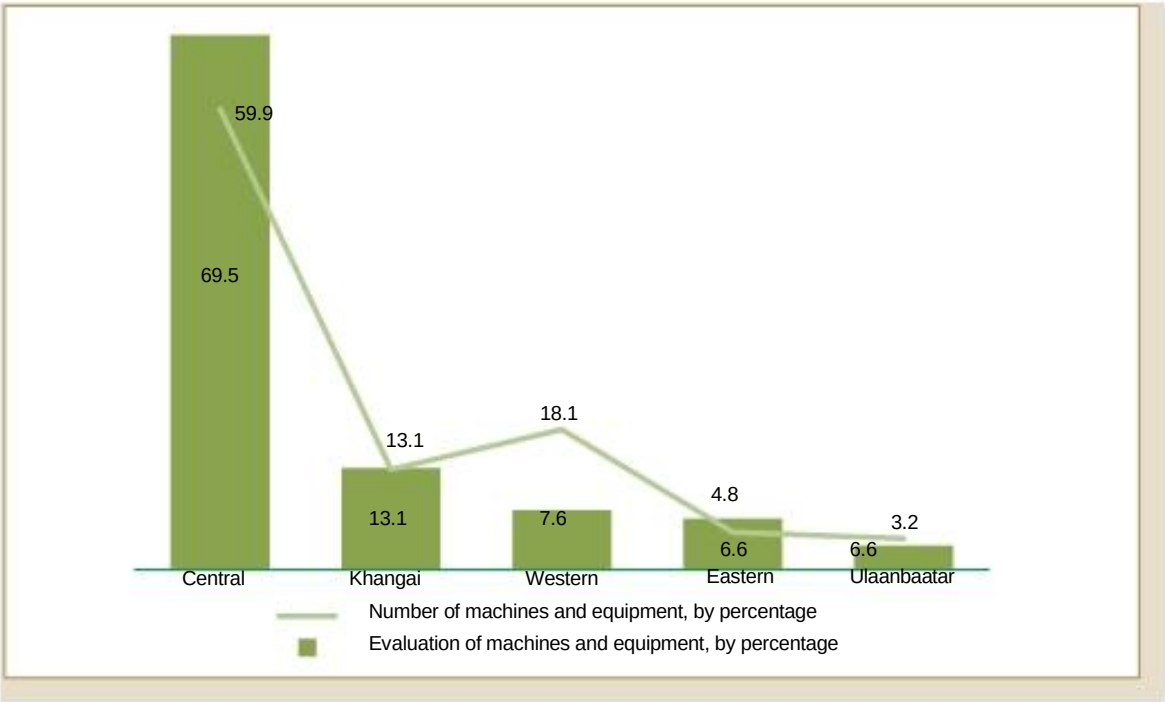
FIGURE 6.4. NUMBER OF MACHINES AND EQUIPMENT FOR ARABLE FARMING, by years used



59.5 percent of the total machines and equipment is being used for 0-5 years, 21.6 percent is being used for 6-10 years, 8.4 percent for 11-15 years, 7.2 percent for 16-20 years, 2.0 percent for 21-25 years, 1.0 percent for 26-30 years and 0.3 percent is being used above 30 years.

Except number of machines and equipment and exploitation period their evaluation was also studied. Totally machines and equipment of 205.2 billion tugrugs was registered. From which, 69.5 percent is imposed to Central region, 13.1 percent to Khangai region, 7.6 percent to Western region, 6.6 percent to Eastern region and 3.2 percent to Ulaanbaatar city.

FIGURE 6.5. NUMBER AND EVALUATION OF MACHINES AND EQUIPMENT FOR ARABLE FARMING, by percentage



By total evaluation: more expensive machines and equipment are being used in Central and Eastern regions. The machines and equipment in Ulaanbaatar city, Western and Khangai regions are cheaper.

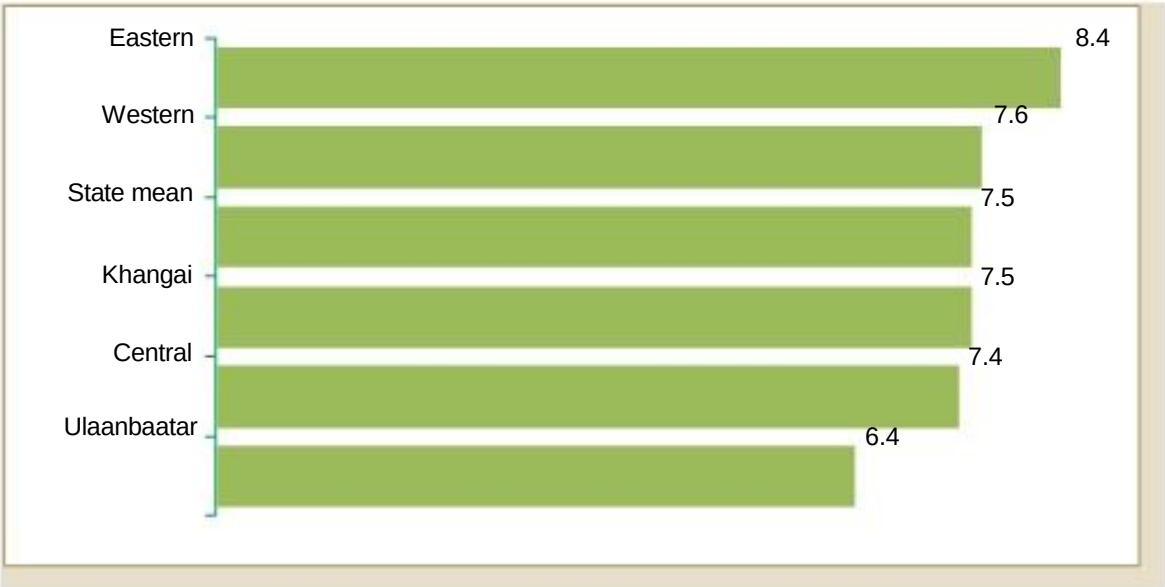
The following equipment was considered the main equipment for arable farming in the agricultural census 2012.

TABLE 6.5 NUMBER OF MAIN EQUIPMENT FOR ARABLE FARMING

	Total	Households	BUOs
Weeder, hoe, cultivator	1789	1085	704
Wheat seeder	1806	320	1486
Potato seeder	1882	1658	224
Combine harvester	1173	261	912
Potato combine	351	252	99
One row potato digger	185	145	40
Double row potato digger	1263	1134	129
Mechanized barn-floor	80	10	70
Chained tractor	294	45	249
Small scale wheeled tractor (10-20 м.х)	1463	1219	244
Medium scale wheeled tractor (25-60 м.х)	1418	1121	297
Wheeled mover (80-130 м.х)	2715	2085	630
Wheeled tractor (139-275 м.х)	800	418	382
Wheeled tractor (above 275 м.х)	333	153	180

The main equipment by regions: 71.5 percent is imposed to Central region, 12.1 percent in Western region, 10.6 percent in Khangai region, 3.0 percent in Eastern region and 2.8 percent in Ulaanbaatar city. The average evaluation: mechanized barn-floors and wheat combines are higher than other equipment.

FIGURE. 6.6. EXPLOITATION PERIOD OF MACHINES AND EQUIPMENT FOR ARABLE FARMING, by regions



The exploitation period of the machines and equipment in Eastern, Western and Central regions is higher, in Khangai region it is similar with the state mean and lower than the state mean in Ulaanbaatar city. Most of the machines and equipment for arable farming usually have high cost and long exploitation period. According to the census results the evaluation reduces as the exploitation period of the machines and equipment lengthens.

Except equipment, used by the household arable farming, the information on passenger cars and trucks and motorcycles were collected by this census questionnaire.

By doubled numbers 9441 households are using 9887 cars and trucks and motorcycles for their household economies. From the total households 7905 households have 1 kind of motor vehicle, 1452 households have 2 kinds of motor vehicles and 84 households have 3 kinds or car, truck and motorcycle.

TABLE 6.6. HOUSEHOLDS WITH CARS, TRUCKS AND MOTORCYCLES, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Number of cars, trucks and motorcycles	9441	1760	1952	4762	739	228
Percentage	100	18.7	20.7	50.4	7.8	2.4

50.4 percent of the households with cars and trucks is imposed to Central region, 20.7 percent in Khangai region, 18.7 percent in Western region, 7.8 percent in Eastern region and 2.4 percent in Ulaanbaatar city. 1 motor vehicle is imposed per 2.3 households in arable farming in Khangai region, and 1 per 2.4 households in Eastern region, 1 per 3.7 households in Western region, 1 per 3.9 households in Central region and 1 per 6.1 households in Ulaanbaatar city.

PART SEVEN

BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES

BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES

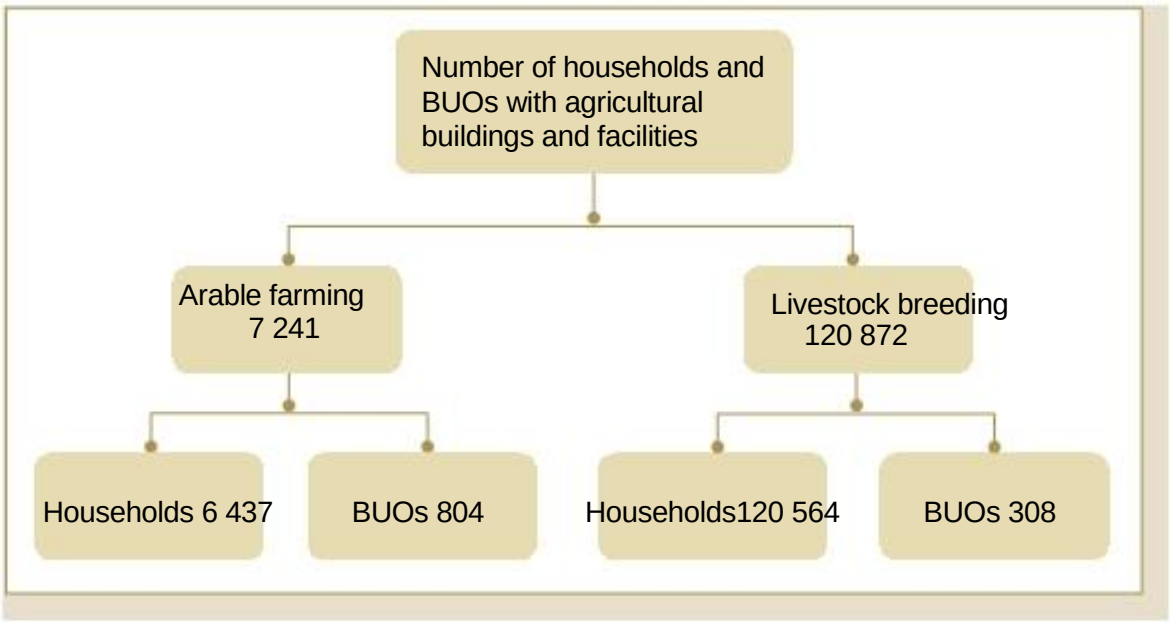
The data on the main capital of the agricultural sector – the buildings and facilities – was collected with the purpose to create database and support the further policy making processes.

The buildings and facilities for agricultural purposes of the households and business units, organizations was registered by classifications of numbers and capacity, as well by ownership, operation, rented to others and not used. The non-apartment suite buildings and facilities, other than for agricultural purposes by households and business units, organizations were not included here.

Storehouse is a building for agricultural production, made with wood, stone, brick, tent-cloth and block for storing grass and other materials.

Cellar is a facility. Digged as a hole in earth for storing potatoes, vegetables and meat. Also, mechanized barn-floors, which execute the works to receive potatoes and vegetables and sort them by techniques and which regulate the storage regime automatically; simple cellars, dag manually, with warming; hole cellars, dag within gers and dwellings; as well hole cellars, drilled and separated chambers for storage, were classified as cellars.

FIGURE 7.1. NUMBER OF HOUSEHOLDS AND BUSINESS UNITS, ORGANIZATIONS WITH BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES



There are 127.0 thousand households nationwide, having buildings and facilities for agricultural purposes. From which 95.0 percent run livestock breeding and 5.0 percent run arable farming.

Also, there are 1.1 thousand BUOs, having buildings and facilities for agricultural purposes, from which 72.3 percent run arable farming and 27.7 run livestock breeding activities.

The most households and business units, organizations, running livestock breeding, have special technological facilities and farms to breed livestock and pets and the most business units and organizations, running arable farming, have greenhouses, storehouses and cellars for wheat, potatoes and vegetables.

BUILDINGS AND FACILITIES FOR ARABLE FARMING PURPOSES

HOUSEHOLDS, RUNNING ARABLE FARMING, WITH BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES

Totally 33461 households, running arable farming, were involved in the census, from which 6437 households or 19.2 percent have one or more kinds of buildings and facilities for agricultural purposes.

63.8 percent of the households with agricultural buildings and facilities is in Central region, 11.5 percent in Western region, 10.4 percent in Khangai region, 9.5 percent in Ulaanbaatar city and 4.8 percent in Eastern region.

The number of the households with agricultural buildings and facilities in Central region is more than in other regions, which includes the main agricultural provinces as Selenge, Tuv and Darkhan-Uul provinces.

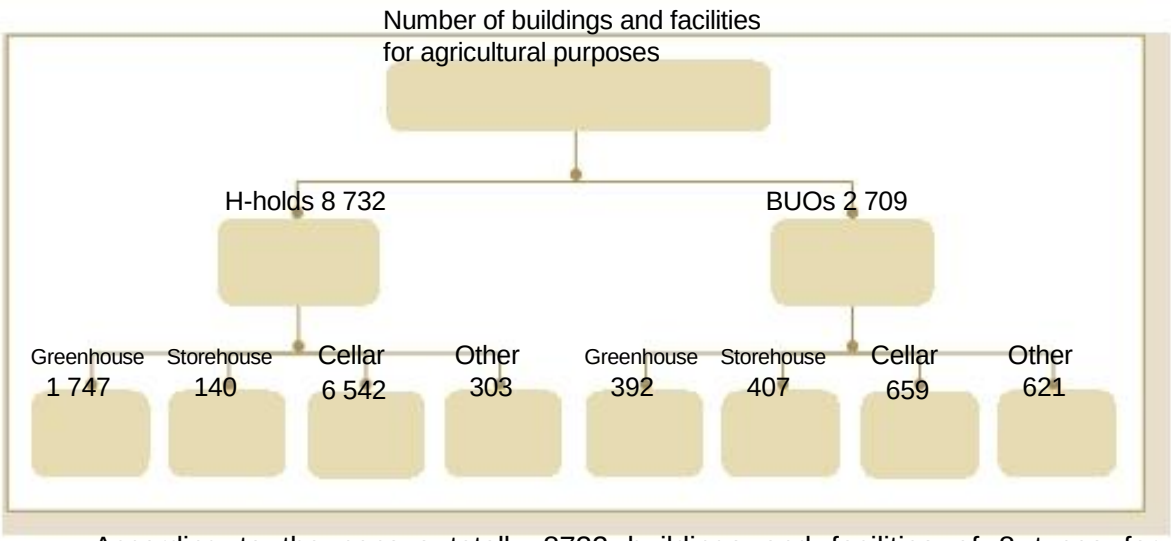
TABLE 7.1. NUMBER OF HOUSEHOLDS, RUNNING ARABLE FARMING, WITH BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES, by types of buildings, facilities, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	6 437	740	668	4 108	312	609
With greenhouses	1 428	182	224	337	184	501
With storehouses	125	59	22	35	2	7
With cellars	5 421	539	510	4 004	182	186
With barn-floors	15	-	9	4	-	2
With facilities to store agri-cultural techniques (garage)	211	28	21	149	2	11

The households with agricultural buildings and facilities we classified by types of buildings and facilities: the number of the households with cellars and greenhouses in the country is relatively high. 73.9 percent of the households with cellars is in Central region and 35.1 percent of the households with greenhouses is in Ulaanbaatar city.

NUMBER OF AGRICULTURAL BUILDINGS AND FACILITIES OF HOUSEHOLDS, RUNNING ARABLE FARMING

FIGURE 7.2. NUMBER OF BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES, by ownership



According to the census totally 8732 buildings and facilities of 8 types for agricultural purposes was registered to the households, running arable farming, from which, 74.9 percent is cellar and 65.1 percent of the total buildings and facilities is in Central region.

TABLE 7.2. AGRICULTURAL BUILDINGS AND FACILITIES OF HOUSEHOLDS, RUNNING ARABLE FARMING, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	8 732	879	877	5 691	399	890
Greenhouse	1 747	208	247	418	203	671
Storehouse	140	65	26	39	2	8
Cellar	6 542	558	557	5046	187	194
Facilities to store agricultural techniques	232	30	22	166	2	12
Other	71	18	26	21	5	5

In the country 1 greenhouse is imposed per 19 households, running arable farming, 1 storehouse per 239 households, 1 cellar per 5 households and 1 facility to store agricultural techniques per 145 households.

More than 96.0 percent of each type of agricultural buildings and facilities is being used. The percentage of the buildings and facilities, which are not used and/or rented, is relatively low.

CAPACITY AND EXPLOITATION PERIOD OF BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES, REGISTERED IN HOUSEHOLDS, RUNNING ARABLE FARMING

The households, running arable farming, have 6.5 thousand cellars with capacity of totally 68.3 thousand tons.

The Central region is leading by the number and total capacity of cellars; however, the average capacity per cellar is lower than in other regions.

Central province has storehouses with capacity equal to 40.0 percent of the total storehouses and the average capacity per storehouse is 30.8 tons.

TABLE 7.3. AVERAGE CAPACITY OF MAIN BUILDINGS AND FACILITIES OF HOUSEHOLDS, RUNNING ARABLE FARMING

		Total	Western	Khangai	Central	Eastern	UB
Cellar	Quantity	6 542	558	557	5 046	187	194
	Capacity, thous.ton	68.3	9.8	10.8	41.5	3.9	2.4
	Average capacity, t	10.4	17.6	19.4	8.2	20.9	12.4
Store-house	Quantity	140	65	26	39	2	8
	Capacity, thous.t	3.0	0.8	0.7	1.2	0.06	0.3
	Average capacity, t	21.4	12.3	26.9	30.8	30.0	37.5

Exploitation period and capacity of the buildings and facilities is very important and affects to property evaluation.

FIGURE 7.3. EXPLOITATION OF AGRICULTURAL BUILDINGS AND FACILITIES OF HOUSEHOLDS, RUNNING ARABLE FARMING, by years

Agricultural buildings and facilities of the households, running agricultural activities, by the exploitation years: 54.0 percent of the greenhouses and 44.5 percent of the facilities to store agricultural techniques have been exploited up to 3 years. But 33.4 percent of the cellars and 4.7 of the storehouses have been exploited for 10-12 years.

TABLE7.4. EVALUATION OF MAIN BUILDINGS AND FACILITIES OF HOUSEHOLDS, RUNNING ARABLE FARMING, by regions

Million MNT

	Total	Western	Khangai	Central	Eastern	UB
Greenhouse	1 898.2	175.4	282.1	667.4	190.1	632.8
Storehouse	611.5	145.1	155.7	230.2	15.0	65.5
Cellar	12 597.7	1 491.5	1 751.3	8 072.1	582.1	700.7
Facilities to store agricultural techniques	738.8	66.3	255.0	375.6	2.5	39.5

According to the census results there are greenhouses with evaluation of 1898.2 million tugrugs, 611.5 million tugrugs of storehouses, 12597.7 million tugrugs of cellar and 738.8 million tugrugs of facilities to store agricultural techniques. The households evaluated their agricultural buildings and facilities by the current market price.

The evaluation of agricultural buildings and facilities is very different in the regions, which depends on the types, structures and capacities of the buildings and facilities.

NUMBER OF BUOs, RUNNING ARABLE FARMING, WITH AGRICULTURAL BUILDINGS AND FACILITIES

Totally 1705 business units, organizations, running arable farming, were involved in the census, from which 804 BUOs or 47.1 percent have one and more types of buildings and facilities for agricultural purposes.

54.9 percent of the BUOs with agricultural buildings and facilities are in Central region, 18.9 percent in Western region, 16.2 percent in Khangai region, 7.5 percent in Ulaanbaatar city and 2.6 percent in Eastern region.

The number of BUOs with agricultural buildings and facilities in Central region is higher than in other regions and it includes the main agricultural provinces of Selenge, Tuv and Darkhan-Uul provinces.

TABLE 7.5. NUMBER OF BUOs WITH AGRICULTURAL BUILDINGS AND FACILITIES, by types buildings and facilities, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	804	152	130	441	21	60
With greenhouses	199	55	29	69	3	43
with storehouses	305	36	63	189	12	5
with cellars	395	95	60	214	9	17
with barn-floors	142	3	30	102	7	-
With facilities to store agricultural techniques (garage)	109	14	20	74	1	-
With agricultural technical workshops	60	10	9	36	2	3

The BUOs of the country mostly have cellars and storehouses and 62.0 percent of the BUOs with storehouses and 59.2 percent of the BUOs with cellars are located in entral region.

NUMBER OF AGRICULTURAL BUILDINGS AND FACILITIES OF BUOs, RUNNING ARABLE FARMING

According to the census the BUOs, running arable farming, have totally 2079 agricultural buildings and facilities of 8 types , from which 31.7 percent is cellars, 19.6 percent is storehouses and 18.9 percent is greenhouses.

TABLE 7.6. NUMBER OF AGRICULTURAL BUILDINGS AND FACILITIES OF BUOs, RUNNING ATABLE FARMING, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	2 079	300	306	1 255	59	159
Greenhouse	392	85	49	119	8	131
Storehouse	407	51	87	249	15	5
Cellar	659	119	67	442	13	18
Others	621	45	103	445	23	5

In the country 1 greenhouse and 1 storehouse per 5 BUOs, running arable farming, and 1 cellar per 3 BUOs.

The level of exploitation of the agricultural buildings and facilities of the BUOs is high at every type, or 92.1- 96.2 percent. But 7.1 percent of the greenhouses are not used.

CAPACITY AND EVALUATION OF BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES OF BUOs RUNNING ARABLE FARMING

77.0 percent of the total capacity of the cellars of the business units, organizations, running arable farming, is in Central region. The state average capacity of the cellars is 63.3 tons and in Central region it is higher by 14.7 percent than the state mean. But 76.6 percent of the total storehouse capacity is in Central province and the average storehouse capacity is higher by 25.2 percent than state mean.

TABLE 7.7. AVERAGE CAPACITY OF MAIN BUILDINGS AND FACILITIES OF BUOs, RUNNING ARABLE FARMING, by regions

		Total	Western	Khangai	Central	Eastern	UB
Cellar	Quantity	659	119	67	442	13	18
	Capacity, thous.t	41.7	4.5	3.6	32.1	0.3	1.2
	Average capacity, t	63.3	37.7	54.1	72.6	24.3	64.1
Store-house	Quantity	407	51	87	249	15	5
	Capacity, thous.t	149.2	10.8	20.6	114.3	3.5	0.03
	Average capacity, t	366.6	211.0	237.2	459.1	231.3	6.2

The total capacity of the households and business units, organizations, running arable farming, is 110.0 thousand tons, from which 62.1 percent is household cellar capacity and the rest is cellar capacity of BUOs. And the total capacity of storehouses is 152.2 thousand tons, from which 98.0 percent is BUOs and the rest is household storehouse capacity. Cellars are common for household usage and storehouses are common for BUOs usage.

TABLE 7.8. EVALUATION OF AGRICULTURAL BUILDINGS AND FACILITIES OF BUOs, RUNNING ARABLE FARMING, by regions

Million MNT

	State mean	Western	Khangai	Central	Eastern	UB
Greenhouse	6.0	2.4	4.9	5.4	4.0	12.5
Storehouse	30.8	15.2	18.0	38.9	26.3	5.6
Cellar	13.3	5.4	15.9	15.7	16.9	15.8
Facilities to store agricultural techniques	16.2	9.4	14.4	18.2	5.0	-

By state average the average evaluation of greenhouses of the business units, organizations, running arable farming, is 6.0 million tugrugs, but in Ulaanbaatar it is higher than state average by 2.1 times, in Western region lower 60.0 percent. And the average evaluation of the greenhouses in Eastern region is 38.9 million tugrugs, which is higher than the state average by 26.3 percent, in Ulaanbaatar city the evaluation is lower by 5.5 times and the average evaluation of cellars in Western region is lower than state average by 2.5 times.

AGRICULTURAL BUILDINGS AND FACILITIES FOR HOUSEHOLDS, RUNNING LIVESTOCK BREEDING

HOUSEHOLDS IN LIVESTOCK BREEDING WITH AGRICULTURAL BUILDINGS AND FACILITIES

Totally 209.6 thousand households, running livestock breeding, were involved in the census, from which 120.6 thousand households or 57.5 percent have one and more buildings/facilities for agricultural purposes.

TABLE 7.9. NUMBER OF HOUSEHOLDS IN LIVESTOCK BREEDING WITH AGRICULTURAL BUILDINGS AND FACILITIES, by regions

Thous.households

	State average	Western	Khangai	Central	Eastern	UB
Number of households	120.6	29.6	44.1	30.0	12.4	4.5

36.6 percent of the households in livestock breeding, having agricultural buildings/facilities, are in Khangai region, 24.9 percent in Central region, 24.5 percent in Western region, 10.3 percent in Eastern region and 3.7 percent in Ulaanbaatar city.

NUMBER OF AGRICULTURAL BUILDINGS AND FACILITIES OF HOSUEHOLDS, RUNNING LIVESTOCK BREEDING, AVERAGE EXPLOITATION PERIOD

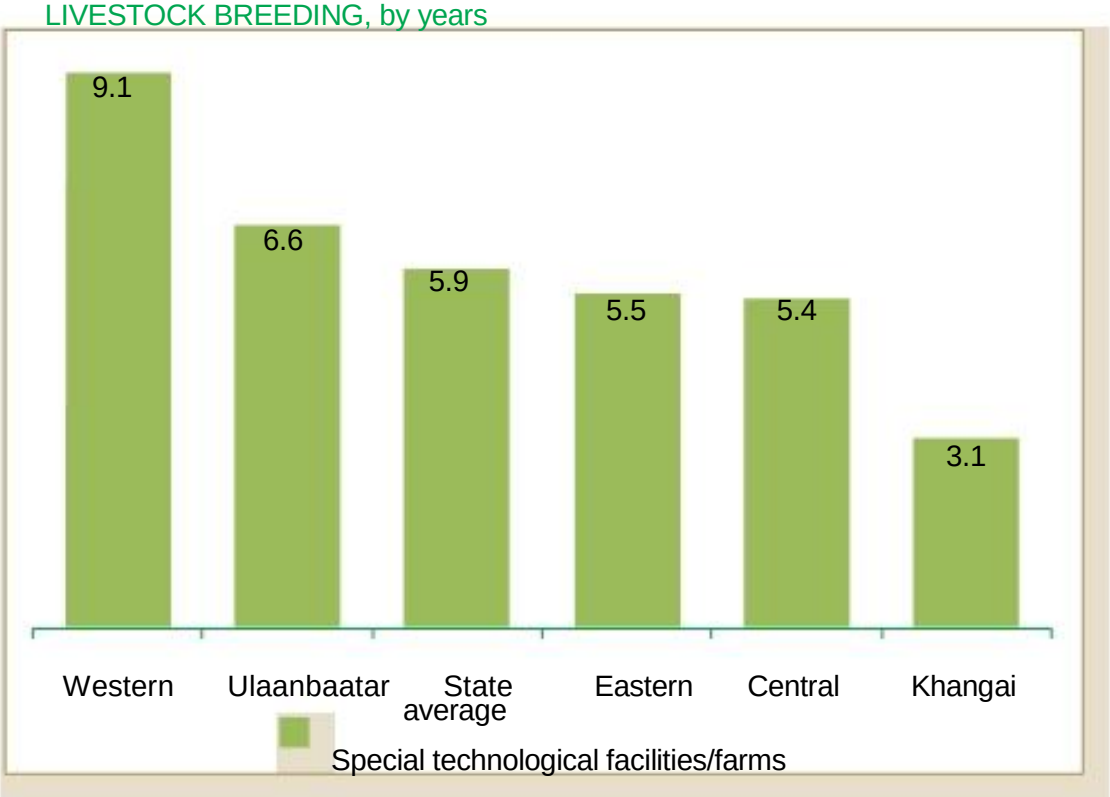
Totally 712 special technological facilities, farms were registered in the households, running livestock breeding, from which 47.0 percent is in central region and 35.7 percent in Ulaanbaatar city.

TABLE 7.10. NUMBER OF AGRICULTURAL BUILDINGS AND FACILITIES OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by regions

	State average	Western	Khangai	Central	Eastern	UB
Special technological facilities, farms	712	38	33	335	52	254
Cellars	3054	353	199	2244	208	50
Greenhouses	823	156	115	235	173	145
Storehouses	221	65	44	61	28	23

The average exploitation period of the special technological facilities, farms is 5.9 at the state level, but in Western region it is higher than the state average by 3.2 years and lower in Khangai region by 2.8 years.

FIGURE 7.4. AVERAGE EXPLOITATIONPERIOD OF THE TECHNOLPGICAL FACILITIES/FARMS FOR AGRICULTURAL PURPOSES OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by years



The average exploitation period of the special technological facilities/farms is different in the regions.

CAPACITY, YEARS OF EXPLOITATION AND EVALUATION OF AGRICULTURAL BUILDINGS AND FACILITIES OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING

The total capacity of the special technological facilities/farms of the households, running livestock breeding, is equal to 71.1 thousand heads of sheep and the average capacity is 99.8 heads.

TABLE 7.11. AVERAGE CAPACITY OF BUILDINGS AND FACILITIES OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by regions

		Total	Western	Khangai	Central	Eastern	UB
Special technological facilities/farms	Quantity	712	38	33	335	52	254
	Capacity, thous.heads	71.1	4.0	2.5	33.6	9.8	21.2
	Average capacity, heads	99.8	105.1	75.5	100.3	187.9	83.6

AGRICULTURAL BUILDINGS AND FACILITIES OF BUSINESS UNITS, ORGANIZATIONS, RUNNING LIVESTOCK BREEDING

NUMBER OF BUOs IN LIVESTOCK BREEDING, HAVING AGRICULTURAL BUILDINGS AND FACILITIES

Totally 507 BUOs, running livestock breeding, were involved in the census, from which 308 BUOs or 60.7 percent have one and more types of agricultural buildings and facilities.

35.1 percent of the BUOs, having agricultural buildings and facilities, are in Central region, 21.8 percent in Western region, 19.5 percent in Khangai region, 16.6 percent in Ulaanbaatar city and 7.1 percent in Eastern region.

TABLE 7.12. NUMBER OF BUOs WITH AGRICULTURAL BUILDINGS AND FACILITIES, by types of buildings/facilities, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	308	67	60	108	22	51
Special technological facilities, farms	60	4	3	18	4	31
Cellars	56	9	13	23	3	8
Storehouses	39	9	6	17	3	4
Greenhouse	25	4	5	13	1	2
Facilities to store agricultural techniques (garage)	25	31	14	4	3	
others	103	38	32	23	7	3

Classification of the buildings and facilities of the BUOs, running livestock breeding: 50.0 percent of 60 BUOs with special technological facilities/farms, run their activities in Ulaanbaatar city, which is related to the settled conditions of farms and infrastructure development.

NUMBER OF BUILDINGS AND FACILITIES OF BUOs, RUNNING LIVESTOCK BREEDING

The business units, organizations, running livestock breeding, have 1150 buildings and facilities of 7 types for agricultural purposes, from which 49.2 percent is barnyard.

TABLE 7.13. NUMBER OF BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES OF BUOs, RUNNING LIVESTOCK BREEDING, by regions

	State average	Western	Khangai	Central	Eastern	UB
Special technological facilities/farms	94	4	4	20	7	59
Greenhouses	39	4	7	25	1	2
Cellars	80	22	15	31	3	9
Storehouses	67	17	7	33	5	5

At the state level one BUO, running livestock breeding, per 5 has special technological facilities/farms, one per 13 BUOs has greenhouses, one per 6 BUOs has cellars and one per 8 BUOs has storehouses.

62.7 percent of the technological facilities/farms of the BUOs, running livestock breeding, are in Ulaanbaatar city and 21.3 percent in Central region.

TABLE 7.14. SPECIAL TECHNOLOGICAL FACILITIES/FARMS OF BUOs, RUNNING LIVESTOCK BREEDING, by types, regions

	State average	Western	Khangai	Central	Eastern	UB
Special technological Facilities/farms	94	4	4	20	7	59
For livestock	45	3	4	18	5	15
For hogs	18	-	-	2	-	16
Poultry	30	1	-	-	2	27
Others	1	-	-	-	-	1

The business units, organizations, running livestock breeding, have totally 94 farms, from which 47.9 percent is livestock farm.

CAPACITY AND EVALUATION OF BUILDINGS AND FACILITIES FOR AGRICULTURAL PURPOSES OF BUOs, RUNNING LIVESTOCK BREEDING

87.8 percent of the total farm capacity is in Ulaanbaatar city and the average capacity is equal to 2854.9 heads or higher than the state average by 39.9 percent.

TABLE 7.15. CAPACITY OF MAIN BUILDINGS AND FACILITIES OF BUOs, RUNNING LIVESTOCK BREEDING, by regions

		Total	Western	Khangai	Central	Eastern	UB
Farm	Quantity	94	4	4	20	7	59
	Capacity, thous.heads	191.8	0.9	0.1	10.1	12.3	168.4
	Average capacity, heads	2041.2	236.3	30.0	615.8	1759.6	2854.9

PART EIGHT

BARNYARDS

BARNYARDS

The data on all kinds of barnyards, types of yards and capacity under the ownership of the households and business units, organizations, running livestock breeding, was collected during the agricultural census.

Unfinished constructions, built with breccias, with temporary exploitation or nomadic yards were not included to the barnyards.

Totally 195.1 thousand of all kinds of barnyards under the ownership of the households and business units, organizations, running livestock breeding, were registered, from which 133.3 thousand or 68.3 percent have roofs and the rest 61.8 thousand or 31.7 percent do not have roofs.

TABLE 8.1. NUMBER OF BARNYARDS, by types, regions

	Total	Western	Khangai	Central	Eastern	UB
Barnyards, total	195 124	47 694	87 006	37 748	17 176	5 499
With roofs	133 304	26 998	61 284	29 574	10 785	4 663
No roofs	61 816	20 695	25 722	8 174	6 389	836
Large cattle barnyards	27 471	3 791	10 893	10 109	1 118	1 559

27.5 thousand is barnyards for large cattle, which is equal to 14.1 percent of the total barnyards.

There are totally 195.1 thousand barnyards in the country, from which 194.6 thousand or 99.7 percent is owned by the households, running livestock production and the rest 0.5 thousand or 0.3 percent is owned by business units, organizations.

TABLE 8.2. CAPACITY OF BARNYARDS OF HOUSEHOLDS AND BUOs, RUNNING LIVESTOCK BREEDING, by types of barnyards

	Total barnyards, thous. pcs	Capacity, thous.heads	Large cattle barnyards, thous.pcs	Capacity, thous.heads
Households	194.6	58 717.1	27.4	1 673.4
BUOs	0.5	276.4	0.1	30.3

The capacity of the barnyards is equal to 58.7 million heads of sheep and the barnyards for large cattle has the capacity of 1673.4 thousand large cattle.

TABLE 8.3. NUMBER OF BARNYARDS, by ownership

	Total	From which: barnyards	Percentage
Households	209563	119147	56.9
BUOs	507	232	45.8

From the total households, running livestock breeding, 119.1 thousand or 56.9 percent have barnyards and 232 BUOs or 45.8 percent have barnyards.

By regions: 29.3 thousand households with barnyards or 24.6 percent is in Western region, 43.9 thousand or 36.8 percent in Khangai region, 29.5 thousand or 24.7 percent in Central region, 12.3 thousand or 10.3 percent in Eastern region and 4.4 thousand or 3.7 percent in Ulaanbaatar city.

By regions: 53 BUOs with barnyards or 22.8 percent is in Western region, 47 or 20.3 percent in Khangai region, 80 or 34.5 percent in Central, 21 or 9.1 percent in Eastern and 31 or 13.4 percent in Ulaanbaatar city.

PART NINE

WELLS AND RESERVOIRS

WELLS AND RESERVOIRS

In this part we discussed about the capacity, locations and exploitation of wells and reservoirs, being exploited by the households and business units, organizations.

TABLE 9.1. NUMBER OF WELLS AND RESERVOIRS, by regions

	Total	Western	Khangai	Central	Eastern	UB
Wells, total	38 417	6 705	5 090	18 696	6 556	1 370
Artesian well	5 655	589	946	2 361	994	765
Short piped	1 869	301	294	789	437	48
Simple mine	29 082	5 505	3 626	14 505	4 919	527
Others	1 811	309	224	1 041	207	30
Reservoirs	282	58	29	75	65	55

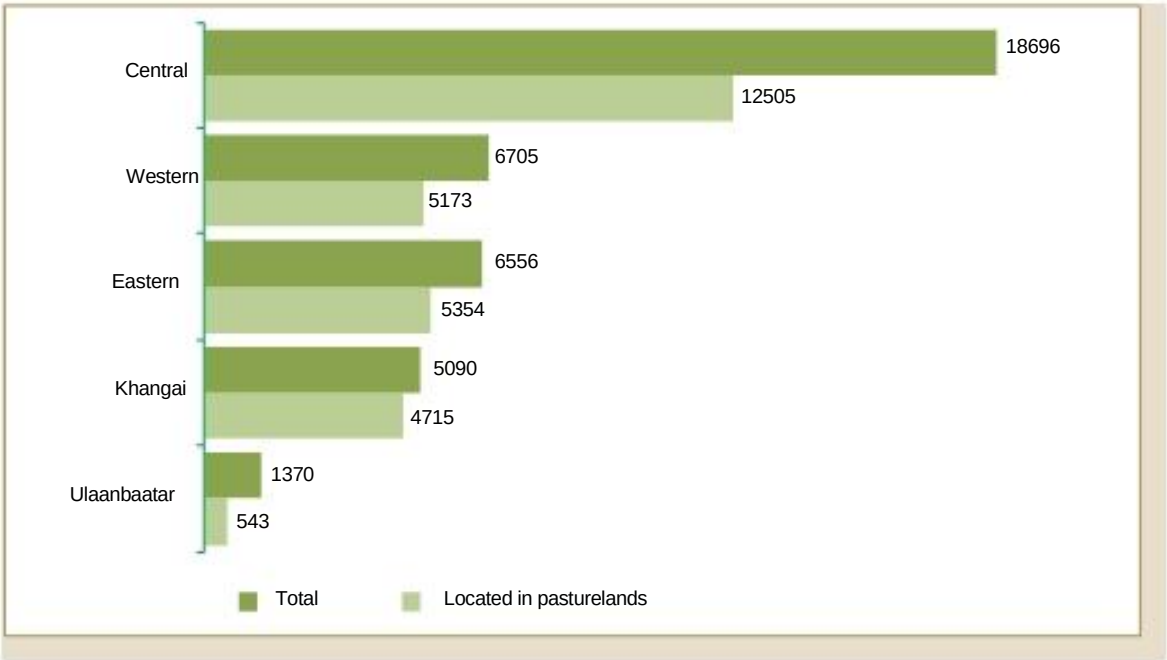
Totally 38.4 thousand wells and 282 reservoirs to water people and livestock were registered. From which 5.6 thousand or 14.7 percent are artesian wells, 1.9 thousand or 4.9 percent are short piped, 29.1 thousand or 75.7 percent simple mine and 1.8 thousand or 4.7percent are wells of other types.

TABLE 9.2. NUMBER OF WELLS IN PASTURELAND, by regions

	Total	Western	Khangai	Central	Eastern	UB
Wells, total	28 290	5 173	4 715	12 505	5 354	543
Artesian wells	4 278	480	881	1 714	911	292
Short piped	1 582	261	274	618	409	20
Simple mine	21 318	4212	3 361	9 657	3870	218
Others	1 112	220	199	516	164	13

28.3 thousand of the total wells or 73.6 percent is located in pastureland.

FIGURE 9.1.TOTAL WELLS, FROM WHICH, NUMBER OF WELLS IN PASTURELAND, by regions



WELLS AND RESERVOIRS, USED IN LIVESTOCK BREEDING SECTOR

Wells by ownership: the households, running livestock breeding, own 29.1 thousand wells, from which 3.9 thousand or 13.3 percent is artesian wells, 1.6 thousand or 5.4 percent is short piped, 22.4 thousand or 77.1 percent is simple mine and 1.2 thousand or 4.2 percent is other types of wells.

The business units, organizations, running livestock breeding, own totally 440 wells, from which 262 or 59.5 percent is artesian wells, 43 or 9.8 percent short piped, 101 or 23.0 percent simple mine and 34 or 7.7 percent is other types of wells.

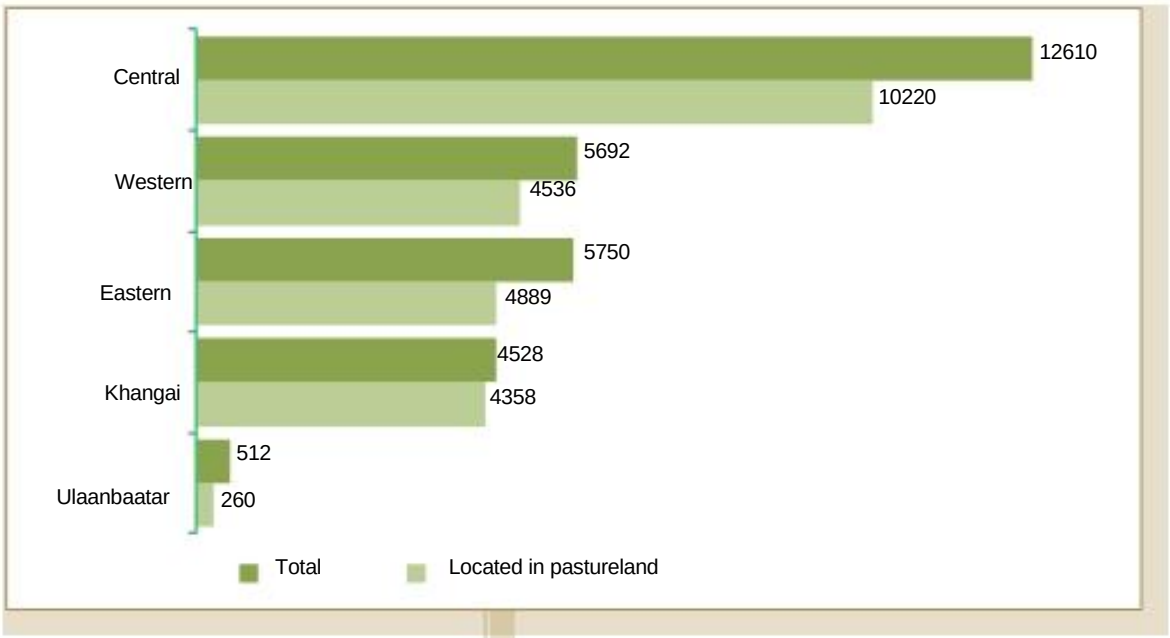
TABLE 9.3. NUMBER OF WELLS AND RESERVOIRS, by ownership

	Total	Owned by households	Owned by BUOs	Percentage Total	Owned by households	Owned by BUOs
Wells, total	29 531	29 091	440	100.0	100.0	100.0
Artesian wells	4 131	3 869	262	14.0	13.3	59.5
Short piped	1 601	1 558	43	5.4	5.4	9.8
Simple mine	22 543	22 442	101	76.3	77.1	23.0
Others	1 256	1 222	34	4.3	4.2	7.7
Reservoirs	141	137	4	- -	-	

The majority or 77.1 percent of the households, running livestock breeding, own simple mine wells and the majority of business units, organizations or 59.5 percent own artesian wells.

138 or 97.2 percent of the total reservoirs in the country is imposed to the households, running livestock breeding.

FIGURE 9.2. TOTAL WELLS OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, FROM WHICH NUMBER OF WELLS IN PASTURELANDS, by regions



WELLS AND RESERVOIRS, USED IN ARABLE FARMING SECTOR

The households, running arable farming, own 8097 wells, from which 994 or 12.3 percent is artesian wells, 219 or 2.7 percent short piped, 6343 or 78.3 percent simple mine and 541 thousand or 6.7 percent is other types of wells.

Also, the business units, organizations, running arable farming, own 788 wells, from which 530 or 67.3 percent is artesian wells, 48 or 6.1 percent is short piped, 196 or 24.9 percent is simple mine and 14 or 1.8 percent is other types of wells.

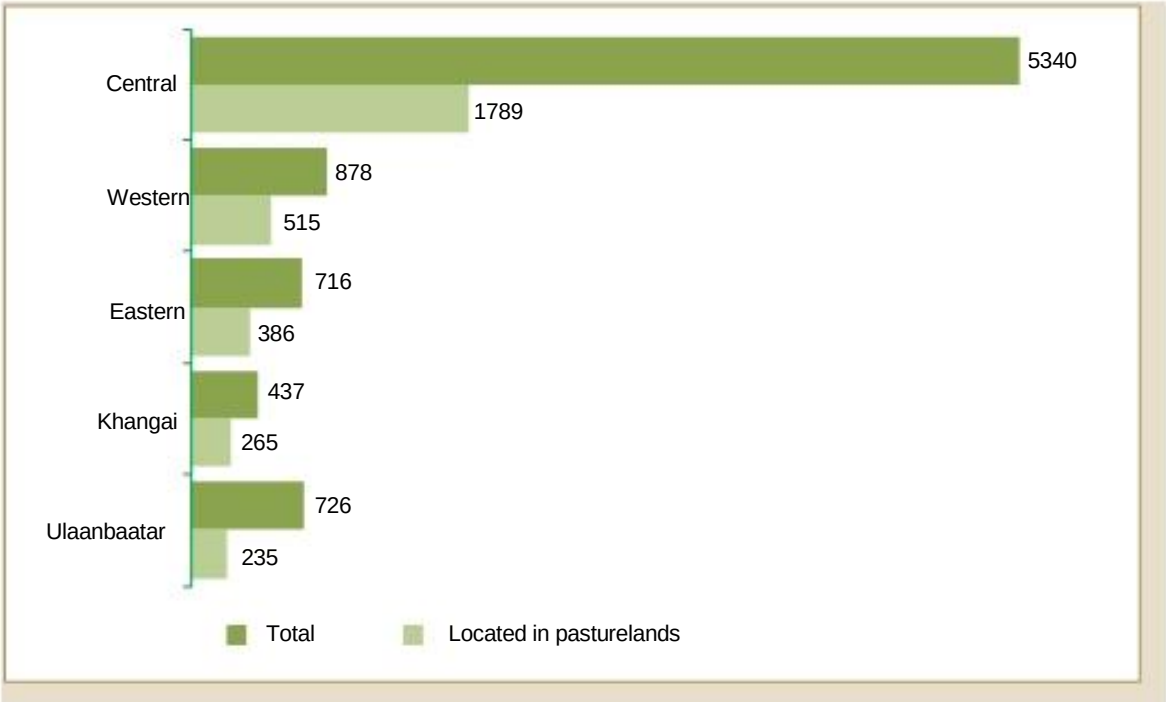
Majority of the households, running arable farming, own simple mine or manual wells and the business units, organizations own mostly artesian wells.

TABLE 9.4. NUMBER OF WELLS AND RESERVOIRS, by ownership

	Total	Owned by households	Owned by BUOs	Percentage		
				Total	Owned by households	Owned by BUOs
Wells, total	8 885	8 097	788	100.0	100.0	100.0
Artesian wells	1 524	994	530	17.0	12.3	67.3
Short piped	267	219	48	3.0	2.7	6.1
Simple mine	6 535	6 343	196	73.7	78.3	24.9
Others	555	541	14	6.3	6.7	1.8
Reservoirs	140	113	27	-	-	-

By regions: the majority of all kinds of the wells, owned by the households and business units, organizations, running arable farming, are located in Central region. From the total reservoirs registered 113 or 40.1 percent is owned by the households, running arable farming.

FIGURE 9.3. TOTAL WELLS OF HOUSEHOLDS, RUNNING ARABLE FARMING, FROM WHICH NUMBER OF WELLS IN PASTURELANDS, by regions



3190 or 39.4 percent of the wells, owned by households and 455 or 57.7 percent of the wells, owned by business units, organizations, are located in pasturelands.

PART TEN

SERVICES TO AGRICULTURAL PRODUCTION

SERVICES TO AGRICULTURAL PRODUCTION

Except main indicators of agricultural sector the agricultural census created some types of social services in this field and the indicators of accessibility and provided the customers.

INVOLVEMENT TO RISK INSURANCE

From the total 243.0 thousand households, running agricultural activities, which were involved to the agricultural census 2012, 7.9 percent or 19.1 thousand households were involved to risk insurance.

By sectors and ownership: from the total 209.6 thousand households, running livestock breeding, 8.9 percent or 18.6 thousand households were involved to risk insurance and from the total 33.5 thousand households, running arable farming, 547 households, or 1.6 percent were involved to risk insurance. Here about 400 households were involved to more than 1 type of insurance, related to running agricultural activities.

Also, from the total 507 BUOs, running livestock breeding, 40 or 7.9 percent and from the total 1705 BUOs, running arable farming, 119 or 7.0 percent were involved to risk insurance.

As for our country with continental climate, high risk of natural and climatic risks and frequent natural disasters for the last few years the involvement of the households and business units, organizations, running agricultural activities, to risk insurance is insufficient.

TABLE 10.1. INVOLVEMENT OF HOUSEHOLDS AND BUOs TO INSURANCE, by types of insurance

	Households		BUOs	
	Livestock breeding	Arable farming	Livestock breeding	Arable farming
Number of households, BUOs	209 563	33 461	507	1 705
Number of households, BUOs, involved to insurance	18 584	547	40	119
Livestock index insurance	14 387	-	28	-
Seeds cultivation insurance	-	100	-	30
Other commercial insurance	3 647	256	10	32
Others	944	138	4	45

Households by sectors: 77.4 percent of the households with livestock breeding, involved to insurance, are involved to livestock index insurance and 46.1 percent of the households, running arable farming, are involved to other commercial insurances.

BUOs by sectors: 70.0 percent of the BUOs with livestock breeding, involved to insurance, are involved to livestock index insurance and 26.9 percent of the BUOs, running arable farming, are involved to other commercial insurances.

INVOLVEMENT TO FINANCIAL LOANS

From the total households, running livestock breeding and arable farming 16.6 percent or 40.4 thousand have taken loans for their agricultural productions for the last 5 years.

Also, from the total business units, organizations, running livestock breeding and arable farming, 38.6 percent or 0.9 thousand have taken loans for their agricultural productions for the last 5 years.

As we can see from the number of households, taken loans, and number of loans, then, the households, running livestock breeding, have been involved to loan services more and the business units, organizations, running arable farming, have been involved to loan services more.

TABLE 10.2. HOUSEHOLDS, TAKEN AGRICULTURAL LOANS FOR LAST 5 YEARS AND NUMBER OF LOANS, TAKEN BY BUOs, by loan maturity

	Households		BUOs	
	Livestock breeding	Arable farming	Livestock breeding	Arable farming
Number of households, BUOs, taken loans	35 198	5 233	107	747
Number of loans taken	77 519	11 732	199	1578
Number of loans, by maturity				
for 1 year	65 281	9 675	96	922
for 1-3 years	7 483	1 277	70	298
for 3 and above years	3 649	256	33	358

One per household, running agricultural production, have taken short-term or up to 1 year loan for the last 5 years 1.9 times by doubled numbers, one per 4.5 households have taken loans for 1-3 years and one per 7 households have taken loans for 3 and above years period.

One per BUO, running agricultural production, have taken short term or up to 1 year loans for the last 5 years by doubled numbers 1.2 times, one per 2 BUOs have taken loans for 1-3 years and one per 5 BUOs have taken loans for 3 and above years period.

As we can see the households and business units, organizations, running agricultural production, take short-time loans for their activities with multi-frequency.

But the number of households and business units, organizations reduces as the loan term lengthens.

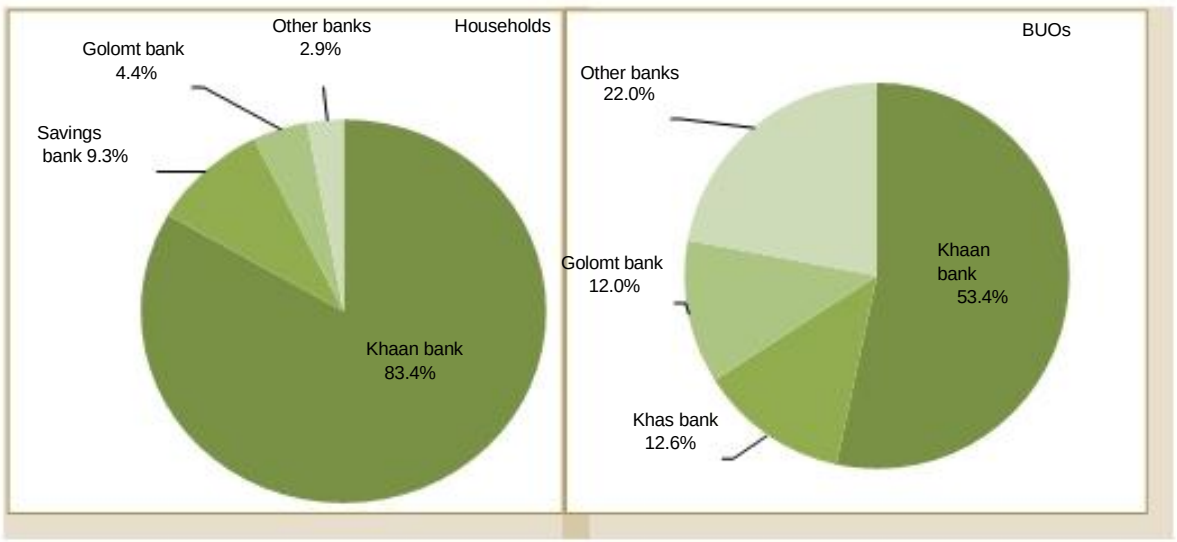
The main loan source for the households and business units, organizations, running agricultural production, is commercial bank.

83.4 percent of the households, taken loans from commercial banks, have taken from KHAAN Bank, 9.3 percent from Savings Bank, 4.4 percent from Golomt Bank and 53.4 percent of the BUOs have taken loans from KHAAN Bank, 12.6 percent from Khas Bank, and 12.0 percent from Golomt Bank. As we can see, KHAAN Bank is the main loan source for the households and BUOs.

TABLE 10.3. NUMBER OF HUSEHOLDS AND BUOs, WHICH TOOK AGRICULTURAL LOANS ON MORTGAGE BASIS, by types of mortgage

	Households		BUOs	
	Livestock breeding	Arable farming	Livestock breeding	Arable farming
Number of households, BUOs	34200	4 983	101	701
Types of mortgages				
Livestock	32254	1 921	44	127
Land	4210	3 240	39	448
Machines and equipment	9610	1 798	43	383
Others	5324	1 495	44	231

FIGURE 10.1. NUMBER OF HOUSEHOLDS, BUOs, WHICH TOOK AGRICULTURAL LOANS FROM COMMERCIAL BANKS FOR LAST 5 YEARS, by commercial banks, percentage



The households have taken 93.0 percent of the total loans from commercial banks, 5.4 percent through governmental organizations, and the business units, organizations have taken 64.3 percent of the total loans from commercial banks and 33. percent through governmental organizations.

96.9 percent of the 40.4 thousand households with agricultural loans, mortgaged own capitals. It is common for the households to mortgage livestock, machines and equipment.

And 93.9 percent of the 854 BUOs with agricultural loans, mortgaged own capital. It is common for the business units, organizations to mortgage land, machines and equipment. The main mortgage source for the households and business units, organizations, running agricultural activities is livestock, land, machines and equipment.

SERVICES TO HOUSEHOLDS, RUNNING LIVESTOCK BREEDING

INVOLVEMENT OF THE HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, TO INSURANCE SERVICES

Livestock breeding is one of the leading economic sectors of Mongolia and is highly depended on natural and climatic conditions, hence, it is highly risky sector.

Only 8.9 percent of the total target households, running livestock breeding, have been involved to risk insurance for livestock productions.

TABLE 10.4. INVOLVEMENT TO INSURANCE OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by types of insurance

	Total	Western	Khangai	Central	Eastern	UB
No. of households, total	209 563	57 833	77 748	44 788	24 113	5 081
No. of households, involved to insurance	18 584	6 416	6 714	3 152	2 185	117
Livestock index insurance	77.4	83.3	84.0	46.3	84.7	80.7
Other commercial insurances	19.6	15.0	14.5	44.6	13.4	14.0
Others	5.1	3.9	3.4	11.5	4.7	0.0
Percentage of insurance involvement	8.9	11.1	8.6	7.0	9.1	2.3

Involvement to insurance of the households, running livestock breeding, by regions: 11.1 percent in Western region, 8.6 percent in Khangai region, 7.0 percent in Central region, 9.1 percent in Eastern region, and 2.3 percent in Ulaanbaatar city is involved to insurance services, which shows insufficient number of households, running livestock breeding, to insurance services.

INVOLVEMENT TO AGRICULTURAL PRODUCTION LOANS OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING

35.2 thousand or 16.8 percent of the target households, running livestock breeding, have taken loans for their agricultural activities for the last 5 years. The loan involvement is shown on the table.

TABLE 10.5. NUMBER OF LOANS FOR AGRICULTURAL PURPOSES, TAKEN BY HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, FOR LAST 5 YEARS, by maturity, regions

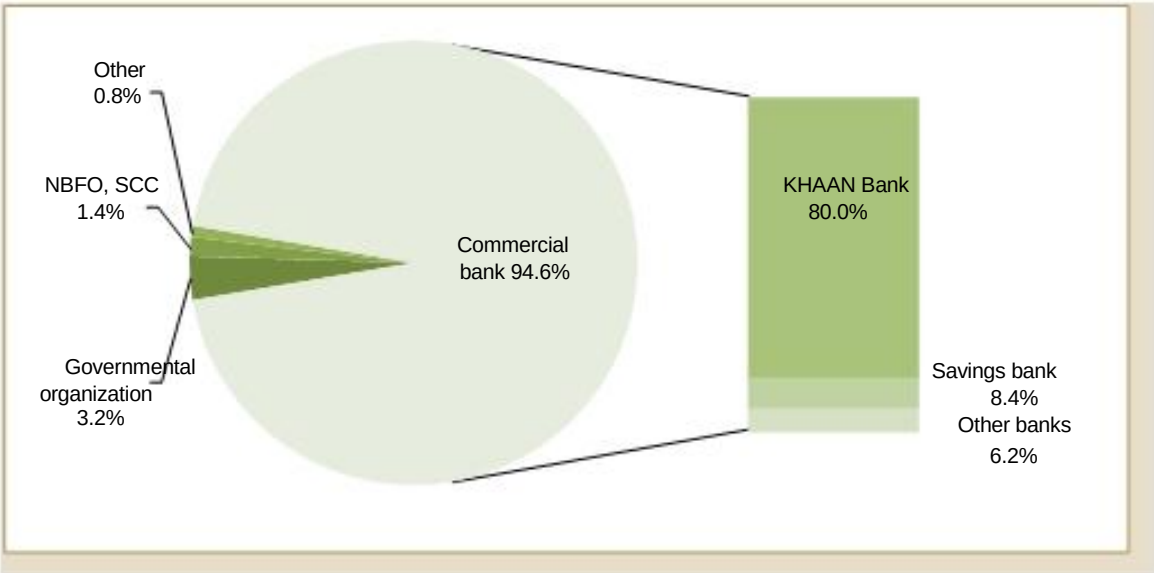
	Total	Western	Khangai	Central	Eastern	UB
No. of households, total	209 563	57 833	77 748	44 788	24 113	5 081
No. of h-holds with loans	35 198	10 204	11 444	9 154	4 022	374
No. of loans, by maturity						
For 1 year period	65 281	18 017	21 511	17 397	7 949	407
1-3 years period	7 483	1 783	2 247	2 177	959	317
3 and above years period	4 755	1 338	1 321	1 335	648	112

The households, running livestock breeding, have taken loans 77.5 thousand times by doubled numbers for the last 5 years, from which 65.3 thousand or 84.2 percent is short-term or up to 1 year, 7.5 thousand or 9.7 percent from one to three years and 4.8 thousand or 6.1 percent for three and more years loans.

FIGURE 10.2. PERCENTAGE OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, TO AGRICULTURAL LOANS FOR LAST 5 YEARS, by regions

The number of the households, taken loans for the last 5 years, by regions: loan involvement in Western and Central regions is higher than the state average. But in Ulaanbaatar city it is lower 2-3 times than the other regions.

FIGURE 10.3. SOURCES FOR AGRICULTURAL LOANS OF HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, FOR LAST 5 YEARS, by percentage



The main source of the agricultural loans, taken by the target households, is commercial bank. 94.6 percent of the total loans was taken from commercial banks, 3.2 percent through governmental organizations and the rest was taken from other sources.

TABLE 10.6. NUMBER OF LOANS WITH MORTGAGES, TAKEN FOR AGRICULTURAL PURPOSES BY HOUSEHOLDS, RUNNING LIVESTOCK BREEDING IN LAST 5 YEARS, by types of mortgages, regions

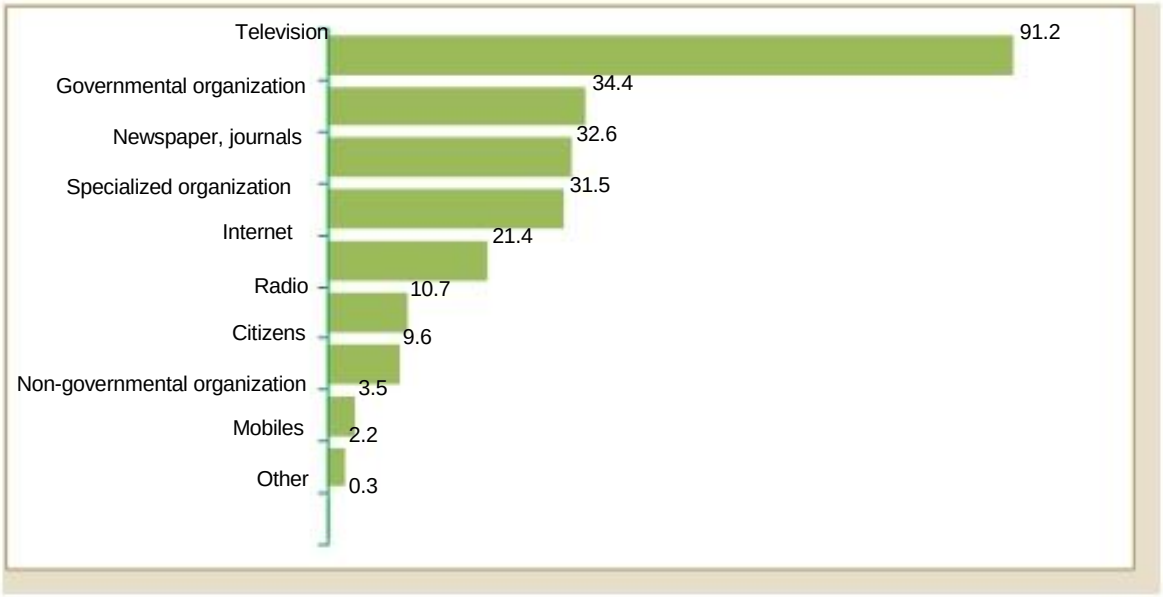
	Total	Western	Khangai	Central	Eastern	UB
No. of h-holds with loans	35 198	10 204	11 444	9 154	4 022	374
Number of loans	34 200	9 878	11 075	8 988	3 898	362
Mortgages						
Livestock	32 254	9 340	10 632	8 254	3 742	286
Land	4 210	1 415	854	1 644	168	129
Machines and equipment	9 610	3 013	2 154	3 272	1 070	101
Others	5 324	1 471	1 330	1 897	562	64

From the total 35.2 thousand households, taken loans, 34.2 thousand or 97.2 percent mortgaged own capital to take loans. In other words, the households, running livestock breeding, have taken loans 77.5 thousand times for the last 5 years, from which in 51.4 thousand times they gave mortgages, from which livestock was mortgaged 32.3 thousand times, machines and equipment 9.6 thousand times, land 4.2 thousand times and other capital 5.3 thousand times.

SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO HOUSEHOLDS, RUNNING LIVESTOCK BREEDING

The households, running livestock breeding, mostly receive information on agricultural sector from television programs.

FIGURE 10.4.SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by percentage



The information sources include citizens, governmental and non-governmental organizations, newspapers, journals, radios, mobile phones and internet.

TABLE 10.7. SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Number of households	100.0	100.0	100.0	100.0	100.0	100.0
Information source						
Radio	32.6	34.5	22.2	45.2	38.4	30.1
Television	91.2	89.4	91.8	92.1	91.4	92.6
Newspaper, journals	21.4	23.0	17.9	24.2	21.6	31.0
Internet	2.2	2.4	2.0	2.3	2.0	2.2
Governmental organization	34.4	29.7	35.6	41.5	34.1	7.8
Non-governmental organization	3.5	4.6	3.4	2.7	2.8	2.9
Specialized organization	9.6	10.3	9.4	7.8	12.6	7.0
Citizens	31.5	37.1	30.3	26.4	28.1	45.4
Mobile phones	10.7	11.2	9.8	10.3	13.6	7.3
Others	0.3	0.2	0.3	0.4	0.5	1.1

Also, it is common to receive the information about agricultural sector from governmental organization, radio and citizens except television programs.

DISTANCE TO AGRICULTURAL PRODUCT MARKET FROM HOSUEHOLDS, RUNNING LIEVSTOCK BREEDING

The distance to the market is directly influenced to the product cost for the units, which produce and sell agricultural products and it is very important economic indicator.

TABLE 10.8. DISTANCE TO AGRICULTURAL PRODUCT MARKET FROM HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Number of households	100.0	100.0	100.0	100.0	100.0	100.0
Distance to market						
Up to 1 km	4.7	5.0	3.6	5.4	5.9	6.7
1-9 km	13.4	15.3	12.1	13.0	12.0	20.8
10-49 km	25.6	24.5	27.4	22.3	24.5	44.7
50-99 km	22.0	24.6	20.8	22.5	18.4	24.5
100 and above km	34.3	30.5	36.0	36.9	39.2	3.3

34.3 percent of the households, running livestock breeding, deliver their agricultural products from 100 and more km far distance to the market. This situation is same in all regions except Ulaanbaatar city.

INVOLVEMENT OF BUSINESS UNITS, ORGANIZATIONS, RUNNING LIVESTOCK BREEDING, TO SERVICES

INVOLVEMENT TO INSURANCE SERVICES

Totally, 507 business units, organizations, running livestock breeding, were involved to the census, from which 40 or 7.9 percent were involved to risk insurance.

TABLE 10.9. INVOLVEMENT TO BUOs, RUNNING LIVESTOCK BREEDING, TO RISK INSURANCE, by types of insurance, regions

	Total	Western	Khangai	Central	Eastern	UB
Number of households	507	105	118	161	43	80
Insured	42	15	7	8	6	6
Livestock index insurance	28	11	4	4	4	5
Other commercial insurances	10	2	2	3	2	1
Others	4	2	1	1	-	-

It can be said that the BUOs, running livestock breeding, are not involved to risk insurance.

INVOLVEMENT OF BUOs, RUNNING LIVESTOCK BREEDING, TO LOANS

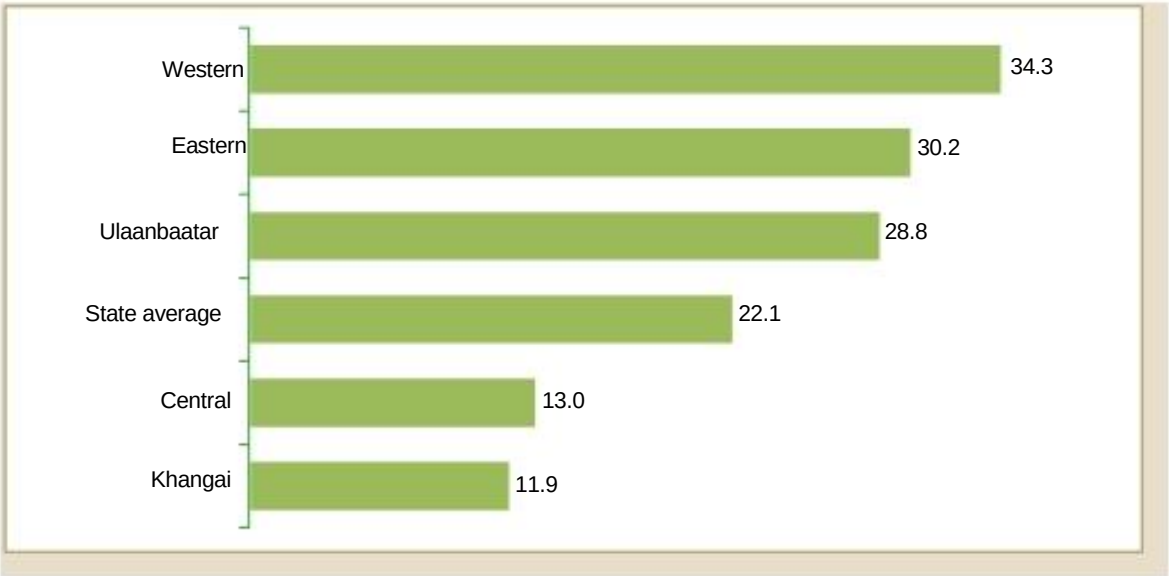
From the total target BUOs, running livestock breeding, 107 or 21.1 percent have taken agricultural loans for the last 5 years.

TABLE 10.10. NUMBER OF LOANS FOR AGRICULTURAL PURPOSES, TAKEN BY BUOs, RUNNING LIVESTOCK BREEDING, by maturity, regions

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	507	105	118	161	43	80
Number of BUOs with loans	107	36	14	21	13	23
No. of loans, by maturity						
For 1 year	96	29	18	24	13	12
for 1-3 years period	70	16	7	14	10	23
3 and above years period	33	9	4	14	2	4

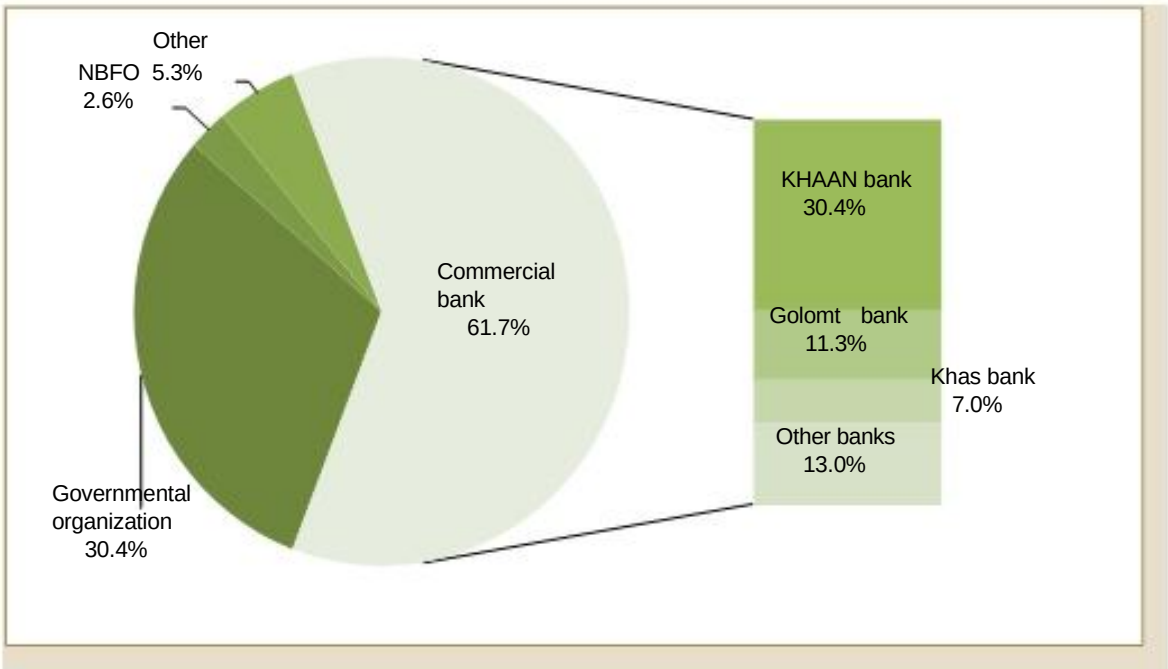
107 BUOs, running livestock breeding, have taken loans 199 times for the last 5 years, from which, 48.2 percent have taken for up to 1 year, 35.2 percent for 1-3 years, and 16.6 percent for 3 and above years. It is common for the regions to take short-term or up to 1 year loans and run their agricultural activities.

FIGURE 10.5. PERCENTAGE TO AGRICULTURAL LOAN INVOLVEMENT FOR BUOs, RUNNING LIVESTOCK BREEDING, FOR LAST 5 YEARS, by regions



The number of BUOs, involved to loans for the last 5 years, by regions: the percentage to loan involvement in Western, Eastern regions and Ulaanbaatar city is higher than the state average by 9.1-13.2 points. But the BUOs in Central and Khangai regions are involved lower than the state average by 8.1-9.2 points.

FIGURE 10.6. SOURCE OF LOANS, TAKEN BY BUOs, RUNNING LIVESTOCK BREEDING, FOR AGRICULTURAL PURPOSES FOR LAST 5 YEARS, by percentage



The main loan source for the BUOs is also commercial banks as the households, running livestock breeding. Loan sources: 61.7 percent have taken from commercial banks, 30.4 percent through governmental organizations and the rest from other kinds of sources.

TABLE 10.11. NUMBER OF LOANS WITH MORTGAGES, TAKEN BY BUOs, RUNNING LIVESTOCK BREEDING, FOR AGRICULTURAL PURPOSES FOR LAST 5 YEARS, by types of mortgages, regions

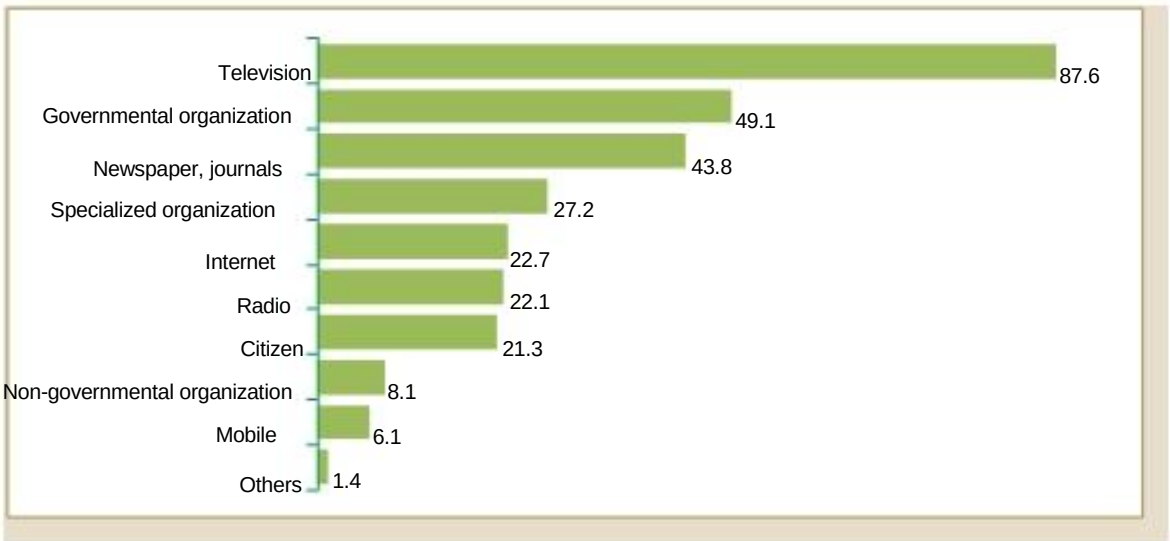
	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	101	32	13	21	13	22
Number of loans	170	63	21	38	20	28
Mortgages						
Livestock	44	20	7	12	2	3
Land	39	11	4	10	7	7
Machines and equipment	43	19	5	10	6	3
Others	44	13	5	6	5	15

From the 107 BUOs, taken agricultural loans for the last 5 years, 101 or 94.4 percent have mortgaged own capital to take loans. The BUOs have taken mortgaged loans 170 times, from which livestock was mortgaged 44 times and machines and equipment was mortgaged 43 times.

SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO BUOs, RUNNING LIVESTOCK BREEDING

The main source of information on agricultural sector, available to BUOs, running livestock breeding, is television programs.

FIGURE 10.7. SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO BUOs, RUNNING LIVESTOCK BREEDING, by percentage



Also, it is common to receive information about agricultural sector from governmental organizations and newspapers and journals.

TABLE 10.12. SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO BUOs, RUNNING LIVESTOCK BREEDING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	100.0	100.0	100.0	100.0	100.0	100.0
Information source						
Radio	22.1	34.3	13.6	26.1	16.3	13.8
Television	87.6	96.2	89.8	87.6	83.7	75.0
Newspaper, journal	43.8	42.9	48.3	48.4	41.9	30.0
Internet	22.7	10.5	22.0	27.3	25.6	28.8
Governmental organization	49.1	53.3	48.3	63.4	46.5	17.5
Non-governmental organization	8.1	11.4	12.7	3.7	4.7	7.5
Specialized organization	27.2	22.9	23.7	34.2	25.6	25.0
Citizen	21.3	27.6	19.5	16.8	30.2	20.0
Mobile	6.1	2.9	5.1	7.5	18.6	2.5
Other	1.4	0.0	0.0	1.9	0.0	5.0

It is common to receive agricultural information from governmental organizations, radio and citizens except television programs.

DISTANCE TO AGRICULTURAL PRODUCT MARKET FROM BUOs, RUNNING LIVESTOCK BREEDING

The distance to the market is directly influenced to the product cost for the units, which produce and sell agricultural products and it is very important economic indicator.

TABLE10.13. DISTANCE TO AGRICULTURAL PRODUCT MARKET FROM BUOs, RUNNING LIVESTOCK BREEDING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	100.0	100.0	100.0	100.0	100.0	100.0
Distance to market						
Up to 1 km	7.3	3.8	9.3	7.5	9.3	7.5
1-9 km	15.4	24.8	16.1	8.7	16.3	15.0
10-49 km	25.2	18.1	25.4	26.7	16.3	36.3
50-99 km	18.1	22.9	13.6	21.1	7.0	18.8
100 and above km	33.9	30.5	35.6	36.0	51.2	22.5

33.9 percent of the BUOs, running livestock breeding, deliver their agricultural products from distance of 100 and above km far. By regions: 51.2 percent of the BUOs in Eastern region supplied their products from 100 and above km far distance.

INVOLVEMENT OF HOUSEHOLDS, RUNNING ARABLE FARMING, TO SERVICES

INVOLVEMENT OF HOUSEHOLDS, RUNNING ARABLE FARMING, TO INSURANCE SERVICES

Totally 33.5 thousand households, running arable farming, were involved to the census, from which 15.2 percent is in Western region, 23.7 percent in Khangai, 39.4 percent in Central, 6.9 percent in Eastern region and 14.9 percent in Ulaanbaatar city, from which, only 500 or 1.5 percent have been involved to risk insurance, which is very insufficient participation.

TABLE 10.14. INVOLVEMENT OF HOUSEHOLDS, RUNNING ARABLE FARMING, TO INSURANCE, by regions

	Total	Western	Khangai	Central	Eastern	УБ
Number of households	33 461	5 076	7 917	13 190	2 307	4 971
Insured	547	108	119	232	49	39
Seeds cultivation insurance	100	28	13	28	11	20
Other commercial insurances	256	47	71	113	23	2
Others	138	21	22	78	11	6

Involvement to insurance of the households, running arable farming, by regions: 1.6 percent in Western region, 1.5 percent in Khangai region, 1.8 percent in Central region, 2.1 percent in Eastern region and 0.8 percent in Ulaanbaatar city were involved to insurance services, which is very insufficient.

INVOLVEMENT TO LOANS OF HOUSEHOLDS, RUNNING ARABLE FARMING

The agricultural loan involved loans to purchase main and assistant raw materials to be used in arable farming and livestock breeding and to purchase farm buildings and facilities and equipment.

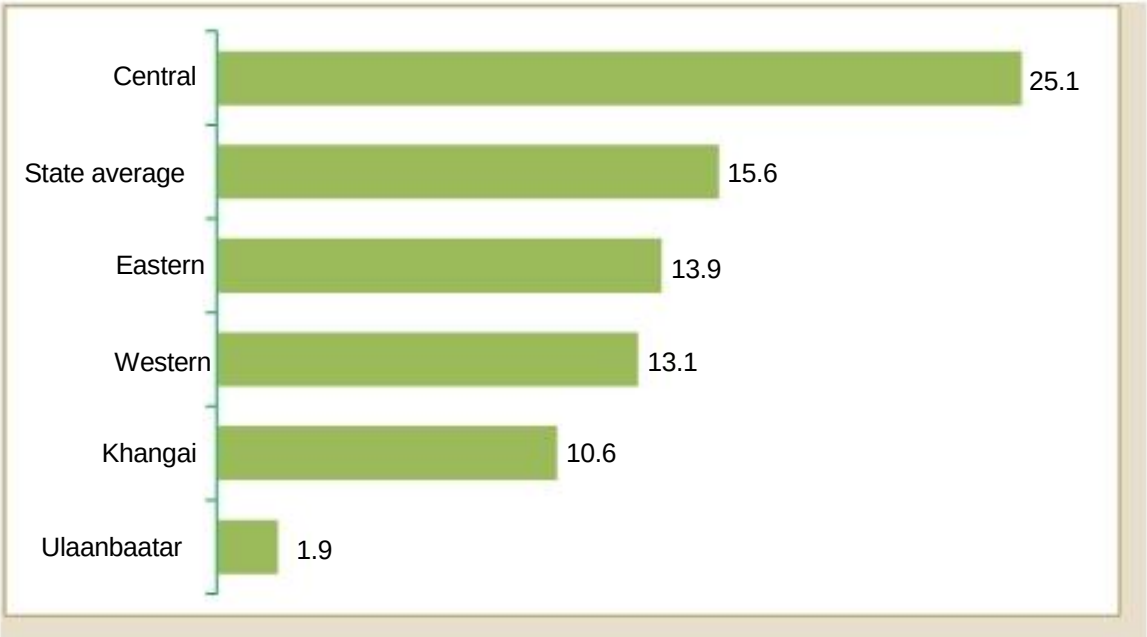
From the total target households, running arable farming, 5.2 thousand or 15.6 percent have taken loans for their agricultural activities for the last 5 years. The loan involvement is shown on the table.

TABLE 10.15. NUMBER OF LOANS, TAKEN BY HOUSEHOLDS, RUNNING ARABLE FARMING, FOR AGRICULTURAL PURPOSES FOR LAST 5 YEARS, by maturity, regions

	Total	Western	Khangai	Central	Eastern	UB
No. of h-holds with loans	5 233	667	842	3 310	320	94
Number of loans	11 732	1 421	1 557	8 034	542	178
No. of loans, by maturity						
for 1 year period	9 675	1 060	1 289	6 843	404	79
for 1-3 years period	1 277	220	207	679	102	69
for 3 and above years period	780	141	61	512	36	30

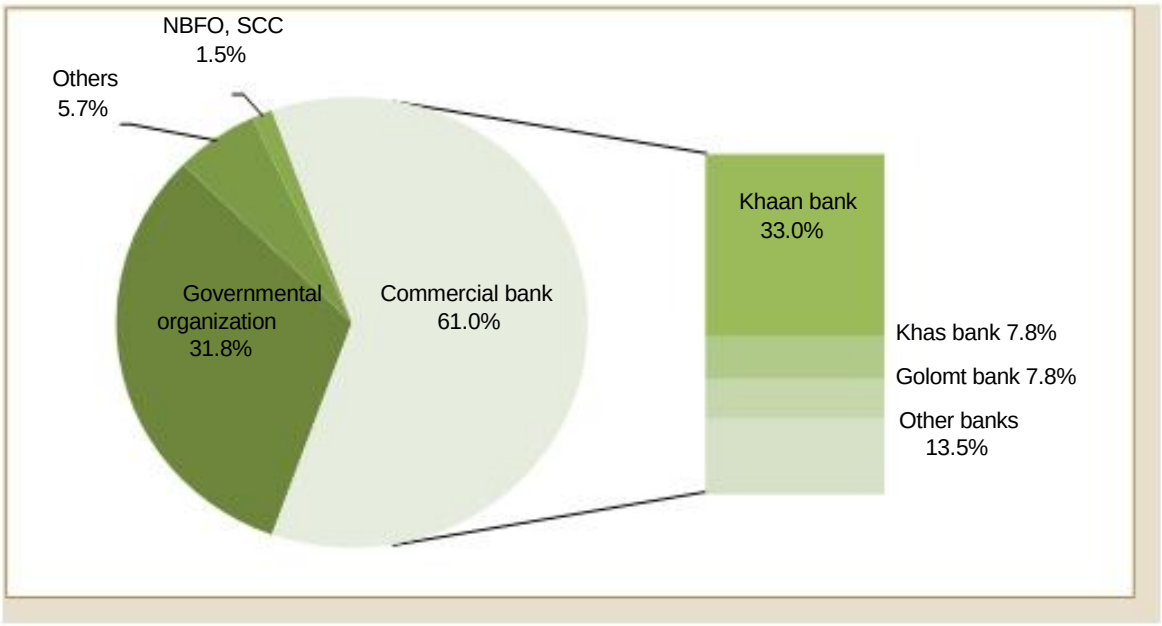
The households, running arable farming, have taken loans 11.7 times by doubled numbers for the last 5 years, from which 9.7 thousand or 82.5 percent have taken short-term or up to 1 year period loans, 1.3 thousand or 10.9 percent from 1-3 years and 0.8 thousand or 6.6 percent for 3 and above years period.

FIGURE 10.8. INVOLVEMENT OF HOUSEHOLDS, RUNNING ARABLE FARMING, TO AGRICULTURAL LOANS FOR LAST 5 YEARS, by regions



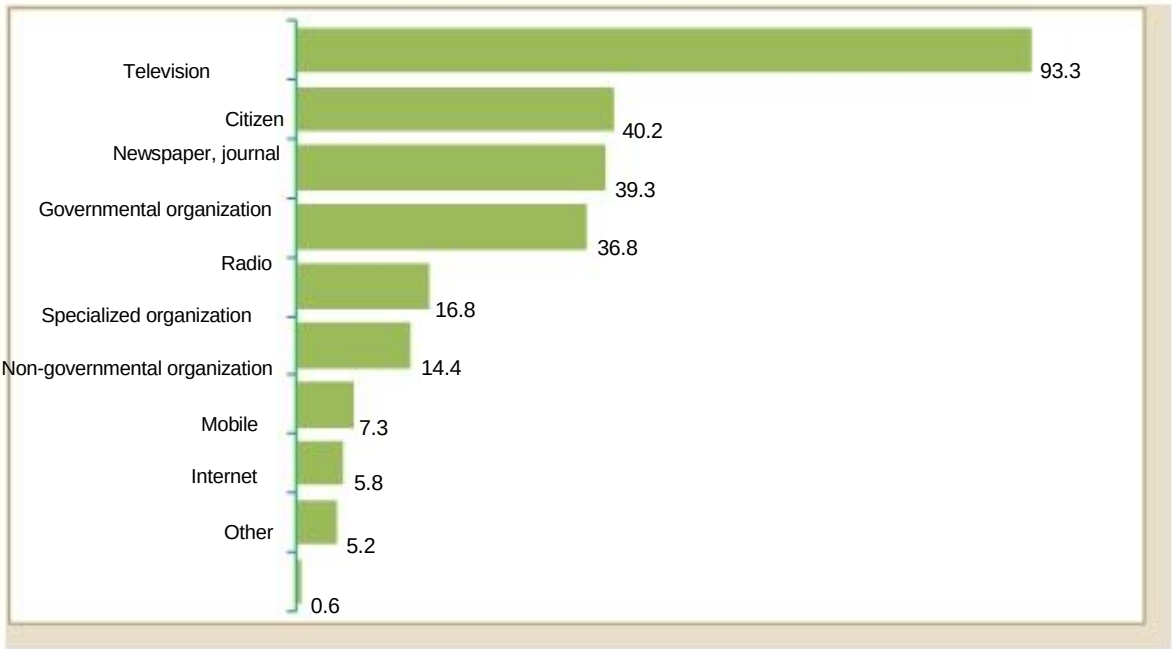
Number of households, taken loans for the last 5 years, by regions: the percentage to loan involvement in Central region is higher than the state average by 9.5 points. But in Khangai region and Ulaanbaatar city the involvement is lower by 1.8-13.7 points.

FIGURE 10.9. SOURCE OF AGRICULTURAL LOANS, TAKEN BY HOUSEHOLDS, RUNNING ARABLE FARMING, FOR LAST 5 YEARS, by percentage



The households, involved to loans for the last 5 years, by regions: The highest is in Central region or 25.1 percent of the total households, running arable farming, were involved to loans and the lowest is in Ulaanbaatar city or 1.9 percent was involved to loans.

FIGURE 10.10. SOURCES OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO HOUSEHOLDS, RUNNING ARABLE FARMING, by percentage



The main loan source for the households also commercial banks. The loan sources: 60.1 percent has been taken from commercial banks, 31.8 percent through governmental organizations and the rest from other sources.

TABLE 10.16. LOANS WITH MORTGAGES, TAKEN BY HOUSEHOLDS, RUNNING ARABLE FARMING, by types of mortgages, regions

	Total	Western	Khangai	Central	Eastern	UB
Number of households with mortgaged loans	4 982	645	774	3 186	296	81
Number of mortgaged loans	8 456	1 154	1 232	5 497	449	120
Mortgages						
Livestock	1 921	327	359	1 090	120	25
Land	3 240	436	317	2 338	101	47
Machines and equipment	1 800	272	304	1 098	107	19
Others	1 495	121	253	971	121	29

From the total 5.2 thousand households, taken loans, 5.0 thousand or 95.2 percent mortgaged own capital to take loans. In other words, they have taken mortgaged and taken loans 8.5 thousand times, from which 3.2 thousand times or 38.3 percent mortgaged own land, 1.9 thousand or 22.7 percent livestock, 1.8 thousand or 21.3 percent machines and equipment and 1.5 thousand or 17.7 percent mortgaged other capital.

SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO HOUSEHOLDS, RUNNING ARABLE FARMING

The source of information includes citizens, governmental and non-governmental organizations, newspapers, journals, radio, mobile phones and internet.

TABLE 10.17. SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILBALE TO HOUSEHOLDS, RUNNING ARABLE FARMING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Number of households	100.0	100.0	100.0	100.0	100.0	100.0
Source of information						
Radio	16.8	28.3	11.4	14.3	21.2	18.5
Television	93.3	92.8	92.3	94.6	96.0	90.7
Newspaper, journal	39.3	38.4	32.5	39.7	44.7	47.4
Internet	5.2	4.6	3.8	4.6	3.3	10.9
Governmental organization	36.8	26.8	41.6	45.3	33.8	18.4
No-governmental organization	7.3	6.3	7.2	5.6	6.6	13.1
Specialized organization	14.4	13.8	18.5	12.2	20.5	11.7
Citizens	40.2	40.7	40.6	37.7	37.3	47.3
Mobile	5.8	5.6	5.1	6.5	5.9	5.2
Others	0.6	0.4	0.4	0.5	0.3	1.9

Except television, the second source of information in Ulaanbaatar city is newspapers, journals and citizens and in other regions – governmental organizations. The information source structure of the regions is similar.

DISTANCE TO AGRICULTURAL PRODUCT MARKET FROM HOUSEHOLDS, RUNNING ARABLE FARMING

The distance to the market is directly influenced to the product cost for the units, which produce and sell agricultural products and it is very important economic indicator.

TABLE 10.18. DISTANCE TO AGRICULTURAL PRODUCT MARKET FROM HOUSEHOLDS, RUNNING ARABLE FARMING, by regions, percent

	Total	Western	Khangai	Central	Eastern	UB
Number of households	100.0	100.0	100.0	100.0	100.0	100.0
Distance to market						
Up to 1 km	10.2	8.7	8.1	10.1	20.2	10.5
1-9 km	30.7	27.6	36.1	23.9	32.0	42.8
10-49 km	20.5	28.6	22.1	13.5	17.9	29.9
50-99 km	11.9	16.7	12.6	11.4	6.1	9.9
100 and above km	26.7	18.4	21.1	41.1	23.9	6.9

30.7 percent of the households, running arable farming, deliver their agricultural products from 1-9 km far distance. This situation is similar to other regions.

INVOLVEMENT OF BUOs, RUNNING ARABLE FARMING, TO SERVICES

INVOLVEMENT OF BUOs, RUNNING ARABLE FARMING, TO INSURANCE SERVICES

Totally 1.7 thousand BUOs, running arable farming, were involved in the census, from which 21.6 percent is in Western region, 16.5 percent in Khangai region, 48.0 percent in Central, 2.8 percent in Eastern region and 11.1 percent in Ulaanbaatar city, from which more than 100 or 7.0 percent have been involved to risk insurance, which is insufficient indicator.

TABLE 10.19. INVOLVEMENT OF BUOs, RUNNING ARABLE FARMING, TO INSURANCE, by types of insurance, regions

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	1 705	368	282	818	48	189
Insured	119	20	17	68	9	5
Seeds cultivation insurance	30	3	7	13	4	3
Other commercial insurances	32	9	7	10	4	2
Others	45	1	2	41	-	1

Involvement of BUOs, running arable farming, to insurance by regions: 5.4 percent in Western region, 6.0 percent in Khangai region, 8.3 percent in Central region, 18.8 percent in Eastern region and 2.6 percent in Ulaanbaatar city were involved to insurance services. In particular, the involvement of the BUOs in Ulaanbaatar city, Western and Khangai regions is weak.

INVOLVEMENT TO LOANS OF BUOs, RUNNING ARABLE FARMING

The agricultural loan involved loans to purchase main and assistant raw materials to be used in arable farming and livestock breeding and to purchase farm buildings and facilities and equipment.

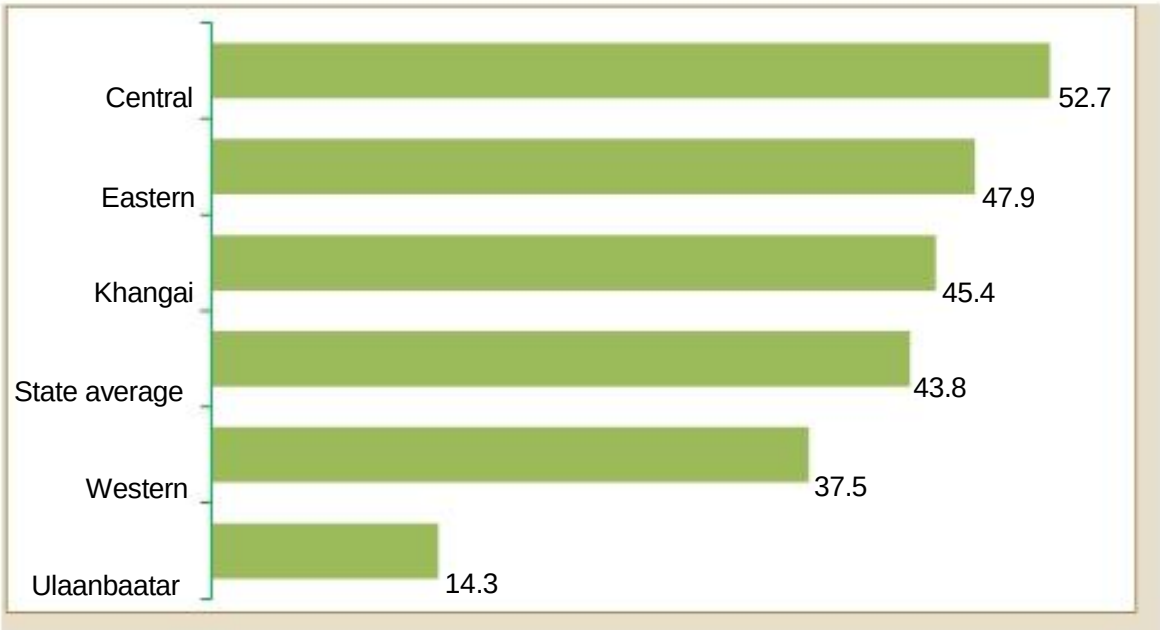
From the total target BUOs, running arable farming, 740 or 43.8 percent have taken loans for their agricultural activities for the last 5 years. The loan involvement is shown on the table.

TABLE 10.20. NUMBER OF AGRICULTURAL LOANS, TAKEN BY BUOs, RUNNING ARABLE FARMING, FOR LAST 5 YEARS, by maturity, regions

	Total	Western	Khangai	Central	Eastern	UB
No of BUOs with loans	747	138	128	431	23	27
Number of loans	1 578	204	233	1 053	49	39
No.of loans, by maturity						
for 1 year period	922	88	142	663	16	13
for 1-3 years period	298	67	62	113	18	18
for 3 and above years period	358	49	29	257	15	8

From the BUOs, running arable farming, 747 BUOs have taken loans 1578 times for the last 5 years. 58.4 percent of the loans is short-term or up to 1 year period, 18.9 percent for 1-3 years, 22.7 percent for 3 and above years period. In particular, the BUOs in Central regions have taken up to 1 year loans for many times.

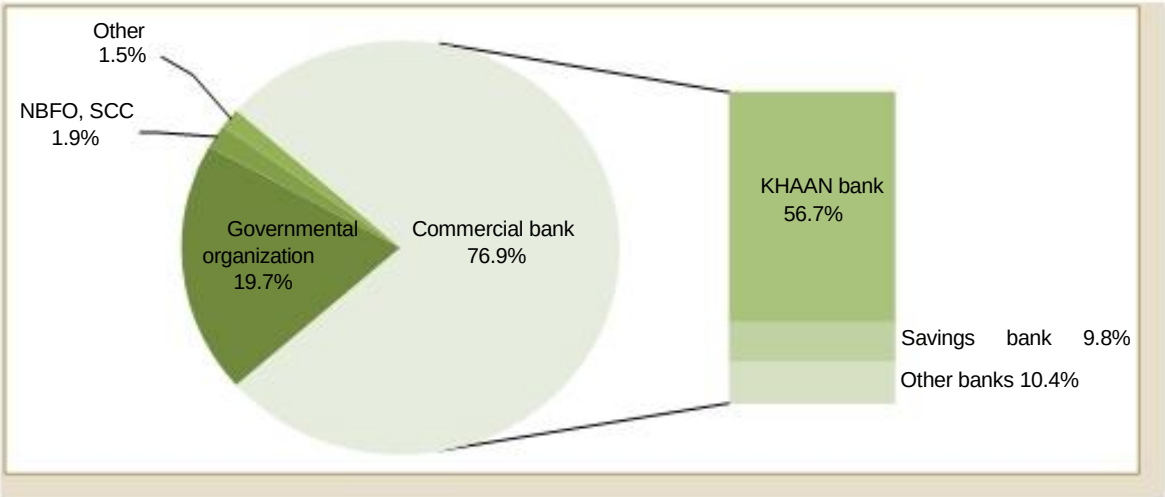
FIGURE 10.11. PERCENTAGE TO AGRICULTURAL LOAN INVOLVEMENT FOR LAST 5 YEARS OF BUOs, RUNNING ARABLE FARMING, by regions



The BUOs, taken loans for the last 5 years, by regions: the loan involvement is higher than the state average in Central, Eastern and Khangai regions. But the involvement in Western region and Ulaanbaatar city is lower by 6.3-29.5 percent.

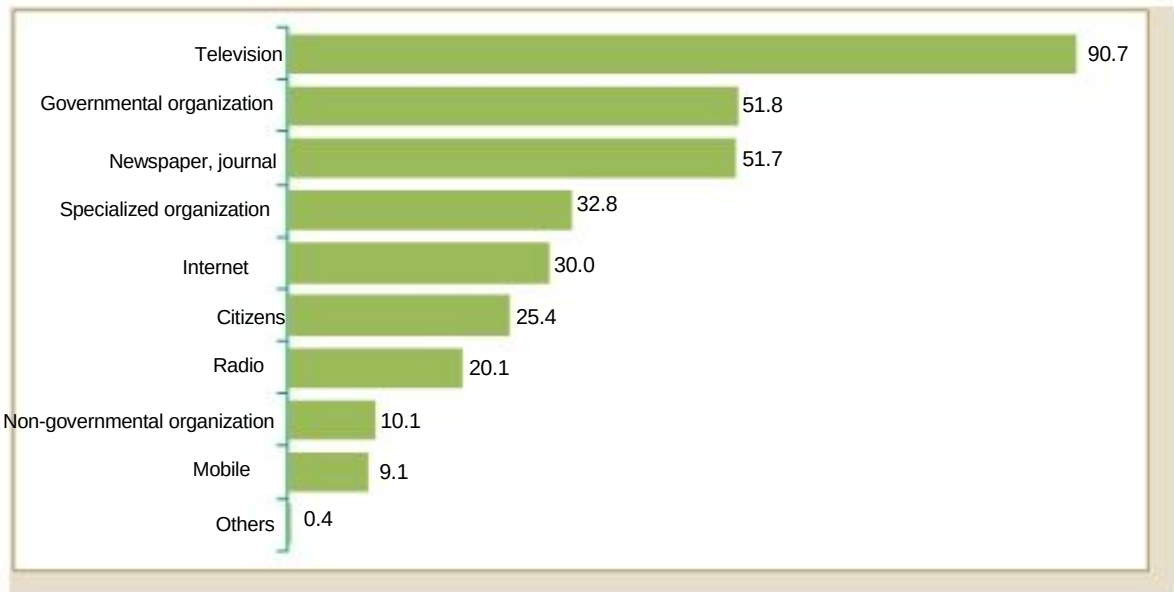
The BUOs, running arable farming, have taken loans totally 1.5 thousand times by doubled number, from which 0.9 thousand or 58.4 percent is short-term or up to 1 year, 0.3 thousand or 18.9 percent for 1-3 years and 0.4 thousand or 22.7 percent for 3 and above years period.

FIGURE 10.12. SOURCE OF AGRICULTURAL LOANS, TAKEN BY BUOs, RUNNING ARABLE FARMING, FOR LAST 5 YEARS, by percentage



BUOs, involved to loans for the last 5 years, by regions: the highest is in Central region or 52.7 percent of the BUOs, running arable farming, have taken loans, and the lowest is in Ulaanbaatar city or 14.3 percent have taken loans.

FIGURE10.13. SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO BUOs, RUNNING ARABLE FARMING, BY PERCENTAGE



The main loan source for the BUOs is commercial bank and governmental organization. The loan sources: 63.5 percent from commercial banks, 31.8 percent through governmental organizations and the rest from other sources.

TABLE 10.21. NUMBER OF MORTGAGED LOANS BY BUOs, RUNNING ARABLE FARMING, by types of mortgages

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	701	127	123	407	22	22
Number of mortgaged loans	1 189	207	208	709	37	28
Mortgages						
Livestock	127	39	24	56	6	2
Land	448	66	64	297	13	8
Machines and equipment	383	56	77	223	14	3
Others	231	46	43	123	4	15

From the 747 BUOs, taken loans, 701 or 93.8 percent mortgaged own capital to take loans. The BUOs have taken mortgaged loans 1.2 thousand times, from which 448 or 37.7 percent mortgaged own land, 383 or 32.2 percent equipment, 231 thousand or 19.4 percent mortgaged other capital and 127 thousand or 10.7 percent mortgaged their livestock.

SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO BUOs, RUNNING ARABLE FARMING

It is common to receive information about agricultural sector from television, newspapers, journals and governmental organizations.

TABLE 10.22. SOURCE OF INFORMATION ON AGRICULTURAL SECTOR, AVAILABLE TO BUOs, RUNNING ARABLE FARMING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	100.0	100.0	100.0	100.0	100.0	100.0
Information source						
Radio	20.1	28.5	19.5	17.6	20.8	14.8
Television	90.7	95.7	94.7	90.2	81.3	79.9
Newspaper, journal	51.7	58.2	53.9	49.6	45.8	46.0
Internet	30.0	16.8	34.4	32.3	29.2	39.7
Governmental organization	51.8	45.1	53.9	60.8	60.4	21.2
Non-governmental organization	10.1	15.5	9.6	8.9	6.3	6.9
Specialized organization	32.8	25.5	37.6	35.6	35.4	27.5
Citizens	25.4	33.7	19.9	23.1	27.1	27.0
Mobile	9.1	10.9	11.3	9.5	4.2	2.1
Others	0.4	0.5	-	0.2	-	1.1

Except television, the second information source is governmental organizations in provinces and newspapers, journals and citizens in Ulaanbaatar city. The source of information on agricultural sector in the regions is similar.

DISTANCE TO AGRICULTURAL PRODUCT MARKET FROM BUOs, RUNNING ARABLE FARMING

49.8 percent of the BUOs, running arable farming, deliver their agricultural products from 100 and above km far distance to markets.

TABLE10.23. DISTANCE TO AGRICULTURAL PRODUCT MARKET OF BUOs, RUNNING ARABLE FARMING, by regions, percentage

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	100.0	100.0	100.0	100.0	100.0	100.0
Distance to market						
Up to 1 km	2.5	4.9	2.1	1.6	6.3	1.6
1-9 km	12.3	19.6	11.7	6.0	22.9	23.8
10-49 km	21.3	31.8	19.5	14.3	8.3	37.0
50-99 km	14.1	16.6	13.5	14.3	8.3	10.6
100 and above km	49.8	27.2	53.2	63.8	54.2	27.0

PART ELEVEN

MAIN INDICATORS IN ARABLE FARMING SECTOR

MAIN INDICATORS IN ARABLE FARMING SECTOR

The main indicators of arable farming sector such as land and its exploitation, amount of forest shelterbelt field, irrigation cultivation field, cultivation field soil erosion, degradation and greenhouse cultivation were collected by the agricultural census and the results were made public.

Forest shelterbelt field. Totally 1.2 thousand households(1213) and BUOs (212) were registered with 3.6 thousand hectare of forest shelterbelt field. 57.5 percent of the forest shelterbelt field is exploited by households and the rest 42.5 percent by BUOs.

On average 1.7 hectare of forest shelterbelt field is imposed per household and 0.8 hectare per BUO.

Irrigation field. Totally 27.1 thousand households and 906 BUOs, running irrigation cultivation, were registered by the agricultural census.

The households and BUOs, running irrigation cultivation, have made irrigation on totally 49.6 thousand hectare of cultivation field and 42.3 percent of the irrigated field is imposed to households and 57.7 percent to BUOs.

On average 0.8 hectare of irrigated field is imposed to households, running irrigation cultivation and 31.6 hectare is imposed to BUOs.

Greenhouse economy. Totally 2.1 thousand households and 199 BUOs, running greenhouse economy on 29.8 thousand hectare of field were registered by the agricultural census.

On average 95.6 м^2 greenhouse field is imposed per household, running greenhouse economy and 733.8 м^2 per BUO.

Cultivation field soil erosion and degradation. The data on cultivation field soil erosion and degradation was collected by such criteria s “no erosion and degradation”, “weak”, “medium”, “strong” from the households and BUOs, running arable farming, and the results were summarized as follows.

As for the households, from the 33.5 thousand households, running arable farming, 42.1 percent have no soil erosion and/or degradation of the cultivation field, 25.5 percent weak, 30.4 percent medium and 2.0 percent strong.

As for the BUOs, from the 1705 BUOs 34.0 percent have no soil erosion and/or degradation on the cultivation field, 26.6 percent weak, 37.5 percent medium, 1.9 percent strong.

The fields under weak, medium and strong soil of the households and BUOs, running arable farming, occupy some percentage.

The households and business units, organizations, running arable farming (owners, holders and users), obliged to make agro-chemical analysis per 5 years on such indicators as level of 0-40 cm depth soil humification, nitrate nitrogen, movable phosphorus, movable potassium, soil wholeness, soil erosion and degradation, soil marshy and salty of the irrigation cultivation field.

According to the agricultural census, only 3.8 percent of the households, running arable farming, or 1.3 thousand households have made agro-chemical analysis. But 33.8 percent of the BUOs, running arable farming, or 577 BUOs have made the analysis.

LAND AND ITS EXPLOITATION

The households and BUOs, running arable farming, own totally 773.6 thousand hectare of field, from which 764.7 thousand hectare or 98.8 percent is used under ownership and 9.0 thousand hectare or 1.2 percent is rented to others. From the land under others exploitation and/or rent 3950.0 hectare or 43.9 percent is exploited, rented to citizens and the rest 5038.9 hectare or 56.1 percent to BUOs.

TABLE 11.1. AMOUNT OF TOTAL FIELD UNDER OWNERSHIP, by regions

ha

	Total	Western	Khangai	Central	Eastern	UB
Land under private ownership	773 649.5	47 506.5	119 455.2	515 764.8	45 311.3	45 611.6
Land under others exploitation/rent by	8 988.9	233.3	2 740.3	5 981.4	2.9	31.0
Citizens	3 950.0	182.5	1 835.5	1 918.6	2.4	11.0
BUOs	5 038.9	50.8	904.8	4 062.8	0.5	20.0
Land exploited under ownership	764 660.6	47 273.2	116 714.9	509 783.4	45 308.5	45 580.6

Own land by regions: the majority or 515.8 thousand hectare or 66.7 percent is exploited by the households and BUOs in Khangai region.

The households and BUOs, running arable farming, are renting 19.5 thousand ha or 68.4 percent from citizens, 5.5 thousand ha or 19.2 percent from state and local owned organizations and 3.5 thousand ha or 12.3 percent from BUOs.

TABLE 11.2. LAND, RENTED BY HOUSEHOLDS, BUOs, FOR AGRICULTURAL PURPOSES FROM OTHERS, by regions

ha

	Total	Western	Khangai	Central	Eastern	UB
Total	28 519.8	1 242.0	4 824.1	20 660.6	1 574.1	219.0
Citizens	19 520.5	175.8	2 167.9	16 357.2	626.1	193.5
State, local	5 480.1	1 009.9	2 434.8	2 021.3	1.9	12.2
BUOs	3 519.2	56.3	221.4	2 282.1	946.1	13.3

Rental land by regions: 20.7 thousand ha or 72.4 percent is imposed to Central region. 88.3 percent is rented by households and BUOs in Eastern region from state and local authorities but in contrary, 83.8 percent in Central region is rented from citizens.

3.4 thousand ha or 43.1 percent is rented to citizens and 4.5 thousand ha or 56.9 percent is rented to BUOs.

TABLE 11.3. LAND, RENTED BY HOUSEHOLDS, BUOs, FOR AGRICULTURAL PURPOSE TO OTHERS, by regions

ha

	Total	Western	Khangai	Central	Eastern	UB
Total	7 947.5	228.4	2 543.1	5 147.1	2.9	26.0
Citizens	3 427.8	177.8	1 835.4	1 406.3	2.4	5.9
BUOs	4 519.7	50.6	707.8	3 740.8	0.5	20.0

Land rented by the households and BUOs by regions: 5.1 thousand ha or 64.8 percent is in Central region. In Khangai region 1.8 thousand ha or 53.5 percent of rented land is rented to citizens.

As for the agricultural land tenure 111181.4 thousand ha or 96.3 percent is pastureland, 1711.3 thousand ha or 1.5 percent hay-field, 945.7 thousand ha or 0.8 percent cultivation, 304.3 thousand ha or 0.3 percent fallow and 1329.4 thousand ha or 1.2 percent is other field.

TABLE11.4. AGRICULTURAL LAND TENURE, by regions

ha

	Total	Western	Khangai	Central	Eastern	UB
Agricultural land tenure	115 472.1	29 476.2	25 736.8	37 125.7	22 890.0	243.3
Pasture	111 181.4	28 829.0	25 222.4	35 447.4	21 451.6	231
Hay-field	1 711.4	56	232.1	201.3	1 216.4	5.6
Cultivation	945.6	60.1	125.0	606.4	152.1	2.0
Fallow	304.3	68.9	125.9	57.2	49.2	3.1
Other	1 329.4	462.3	31.4	813.4	20.7	1.6

Agricultural land tenure by regions: Eastern, Khangai and Western regions occupy 19.8-25.5 percent and Central region occupies 32.2 percent. But Ulaanbaatar city occupies only 0.2 percent.

31.9 percent of pastureland is in Central region, 71.1 percent of hay-field is in Eastern region, 64.1 percent of cultivation is in Central region, 41.4 percent of fallow is in Khangai region and 61.2 percent of other field is in Central region.

FOREST SHELTERBELT FIELD

Totally 1.2 thousand households (1213) and BUOs (212) with 3.6 thousand ha of forest shelterbelt field were registered by the agricultural census. 57.7 percent of the forest shelterbelt field is imposed to households and the rest 42.5 percent to BUOs.

On average 0.06 ha is imposed per household, running arable farming, and on average 0.9 ha of forest shelterbelt field is imposed to BUOs.

HOUSEHOLDS AND BUSINESS UNITS, ORGANIZATIONS WITH FOREST SHELTERBELT FIELDS

Only 3.6 percent or 1.2 thousand households and 12.4 percent or 0.2 thousand BUOs, running arable farming, have forest shelterbelt cultivation fields, which shows that the related organizations must focus on protection of the cultivation fields and environmental rehabilitation activities and make supporting policies.

TABLE 11.5. NUMBER OF HOUSEHOLDS AND BUOs, WITH FOREST SHELTERBELT CULTIVATION FIELDS, by regions

	Total	Western	Khangai	Central	Eastern	UB
No of households	1 213	313	165	479	58	198
Percentage to households,	100.0	25.8	13.6	39.5	4.8	16.3
running AF	212	85	25	73	9	20
No of BUOs	100.0	40.1	11.8	34.5	4.2	9.4
Percentage to BUOs, running AF						

39.5 percent of the households with forest shelterbelt cultivation fields is located in Central region, 25.8 percent in Western, 16.3 percent in Ulaanbaatar city, 13.6 percent in Khangai and 4.8 percent in Eastern region.

And 4.1 percent of the BUOs with forest shelterbelt cultivation fields is located in Western region, 34.5 percent in Central, 11.8 percent in Khangai, 9.4 percent in Ulaanbaatar city and 4.2 percent in Eastern region.

40.1 percent of the BUOs, running arable farming, is located in Western region and 39.5 percent is located in Central region, which is higher than in other regions.

FOREST SHELTERBELT CULTIVATION FIELD

There is totally 3.6 thousand ha of forest shelterbelt cultivation field.

57.5 percent or 2.0 ha of the forest shelterbelt cultivation field is owned by households and 42.5 percent or 1.6 ha is owned by business units, organizations.

1.7 ha is imposed per household with forest shelterbelt cultivation field and 7.1 ha per business unit, organization.

By regions: the amount of forest shelterbelt cultivation field in Central region is higher than in other regions.

TABLE 11.6. AMOUNT OF FOREST SHELTERBELT CULTIVATION FIELD, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	3 551.5	902.5	431.4	1 324.3	167.2	726.4
Households	2 041.5	497.1	217.0	635.6	98.0	593.8
BUOs	1 510.0	405.1	214.4	688.7	69.2	132.6
Field per household, BUO						
Household	1.7	1.6	1.3	1.3	1.7	3.0
BUO	7.1	4.8	8.6	9.4	7.7	6.6

By regions: forest shelterbelt cultivation field per household is higher in Ulaanbaatar city than in other regions but the forest shelterbelt cultivation field per BUO is higher in Central region.

TABLE 11.7. CULTIVATION FIELD OF HOUSEHOLDS WITH FOREST SHELTERBELT FIELDS AND AMOUNT PER HOUSEHOLD, by field amount

	No. of households	Field size, ha	Field per household, ha
Total	1213	2041.5	1.7
Up to 10 ha	1176	814.4	0.7
10-50 ha	30	517.1	17.2
50-100 ha	4	200.0	50.0
Above 100 ha field	3	510.0	170.0

Forest shelterbelt fields of the households by field size groups: 96.9 percent of the total households created forest cover up to 10 ha field, 2.5 percent on 10-50 ha field, 0.3 percent on 50-100 ha field and 0.2 percent on above 100 ha field.

As we can see, the households create forest cover on up to 10 ha field or on small amount of cultivation field for protection purposes.

RENTAL LAND

HOUSEHOLDS, BUOs, RENTED LAND FROM OTHERS

According to the census 1.8 thousand households are renting land from others to run cultivation activities, which is 5.4 percent of the total households, running cultivation activities.

Also, 131 business units, organizations are renting land from others and running arable farming, which is 7.7 percent of the total BUOs, running arable farming.

By regions: 45.8 percent of the rented land is in Khangai region, 41.0 percent in central region, which occupies 86.8 percent of the total households, renting land.

48.0 percent of the BUOs, renting land from others, are located in Central region, 21.6 percent in Western region and 16.5 percent in Khangai region.

TABLE 11.8. NUMBER OF HOUSEHOLDS AND BUOs, RENTING LAND FROM OTHERS, by regions

	Total	Western	Khangai	Central	Eastern	UB
No. of households	1 801	114	824	739	28	96
Percentage to households, running AF	100.0	6.3	45.8	41.0	1.6	3.3
No. of BUOs	131	11	33	72	6	9
Percentage to BUOs, running AF	100.0	8.4	25.1	55.0	4.6	6.9

1.8 thousand households, running arable farming, rent totally 5.8 thousand ha land from others to run their activities. On average 3.2 ha field is imposed per household, renting cultivation field.

And 131 BUOs, running arable farming, rent totally 22.7 thousand ha land to run their activities. On average 173.1 ha field is imposed per BUO, renting cultivation field.

FORMS OF RENTAL LAND PAYMENT

61.0 percent or 1.1 thousand households (by doubled number) renting land from others make payment in cash, 15.3 percent or 0.3 thousand households give some percentage of their products, 10.7 percent or 0.2 thousand supply free additional service, and 14.3 percent or 0.3 thousand make payment by other forms.

TABLE 11.9. FORMS OF RENTAL LAND PAYMENT BY HOUSEHOLDS, RUNNING ARABLE FARMING, by regions

	Total	Western	Khangai	Central	Eastern	UB
Number of households, renting land from others	1 801	114	824	739	28	96
In cash payment	1 100	44	617	408	3	28
To give certain percentage of products	275	23	71	161	5	15
To supply free additional service	192	13	73	97	6	3
Others	258	35	67	89	14	53

According to the census results the majority households make their land payment in cash.

And 62.6 percent of the BUOs, renting land from others, (by doubled number) pay in cash, 18.3 percent give certain percent of their products, 10.7 percent or 14 BUOs supply free additional services and 13.7 percent make land payment by other forms.

TABLE 11.10. FORMS OF LAND PAYMENT BY BUOs, RENTING LAND FROM OTHERS, by regions

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs, renting land from others	131	11	33	72	6	9
In cash payment	82	9	24	44	1	4
To give certain percentage of products	24	1	8	11	3	1
To supply free additional service	14	-	3	9	1	1
Others	18	1	5	8	1	3

According to the census results the majority make their land payment in cash.

IRRIGATION FIELD

UN Agricultural organization recommends it member countries to include statistic data on irrigation fields, irrigation and irrigation system in the census questionnaire and collect the data.

The Government of Mongolia pays attention to develop and support irrigation cultivation, to improve land consumption, increase harvest per ha and to provide the population with domestic and hygienic products of arable farming.

Hereof, data on number of households and business units, organizations, running irrigation cultivation, irrigation field, types of irrigation systems, irrigation methods and irrigation sources were collected by the census questionnaire.

Irrigation is the activity of artificially watering the soil with purpose to increase the growth and harvest per ha of such cultivations as wheat, potatoes and vegetables.

In the world 2788.0 thousand square km cultivation field is made irrigation, from which 68.0 percent is imposed to Asia, 17.0 percent to America, 9.0 percent to Europe, 5.0 percent to Africa and 1.0 percent to Pacific ocean region.

HOUSEHOLDS AND BUOS, RUNNING IRRIGATION ARABLE FARMING

80.9 percent or 27.1 thousand households and 53.1 percent or 906 BUOs run irrigation cultivation.

94.9 percent of the households run irrigation cultivation in Western region, 86.3 percent in Ulaanbaatar city, 79.9 percent in Central region, 76.2 percent in Khangai region and 60.8 percent in Easter region.

85.9 percent of BUOs running arable farming production in Western region, 54.2 percent in Eastern region, 51.1 percent in Khangai region, 48.7 percent in Ulaanbaatar city and 40.5 percent in Central region run irrigation arable farming.

TABLE 11.11. NUMBER OF HOUSEHOLDS AND BUOs, RUNNING IRRIGATION ARABLE FARMING, by regions

	Total	Western	Khangai	Central	Eastern	UB
Number of households	27 078	4 816	6 034	10 534	1 402	4 292
Percentage	100.0	17.8	22.3	38.9	5.2	15.9
Number of BUOs	906	316	144	328	26	92
Percentage	100.0	34.9	15.9	36.2	2.9	10.2

38.9 percent of the households, running irrigation cultivation, is located in Central province, 22.3 percent in Khangai region, 17.8 percent in Western region, 15.9 percent in Ulanbaatar city and 5.2 percent in Eastern province. And 36.2 percent of the BUOs, running irrigation cultivation, is located in Central region, 34.9 percent in Western region, 15.9 percent in Khangai region, 10.2 percent in Ulaanbaatar city and 2.9 percent I Eastern region.

The households and BUOs, running arable farming production, mostly run irrigation arable farming in Western and Central regions, compared to other regions.

REASONS FOR NOT RUNNING IRRIGATION CULTIVATION

From the total 33.5 thousand households, running arable farming, 6.4 thousand or 19.1 percent and from 1705 BUOs 799 or 46.9 percent do not run irrigation arable farming.

The reasons for not running irrigation cultivation was considered by such reasons as shortage of water source, poor finance, shortage of workforce, broken techniques, no need for watering and others.

TABLE 11.12. NUMBER OF HOUSEHOLDS AND BUOs, NOT RUNNING IRRIGATION CULTIVATION, by reasons

	Households		BUOs	
	Number	%	Number	%
Total	6 383	100.0	799	100.0
Shortage of water source	2 871	45.0	398	49.8
Poor finance	2 149	33.7	311	38.9
Shortage of workforce	512	8.0	40	5.0
Broken techniques	71	1.1	12	1.5
No need for watering	1 609	25.2	157	19.6
Others	426	6.7	49	6.1

45.0 percent of the households, not running irrigation arable farming, have shortage of water source, 33.7 percent have poor finance, 25.2 percent do not need watering, 8.0 percent have shortage of workforce, 1.1 percent have broken techniques and 6.7 percent have other reasons and as for the BUOs, not running irrigation cultivation, 49.8 percent have shortage of water source, 38.9 percent have poor finance, 19.6 percent do not need watering, 5.0 percent have shortage of workforce, 1.5 percent have broken techniques and 6.1 percent have other reasons.

The main reasons for the households and BUOs to run irrigation cultivation at low level are water source and shortage of finance and capitals.

IRRIGATION FIELD SIZE

The households and BUOs, running arable farming, cultivated wheat, potatoes, vegetables, fodder plants and other plants on totally 367.2 thousand ha, from which 49.6 thousand ha or 13.5 percent is made irrigation.

By plant kinds: 40.5 percent of irrigation field is wheat field, 23.5 percent potato, 13.6 percent vegetable, 8.1 percent fodder plants, 1.7 percent technical and 12.6 percent other kind of plants.

The households mostly run irrigation cultivation of potatoes and vegetables and the BUOs mostly run irrigation cultivation of wheat and potatoes. 0.8 ha field is imposed per household, running irrigation arable farming and 31.6 ha field is imposed to the BUOs.

TABLE 11.13. IRRIGATION FIELD, by kinds

ha

	Total	Households		Percentage		
		Household	BUO	Total	H-hold	BUO
Total irrigation field	49 641.5	21 017.5	28 624.0	-	-	-
Wheat	20 110.8	20 88.5	18 022.3	40.5	9.9	63.0
Potato	11 642.4	81 72.3	3 470.1	23.5	38.9	12.1
Vegetable	6 735.6	5 598.4	1137.2	13.6	26.6	4.0
Fodder plant	4 021.9	1 349.9	2672	8.1	6.4	9.3
Technical plants	831.8	40.9	790.9	1.7	0.2	2.8
Others	6 298.9	3 767.4	2531.5	12.7	17.9	8.8

99.4 percent or 26.9 thousand households, running irrigation arable farming, cultivated on up to 10 ha and 171 households or 0.6 percent run irrigation cultivation on more than 10 ha.

Number of households, running irrigation arable farming, was grouped by irrigation field size: the number of the households, made irrigation, increases as the field size reduces, which shows that the households, running arable farming, mostly make irrigation on small areas.

TABLE 11.14. NUMBER OF HOUSEHOLDS, RUNNING IRRIGATION ARABLE FARMING, by field groups

	No. of households	Field size	Field size per household
Total	27 078	21 017.5	0.8
Up to 10 ha	26 907	14 160.2	0.5
10-50 ha	134	2 589.8	19.3
50-100 ha	24	1 718.2	71.6
Above 100 ha	13	2 549.3	196.1

75.3 percent of the BUOs or 682 run irrigation cultivation on up to 10 ha field, 14.6 percent on 10-50 ha, 4.9 percent on 50-100 ha and 5.3 percent on above 100 ha.

Also, the number of BUOs, running irrigation arable farming, was grouped by irrigation field size: the number of the BUOs, made irrigation, increases as the field size reduces, which shows that the BUOs, like the households, running arable farming, mostly make irrigation on small areas.

TABLE 11.15. NUMBER OF BUOs, RUNNING IRRIGATION ARABLE FARMING, by field groups

	Number of BUOs	Field size	Field size per BUO
Total	906	28 624.0	31.6
Up to 10 ha	682	1 976.5	2.9
10-50 ha	132	3 146.3	23.8
50-100 ha	44	3 446.2	78.3
Above 100 ha	48	20 055.0	417.8

Irrigation cultivation field is not much in both households and BUOs, which shows the necessity to increase irrigation cultivation and support by policies in order to improve land exploitation and increase harvest per ha.

IRRIGATION SYSTEM, USED IN IRRIGATION CULTIVATION

The irrigation system, used in irrigation cultivation, was classified as having engineering construction, simple construction and others.

Irrigation system included set complexes as water buildings and facilities and equipment for storing, transferring, distributing and spreading surface and underground water, for eliminating extra water in order to water hays and cultivations.

From the total 27.1 thousand households, running irrigation cultivation, only 2.2 thousand used irrigation equipment with engineering construction, 16.2 thousand used irrigation equipment with simple construction and 8.6 thousand used other equipment.

The majority of the households, running cultivation, make manual irrigation and have simple irrigation sources, which needs less finance and capitals.

From the total 0.9 thousand BUOs, running irrigation cultivation, 0.2 thousand used irrigation equipment with engineering construction, 0.5 thousand used irrigation equipment with simple construction and 0.2 thousand used other equipment.

TABLE 11.16. NUMBER OF HOUSEHOLDS AND BUOS, USED IRRIGATION SYSTEM, by irrigation system types

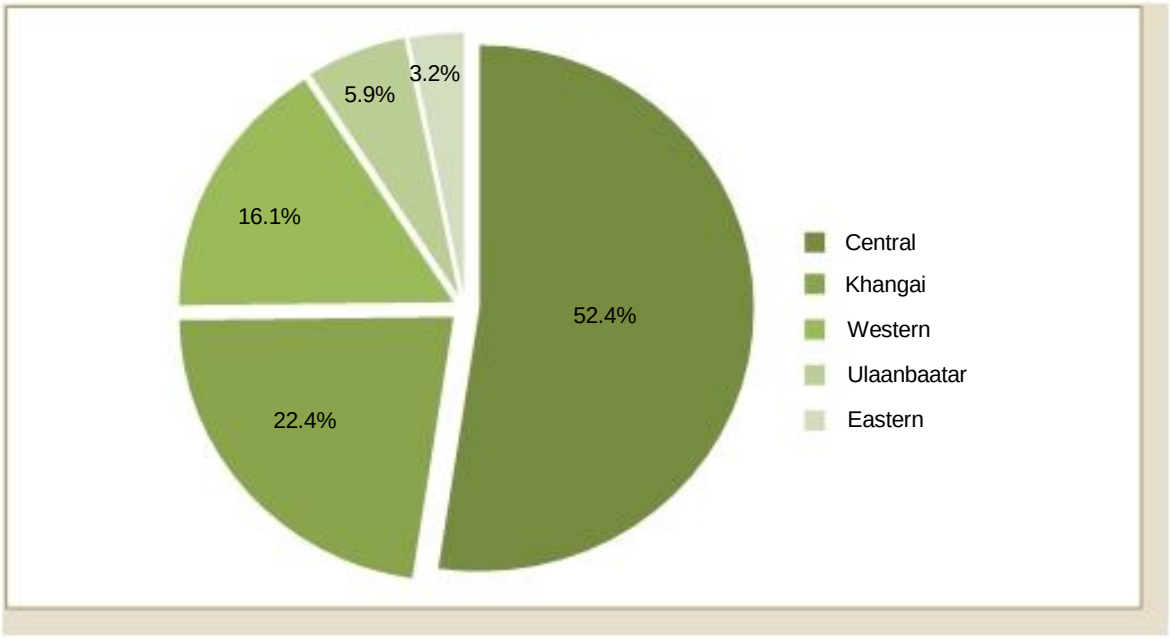
	Households	BUOs
Total	27 078	906
Use equipment with engineering construction	2 241	209
Use equipment with simple construction	16 224	482
Use other equipment	8 613	215
Percentage		
Use equipment with engineering construction	8.3	23.1
Use equipment with simple construction	59.9	53.2
Use other equipment	31.8	23.7

The households and BUOs mostly use irrigation equipment with simple construction. By regions: the number of the households, using irrigation system, is higher in the main arable farming region of Central region, compared to other regions and 49.1 percent of the households, used irrigation equipment with engineering construction and 44.8 percent of the households, used irrigation equipment with simple construction, are in this region.

Also, the number of the BUOs, using irrigation system in Central region or the main arable farming region is relatively higher than in other regions, and 50.7 percent of the BUOs, using used irrigation equipment with engineering construction and 36.9 percent of the BUOs, used irrigation equipment with simple construction, are in this region.

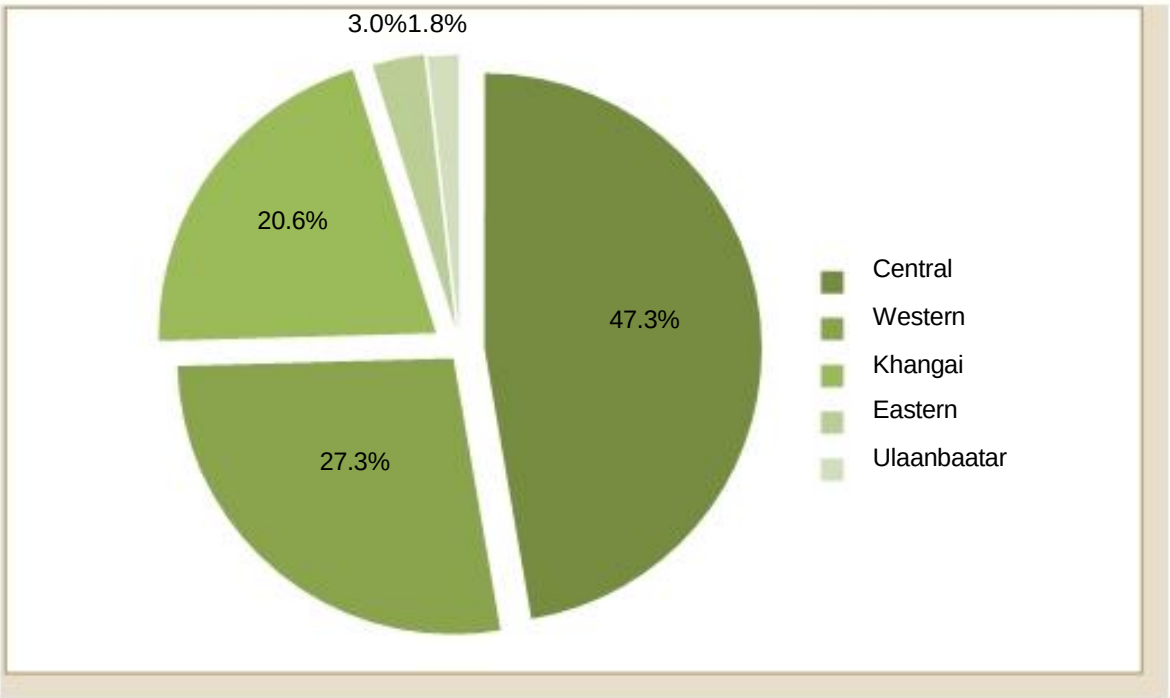
From the total 27.1 thousand households, running irrigation cultivation, 1.5 thousand or 5.7 percent have taken governmental support to use irrigation system. 52.5 percent or 0.8 thousand households, taken governmental support, are located in Central region.

FIGURE 11.1. PERCENTAGE OF HOUSEHOLDS, TAKEN GOVERNMENTAL SUPPORT TO USE IRRIGATION SYSTEM, by regions



Also, from 906 BUOs, running irrigation cultivation, 165 or 18.2 percent have taken governmental support to use irrigation system. 47.3 percent or 78 BUOs, taken governmental support in using irrigation system, also located in Central region.

FIGURE 11.2. PERCENTAGE OF BUOs, TAKEN GOVERNMENTAL SUPPORT TO USE IRRIGATION SYSTEM, by regions



WATER PAYMENT BY HOUSEHOLDS AND BUOS, RUNNING IRRIGATION ARABLE FARMING

33.7 percent or 9.1 thousand households, running irrigation arable farming, pay water payment during irrigation and the rest 66.3 percent or 17.9 thousand households do not pay water payment.

And 20.0 percent or 181 BUOs, running irrigation arable farming, pay water payment during irrigation and the rest 80.0 percent or 725 BUOs do not pay. As we can see the BUOs use water for free.

FIGURE 11.17. NUMBER OF HOUSEHOLDS, BUOS, PAYING WATER PAYMENT

	Households		BUOs	
	number	percentage	number	percentage
Total	27078	100.0	906	100.0
Pay water payment	9119	33.7	181	20.0

93.6 percent or 8.5 thousand households, pay for water and make irrigation make payment based on household consumption and 5.8 percent or 0.5 thousand paid based on production consumption.

TABLE 11.18 NUMBER OF HOUSEHOLDS AND BUOS, PAYING WATER PAYMENT, by payment conditions

	Total		Percentage	
	Household	BUO	Household	BUO
Paid water payment	9 119	181	100	100
Payment conditions				
Paid based on household consumption	8 536	86	93.6	47.5
Paid based on production consumption	528	88	5.8	48.6
Other	55	7	0.6	3.9

47.5 percent or 86 BUOs, which pay water payment and make irrigation, paid based on household consumption and 48.6 percent or 88 BUOs paid based on production consumption.

IRRIGATION METHOD OF HOUSEHOLDS AND BUOS, RUNNING IRRIGATION ARABLE FARMING

We will now discuss the main irrigation methods, used by the households and BUOs, running irrigation arable farming.

From the 27.1 thousand households (by doubled number), running irrigation cultivation, 92.4 percent or 25.0 thousand households used surface flowing method, 6.5 percent or 1.8 percent used sprinkling method and 1.3 percent or 0.3 thousand used drop system method.

It is common for the households, running irrigation cultivation, to use surface flowing method or flow water by simple force over the field, wet the soil and absorb it.

From the total 906 BUOs (by doubled number), running irrigation cultivation, 77.8 percent or 705 households used surface flowing method, 23.5 percent or 213 BUOs used sprinkling method and 5.4 percent or 49 BUOs used drop system method.

TABLE 11.19. NUMBER OF HOUSEHOLDS AND BUOS, RUNNING IRRIGATION CULTIVATION, by irrigation method

	Total		Percentage	
	Household	BUO	Household	BUO
Used surface flowing method	25033	705	92.4	77.8
Used sprinkling method	1764	213	6.5	23.5
Used fogging method	248	37	0.9	4.1
Used drop system method	351	49	1.3	5.4
Used under soil infiltration method	633	15	2.3	1.7

IRRIGATION SOURCE OF IRRIGARION CULTIVATION

From the 27.1 thousand households (by doubled number), running irrigation cultivation, 36.3 percent or 9.8 thousand used lake, pond, spring and stream water, 30.2 percent or 8.2 thousand simple mine well, 16.5 percent or 4.5 thousand used water stored in water container.

For the total 906 BUOs (by doubled number), running irrigation cultivation, the water source is 54.7 percent or 496 is lakes, ponds, streams and springs, 26.3 percent or 238 drilling wells and 17.4 percent or 158 simple mine wells.

TABLE 11.20. NUMBER OF HOUSEHOLDS AND BUOS, RUNNING IRRIGATION CULTIVATION, by irrigation sources

	Total		Percentage	
	Household	BUO	Household	BUO
By drilling wells	3 542	238	13.1	26.3
By simple mine wells	8 169	158	30.2	17.4
Lakes, ponds, streams, springs	9 822	496	36.3	54.7
Port water with reservoirs	1 803	83	6.7	9.2
Water stored in water container	4 472	49	16.5	5.4
Distilled waste water	141	9	0.5	1
Rain and snow water	3 085	-	11.4	-
Flood water	162	-	0.6	-
Others	1 348	-	5.0	-

GREENHOUSE CULTIVATION

The data on the households and BUOs, running greenhouse cultivation, was first time collected by the first agricultural census and the results were made.

Greenhouse – facility with complete glass or plastic walls and roofs and the air, heated by the sun rays, creates vacuum inside the greenhouse and supplies heating system.

Seed fruit and special vegetables are plant in the greenhouse, mostly cucumber, onion, garlic, beet, carrot and radish, tomato, cabbage and cauliflower, sweet pepper, leek and spinach is planted in the greenhouse, which cannot be planted on open fields and which need much heat and light supply and nutrition.

HOUSEHOLDS AND BUOS, RUNNING GREENHOUSE CULTIVATION

Totally 33.5 thousand households, running arable farming production, were involved in the census, from which 2.1 thousand households or 6.2 percent have made greenhouse cultivation.

33.0 percent of the households, running greenhouse cultivation, are located in Ulaanbaatar city, 25.5 percent in Central region, 16.5 percent in Eastern region, 15.6 percent in Khangai region and 9.3 percent in Western region. 58.5 percent of the total households, running greenhouse cultivation, are located in Central region and Ulaanbaatar city.

TABLE 11.21. NUMBER OF HOUSEHOLDS, RUNNING GREENHOUSE CULTIVATION, GREENHOUSE FIELD SIZE, FIELD PER HOUSEHOLD, by regions

	Total	Western	Khangai	Central	Eastern	UB
Number of households	2067	193	322	528	341	683
Field size, thousand м²	197.6	21.0	23.4	47.6	31.1	74.5
Field per household, м²	95.6	109.0	72.7	90.1	91.3	109.0
	Percentage					
Number of households	100.0	9.3	15.6	25.6	16.5	33
Field size, thousand м²	100.0	10.6	11.8	24.1	15.8	37.7

The 2.1 thousand households, running greenhouse cultivation, have totally 197.6 thousand square meter of field. Also, 37.7 percent of the field is located in Ulaanbaatar city, 24.1 percent in Central region, 15.7 percent in Eastern region, 11.8 percent in Khangai region and 10.6 percent in Western region. 61.8 percent of the total field is located in Central region and Ulaanbaatar city.

On average 95.6 square meters is imposed per household, running greenhouse cultivation, from which 109.0 м² field is imposed to Western region and Ulaanbaatar city, 90.1-91.3 м² per household in Central and Eastern regions and 72.7 м² field per household in Khangai region.

Totally 1705 BUOs, running arable farming, were involved, from which 199 BUOs or 11.7 percent have made greenhouse cultivation. 24.6 percent of the BUOs, running greenhouse cultivation, are located in Western region, 16.1 percent in Khangai region, 37.2 percent in Central region, 2.5 percent in Eastern region and 19.6 percent in Ulaanbaatar city. 56.8 percent of the BUOs, made greenhouse cultivation, are located in Central region and Ulaanbaatar city.

TABLE 11.22. NUMBER OF BUOS, RUNNING GREENHOUSE CULTIVATION, GREENHOUSE FIELD SIZE, FIELD PER BUO, by regions

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	199	49	32	74	5	39
Field size, thous.м²	146.0	7.4	9.1	33.4	1.0	95.1
Field per BUO, м²	733.7	153.2	284.4	452.2	194.0	2 437.5
	Percentage					
Number of BUOs	100.0	24.6	16.1	37.2	2.5	19.6
Field size, thous.м²	100.0	5.1	6.2	22.9	0.7	65.1

The 199 BUOs, running greenhouse cultivation, have made cultivation to 146.0 thous.м² field. 5.1 percent of the total field is located in Western region, 6.2 percent in Khangai region, 22.9 percent in Central region, 0.7 percent in Eastern region and 65.1 percent in Ulaanbaatar city. 88.0 percent of the total field is located in Ulaanbaatar city.

On average 733.8 м² field is imposed per BUO, running greenhouse cultivation. In Western region 152.2 м² is imposed per BUO, running greenhouse cultivation, in Khangai region 283.4 м² field and in Central region 452.2 м², in Eastern region 194.0 м², and in Ulaanbaatar city 2437.5 м² field is imposed per BUO, running greenhouse cultivation.

GREENHOUSE CULTIVATED FIELD

In 2011 households made greenhouse cultivation of vegetables to 196.0 м² field, strawberry, vegetable sprouts, flower seedlings, flowers and other plants to 0.3 percentages.

FIGURE 11.3. FIELD SIZE UNDER HOUSEHOLD GREENHOUSE CULTIVATION, by percentage, regions

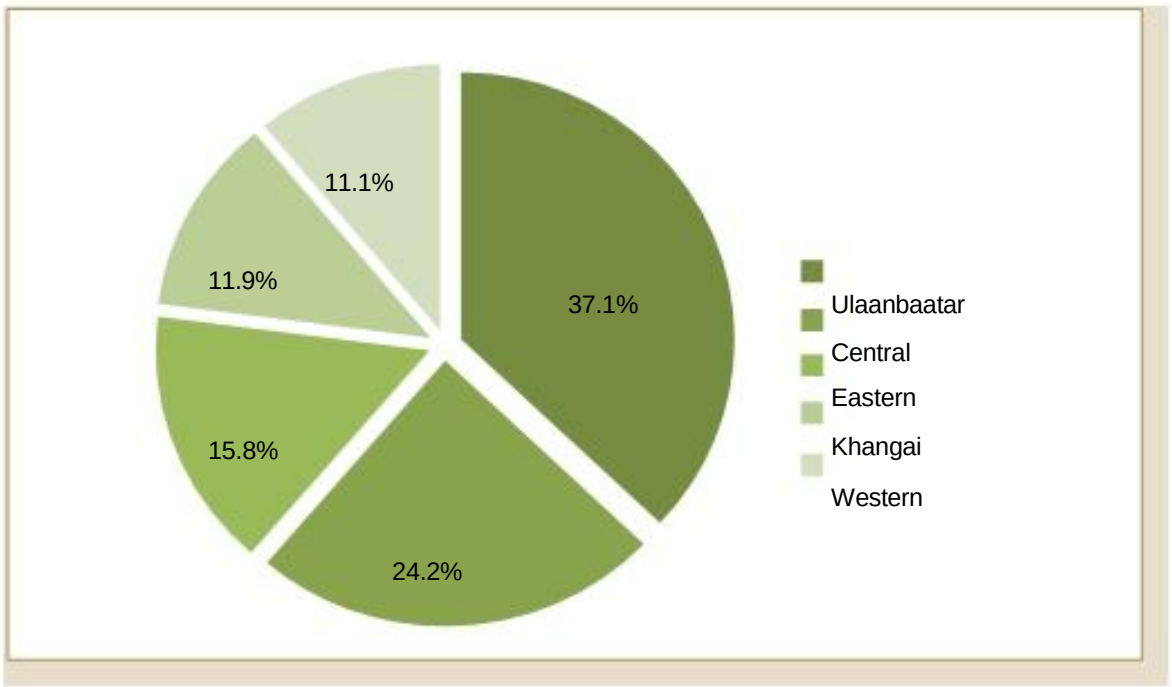


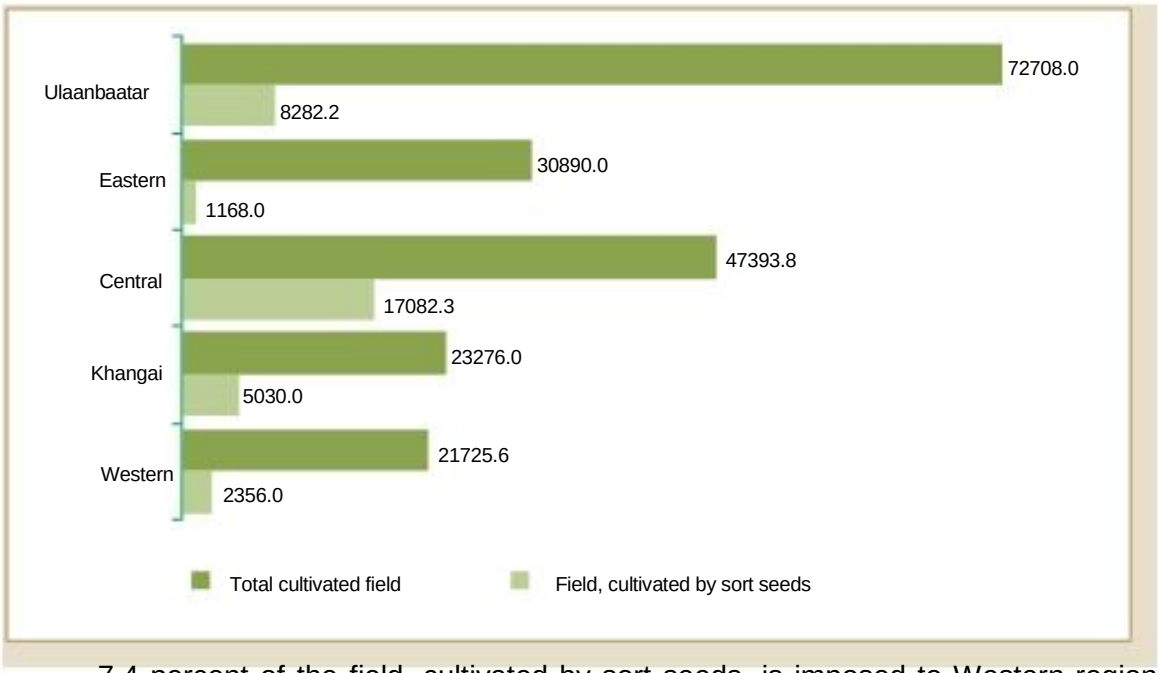
TABLE 11.23. FIELD SIZE UNDER HOUSEHOLD GREENHOUSE CULTIVATION

	Total	Percentage
Field size, thous.м²	196.0	100.0
Vegetables, thous.м²	195.3	99.7
Others, thous.м²	0.7	0.3

Cultivation of sort seeds was made to 17.4 percent or 34.1 thous.м^2 field of the total field with greenhouse cultivation.

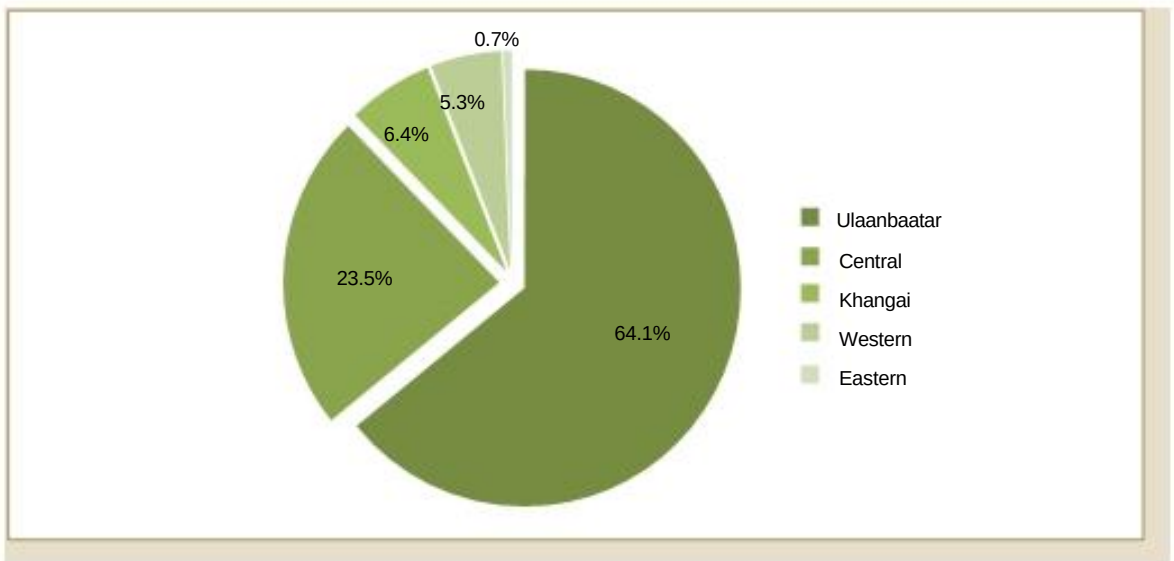
Cultivation by sort seeds gives the possibility to gather high quality and rich harvest.

FIGURE 11.4. SIZE OF FIELD, CULTIVATED BY SORT SEEDS OF HOUSEHOLDS, MADE GREENHOUSE CULTIVATION, by regions



7.4 percent of the field, cultivated by sort seeds, is imposed to Western region, 14.8 percent to Khangai region, 50.1 percent to Central region, 3.4 percent to Eastern region and 24.3 percent to Ulaanbaatar city.

FIGURE 11.5. SIZE OF FIELD UNDER GREENHOUSE CULTIVATION BY BUOS, by percentage, regions



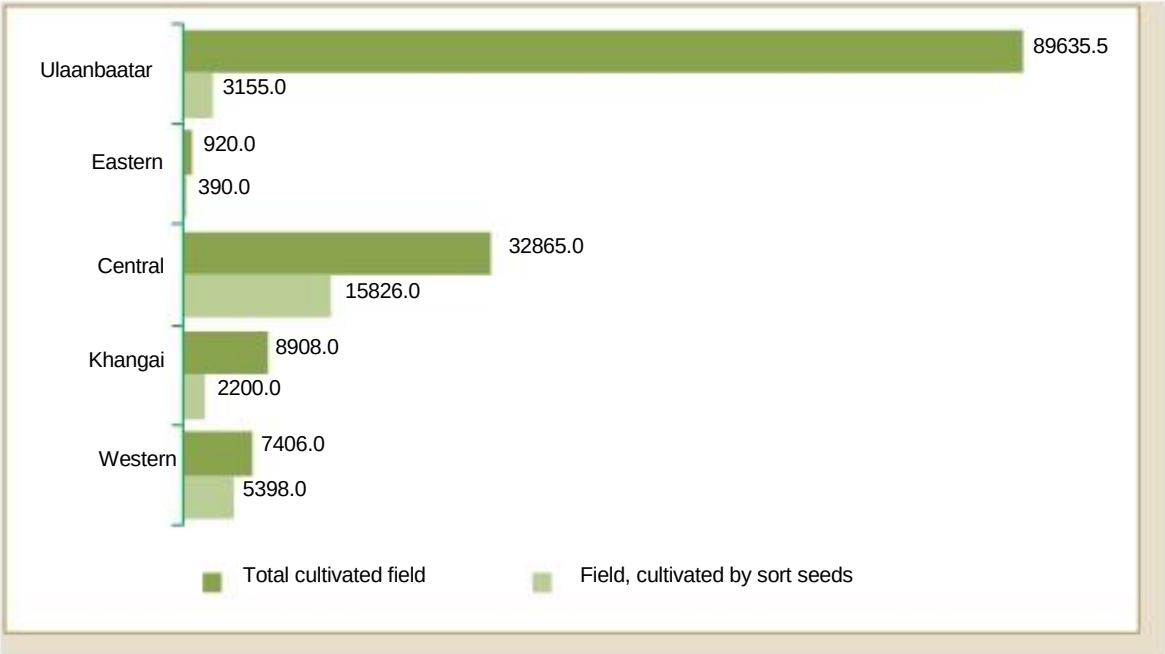
64.1 percent of the total field, made greenhouse cultivation by BUOs, is located in Ulaanbaatar city, 23.5 percent in Central region, 6.4 percent in Khangai region, 5.3 percent in Western region and 0.7 percent in Eastern region. The majority of above 60 percent of the BUOs, made greenhouse cultivation is located in Ulaanbaatar city.

TABLE 11.24. SIZE OF FIELD, MADE GREENHOUSE CULTIVATION BY BUOS

	Total	Percentage
Field size, thous.m^2	139.7	100.0
Vegetables, thous.m^2	139.4	99.8
Others, thous.m^2	0.3	0.2

From the 139.7 thous.m field of the BUOs, made greenhouse cultivation, 19.3 percent or 27.0 thous.m^2 field was cultivated by sort seeds.

FIGURE 11.6. SIZE OF FIELD, CULTIVATED BY SORT SEEDS OF BUOS, MADE GREENHOUSE CULTIVATION, by regions



20.0 percent of the field, cultivated by sort seeds, is located in Western region, 8.2 percent in Khangai region, 58.7 percent in Central region, 1.4 percent in Eastern region and 11.7 percent in Ulaanbaatar city. The BUOs in central region mostly cultivate their greenhouse cultivation with sort seeds.

HARVEST FROM FIELD WITH GREENHOUSE CULTIVATION

The households, running greenhouse cultivation, gathered 662.0 т harvest and 99.6 percent is vegetables and 0.4 percent is other plants.

TABLE 11.25. HARVEST AMOUNT, GATHERED FROM GREENHOUSE CULTIVATED FIELDS OF HOUSEHOLDS, by types

	Total	Percentage
Harvest, т	662.0	100.0
Vegetable, т	659.6	99.6
Others , т	2.4	0.4

Household harvest by regions: 32.8 percent is harvested in Central region, 33.0 percent in Ulaanbaatar city and 7.9-14.5 percent in Khangai, Eastern and Western regions respectively.

FIGURE 11.7. HARVEST AMOUNT, GATHERED FROM GREENHOUSE CULTIVATED FIELDS OF HOUSEHOLDS, by regions, percentage

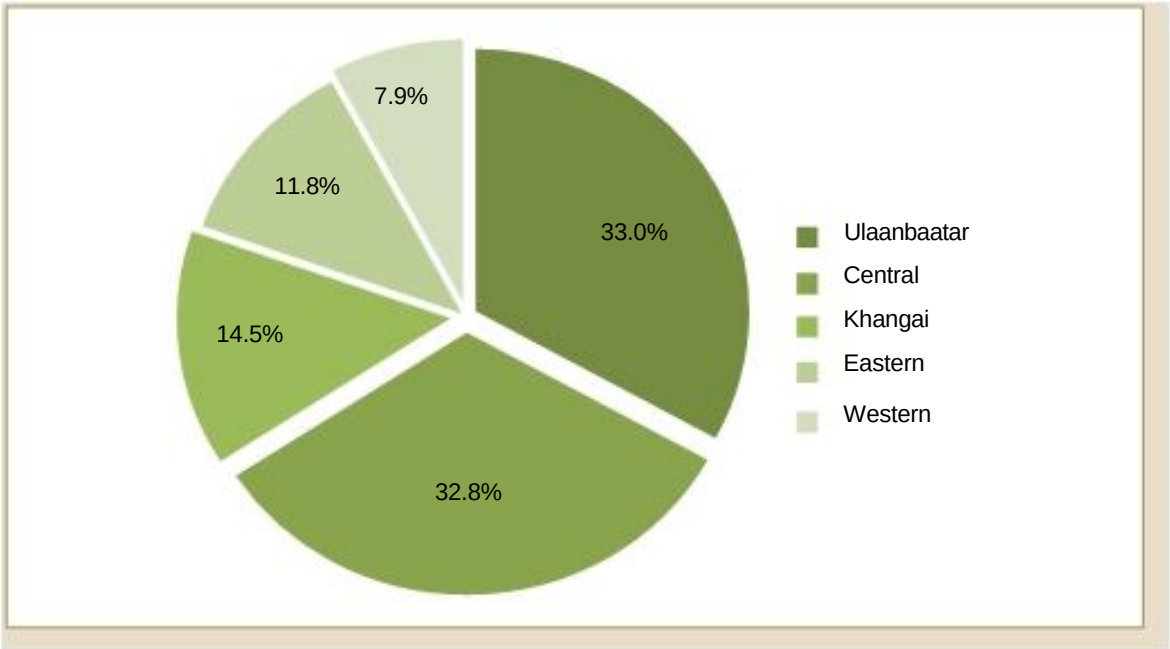
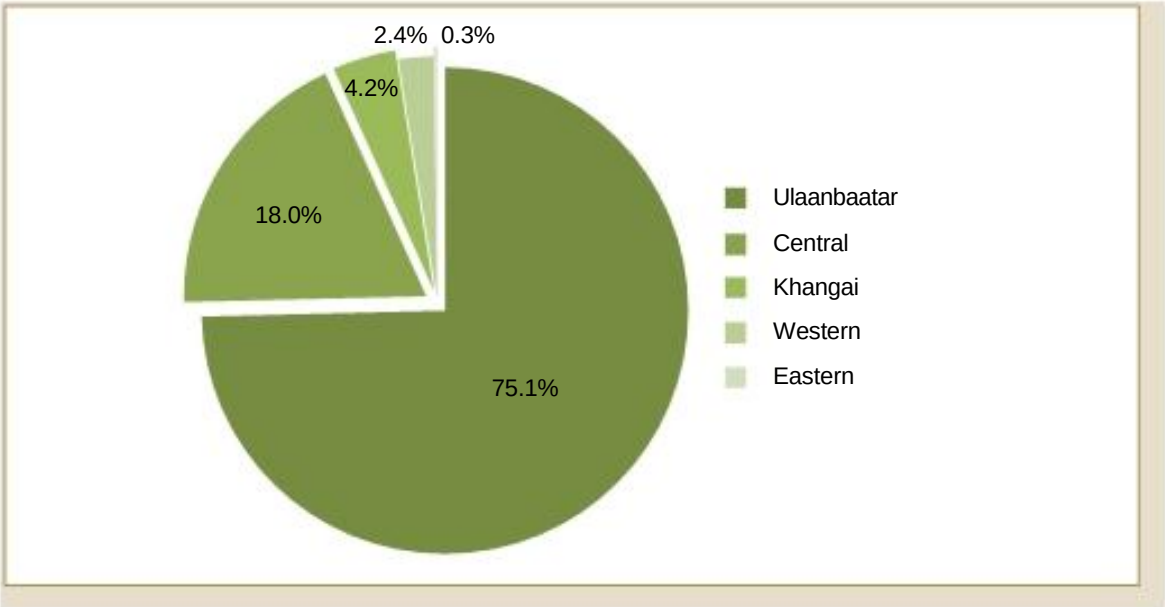


TABLE11.26. HARVEST AMOUNT, GATHERED FROM GREENHOUSE CULTIVATED FIELDS OF BUOs

	Total	Percentage
Harvest, t	665.0	100.0
Vegetable, t	660.5	99.3
Others , t	4.5	0.7

BUOs harvest by regions: 2.4 percent in Western region, 4.2 percent in Khangai region, 18.0 percent in Central region, 75.1 percent in Ulaanbaatar city and 0.2 percent in Eastern region.

FIGURE 11.8. HARVEST AMOUNT, GATHERED FROM GREENHOUSE CULTIVATED FIELDS OF BUOs, by regions



The households and BUOs in Ulaanbaatar city and Central region mostly run greenhouse cultivation and occupy about 80 percent of the harvest, gathered from greenhouses.

SOIL EROSION AND DEGRADATION

Special questions were included in the census questionnaire in order to define the level of the soil erosion and degradation of the fields under arable farming, hay and pastureland.

The households and business units, organizations, running arable farming (owner, keeper and user of cultivation field) are obliged to make agro-chemical analysis to the soil of the cultivation field every 5 years by such criteria as 0.-40 cm depth soil humification, nitrate nitrogen, movable phosphorus, movable potassium, soil mass, soil erosion and degradation level and marshy and salty of irrigation cultivation field. In this part we will consider how the obligation is executed, agro-chemical analysis made and the level of the indicators.

Cultivation field, hay-field and pastureland degradation and breakage level was classified as weak, medium, strong and not broken.

“Weak level of soil degradation” includes field, which area is polluted by less than 5 percent or the soil surface is slightly eroded, humification supply reduction is less than 25 percent;

“Medium level of soil degradation” includes field, which area is polluted 5-20 percent or the soil surface is broken, humification supply reduction reached 25-50 percent;

"Strong level of soil degradation" includes field, which area is polluted 20-50 percent or the soil surface is deeply broken, nutrition is lost, humification supply reduction reached more than 50 percent.

SOIL EROSION AND BREAKAGE OF THE CULTIVATION FIELD, OWNED BY HOUSEHOLDS

From the 33.5 thousand households, running arable farming, the cultivation field of 42.1 percent or 14.1 thousand households have no soil erosion and breakages.

But the cultivation field of 25.5 percent or 8.6 thousand households is at weak level, cultivation field of 30.4 percent or 10.2 thousand households is at medium level and the cultivation field of 2.0 percent or 0.7 thousand households is at strong level of soil erosion.

The households with the cultivation fields at weak and medium level of soil erosion reached 55.9 percent.

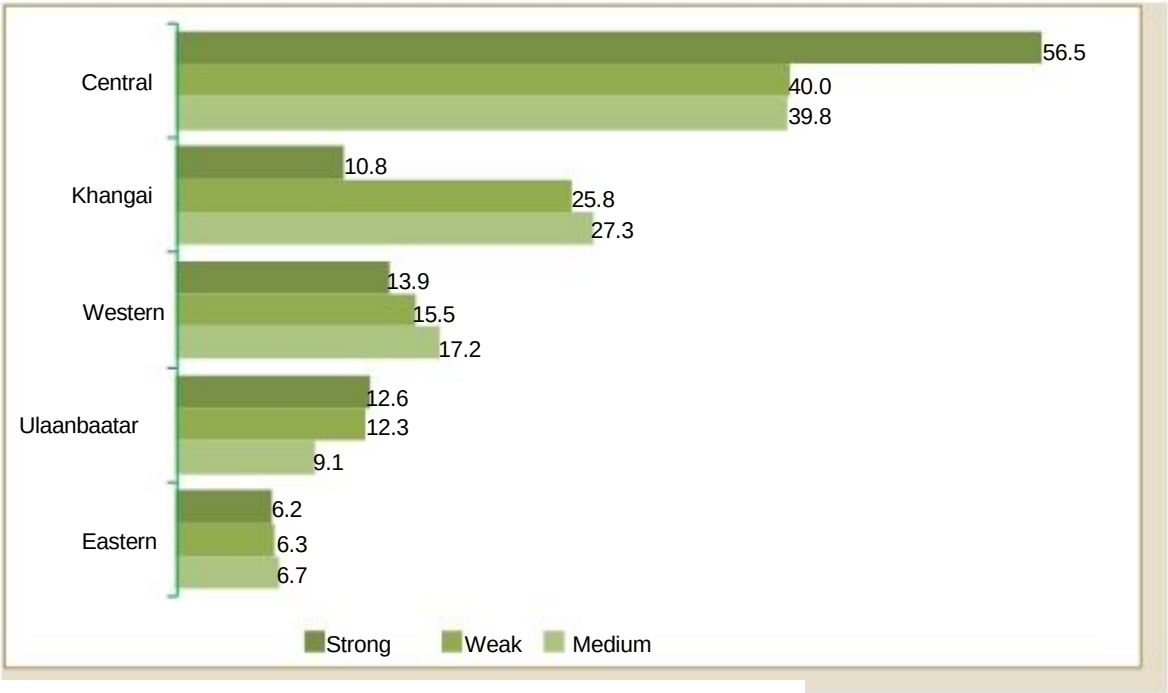
TABLE 11.27. NUMBER OF HOUSEHOLDS, RUNNING ARABLE FARMING, SOIL EROSION, by level of erosion

	Total	Western	Khangai	Central	Eastern	UB
Number of households	33 461	5 076	7 917	13 190	2 307	4 971
No erosion	14 073	1 851	3 229	5 305	1 015	2 673
Weak	8 520	1 323	2 152	3 426	524	1 095
Medium	10 187	1 806	2 457	4 088	717	1 119
Strong	681	96	79	371	51	84

By regions: 40.2 percent of the households with the cultivation field at weak and medium level of soil erosion is located in Central region and 24.6 percent in Khangai region.

54.5 percent of the households with the cultivation field at strong level of soil erosion is located in Central region or the main agricultural region.

FIGURE11.9. SOIL EROSION OF HOUSEHOLD CULTIVATION FIELDS, by percentage



NUMBER OF HOUSEHOLDS, MADE AGROCHEMICAL ANALYSIS

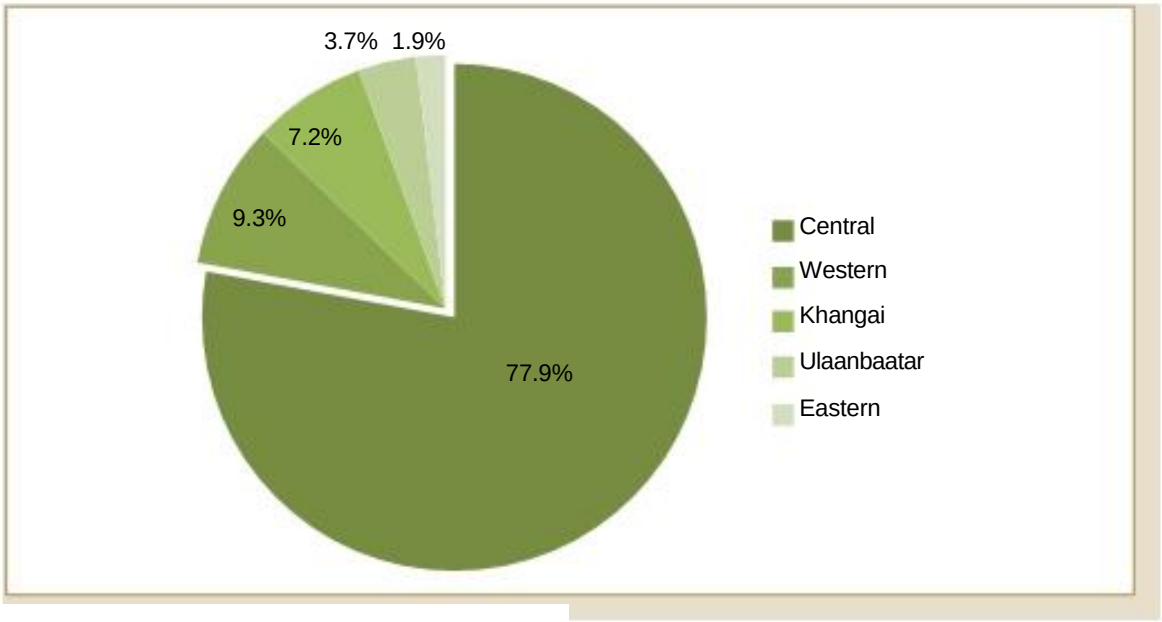
According to the census results only 3.8 percent or 1.3 thousand households, running arable farming, have made agrochemical analysis to their cultivation fields, which is insufficient result.

TABLE 11.28. NUMBER OF HOUSEHOLDS, MADE AGROCHEMICAL ANALAYSIS, by regions

	Total	Western	Khangai	Central	Eastern	UB
No. of households, running AF	33461	5076	7917	13190	2307	4971
No. of households, made agrochemical analysis	1286	119	93	1002	24	48
Percentage of households, running arable farming	3.8	2.3	1.2	7.0	1.0	1.0

By regions: 77.9 percent or 1.0 thousand of the households, made agrochemical analysis to their cultivation fields, are located in Central region.

FIGURE 11.10. STRUCTURE OF HOUSEHOLDS, MADE AGROCHEMICAL ANALYSIS, by regions, percentage



RESULTS OF AGROCHEMICAL ANALYSIS

According to the results of agrochemical analysis 48.8 percent of the total households, made analysis, have normal 0-40 cm depth soil humification, 13.0 percent have weak level, 32.9 percent have medium level and 5.3 percent have strong level.

42.9 percent of the total households, made analysis, have normal soil nitrate nitrogen, 14.5 percent have weak level, 36.3 percent have medium level and 6.2 percent have strong level.

44.0 percent of the total households, made analysis, have normal soil movable phosphorus, 12.6 percent have weak level, 33.2 percent have medium level and 10.2 percent have strong level.

45.2 percent of the total households, made analysis, have normal movable potassium, 11.4 percent have weak level, 33.0 percent have medium level and 10.3 percent have strong level.

Percentage to the households with strong level of movable phosphorus and potassium have higher unit weight than other indicators.

TABLE 11.29. HOUSEHOLDS, MADE AGROCHEMICAL ANALYSIS, by criteria, percentage

	Erosion and degradation level			
	Normal	Weak	Medium	Strong
Soil 0-40 см depth humification	48.8	13.0	32.9	5.3
Soil nitrate nitrogen	42.9	14.5	36.3	6.2
Soil movable phosphorus	44.0	12.6	33.2	10.2
Soil movable potassium	45.2	11.4	33.0	10.3
Soil mass	46.3	19.0	33.1	1.6
Soil marshy, salty	48.1	18.1	32.7	1.1

46.3 percent of the households, made analysis, have normal soil mass, 19.0 percent have weak level, 33.1 percent have medium level and 1.6 percent has strong level.

48.1 percent of the households, made analysis, have normal soil marshy and salty, 18.1 percent have weak level, 32.7 percent have medium level and 1.1 percent have strong level.

It can be seen that shortage of soil mass, marshy and salty is low.

SOIL EROSION AND DEGRADATION OF THE CULTIVATION FIELD, OWNED BY BUSINESS UNITS, ORGANIZATIONS

From the 1.7 thousand BUOs, running arable farming, 34.0 percent or 580 BUOs have no soil erosion and degradation.

But 26.6 percent or 453 BUOs have weak level, 37.5 percent or 640 BUOs have medium level, 1.9 percent or 32 BUOs have strong level of soil erosion and degradation.

The BUOs with weak, medium and strong level of soil erosion and breakage occupy 64.1 percent, which is very high indicator.

TABLE 11.30. NUMBER OF BUOS, RUNNING ARABLE FARMING, SOIL EROSION, ABY LEVEL OR EROSION

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs, running arable farming	1705	368	282	818	48	189
No erosion	580	115	89	263	22	91
Weak	453	108	74	215	10	46
Medium	640	141	114	322	14	49
Strong	32	4	5	18	2	3

By regions: 49.1 percent of the BUOs with weak and medium level of soil erosion and breakage are in Central region.

BUOs, MADE AGROCHEMICAL ANALYSIS

33.8 percent or 577 BUOs, running arable farming production, have made agrochemical analysis to their cultivation fields, which is insufficient indicator.

TABLE 11.31. NUMBER OF BUOS, MADE AGROCHEMICAL ANALYSIS, by regions

	Total	Western	Khangai	Central	Eastern	UB
No. of BUOs, running arable farming	1705	368	282	818	48	189
No. of BUOs, made agrochemical analysis	577	41	67	421	18	30
Percentage of BUOs, running arable farming	33.8	11.1	23.8	51.5	37.5	15.9

By regions: 73.0 percent or 421 BUOs, made analysis to their cultivation fields, are in Central region.

RESULTS OF AGROCHEMICAL ANALYSIS

According to the results of agrochemical analysis 33.8 percent of the total BUOs, made analysis, have normal 0-40 cm depth soil humification, 24.4 percent have weak level, 39.3 percent have medium level and 2.4 percent have strong level.

27.2 percent of the total BUOs, made analysis, have normal soil nitrate nitrogen, 30.2 percent have weak level, 38.3 percent have medium level and 4.3 percent have strong level.

31.4 percent of the total BUOs, made analysis, have normal soil movable phosphorus, 23.7 percent have weak level, 41.6percent have medium level and 3.3percent have strong level.

30.2 percent of the total BUOs, made analysis, have normal movable potassium, 26.0 percent have weak level, 40.2 percent have medium level and 3.6 percent have strong level.

30.3 percent of the total BUOs, made analysis, have normal soil mass, 25.8 percent have weak level, 40.7 percent have medium level and 3.1 percent have strong level.

34.8 percent of the BUOs, made analysis, have normal soil marshy and salty, 25.6 percent have weak level, 37.4 percent have medium level and 2.1 percent have strong level.

Percentage of the BUOs with high level of soil movable phosphorus and potassium is higher than other indicators.

Percentage of the BUOs with strong level of marshy and salty is lower than other indicators.

TABLE 11.32. BUOS, MADE AGROCHEMICAL ANALYSIS, by criteria, percentage

	Erosion and degradation level			
	Normal	Weak	Average	Strong
Soil 0-40 см depth humification	33.8	24.45	39.3	2.4
Soil nitrate nitrogen	27.2	30.2	38.3	4.3
Soil movable phosphorus	31.4	23.7	41.6	3.3
Soil movable potassium	30.2	26.0	40.2	3.6
Soil mass	30.3	25.8	40.7	3.1
Soil marshy and salty	34.8	25.6	37.4	2.1

FERTILIZER AND SUBSTANCE USAGE

UN FAO included the questions to collect data on fertilizers, substances and its usage by the agricultural census and questions, suitable to the specific features of the country to the questionnaire.

Fertilizer is mineral and organic substance and used to gather nutritious harvest and to increase the harvest growth. The condition for “Substance” is harvest nutrition source, containing the 3 primary nutrition, which are at least 5 percent N, P2O5 and K20. The product, containing nutrition less than 5 percent from the above 3 is included to other organic substances, which increase the plant growth.

According to the above classification the data on fertilizers were collected as natural fertilizer, other organic fertilizers increasing the harvest growth and mineral fertilizers.

Substance is the substance, used for destroying pests in arable farming. The substances were classified as pesticide, herbicide, insecticide, fungicide and rodenticide.

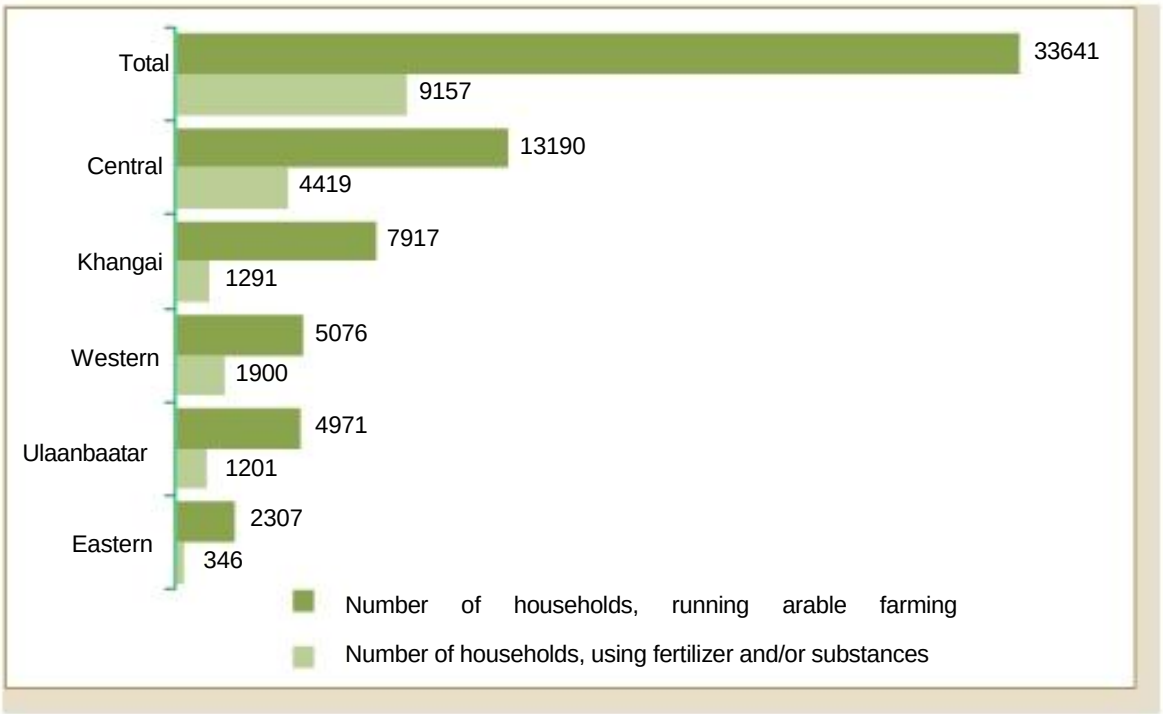
There is no information on the fertilizers and substances used in our country and the related information was collected first time by this census, which was one of its featured works.

NUMBER OF HOUSEHOLDS AND BUOs, USED FERTILIZERS AND SUBSTANCES

Totally 33.5 thousand households, running arable farming, were involved, from which 9.2 thousand households or 27.4 percent used fertilizers and substances.

From the total households, used fertilizers and substances, 4.4 thousand or 48.3 percent is located in Central region, 1.9 thousand or 20.7 percent in Western, 1.3 thousand or 14.1 percent in Khangai, 1.2 thousand or 13.1 percent in Ulaanbaatar city and 346 households or 3.8 percent in Eastern region.

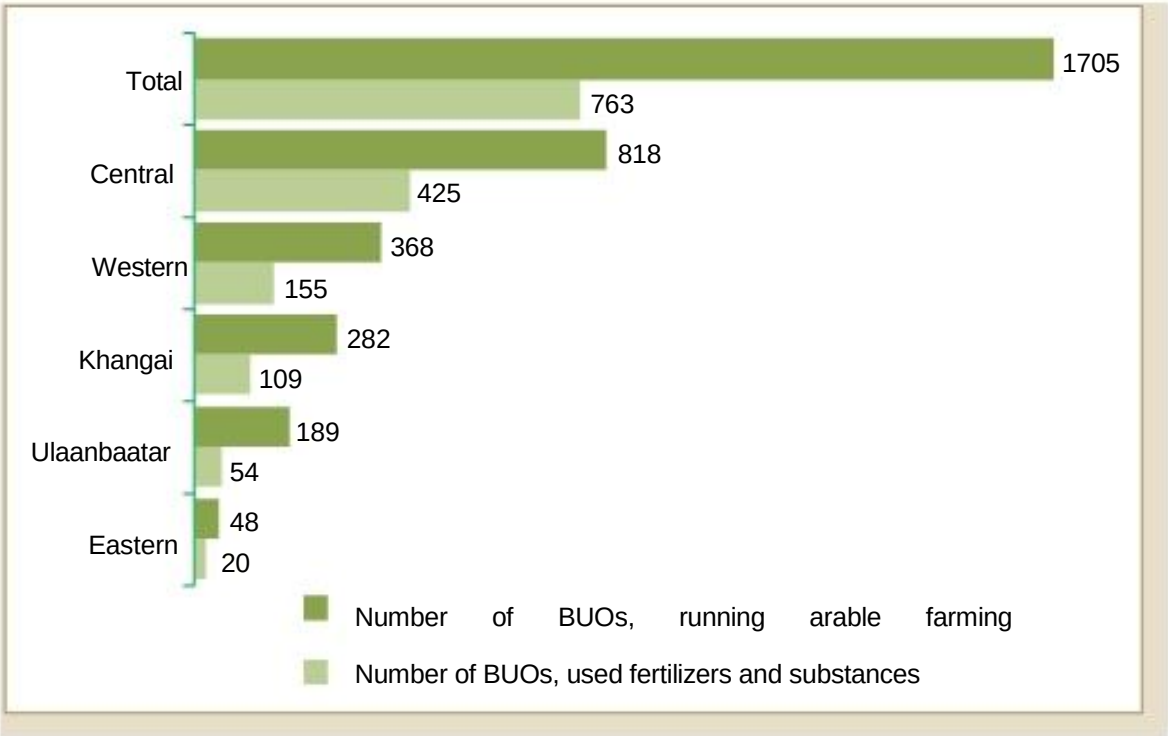
FIGURE 11.11. NUMBER OF HOUSEHOLDS, USED FERTILIZER AND SUBSTANCES, by regions



Percentage of the households, using fertilizer and substances, is higher in Western and Central regions. Number of the households, used fertilizers and substances, in Selenge province is 2.4 thousand or 26.3 percent, which had the main impact.

From the total target 1705 BUOs, running arable farming, 763 or 44.8 percent used fertilizers and substances. The BUOs, used fertilizers and substances, by regions 425 or 55.7 percent is located in Central region, 155 or 20.3 percent in Western region, 109 or 14.3 percent in Khangai region, 54 or 7.1 percent in Ulaanbaatar city and 20 or 2.6 percent in Eastern region.

FIGURE 11.12. NUMBER OF BUOs, USED FERTILIZERS AND SUBSTANCES, by regions



Compared by regions: percentage of the BUOs, used fertilizers and substances, is higher in Central region and in Selenge province 206 or 27.0 percent and in Central province 122 or 16.0 percent, which had the main impact.

FERTILIZERS USED, FIELD FERTILIZED

Land fertility reduces after many years of exploitation for arable farming activities. Land soil consists of various chemical elements, thus it loses these elements during exploitation period. Therefore, the fertilizer is used in order to increase the harvest.

The households and BUOs, running arable farming, fertilized 22.0 percent or 80.8 thousand ha of their cultivated land. The households used fertilizers in 16.4 percent and BUOs in 23.1 percent of their cultivated land.

TABLE 11.33. FIELD FERTILIZED, FERTILIZERS USED

	Total	Households	BUOs
Total cultivated field, ha	367 222.4	58 768.0	308 454.4
Total fertilized field, ha	80 834.4	9 616.1	71 218.3
Total fertilizer used, t	87 397.3	36 700.0	50 697.3
Percentage of fertilized field to the total cultivated field	22.0	16.4	23.1
Fertilizer per ha field, t	1.1	3.8	0.7

FERTILIZER USED

Household fertilizers by types: totally 36.7 thousand tons of fertilizer were used, from which 65.0 percent is natural fertilizer, 34.8 percent other fertilizer for increasing the harvest growth and 0.2 percent is mineral fertilizer. As we can see, the households commonly use available and cheap organic fertilizers as livestock and animal remains, mucks and dung in arable farming.

Compared to other regions the mineral fertilizer was more used in Central region. Mineral fertilizer is the prefabricated fertilizer.

TABLE 11.34. FERTILIZER, USED BY HOUSEHOLDS, RUNNING ARABLE FARMING, by types of fertilizer, regions

T

	Total	Western	Khangai	Central	Eastern	UB
Total	**36 700.0**	**12 572.1**	**4 120.5**	**17 810.8**	**675.4**	**1 521.2**
Natural origin	23 863.0	3 574.5	3 523.9	15 248.3	558.8	957.5
Other organic	12 770.4	8 993.7	588.6	2 510.7	116.3	561.1
Mineral	66.5	3.9	8.0	51.7	0.3	2.6
Nitrogen	42.8	3.2	3.2	34.2	0.1	2.1
Phosphorus	7.2	0.4	0.3	6.3	0.0	0.1
Potassium	1.1	0.1	0.5	0.3	0.0	0.1
Combined	15.4	0.2	3.9	10.9	0.2	0.3

Fertilizer by regions: Much fertilizer is used in Central and Western regions. In particular, 48.5 percent of the fertilizer, used by the households, running arable farming, was used in Central region, 34.3 percent in Western, 11.2 percent in Khangai, 4.2 percent in Ulaanbaatar and 1.8 percent in Eastern region.

Fertilizer by types: 75.0 percent of the total fertilizer used is of natural origin, 21.8 percent is other fertilizer to increase harvest growth and 3.2 percent is mineral fertilizer. Compared to other regions the mineral fertilizer was much used in the main agricultural region of Central region.

TABLE 11.35. FERTILIZER, USED BY BUOs, RUNNING ARABLE FARMING, by types of fertilizer, regions

T

	Total	Western	Khangai	Central	Eastern	UB
Total	**50 697.3**	**3 206.8**	**16 884.8**	**29 719.0**	**307.7**	**579.0**
Natural origin	38 009.6	1 327.8	14 506.8	21 582.9	216.5	375.6
Other organic	11 028.2	1 877.5	2 146.0	6 805.3	-	199.4
Mineral	1 659.5	1.5	232.0	1 330.9	91.2	3.9
Nitrogen	915.5	0.3	113.3	777.3	21.0	3.6
Phosphorus	152.4	0.1	7.3	144.8	-	0.2
Potassium	88.1	0.1	12.0	76.0	-	0.1
Combined	503.5	1.0	99.4	332.8	70.2	0.1

Fertilizer by regions: much fertilizer was used in Central and Khangai region. In particular, 58.6 percent of the total fertilizer used by BUOs, running arable farming, was used in Central and 33.3 percent in Khangai regions.

FIELD FERTILIZED

Fertilized field of the households by fertilizer types: 53.1 percent of field was fertilized by natural fertilizer, 24.3 percent was fertilized by other fertilizer, which increases harvest growth and 22.6 percent by mineral fertilizer.

TABLE 11.36. FIELD, FERTILIZED BY HOUSEHOLDS, RUNNING ARABLE FARMING, by types of fertilizer, regions

ha

	Total	Western	Khangai	Central	Eastern	UB
Total	**9 616.2**	**1 778.5**	**1 213.7**	**5 264.1**	**383.9**	**976.0**
Natural origin	5 106.9	495.3	822.1	2 734.8	353.0	701.7
Other organic	2 339.6	1 171.7	153.1	769.5	11.4	233.9
Mineral	2 169.7	111.5	238.5	1 759.7	19.5	40.5
Nitrogen	1 402.5	90.9	134.3	1 146.3	3.4	27.5
Phosphorus	324.0	7.3	23.1	287.1	1.1	5.4
Potassium	46.8	5.4	24.1	12.9	0.2	4.2
Combined	396.4	7.9	57.0	313.3	14.7	3.4

Compared to other regions the majority percentage is imposed to Central region. In particular, 2.4 thousand ha or 24.6 percent of fertilized field in Selenge province and 1.9 thousand ha or 19.8 percent in Central province had much impact.

TABLE 11.37. FIELD, FERTILIZED BY BUOs, RUNNING ARABLE FARMING, by types of fertilizer, regions

ha

	Total	Western	Khangai	Central	Eastern	UB
Total	**71 218.3**	**1 103.5**	**14 697.8**	**52 608.5**	**2 519.3**	**289.2**
Natural origin	19 307.5	503.6	7 338.6	11 134.6	189.9	140.7
Other organic	4 855.5	557.5	997.3	3 260.3	-	40.4
Mineral	47 055.3	42.4	6 361.9	38 213.6	2 329.4	108.0
Nitrogen	26 604.9	7.8	3 228.9	22 744.0	525.4	98.8
Phosphorus	4 350.4	7.3	311.5	4 025.1	-	6.5
Potassium	2 205.5	1.5	300.0	1 902.5	-	1.5
Combined	13 894.5	25.9	2 521.5	9 542.0	1 804.0	1.1

Fertilizer of BUOs by fertilizer types: 66.1 percent of total fertilized field was fertilized by mineral fertilizer, 27.1 percent by natural fertilizer and 6.8 percent by other fertilizer, which increases harvest growth. 81.2 percent of the total field, fertilized by mineral fertilizer, is located in Central region. In particular, 25.3 thousand ha or 53.7 percent of fertilized field is in Selenge province and 10.5 thousand ha or 22.2 percent in Central province, which had much impact.

FERTILIZER PER HA FIELD

The households and BUOs used on average 1.1 tons of fertilizer per ha field. Households used on average 3.8 tons and BUOs on average 0.7 tons of fertilizer.

TABLE 11.38. FERTILIZER PER HA FIELD OF HOUSEHOLDS AND BUOs, by types of fertilizer

	Total	Percentage
Fertilizer per ha field, t	3.8	0.7
Natural fertilizer, t	4.7	2.0
Other organic fertilizer to increase harvest growth, t	5.5	2.3
Mineral fertilizer, kg	30.7	35.3
Nitrogen fertilizer, kg	30.5	34.4
Phosphorus fertilizer, kg	22.1	35.0
Potassium fertilizer, kg	24.1	40.0
Combined fertilizer, kg	38.7	36.2

Types of fertilizer: the households use 4.7-5.5 tons of organic fertilizer per ha field and BUOs use 2.0-2.3 tons. But on average 30.7 kg of mineral fertilizer per ha field was used by the households and on average 35.3 kg was used by BUOs.

FERTILIZER USED AND FIELD, PESTICIDED

Planting one type of plants on one field every year creates insects and pests and influences to the amount of harvest. Therefore, poisoning substance is used to fight against pests by chemical method. The households and BUOs, running arable farming, have made insect poisoning to 38.2 percent or 140.7 thousand ha of the total cultivated field. In particular, the households, running arable farming, made insect poisoning to 10.3 percent of the total cultivated field and the BUOs to 43.7 percent.

TABLE 11.39. FIELD, MADE INSECT AND WEED POISONING, SUBSTANCES USED

	Total	Household	BUO
Cultivated field	**367 222.4**	**58 768.1**	**308 454.4**
Field, made insect and weed poisoning, ha	140 714.4	6 053.8	134 660.6
Substances used, t	115.8	11.4	104.4
Percentage of field, made insect and weed poisoning to total cultivated field	38.3	10.3	43.7
Substance, used per ha, kg	0.8	1.9	0.8

The households and BUOs used on average 0.8 kg of substances per ha field.

The households used on average 1.9 kg and BUOs used on average 0.8 kg substances. Let us see it in detail.

SUBSTANCES USED

Substances for pesticiding, used by households, by types: 78.8 percent of the total substance used is herbicides, 9.4 percent insecticides, 5.5 percent fungicide, 3.9 percent rodenticide and 2.4 percent biological preparations. As we can see, the households mostly used herbicides or substances for fighting against cultivation diseases, pests, rodents and weeds in their cultivation fields.

TABLE 11.40. SUBSTANCES FOR PESTICIDING, USED BY HOUSEHOLDS IN THEIR CULTIVATION FIELDS, by regions

t

	Total	Western	Khangai	Central	Eastern	UB
Total substance used, t	**11.4**	**0.1**	**0.5**	**10.5**	**0.2**	**0.2**
Herbicide	9.0	0.0	0.4	8.4	0.1	0.1
Insecticide	1.1	0.0	0.0	1.0	0.0	0.0
Fungicide	0.6	-	0.0	0.6	-	0.0
Rodenticide	0.4	-	0.0	0.4	-	0.0
Biological preparation	0.3	-	0.0	0.0	0.2	0.1

Compared to other regions much pesticide substances were used by the households in Central region. 10.5 t or 92.0 percent of the total substance was used by the households in Central region. The households in Central region mostly used herbicides to poison the insects in their cultivation fields.

Substances for pesticiding, used by BUOs, by types: 78.2 percent of the total substance used is herbicides, 9.4 percent fungicide, 6.0 percent rodenticide, 4.0 percent insecticide and 2.4 percent biological preparations. As we can see, the BUOs mostly used herbicides or substances for fighting against cultivation diseases, pests, rodents and weeds in their cultivation fields.

TABLE 11.41. SUBSTANCES FOR PESTICIDING, USED BY BUOs IN THEIR CULTIVATION FIELDS, by regions

т

	Total	Western	Khangai	Central	Eastern	UB
Total substance used, t	**104.4**	**0.0**	**9.2**	**93.5**	**1.6**	**0.0**
Herbicide	81.7	0.0	5.7	74.3	1.6	0.0
Insecticide	4.1	-	0.6	3.5	0.0	0.0
Fungicide	9.8	0.0	2.4	7.4	-	-
Rodenticide	6.2	-	0.0	6.2	-	-
Biological preparation	2.5	0.0	0.4	2.1	-	0.0

Compared to other regions much pesticide substances were used by the BUOs in Central region. 93.5 t or 89.6 percent of the total substance was used by the BUOs in Central region. The BUOs in Central region mostly used herbicides to poison the insects in their cultivation fields.

As we can see, both the households and BUOs mostly used herbicides or substances for fighting against cultivation diseases, pests, rodents and weeds in their cultivation fields.

FIELD, MADE INSECT AND WEED POISONING

Substances for pesticiding, used by households, by types: 71.9 percent of the total substance used is herbicides, 8.6 percent biological preparations, 7.9 percent fungicide and 6.7 percent rodenticide.

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TABLE 11.42. FIELD, MADE INSECT AND WEED POISONING, OF HOUSEHOLDS, RUNNING ARABLE FARMING, by regions

ha

	Total	Western	Khangai	Central	Eastern	UB
Total field pesticide, ha	**6 053.8**	**31.5**	**169.9**	**5 259.4**	**424.2**	**168.8**
Herbicide	4 354.8	31.0	133.6	4 094.5	1.8	94.0
Insecticide	295.6	0.5	4.1	280.5	0.3	10.2
Fungicide	477.5	-	0.1	477.2	-	0.2
Ridenticide	407.3	-	0.5	406.7	-	0.1
Biological preparation	518.7	-	31.6	0.7	422.1	64.4

Compared to other regions much field pesticide in Central region. In particular, 86.9 percent of the total field pesticide is in Central region. The households in central region made poisoning on 3.4 thousand ha or 56.1 percent, which had main impact.

Substances for pesticiding, used by BUOs, by types: 76.4 percent of the total field pesticided, was poisoned by herbicides, 13.2 percent by fungicide, 5.5 percent by rodenticide, 3.5 percent by insecticide and 1.5 percent by biological preparations.

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TABLE 11.43. FIELD OF BUOs, MADE INSECT AND WEED POISONING, by regions

ha

	Total	Western	Khangai	Central	Eastern	UB
Total field pesticided, ha	**134 660.6 251.5**		**15 269.8**	**116 919.7**	**2 205.0**	**14.6**
Herbicide	102 851.4	1.3	8 442.8	92 199.5	2 200.7	7.0
Insecticide	4 671.4	-	550.0	4 110.6	4.3	6.5
Fungicide	17 740.4	0.2	5 843.0	11 897.2	-	-
Rodenticide	7 359.4	-	30.0	7 329.4	-	-
Biological preparation	2 038.0	250.0	404.0	1 383.0	-	1.0

The field, made insect and weed poisoning by BUOs, is higher in Central region than in other regions. In particular, 86.8 percent of the field, made insect and weed poisoning by BUOs, is imposed to Central region, in particular, 87.1 thousand ha or 64.7 percent of the total field pesticided by BUOs is in Selenge province and 21.7 thousand ha or 16.1 percent in Tuv province, which had main impact.

SUBSTANCES PER HA FIELD

The households and BUOs used on average 0.8 kg of substances per ha field. The households used on average 1.9 kg of substances and the BUOs used on average 0.8 kg of substances.

TABLE 11.44. SUBSTANCES PER HA FIELD, USED BY HOUSEHOLDS AND BUOs, by types of substances

kg

	Households	BUOs
Substances per ha field, kg	**1.9**	**0.8**
Herbicide	2.1	0.8
Insecticide	3.6	0.9
Fungicide	1.3	0.6
Rodenticide	1.1	0.8
Biological preparation	0.6	1.2

Pesticides by types: a household used on average 0.6-3.6 kg of substances per ha field and BUO used on average 0.6-1.2 kg of substances.

PART TWELVE

PRODUCTION INCOME AND EXPENSES OF HOUSEHOLDS, RUNNING AGRICULTURAL ACTIVITIES

PRODUCTION INCOME AND EXPENSES OF HOUSEHOLDS, RUNNING AGRICULTURAL ACTIVITIES

In the framework of the Agricultural census, conducted for first time in our country, many set issues, related to the activities of agricultural sector, were considered, from which, the issue to define structure of livestock production and expenses, product output, norms and normative and price level play important role.

In coordination to this goal the “Sampling survey on income and expenses of agricultural production” was conducted in 2011 as of 2010.

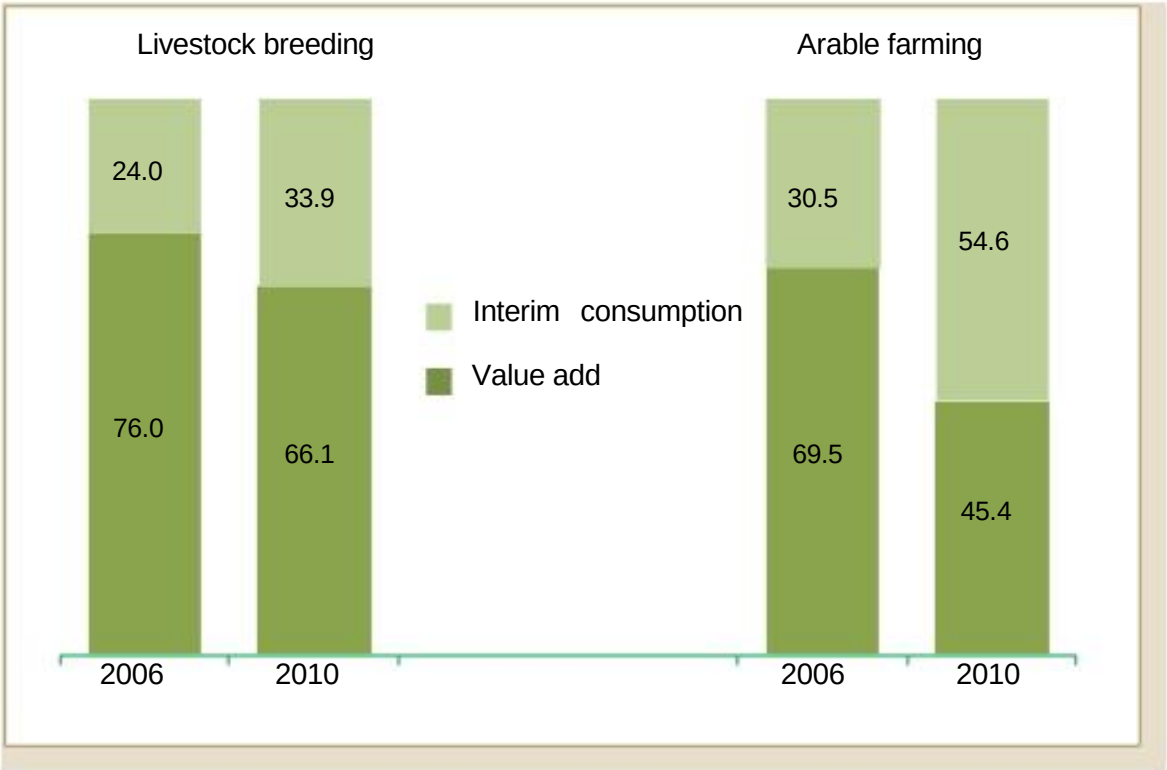
The results of the “Sampling survey on income and expenses of agricultural production” will be introduced in part twelve, the results of the “Sampling survey on prices of agricultural producers” in part thirteen and the results of the “Sampling survey on animal product outcome” in part fourteen.

In the framework of the project TCP/MON/6713 by the Food and Agricultural Organization (FAO) UN the surveys on production cost and expenses were conducted in 1994, 1998-1999, and 2006 and the survey results were used as basic structure of agricultural production, value add and interim consumption products.

This “Sampling survey on income and expenses of agricultural production” was conducted to the 1120 households, running livestock breeding and arable farming of the 21 provinces, by once interview from April 1 to May 30, 2011.

According to the survey results value add in livestock breeding sector occupies 66.1 percent to total production and was reduced by 9.9 points from the previous survey, but percentage of interim consumption was 33.9. In arable farming sector value add occupies 45.4 percent to total production and was reduced by 24.1 points from previous survey.

FIGURE 12.1. STRUCTURE OF HOUSEHOLD EXPENSES IN AGRICULTURAL SECTOR, by year



9.5 percent of the production expenses of the households, running livestock breeding, are fodder, 6.9 percent is fuel and lubricants and 2.6 percent is running repairs.

The structure of arable farming expenses was much changed and percentage of much of the expenses increased, hence, the profit/loss was reduced. Percentage of seed expenses reached 17.2 percent, which is higher than the previous survey 5.7 times, fodder reached 2.4 percent and increased 4.8 times and fuel reached 11.1 percent and increased by 85.0 percent respectively.

TABLE 12.1. STRUCTURE OF PRODCUTION EXPENSES OF HOUSEHOLDS, RUNNING AGRICULTURAL ACTIVITIES, in 2010, by percentage

	Livestock breeding		Arable farming	
	2006	2010	2006	2010
Total expenses	**100.0**	**100.0**	**100.0**	**100.0**
Interim consumption	**24.0**	**33.9**	**30.5**	**54.6**
Fodder	2.4	9.5	-	-
Medicines	0.9	1.8	-	-
Seeds	-	-	3.0	17.2
Fertilizer	-	1.3	0.5	2.4
Pesticiding	0.1		0.3	0.8
Raw materials	1.7	0.6	2.7	3.1
Spare parts	1.8	0.8	2.7	3.2
Running repair expenses	0.4	2.6	0.9	3.6
Insurance /animal, harvest/	-	0.3	-	-
Fuel and lubricants	6.1	6.9	6.0	11.1
Electricity	0.5	0.5	1.2	0.8
Heating (steam,hot water, gas)	0.1	0.5	0.4	0.4
Transportation expenses	1.5	-	1.7	-
Postal and communication expenses	-	1.5	-	0.9
Payment for outside organization service	-	2.2	-	6.2
Payment for building and facilities rent	-	0.1	0.4	0.5
Payment for machines and equipment rent	-	0.9	-	2.3
Firewood, droppings	0.6	1.8	1.7	1.0
Other	7.9	2.6	9.0	1.1
Value add	**76.0**	**66.1**	**69.5**	**45.4**
Basic and extra pay, bonus and incentives	0.2	3.8	2.4	5.5
Cash and in-cash support to workers	0.4	-	0.2	1.1
Deductions of social and health insurances	0.4	0.6	0.3	0.5
Payment for land and pasture use	0.3	0.2	0.3	-
Animal tax	1.2	0.0	0.1	-
Tax on private auto transport and vehicles	-	0.5	-	0.4
Other taxes and deductions	-	0.2	-	0.3
Loan interest expenses	1.0	2.0	4.7	8.8
Profit/loss	72.5	58.9	61.5	28.8

PART THIRTEEN

AGRICULTURAL PRODUCT PRODUCER'S PRICE

AGRICULTURAL PRODUCT PRODUCER'S PRICE

"Sampling survey on price of agricultural producers" was conducted during the agricultural census with the purpose to collect basic data, necessary to creating total output of agricultural products, interim consumption, calculations of value add and economic account.

The data from Arkhangai, Bayan-Ulgii, Dornogobi, Uvurkhangai, Umnugobi, Sukhbaatar, Selenge, Tuv, Khovd and Khentii provinces and Ulaanbaatar city as representatives of each region was collected by the survey as of the end of 2010. The feature of this survey is the results at regional level.

The price of livestock and pets was collected by classification of matured, young and newborn and the price of arable farming products was collected by types of plants from the households and business units, organizations, running the productions.

Producer's price in agricultural sector is the price on products of livestock breeders and arable farmers and sales price of the raw materials directly from the production sites. In other words, it is the price, not including next service steps from the producer, transportation and trade additions.

COST OF LIVESTOCK BREEDING PRODUCTS

COST OF LIVESTOCK AND PETS

According to the survey results horse price is highest in steppe region, cattle price in khangai region, camel price in high mountain region, sheep and goat price is the highest in gobi region. The cost of matured livestock was compared to the cost of young livestock in 2010, as the result, horse is higher by 34.6-68.8 percent, cattle from 26.8 percent 2.1 times, camel by 36.7-80.0 percent, sheep by 22.2-55.8 percent and goat by 24.1-50.0 percent respectively.

Boar price is the highest in khangai region - 512.0 thousand tugrugs, in gobi region 320.0 thousand tugrugs, in high mountain region 300.0 thousand tugrugs and in steppe region 218.0 thousand tugrugs. The cost of pig in khangai region is 2.3 times more expensive than in steppe region, which is depended on the pig weight and meat quality.

The cost of bee hives was defined mainly by the price of Selenge province and it could be the main producer. In Shaamar the bee hive costs on average 553.0 thousand tugrugs.

TABLE 13.1. AVERAGE COST OF LIVESTOCK AND PETS, by types of livestock and pets, regions, in 2010

Thous MNT

		Khangai	High mountain	Steppe	Gobi
Horse	Matured	284.0	334.0	385.0	292.0
	Young	211.0	215.0	247.0	173.0
	Newborn	50.0	-	-	80.0
Cattle	Matured	416.0	268.0	420.0	368.0
	Young	328.0	180.0	204.0	245.0
	Newborn	168.0	100.0	72.0	100.0
Camel	Matured	450.0	472.0	410.0	428.0
	Young	250.0	300.0	300.0	252.0
	Newborn	-	100.0	-	100.0
Sheep	Matured	46.0	43.0	44.0	67.0
	Young	37.0	31.0	36.0	43.0
	Newborn	20.0	10.0	18.0	22.0
Goat	Matured	36.0	36.0	33.0	49.0
	Young	29.0	26.0	22.0	33.0
	Newborn	15.0	10.0	13.0	24.0
Pig	Boar	512.0	300.0	218.0	320.0
	Sow	406.0	200.0	133.0	200.0
	Piggy	45.0	40.0	38.0	38.0
Chicken		14.0	-	15.0	10.0
Bee		553.0	-	-	-

MEAT PRICE

In 2010 the price of 1 kg of horse meat is 2323 tugrugs in steppe region, 1 kg of beef and mutton is 3000 tugrugs in high mountain region, 1 kg of goat meat in high mountain region is 2500 tugrugs and 1 kg of pork in steppe region is 5700 tugrugs, which are the highest costs.

TABLE 13.2. AVERAGE MEAT PRICE, by types of animals and pets, regions, in 2010

MNT

	Khangai	High mountain	Steppe	Gobi
Horse meat	1 559	1 800	2 323	2 302
Beef	2 619	3 000	2 546	2 858
Camel meat	1 800	-	-	1 565
Mutton	2 330	3 000	2 193	2 792
Goat meat	1 919	2 500	1 776	2 080
Pork	4 300	-	5 700	5 200

MILK PRICE

Milk price is relatively high in high mountain region. Cow milk price in gobi region is 1201 tugrugs per litre, 712 tugrugs in khangai region, 965 tugrugs in high mountain region and 858 tugrugs in steppe region.

TABLE 13.3. AVERAGE MILK PRICE, by regions, in 2010

tugrugs/litre

	Khangai	High mountain	Steppe	Gobi
Mare	1 100	1 430	1 500	-
Cow	712	965	858	1 201
She-camel	1 033	2 361	-	1 878
Sheep and goat	596	1 108	-	1 829

WOOL AND CASHMERE PRICE

1 kg of camel wool in high mountain region is 5.0 thousand tugrugs, in gobi region 4.7 thousand tugrugs, in steppe region 4.0 thousand tugrugs, in khangai region 3.9 thousand tugrugs. 1 kg of sheep wool in khangai region is the highest - 441 tugrugs, in steppe region 413 tugrugs, in gobi region 411 tugrugs, in high mountain region 269 tugrugs. 1 kg of goat cashmere is the cheapest in high mountain regions - 40.0 thousand tugrugs and same in other regions. Big cattle hair is 304 tugrugs per kg in high mountain region and is not sold in other regions.

TABLE 13.4. AVERAGE PRICE ON WOOL, CASHMERE AND HAIR, by regions, in 2010

	Khangai	High mountain	Steppe	Gobi
Camel wool, thous.tug	3.9	5.0	4.0	4.7
Sheep wool, tug	441	269	413	411
Goat cashmere, thous,tug	47.0	40.0	47.0	47.0
Big cattle hair, rug	-	304	-	-
Big cattle thick hair, tug	1 590	707	984	-

HIDES AND LEATHER PRICE

1 cattle hide in khangai region is 16.0 thousand tugrugs, in gobi region 15.0 thousand tugrugs, in steppe region 13.1 thousand tugrugs and in high mountain region 13.0 thousand tugrugs.

The price of sheep and goat hides is relatively same in the four regions, but the horse hide price varies in the regions. In Umnugobi province, representing the Gobi region, camel hide price is the highest – 12.7 thousand tugrugs.

TABLE 13.5. AVERAGE PRICE ON HIDES AND LEATHER, by regions, in 2010

Thous.MNT

	Khangai	High mountain	Steppe	Gobi
Horse hide	20.0	19.0	10.0	15.0
Cattle hide	16.0	13.0	13.1	15.0
Camel hide	12.5	-	-	12.7
Sheep hide	7.7	8.8	6.0	9.6
Goat hide	14.3	16.5	13.0	15.0

COMPARISON OF PRODUCT PRODUCER'S PRICE AND MARKET PRICE

In this part we will compare the producer's price with market price. Market price on agricultural products in the regions is higher than producers' prices.

TABLE 13.6. RATIO ON LIVESTOCK PRODUCER'S PRICE AND MARKET PRICE, by regions

		Khangai	High mountain	Steppe	Gobi
Horse	Matured	99.6	95.4	96.3	97.3
	Young	99.1	100.0	98.8	88.3
	Newborn	59.5	0.0	0.0	79.2
Cattle	Matured	92.4	97.1	95.0	77.6
	Young	93.7	91.4	76.7	72.3
	Newborn	100.0	100.0	86.7	100.0
Camel	Matured	97.2	94.4	98.6	83.9
	Young	78.1	100.0	100.0	86.9
	Newborn	0.0	74.6	0.0	91.7
Sheep	Matured	88.5	95.6	89.8	95.7
	Young	100.0	71.4	100.0	100.0
	Newborn	94.7	90.0	97.1	98.0
Goat	Matured	100.0	100.0	100.0	100.0
	Young	29.0	26.0	22.0	33.0
	Newborn	15.0	10.0	13.0	24.0

TABLE 13.7. RATIO ON MEAT PRODUCER'S PRICE AND MARKET PRICE, ABY REGIONS

	Khangai	High mountain	Steppe	Gobi
Horse meat	58.3	74.8	88.3	79.8
Beef	68.3	95.4	70.3	66.6
Camel meat	91.5	-	-	75.2
Mutton	68.9	99.0	70.4	78.4
Goat meat	66.8	95.2	69.8	72.7
Pork	91.8	-	-	-

TABLE 13.8. RATIO ON MILK PRODUCER'S PRICE AND MARKET PRICE, by regions

	Khangai	High mountain	Steppe	Gobi
Mare	54.0	63.9	75.0	-
Cow	55.2	67.7	72.2	63.0
She-camel	46.8	86.7	-	94.2
Sheep and goat	49.0	75.0	27.7	94.0

TABLE13.9. RATIO ON HIDES PRODUCER'S PRICE AND MARKET PRICE, by regions

MNT

	Khangai	High mountain	Steppe	Gobi
Horse hide	90.1	87.6	49.3	69.8
Cattle hide	92.5	89.0	91.6	93.8
Camel hide	95.4	-	-	74.0
Sheep hide	97.5	89.8	96.8	98.0
Goat hide	75.3	82.5	76.5	71.4

TABLE 13.10. RATIO ON WOOL AND CASHMERE PRODUCER'S PRICE AND MARKET PRICE, by regions

	Khangai	High mountain	Steppe	Gobi
Camel wool	95.1	91.5	95.0	97.5
Sheep wool	94.5	62.1	86.7	94.5
Goat cashmere	99.3	90.9	92.4	84.4
Big cattle hair	-	58.9	-	-
Big cattle thick hair	36.4	18.3	24.1	-

PRICE OF ARABLE FARMING PRODUCTS

Price of 1 kg wheat in khangai region is 281 tugrugs, in steppe region 385 tugrugs; 1 kg of barley costs 500 tugrugs in khangai region, in high mountain region 480 tugrugs; 1 kg of rye in high mountain region is 550 tugrugs, in steppe region 350 tugrugs; 1 kg of oats in khangai region is 375 tugrugs, in high mountain region 280 tugrugs, in steppe region 385 tugrugs. The price of potatoes is the highest in Gobi region - 770 tugrugs, which is higher than in khangai region by 213 tugrugs, in high mountain region by 412 tugrugs and in steppe region by 216 tugrugs.

TABLE13.11. AVERAGE PRICE OF WHEAT, POTATOES AND VEGETABLES, by regions, in 2010

MNT

	Khangai	High mountain	Steppe	Gobi
Wheat, kg	281	-	385	-
Barley, kg	500	480	-	-
Rye, kg	-	550	350	-
Oats, kg	375	280	385	-
Potato, kg	557	358	554	770
Cabbage, kg	610	648	753	790
Beet, kg	550	528	995	829
Carrot, kg	607	477	985	740
Onion, kg	870	500	1 363	1 263
Garlic, kg	1 390	800	1 000	1 000
Cucumber, kg	1 309	1 000	1 257	838
Tomato, kg	1 477	591	1 958	1 700
Watermelon, kg	487	572	900	872

Average cost of 1 ton of fodder plants by fodder types: hay 86.0 thousand tugrugs, green fodder 127.0 thousand tugrugs, perennial 100.0 thousand tugrugs, silage plant 85.0 thousand tugrugs, manual fodder 38.0 thousand tugrugs, salt 53.0 thousand tugrugs and straw 27.0 thousand tugrugs.

1 kg of apple costs 1000 tugrugs, 1 kg of seabuckthorn 2475 tugrugs, 1 kg of blackberry 2270 tugrugs, 1 kg of raspberry costs 3000 tugrugs. Oil plants costs 490.0 thousand tugrugs per ton.

TABLE 13.12. AVERAGE COST OF FODDER PLANTS, TECHNICAL PLANTS, FRUIT AND BERRIES, by regions, in 2010

Thous.tug

	Product	Unit price
Fodder plant	Hay, grass, t	86.0
	Green fodder, t	127.0
	Perennial, t	100.0
	Silage plant, t	85.0
	Manual fodder, t	38.0
	Salt, t	53.0
	Straw, t	27.0
Technical plant	Oil plant, t	490.0
Fruit and berries	Apple, kg	1.0
	Seabuckthorn, kg	2.5
	Blackberry, kg	2.3
	Raspberry, kg	3.0

TABLE13.13. RATIO OF PRODUCER'S PRICE OF ARABLE FARMING PRODUCTS AND MARKET PRICE

	Product	Unit price
Fodder plant	Wheat, kg	84.2
	Barley, kg	89.4
	Rye, kg	93.7
	Oats, kg	83.4
	Potato, kg	56.6
	Cabbage, kg	62.3
	Beet, kg	73.2
Technical plant	Carrot, kg	70.0
Fruit and berries	Onion, kg	81.7
	Garlic, kg	35.1
	Cucumber, kg	46.6
	Raspberry, kg	3.0

PART FOURTEEN

ANIMAL PRODUCT OUTCOME

SAMPLING SURVEY ON ANIMAL PRODUCT OUTCOME

In the framework of TCP/MON/6713 project from Food and Agricultural Organization (FAO) UN a survey on animal product outcome was conducted in 1998-1999 and 2006 and the survey results were used in calculating current agricultural production and value adds.

The main purpose of the "Sampling survey on animal product outcome" is to study the animal product outcome by the provinces and to renovate the previous survey results.

All the provinces were involved in the survey and it was conducted by household recording method from May 1 to November 30, 2011.

The current survey results were connected with the livestock census database, which eliminated the indicator repeats and increased the data quality. Also, it provided the possibility to use the outcome data of related province in value add calculations of the province in livestock breeding sector at provincial level.

LIVESTOCK MILK OUTCOME

According to the "Sampling survey on animal product outcome", conducted by representing the four seasons of a year, average daily outcome of Mongol cow milk is 2.57 liters, yak cow 1.83 liters, pure breed cow 4.40 liters, hybrid cow 3.72 liters. And average time of milking throughout the year: hybrid cow 8.7 months, pure breed cow 8.2 months, local Mongol and yak cows 6.7 months. Cow milk outcome and milking time vary in the regions. 93.5 percent of the total cows are local breed cows.

Local Mongol cow milk outcome by regions: in steppe region 2.81 liters, in khangai region 2.59 liters, in high mountain region 2.31 liters and in gobi region 2.26 liters.

Compared to cow breeds: the average daily milk output of pure breed cows is the highest or 2.4 times much than yak cow, by 71.2 percent higher than local Mongol cows and by 18.3 percent than hybrid cows.

TABLE 14.1. AVERAGE DAILY OUTCOME OF COW MILK, by regions, in 2011

Breed	State average	Khangai	High mount	Steppe	Gobi
Local Mongol cow					
Average daily output, liters	2.57	2.59	2.31	2.81	2.26
Milking times a year, months	6.7	6.8	7.2	6.5	5.7
Yak cow					
Average daily output, liters	1.83	1.94	1.67	1.72	2.01
Milking times a year, months	6.7	6.0	7.2	5.1	6.3
Pure breed cow					
Average daily output, liters	4.40	4.45	-	4.40	3.83
Milking times a year, months	8.2	8.4	-	8.1	10.0
Hybrid cow					
Average daily output, liters	3.72	3.70	3.88	4.39	-
Milking times a year, months	8.7	8.5	9.3	8.0	-

Milking registration was conducted throughout the year, which provided the possibility to define the milk output by seasons. Average daily milk output of local Mongol cow in summer season is 3.13 liters, in fall season 2.52 liters, in spring season 2.45 liters and in winter season 1.91 liters. Average daily milk output of pure breed cow in summer season is 5.90 liters, in fall season 4.33 liters, in spring season 3.75 liters and in winter season 2.95 liters.

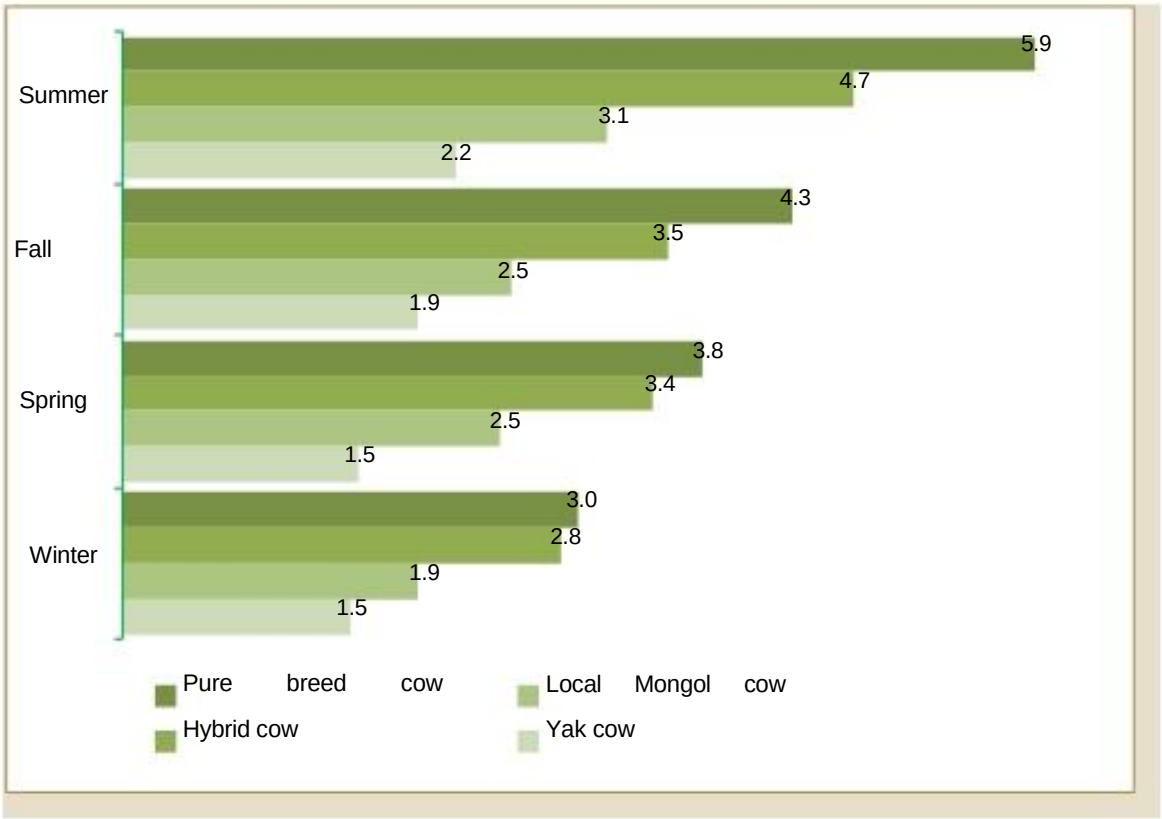
TABLE 14.2. AVERAGE DAILY COW MILK OUTPUT, by seasons, in 2011

liters

Breed	Yearly average	Spring	Summer	Fall	Winter
Local Mongol cow	2.57	2.45	3.13	2.52	1.91
Yak cow	1.83	1.53	2.16	1.91	1.48
Pure breed cow	4.40	3.75	5.90	4.33	2.95
Hybrid cow	3.72	3.43	4.73	3.53	2.84

As shown in figure 14.1 average daily milk output of pure breed cow in summer season reaches maximum 5.90 liters.

FIGURE 14.1. AVERAGE DAILY COW MILK OUTPUT, by seasons, liters, in 2011



Cow milking: pure breed cow 98.5 percent, hybrid cow 96.9 percent, local Mongol cow 92.6 percent and yak cow 76.0 percent.

Local Mongol cow milking in high mountain region is the highest or 95.5 percent and pure breed cow in khangai, steppe and gobi regions is the highest or 96.5-100.0 percent.

TABLE 14.3. PERCENTAGE OF COW MILKING, by regions, percent, in 2011

Breed	State average	Khangai	High mount	Steppe	Gobi
Local Mongol cow	92.6	92.6	95.5	91.6	86.7
Yak cow	76.0	72.8	81.1	88.9	100.0
Pure breed cow	98.5	99.6	-	96.5	100.0
Hybrid cow	96.9	97.2	88.1	96.2	-

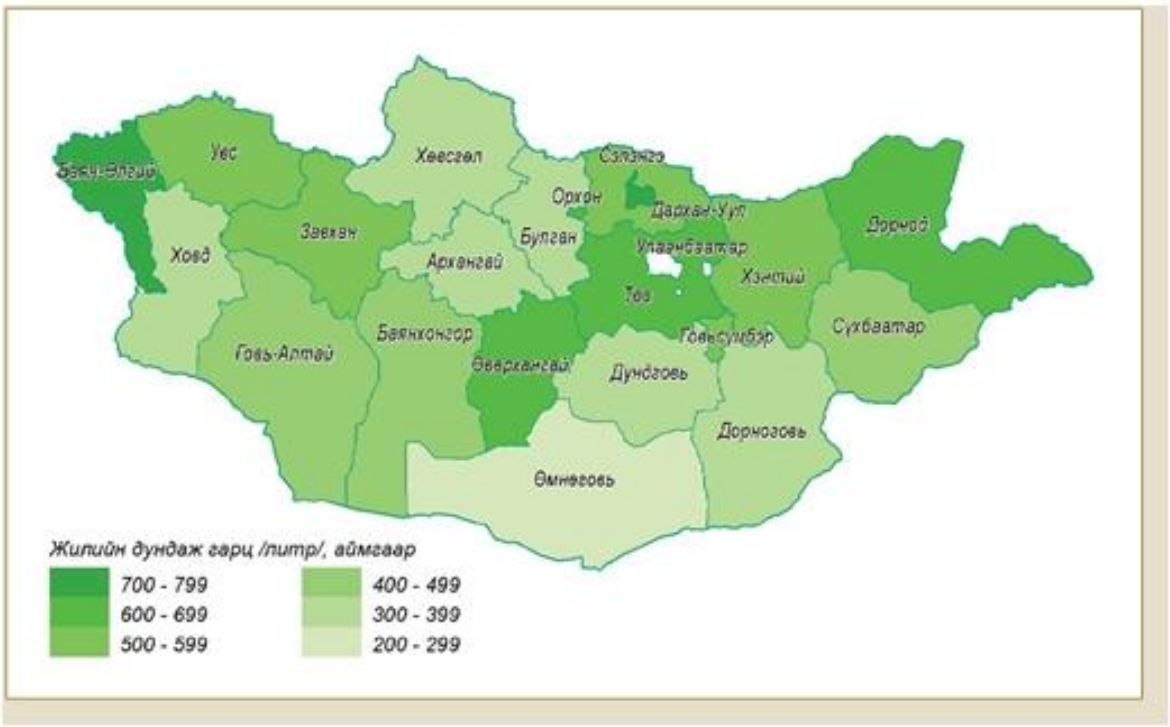
The average yearly outcome of local Mongol cow is 519 liters, yak cow 371 liters, pure breed cow 1090 liters and hybrid cow 966 liters.

TABLE 14.4. AVERAGE YEARLY COW MILK OUTCOME, by regions, in 2011

Breed	State average	Khangai	High mount	Steppe	Gobi
Local mongol cow	519	528	496	550	384
Yak cow	371	351	361	262	379
Pure breed cow	1090	1122	-	1068	1149
Hybrid cow	966	947	1081	1055	-

Average yearly milk outcome of local mongol cow by provinces: it is higher than state average by 16-211 litres in Bayan-Ulgii, Darkhan-Uul, Tuv, Orkhon, Uvurkhangai, Dornod, Khentii, Gobisumber, Selenge and Uvs provinces.

FIGURE 14.2. AVERAGE YEARLY COW MILK OUTCOME, by provinces, in 2011



Average daily outcome of mare milk is 2.41 litres, she-camel 0.95 litres, ewe 0.27 litres and nanny-goat 0.31 litres. Yearly milking time: mare 2.9 months, she-camel 5.2 months, ewe 2.1 months and nanny-goat 3.1 months.

TABLE 14.5. AVERAGE YEARLY MILK OUTCOME OF FEMALE ANIMALS, EXCEPT COWS, by regions, in 2011

	State average	Khangai	High mount	Steppe	Gobi
Mare					
Average daily output, litres	2.41	2.32	2.45	2.19	2.90
Milking times a year, months	2.9	3.1	2.9	2.3	3.0
She-camel					
Average daily output, litres	0.95	0.94	1.00	0.68	0.98
Milking times a year, months	5.2	5.8	3.9	3.6	7.4
Ewe					
Average daily output, litres	0.27	0.27	0.27	0.35	0.24
Milking times a year, months	2.1	1.8	2.3	2.3	2.1
Nanny-goat					
Average daily output, litres	0.31	0.33	0.32	0.35	0.28
Milking times a year, months	3.1	2.4	3.7	2.2	3.8

Average daily milk outcome by seasons: mare milk in summer season 2.64 litres, in fall 2.17 litres; she-camel milk in spring 1.02 litres, in summer 0.99 litres, in fall 0.94 litres and in winter 0.84 litres; ewe milk in summer 0.27 litres; nanny-goat milk in summer 0.38 litres and in fall 0.20 litres.

TABLE 14.6. AVERAGE DAILY MILK OUTCOME OF FEMALE ANIMALS, EXCEPT COWS, by seasons, in 2011

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	Yearly average	Spring	Summer	Fall	Winter
Mare	2.41	-	2.64	2.17	-
She-camel	0.95	1.02	0.99	0.94	0.84
Ewe	0.27	-	0.27	-	-
Nanny-goat	0.31	-	0.38	0.20	-

Milking percentage by types of female animals: mare 58.1 litres, she-camel 81.9 litres, ewe 58.7 litres, nanny-goat 73.7 litres. The highest milking percentage by regions: mare in khangai region 65.2, she-camel in gobi region 85.3, ewe and nanny-goat in high mountain region 72.5-78.5.

TABLE 14.7. PERCENTAGE OF MILKING OF FEMALE ANIMALS OTHER THAN COWS, by regions, in 2011

percent

	State average	Khangai	High mount	Steppe	Gobi
Mare	58.1	65.2	43.4	43.6	72.8
She-camel	81.9	77.3	79.1	84.8	85.3
Ewe	58.7	59.5	72.5	42.0	49.3
Nanny-goat	73.7	72.0	78.5	58.6	73.4

Average yearly milk outcome for mare is 209 litres, she-camel 147 litres, ewe 17 litres and nanny-goat 29 litres.

TABLE 14.8. AVERAGE YEARLY MILK OUTPUT FROM FEMALE ANIMALS EXCEPT COWS, by regions, in 2011

l

	State average	Khangai	High mount	Steppe	Gobi
Mare	209	216	216	149	262
She-camel	147	163	117	74	218
Ewe	17	15	19	24	15
Nanny-goat	29	24	35	23	32

OUTCOME OF WOOL, CASHMERE, HAIR AND THICK HAIR

Totally 1548 young camels, 3115 matured camels and 101808 sheep were involved to wool cutting, 115069 goats to cashmere cutting and 17580 goats, 11695 horses and 6189 cattle were involved to hair cutting, representing the regions.

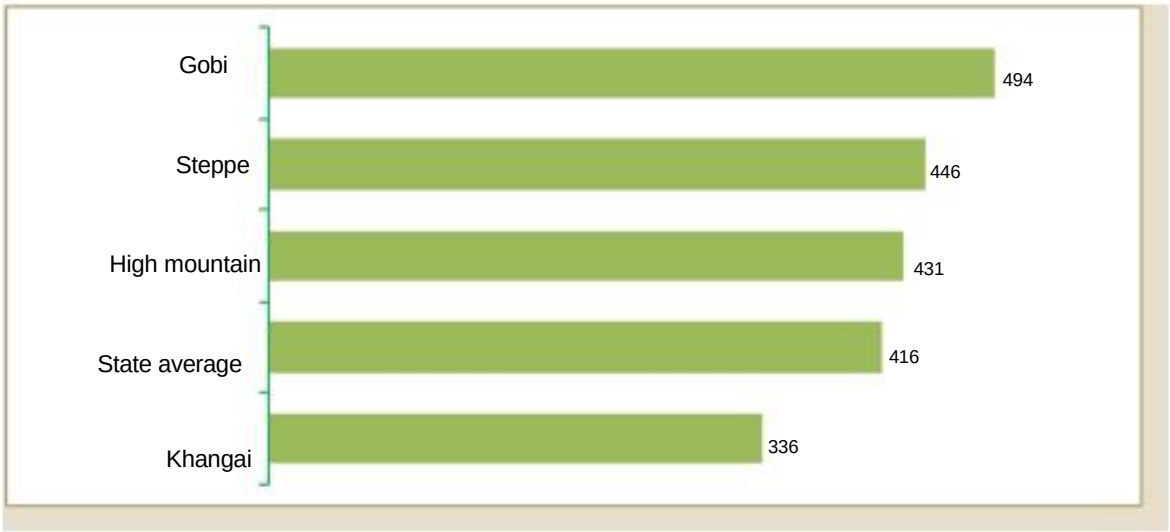
On average 4.1kg of wool is cut from young camel a year, 5.1kg of wool from matured camel, 1.3 kg of long wool from sheep, 463 gram of short wool and 408 gram of wool from lamb respectively; 416 gram of cashmere is brushed from goat and 239 gram of hair; 408 gram of thick hair and 314 gram of hair is taken from big cattle. The average cashmere, brushed from 1 goat, is the highest in gobi region or 494 grams and the lowest in khangai region or 336 grams.

TABLE 14.9. AVERAGE YEARLY OUTCOME OF WOOL, CASHMERE, HAIR AND THICK HAIR, by types of livestock, regions, in 2011

	State average	Khangai	High mount	Steppe	Gobi
Camel wool, young age	4 053	3 225	3 998	4 329	4 550
Camel wool, matured	5 050	4 465	5 241	5 124	5 262
Sheep long wool	1 279	1 230	1 465	1 092	1 397
Sheep short wool	463	440	528	419	496
Lamb wool	408	373	482	363	445
Cashmere	416	336	431	446	494
Goat hair	239	249	224	251	241
Big cattle thick hair	408	429	445	328	346
Big cattle hair	314	319	364	218	358

By provinces: average yearly cashmere outcome is higher than state average by 4-111 grams in Umnugobi, Dundgobi, Dornogobi, Zavkhan, Uvs, Bayankhongor and Gobi-Altai provinces.

FIGURE 14.3. AVERAGE YEARLY OUTCOME OF CASHMERE, by grams, regions, in 2011



PART FIFTEEN

SUPPLY OF HOUSEHOLDS, RUNNING AGRICULTURAL ACTIVITIES

FOOD SUPPLY

FAO UN recommended to collect data about the household food safety and include the questions, which matches to the conditions and features of the country to the agricultural census.

It is determined “Food safety means a human must always have high quality, hygienic, reliable, caloric and nutritious food , which will be enough for healthy and active life, normal growth and development” and consists of the main 3 indicators as food supply, food calorie, nutrition and food quality and sanitary.

Except calculating the supply of the population of a country with necessary food products at the national level, it is important to determine the food supply at household level with the help of household-based surveys.

Such indicators, as sufficiency of food products for the households, running agricultural production, reduction and/or shortage of food product consumption, in which months usually food shortage occurs, measures taken to eliminate it, main reasons for food shortage, regular usage of necessary food products, which were recommended from the FAO UN, were included to the agricultural census and the results were summarized.

HOUSEHOLDS IN FOOD SHORTAGE

“Food shortage” means the condition, when consumption amount is reduced or cut because of insufficient food products for regular usage.

From the total target 209.6 thousand households, running livestock breeding, 3.6 percent or 7.6 thousand households were in food shortage.

Also, from the total target 33.5 thousand households, running arable farming, 4.7 percent or 1.6 thousand were considered to be in food shortage.

TABLE 15.1.NUMBER OF HOSUEHOLDS IN FOOD SHORTAGE

	Total	Livestock breeding	Arable farming
Number of households	9155	7594	1561
Percentage to the households, running livestock breeding and arable farming	3.8	3.6	4.7

The households, running agricultural activities, produce the main food products for Mongolians as meat, meat products, milk, dairy products, potatoes and vegetable by themselves, as well directly provide their food consumption, sell some kinds of products and make income, therefore, they are rarely suffer from food shortage. On the other hand, as of 2011, when the census took place, the climatic and environmental favorable conditions might have impact.

FOOD SHORTAGE

The related questions were included to the census questionnaire in order to determine the seasonal impact to the food supply.

About 56.0 percent of the households mainly suffer from food shortage in spring months or as Mongolians say during poor spring period (March, April and May), when the products, stored and prepared in fall and winter seasons, finish, availability reduces and cost increases.

TABLE 15.2. NUMBER OF HOUSEHOLDS IN FOOD SHORTAGE, by months

Months	Number of households		Percentage to the households in food shortage	
	Livestock	Arable farming	Livestock	Arable farming
January	1 422	325	18.7	20.8
February	1 941	406	25.6	26.0
March	3 825	840	50.4	53.8
April	4 480	1 081	59.0	69.3
May	3 357	903	44.2	57.9
June	1 525	404	20.1	25.9
July	971	193	12.8	12.4
August	991	121	13.0	7.8
September	1 074	88	14.1	5.6
October	1 116	139	14.7	8.9
November	1 063	220	14.0	14.1
December	1 144	279	15.1	17.9
December	1 144	280	15.1	17.9

Percentage of the households in food shortage to the total households per month: 51.0 percent suffered from food shortage in March, 60.7 percent in April and 46.5 percent in May, which are higher, compared to the other months.

REASONS FOR FOOD SHORTAGE

The main reasons for the households, running agricultural activities, to suffer from food shortage were considered first “because the cost of food products increased”, second, “household income reduced”. The next reason for food shortage for the households, running livestock breeding, is “livestock loss” and for the households, running arable farming, is “no workplace”.

TABLE 15.3. NUMBER OF HOUSEHOLDS IN FOOD SHORTAGE, by reasons

	Number of households		Percentage to the households in food shortage	
	Livestock breeding	Arable farming	Livestock breeding	Arable farming
Higher cost of food products	4484	1162	59.1	74.5
Household income reduced	3749	670	49.4	42.9
Lost livestock	2451	113	32.3	7.2
No workplaces	1847	397	24.3	25.4
Poor availability of food products	976	334	12.8	21.5
Suffered from natural disaster	873	59	11.5	3.8
Lost work abilities	631	145	8.3	9.3
Suffered from livestock theft	370	33	4.9	2.1
Lost harvest	122	200	1.6	12.8
Others	210	32	2.8	2.1

CHANGES IN FOOD CONSUMPTION DUE TO FOOD SHORTAGE

We have studied in detail about how and what kind of coordination is made by the households, running agricultural activities, during food shortage period.

56.6 percent of the households, running livestock breeding, reduce normal food and meal consumption during food shortage, 40.5 percent use cheap products, 33.4 percent take support from others and 4.7 percent take other measures.

And 55.8 percent of the households, running arable farming, use cheap products during food shortage, 55.5 percent reduce normal food and meal consumption, 27.4 percent take support from others and 4.0 percent take other measures.

TABLE 15.4. CHANGES TO FOOD CONSUMPTION DUE TO FOOD SHORTAGE, by percentage

	Livestock breed	Arable farming
Took support from others	33.4	27.4
Used cheap products	40.5	55.8
Reduced amount of food and meals	56.6	55.5
Others	4.7	4.0

The households, running arable farming, made such changes to their food consumption due to food shortage, first “used cheap products”, second, “reduced normal consumption of food and meals” but in contrary, the households, running livestock breeding, made such coordination as first, “reduced normal consumption of food and emails” and second, “used cheap products”.

MEASURES, TAKEN TO ELIMINATE FOOD SHORTAGE

The households, running agricultural production, mostly took the two types of measures as “took support from others” and “took loans” in order to eliminate the food shortage.

TABLE 15.5. MEASURES, TAKEN TO ELIMINATE FOOD SHORTAGE, by percentage to the households in food shortage

	Livestock breeding	Arable farming
Spend from savings	11.1	11.7
Took loans	33.4	35.7
Sold livestock, land, capital	16.2	9.2
Expanded family business	3.3	9.6
Launched new family business	3.2	4.7
Took support from others	42.0	38.8
Took support from governmental organizations	11.6	6.4
Took support from non-governmental organizations	3.9	2.6
Others	5.4	8.1

The households, running livestock breeding, took such measures to eliminate food shortage as first, “took support from others (42.0 percent), second, took loans (33.8 percent).

It is similar for the households, running arable farming.

USAGE OF MAIN FOOD PRODUCTS

According to the statistic indicators of food supply, a Mongolian uses the 13 main food products as meat, meat products, milk, yogurt, flour, bakery, rice, sugar, sweets, potatoes, vegetable, beans (peas, beans), fruit, eggs and vegetable oil to provide the daily calorie and nutrition, and the assortments of the products were determined by the special survey, conducted from Food Study Center, and approved by decision 257, dated on December 04, 2008 by the Minister of Health.

The related indicators were included in the agricultural census forms in order to define whether the households, running agricultural activities, use the food products, stated above, and what kind of main food products is used regularly and as the result, the households, running agricultural activities, mostly use meat, meat products, flour, bakery and all kinds of rice out of the 13 main food products.

The households, running livestock breeding, mostly use meat, meat products, milk, dairy, flour, bakery and all kinds of rice and the households, running arable farming, mostly use meat, meat products, flour, bakery, potatoes, milk, butter, cream, vegetables, vegetable oil and all kinds of rice. But the consumption of peas, peas, fruit, berries and egg is low.

The assortment of the food products, used by the households, running arable farming, have more assortments than the households, running livestock breeding. It is related to the fact that the households, running arable farming, are located in settlements and central areas.

PART SIXTEEN

FORESTRY, FISHERY AND HUNTING ACTIVITIES

FORESTRY

Business units and organizations, running forestry, fishery and hunting activities, were involved on the agricultural census and the related information was collected by the main 4 groups as general information, production, sales of forestry products, income and expenses of forestry products, land, machine and equipment. A few business units, organizations in fishery (2) and hunting (9) sector were involved in the census, therefore, it was not included in the report in order to keep the information confidentiality.

BUSINESS UNITS, ORGANIZATIONS, RUNNING FORESTRY

There are 232 business units, organizations in the country, running forestry, from which in 2011 totally 202 business units, organizations ran their activities and the rest 30 did not.

TABLE 16.1. NUMBER OF BUSINESS UNITS, ORGANIZATIONS, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	232	28	33	102	5	64
Run their activities	202	26	31	96	5	44
Did not run their activities	30	2	2	6	0	20

The business units, organizations, run their activities in 2011, by regions: 26 or 12.9 percent is in Western, 31 or 15.3 percent in Khangai, 96 or 47.5 percent in Central, 5 or 2.5 percent in Eastern region and 44 or 21.8 percent in Ulaanbaatar city.

TABLE 16.2. REASONS FOR NOT RUNNING ACTIVITIES, by regions

	Total	Western	Khangai	Central	UB
Total	30	2	2	6	20
Changed field of activities	4	-	-	1	3
Financial issues	6	2	1	2	1
Did not launch the activities	15	-	-	3	12
Other	5	-	1	-	4

4 business units, organizations, which did not run their activities in 2011, changed their field of activities, 6 had financial troubles, 15 did not start their activities and 5 had other reasons.

MANAGEMENT OF BUSINESS UNITS, ORGANIZATIONS

148 or 63.8 percent of the management of the business units, organizations is male and 84 or 36.2 percent is female.

TABLE 16.3. NUMBER OF MANAGEMENT OF BUSINESS UNITS, ORGANIZATIONS, by gender, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	232	28	33	102	5	64
Male	148	18	20	66	3	41
Female	84	10	13	36	2	23

Gender of the management of the business units, organizations by gender: majority of the management of the business units, organizations in Central region and Ulaanbaatar city is male.

INFORMATION ABOUT THE ACTIVITIES

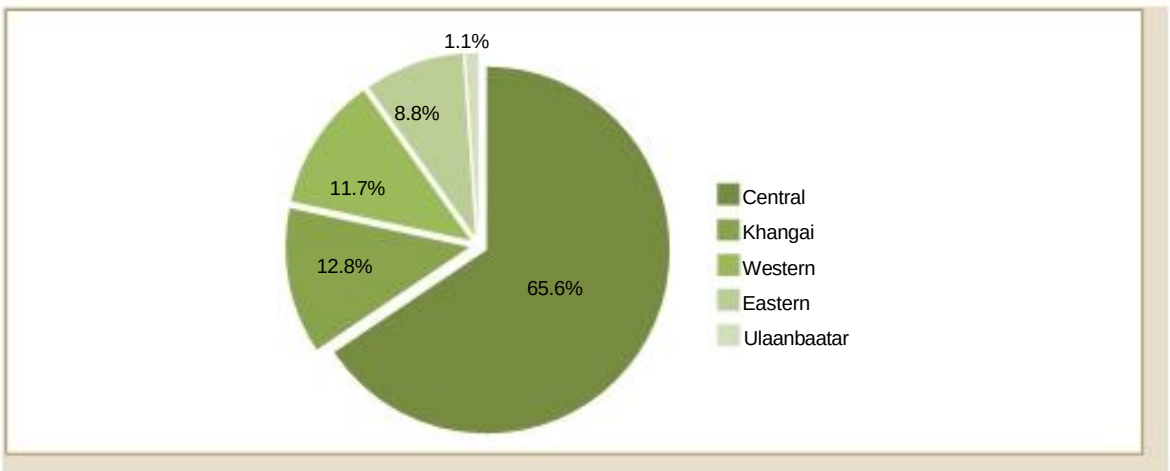
Totally, 2.5 thousand workers are employed in this sector.

TABLE 16.4. NUMBER OF WORKERS IN FORESTRY SECTOR, by gender, regions, at the end of 2011

	Total	Western	Khangai	Central	Eastern	UB
Number of BUOs	202	26	31	96	5	44
Number of workers	2 456	185	279	1 579	29	384
Female workers	912	80	117	598	10	107

Number of workers by regions: 1579 or 64.3 percent work in Central region and the rest in Western, Khangai, Eastern regions and Ulaanbaatar city.

FIGURE 16.1. PERCENTAGE OF FEMALE WORKERS IN FORESTRY SECTOR, by regions



37.1 percent of the total workers are female workers. By regions: 10 or 1.1 percent is in Eastern regions, 80 or 8.8 percent in Western region, 107 or 11.7 percent in Ulaanbaatar city, 117 or 12.8 percent in Khangai and 598 or 65.6 percent in Central region.

TABLE 16.5. FORESTRY ACTIVITIES, by purpose, regions

	Total	Western	Khangai	Central	Eastern	Ub
Total	202	26	31	96	5	44
Consumption	43	3	7	30	-	3
Forest maintenance	75	3	12	52	4	4
Afforestation, forestry	164	25	24	74	5	36
Other	15	- 3		4	-	8

Forestry business units, organizations by purpose: by doubled numbers 43 run their activities for consumption purpose, 75 for forest maintenance and cleaning, 164 for forestry and afforestation and 15 for other purposes.

In 2011 from the business, units, organizations, run their activities, 69 or 34.2 percent prepared 51.4 thous.м3 wood.

TABLE 16.6. LUMBERING, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	202	26	31	96	5	44
Number of BUOs, made lumbering	69	1	10	56	2	-
Amount of lumbering, м^3	51 399	800	3 745	36 714	10 140	-

The majority of the BUOs, made lumbering, are located in central region and 71.4 percent of total lumbering was also prepared by the business units, organizations of central region.

TABLE 16.7. SEEDS AMOUNT OF LUMBERING, BY REGIONS

	Total	Western	Khangai	Central	Eastern	UB
Total	202	26	31	96	5	44
No. of BUOs, prepared seeds of trees and bushes	106	15	19	51	3	18
Amount of seeds prepared, total, kg	15 374.9	1 954.0	3 069.6	7 638.6	54.0	2 658.7
Pine	3 064.4	500.0	673.8	1 846.6	24.0	20.0
Larch	2 860.4	518.0	521.0	1 733.4	-	88.0
Elm	1 101.1	76.0	457.3	220.8	-	347.0
Aspen	4 032.0	500.0	574.0	1 715.0	-	1 243.0
Locust	1 536.7	56.0	689.0	654.0	-	137.7
Other	2 780.3	304.0	154.5	1 468.8	30.0	823.0

From the business units, organizations in forestry sector 106 or 52.5 percent prepared seeds of trees and bushes and they mostly prepare the seeds of larch, pine and aspen.

TABLE 16.8. AMOUNT OF REGROWTH AND SEEDLINGS, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	202	26	31	96	5	44
No. of BUOs with forestry, regrowth and seedling greenhouses	92	11	15	43	2	21
No. of regrowth, thous.pcs	5 087.9	113.0	338.5	3 136.9	11.1	1 488.3
Pine	3 150.4	-	211.8	2435.3	2.1	501.2
Larch	585.5	25.0	81.1	413.5	9.0	57.0
Elm	1 070.1	40.0	9.2	174.7	-	846.2
Aspen	86.3	13.0	28.1	30.0	-	15.2
Locust	101.2	17.0	4.2	38.8	-	41.2
Other	94.3	18.0	4.3	44.5	-	27.6
No. of seedlings, thous.pcs	4 741.3	399.5	315.3	3548.7	0.2	477.6
Pine	3 453.7	-	191.7	3257.0	-	5.0
Larch	171.1	24.5	76.0	55.0	-	15.6
Elm	543.6	124.0	5.9	144.5	-	269.2
Aspen	238.2	137.5	27.4	30.0	-	43.3
Locust	219.8	108.5	9.4	40.1	-	61.8
Other	114.9	5.0	5.0	22.0	0.2	82.7

There are 92 business units, organizations with forestry and greenhouses for regrowth and seedlings and they mostly have planted regrowth and seedlings of pine and elms. By regions: all the regions except Eastern region have planted regrowth and seedlings in much amount.

TABLE 16.9. PLANTED TREES, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	202	26	31	96	5	44
Number of BUOs, planted trees	161	23	24	79	5	30
Planted trees, thous.pcs	7 326.2	425.6	1 066.6	3 793.3	1 176.1	864.6
Pine	4 114.0	-	340.5	3 128.6	641.1	3.9
Larch	2 328.9	31.4	683.5	408.3	519.5	686.3
Elm	245.7	50.8	16.4	114.2	2.5	61.8
Aspen	140.4	29.9	8.1	64.0	5.7	32.7
Locust	69.4	2.9	13.1	8.5	2.1	42.8
Others	427.6	310.5	5.0	69.7	5.2	37.2

There are 161 business units, organizations, planted trees and they mostly have planted pines and larches.

By regions: pine is mostly planted by the BUOs in Central region and larches are mostly planted by the BUOs in Western region and Ulaanbaatar city.

SALES OF FORESTRY PRODUCTS

If the products were sold to the raw material changers, who come and take the products by themselves, and to the individuals it was classified as “Individuals come and take themselves”, if they were sold to companies, households, individuals and partnerships, which prepare wood, nuts and fruit, it was classified as “To business units, organizations”, if the products were sold by themselves in cities and settlements as soums and province centers, it was classified as “Themselves to market”. But except the above 3 classifications it was classified as other.

TABLE 16.10. TYPES OF PRODUCT SALES, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	100.0	100.0	100.0	100.0	100.0	100.0
To individual	36.1	65.4	45.2	32.3	20.0	22.7
To business unit, organization	34.2	53.8	45.2	26.0	60.0	29.5
Themselves to market	55.0	65.4	54.8	62.5	20.0	36.4
Other	19.8	15.4	19.4	18.8	20.0	25.0

There are many business units, organizations, which sell their products to market by themselves and also there are some BUOs, which sell to individuals and business units, organizations.

The following difficulties occur for the BUOs to sell their products.

TABLE 16.11. DIFFICULTIES, RELATED TO PRODUCT SALES, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	202	26	31	96	5	44
Slow sales	53	9	7	25	1	11
Few customers	40	5	7	19	-	9
May competitors	46	6	6	22	1	11
Cheap price	53	9	8	29	2	5
Shortage of storehouses and cellars to store their products	34	6	7	14	-	7
Far from market	51	11	2	31	2	5
Other	50	3	8	24	1	14

TABLE 16.12. TARIFF TYPES, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	202	26	31	96	5	44
By adding profit to expenses	22	6	2	8	1	5
Mutually agreeing with customers	38	6	6	16	3	7
Depending on competitor's price	29	8	3	13	-	5
By market price	140	22	24	72	2	20
Others	24	3	4	8	-	9

We can see that the BUOs mostly define the prices by the main method of by market prices. By regions: the BUOs in Central region mostly use this method.

INCOME AND EXPENSES OF BUOs IN FORESTRY SECTOR

83.0 percent of the total income in forestry sector consists of activity income and the rest 27.0 percent from rental and other income.

by regions: the BUOs in Central region made up 54.7 percent of the total income.

TABLE 16.13. ACTIVITY INCOME, by regions

Mln MNT

	Total income	Main activity	Rental	Others
Total	3 516.5	2 918.6	15.1	582.9
Western	239.6	208.2	0.0	31.4
Khangai	306.7	306.3	0.1	0.3
Central	1 922.2	1 755.8	13.3	153.2
Eastern	249.6	106.3	0.0	143.3
Ulaanbaatar	798.3	541.9	1.8	254.7

23.4 percent of the total expenses is fuel and 25.2 percent is wages.

TABLE 16.14. ACTIVITY EXPENSE, by regions

Mln MNT

	Total	Western	Khangai	Central	Eastern	UB
Total expenses	2 958.7	225.6	218.5	1 570.7	172.0	772.0
Spare parts	369.1	28.3	16.8	231.8	3.3	88.9
Fuel	692.3	86.8	57.4	433.8	27.0	87.3
Rental	44.4	0.0	0.0	29.5	0.1	14.8
Transport	205.2	14.7	30.7	142.5	0.2	17.2
Wages and similar income	746.7	53.8	56.5	451.2	62.3	122.9
Payment for using natural supply	206.9	7.6	39.0	152.3	8.0	0.0
Other	694.0	34.4	18.0	129.6	71.2	440.9

HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, WHICH RUN FORESTRY, FISHERY AD HUNTING ACTIVITIES

The households, running livestock breeding and arable farming, also run forestry, fishery and hunting activities as sub-activities and the related data was collected, which is shown in this part.

HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, WHICH RUN FORESTRY

31.0 percent or 65.0 thousand households, running livestock breeding, made lumbering, from which 63.0 thousand households or 97.0 percent prepared firewood. The households, prepared firewood, by regions: 36.0 thousand households or 57.2 percent of the households are in Khangai region.

TABLE 16.15. NUMBRE OF HOUSEHOLDS, MADE LUMBERING, by purpose, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
No. of h-holds, made lumbering	64 992	13 952	36 811	10 316	2 851	1 062
Purpose						
Firewood	63 014	13 567	36 022	9 865	2 629	932
Consumption	1 472	263	777	151	250	31
Forest maintenance	2 675	484	1 277	505	176	232

Some households not only prepared firewood from forests but also prepared seeds of trees and bushes.

From the households, prepared seeds of trees and bushes, 153 or 56.7 percent is located in Khangai and Central regions. By types: 49.6 percent of the total seeds prepared are seeds of locust and aspen.

TABLE 16.16. NUMBER OF HOUSEHOLDS, PREPARED SEEDS OF TREES AND BUSHES, by types of trees and bushes, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
No. of households, prepared seeds of trees, bushes	270	44	72	81	50	23
Amount of seeds of prepared trees and bushes, kg						
Pine	1 806	4	75	999	724	4
Larch	2 061	17	410	1 599	24	11
Elm	523	65	10	308	100	40
Aspen	5 200	1 015	1 533	2 442	190	20
Locust	3 747	61	316	36	522	2 813
Other	4 704	3 275	230	930	138	130

The households with forestry and greenhouses for regrowth and seedlings mostly sprout regrowth of larch, aspen and pine and seedlings of elm, pine and aspen, plant to the soil and root them.

TABLE 16.17. NUMBER OF HOUSEHOLDS WITH FORESTRY AND GREENHOUSES FOR REGROWTH AND SEEDLINGS, by number of regrowth and seedlings

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
No. of households with forestry and greenhouses for regrowth and seedlings	304	91	50	87	46	30
Number of regrowth, total, pcs						
Pine	11 931	308	250	4 841	5 972	560
Larch	10 548	11	251	2 837	4 683	2 766
Elm	4 741	141	9	2 747	1 557	287
Aspen	10 698	4 847	253	3 265	516	1 816
Locust	1 803	266	116	59	1 306	56
Others	24 992	12 493	2 573	4 967	997	3 962
Number of seedlings, total, pcs						
Pine	9 144	308	250	4 841	2 944	800
Larch	5 455	11	251	2 817	1 638	738
Elm	6 224	141	-	2 747	2 928	407
Aspen	10 691	4 683	247	3 265	839	1 656
Locust	2 240	266	408	59	1 306	200
Others	26 836	12 612	1306	5 580	958	6 380

One household planted on average 150 trees. A household in Eastern and Western regions planted 35-81 more trees than the state average and in other regions and the capital city 22-46 less trees than the state average.

TABLE 16.18. NUMBER OF HOUSEHOLDS, PLANTED TREES, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
No.of h-holds, planted trees	3 187	803	842	870	287	386
Number of planted trees, seedlings, thous.pcs	477.8	185.1	87.7	111.6	53.0	40.4

3.0 thousand or 50.8 percent of the total households, used additional wood resources, is located in Khangai region and form 62.5 percent of the additional wood resource, used by the households in this region.

TABLE 16.19. NUMBER OF HOUSEHOLDS, USED ADDITIONAL WOOD RESOURCES, by types, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
Number of households, used additional wood resources	5 851	985	2970	693	1121	81
Amount of additional wood resources, kg						
Nuts	433 943.5	38 772.2	286 385.6	97 873.3	6 404.0	4 508.4
Fruit	258 209.1	47 563.0	152 828.4	30 363.7	25 530.1	1 924.0
Mushroom	3 797.2	252.4	2 079.0	1 193.7	77.1	195.0
Wood moss	2 269.4	-	66.9	126.1	2 076.4	-
Herbs	4 228.6	556.9	1 352.6	349.8	1 961.1	8.2
Others	12 569.9	4 736.6	4 162.7	2 658.0	1 012.6	-

TABLE 16.20. NUMBER OF HOUSEHOLDS, SOLD FOREST PRODUCTS, by income, expenses, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
Number of households, sold forest products	2491	390	1401	368	328	4
Total income, mln MNT	1 032.7	167.7	541.4	291.3	32.0	0.3
Total expense, mln MNT	5 263.9	1 257.9	2 933.6	852.1	194.8	25.5
Spare parts	134.8	18.7	59.8	48.3	7.9	0.2
Fuel	2 794.9	747.0	1 443.1	483.7	107.7	13.4
Rent	39.1	11.8	19.3	7.4	0.5	-
Transport	768.6	171.3	530.6	47.8	17.9	1.0
Wages and similar income	189.7	39.9	92.8	43.8	11.7	1.4
Payment for using natural wealth	872.2	184.2	523.2	135.8	26.1	3.0
Other	464.6	84.8	264.8	85.4	23.1	6.6

HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, WHICH RUN HUNTING ACTIVITIES

As of 2011 totally 493 households hunted animals, from which 243 or 49.3 percent is in Khangai region, from which 240 households or 98.6 percent hunted for household purposes. Hunting purposes: the majority hunted for household purposes and a few households hunted for production and special purposes.

TABLE 16.21. NUMBER OF HOUSEHOLDS, HUNTED ANIMALS, by purpose, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
No. of households with hunting	493	186	243	45	16	3
Purposes						
Household	469	173	240	43	13	-
Production	2	2	-	-	-	-
Special	24	13	3	2	3	3

Hunts by types: the households, running livestock breeding, mostly hunt antelopes, marmots, and wolves and used for household purposes.

TABLE 16.22. NUMBER OF HOUSEHOLDS, HUNTED ANIMALS, by hunts, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
No. of households with hunting	493	186	243	45	16	3
Hunts, total	1 639	596	918	86	27	12
Roe deer	69	-	63	6	-	-
Boar	30	-	15	8	7	-
Wolf	913	342	491	57	12	12
Steppe fox	70	18	45	-	8	-
Grouse	15	-	-	15	-	-
Daurian partridge	15	15	-	-	-	-
Marmot	252	130	122	-	-	-
Others	274	92	182	-	-	-

From the total households, hunted animals, 299 or 60.7 percent sold their hunted animals and the total sales income was 75.0 million tugrugs. But the total hunting expenses was 44.3 million tugrugs and the majority of the expenses was spent to hunting tools, spare parts, bullets and fuel.

TABLE 16.23. INCOME AND EXPENSES OF HOUSEHOLDS, HUNTED ANIMALS, by expenses, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
Number of households, sold their hunts	299	129	137	20	10	3
Total income, mln MNT	75.0	41.0	26.0	5.0	3.1	0.1
Total expense, mln MNT	44.3	20.2	18.5	3.3	2.2	0.1
Hunting tools, spare parts	6.8	5.6	0.5	0.5	0.2	-
Bullet	16.2	6.4	8.4	0.5	0.8	0.1
Fuel	18.0	7.2	8.5	1.8	0.4	-
Rent	0.1	0.1	-	-	-	-
Transport	1.1	0.7	0.3	0.1	0.0	-
Wages	0.1	0.1	-	-	0.0	-
Payment for using natural wealth	1.6	0.0	0.7	0.4	0.5	-
Others	0.5	0.1	0.0	-	0.3	-

HOUSEHOLDS, RUNNING LIVESTOCK BREEDING, WHICH RUN FISHERY

In 2011 totally 220 households, running livestock breeding, also run fishery activities. From which 167 households or 75.9 percent is located in Khangai region and 86.0 percent of the total fish caught is imposed to this region.

By purposes: the majority used for household purposes and a few households caught fish in Khangai region and for special purposes in Western region.

TABLE 16.24. NUMBER OF HOUSEHOLDS, RUN FISHERY ACTIVITIES, by purposes, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
No. of households, run fishery activities	220	31	167	14	8	-
Purpose						
Household	215	27	167	14	8	-
Production	4	-	4	-	-	-
Special	4	4	-	-	-	-
Fish caught, kg	15184	1861	13053	245	25	-

TABLE 16.25. NUMBER OF HOUSEHOLDS, SOLD FISHERY PRODUCTS, income, expense, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	209 563	57 833	77 748	44 788	24 113	5 081
No. of households, sold fish	115	-	107	8	-	-
Total income, thous.MNT	19 953.9	-	19 905.3	48.6	-	-
Total expense, thous.MNT	8 111.0	-	8 062.4	48.6	-	-
Fish bait	9.1	-	0.0	9.1	-	-
Fishing gear	2 767.2	-	2 757.9	9.4	-	-
Fuel	2 346.8	-	2 316.7	30.1	-	-
Rent	0.0	-	0.0	0.0	-	-
Transport	675.0	-	675.0	0.0	-	-
Wages	0.0	-	0.0	0.0	-	-
Payment for using natural wealth	1 910.4	-	1 910.4	0.0	-	-
Others	402.5	-	402.5	0.0	-	-

From the total households, running fishery activities, 115 or 52.3 percent sold their fish and total sales income was 20.0 million tugrugs. But the total expenses for running fishery was 8.1 million tugrugs, from which the majority was spent to the payment for using natural wealth, fuel and fishing gear.

HOUSEHOLDS, RUNNING ARABLE FARMING, WHICH RUN FORESTRY, FISHERY AND HUNTING ACTIVITIES

NUMBER OF HOUSEHOLDS, RUNNING ARABLE FARMING AND WHICH RUN FORESTRY ACTIVITIES

From the total households, running arable farming, 27.6 percent or 9.2 thousand households made lumbering, from which 9.0 thousand households or 97.8 percent prepared firewood. By regions: 4.7 thousand households or 51.9 percent of the households, prepared firewood, are in Central region.

TABLE 16.26. NUMBER OF HOUSEHOLDS, MADE LUMBERING, by purpose, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
No. of households with lumbering	9 237	995	2 672	4 793	549	228
Purpose						
Firewood	9 034	964	2 643	4 689	535	203
Consumption	226	21	66	73	53	13
Forest maintenance	264	19	25	118	13	89

79 households, prepared seeds for trees and bushes, or 48.2 percent is located in Khangai and central regions. Prepared seeds by types: 42.0 percent of the total seed prepared is locust and aspen seeds.

TABLE 16.27. NUMBER OF HOSUEHOLDS, PREPARED SEEDS OF TREES AND BUSHES, by types of trees, bushes, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
No. of households, prepared seeds of trees, bushes	164	17	20	59	20	48
Prepared seeds of trees and bushes, kg						
Pine	1 352	1	15	903	167	267
Larch	98	1	31	27	21	18
Elm	1 082	52	8	186	15	822
Aspen	1 903	164	8	938	200	593
Locust	1 005	18	217	90	3	676
Other	1 669	334	210	737	4	384

The households with forestry and greenhouses for regrowth and seedlings usually sprout regrowth of elm, aspen and locust and seedlings of elm, aspen and locust, plant to the soil and root them. Number of regrowth and seedlings by regions: sprouted and planted in Western and Central regions.

TABLE 16.28. HOUSEHOLDS WITH FORESTRY AND GREENHOSUES FOR REGROWTH AND SEEDLINGS, NUMBER OF REGROWTH AND SEEDLINGS, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
No. of households with forestry and greenhouses for regrowth and seedlings	261	31	20	68	19	123
Number of regrowth, total, pcs						
Pine	7 098	2	430	3 628	2 154	884
Larch	6 333	45	318	4 098	502	1 370
Elm	11 167	1 713	803	5 200	532	2 919
Aspen	8 117	2 931	528	2 201	0	2 457
Locust	11 423	1 004	1 003	2 839	512	6 065
Other	20 287	4 179	1 313	9 647	13	5 135
Number of seedlings, total, pcs						
Pine	4 762	2	150	559	1 617	2 434
Larch	4 104	42	110	2 089	7	1 856
Elm	9 952	1 693	250	3 176	132	4 701
Aspen	6 907	2 896	125	992	0	2 894
Locust	11 142	1 055	615	2 769	112	6 591
Other	21 196	4 114	473	8 765	11	7 833

On average one household planted 125 trees. A household in Central, Western and Eastern regions planted 34-300 more trees than the state average, but in other regions and in the capital city a household planted 80-349 less trees than the state average.

TABLE 16.29. NUMBER OF HOUSEHOLDS, PLANTED TREES, by regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
No. of h-holds, planted trees	2130	263	361	777	111	618
No.of planted trees and seedlings, pcs	266 144	44 555	32 346	95 904	47 015	46 324

From the total households, used additional wood resources, 0.7 thousand or 73.3 percent is located in Khangai and Central regions and theiy form 80.1 percent of the total households, used additional wood resources. Wood moss was used by the households in Khangai and Eastern regions and other types of additional wood resources were used in all the regions and in capital city.

TABLE 16.30. NUMBER OF HOUSEHOLDS, USED ADDITIONAL WOOD RESOURCES, by types, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
No. of households, used additional wood resources	1 020	77	374	374	161	34
Additional wood resources used, kg						
Nuts	80 062.0	6 517.0	34 134.0	36 701.0	1 135.0	1 575.0
Fruit	49 199.0	4 967.0	16 173.0	19 495.0	6 061.0	2 503.0
Mushroom	443.0	3.0	68.0	195.0	52.0	125.0
Wood moss	3 230.0	-	430.0	-	2 800.0	-
Herbs	1 936.0	36.0	988.0	570.0	307.0	35.0
Other	4 266.0	146.0	205.0	3 315.0	326.0	274.0

TABLE 16.31. NUMBER OF HOUSEHOLDS, SOLD FOREST PRODUCTS, by income, expense, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
Number of households, sold forest products	433	29	136	197	65	6
Total income, mln MNT	189.8	13.3	51.4	89.2	19.3	16.6
Total expense, mln MNT	845.6	137.7	222.9	417.7	41.3	26.1
Spare parts	25.3	4.2	7.7	10.3	2.0	1.2
Fuel	449.3	75.5	100.6	245.5	23.5	4.2
Rent	11.9	1.5	1.9	4.5	0.7	3.4
Transport	92.1	19.0	44.7	17.6	4.7	6.1
Wages and similar income	47.8	9.5	6.8	21.9	2.9	6.7
Payment for using natural resource	138.3	14.5	37.7	80.6	5.2	0.3
Other	80.8	13.5	23.4	37.3	2.3	4.3

HOUSEHOLD, RUNNING ARABLE FARMING, WHICH RUN HUNTING ACTIVITIES

Very few households, running arable farming, run hunting activities and there is no household, which hunted for production purposes. Also, there is no household in Ulaanbaatar city, which run hunting activities.

TABLE 16.32. NUMBER OF HOUSEHOLDS, RUN HUNTING ACTIVITIES, by purposes, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
Number of households with hunting	28	11	10	5	2	-
Purpose						
Household	25	11	9	3	2	-
Special	6	0	1	2	-	-

The households mostly hunted black grouse, daurian partridge and wolf.

TABLE 16.33. NUMBER OF HOUSEHOLDS, RUN HUNTING ACTIVITIES, by hunts, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
No. of households with hunting	28	11	10	5	2	-
Hunts, total	105	33	22	47	3	-
Roe deer	3	-	3	-	-	-
Boar	7	-	1	6	-	-
Wolf	46	28	11	5	2	-
Black grouse	10	-	-	10	-	-
Grouse	5	-	-	5	-	-
Daurian partridge	20	-	-	20	-	-
Marmot	9	5	4	-	-	-
Other	5	-	4	1	-	-

From the total households, run hunting activities, 18 or 64.3 percent sold their hunts and the total sales income was 7.2 million tugrugs. But the total expenses for hunting was 2.3 million tugrugs, which was spent mostly to payment for using hunting and natural resources, bullets and fuel.

TABLE 16.34. INCOME AND EXPENSES OF THE HOUSEHOLDS, RUN HUNTING ACTIVITIES, by types of expenses, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5076	7917	13190	2307	4971
Number of households, sold their hunts	18	8	5	4	1	-
Total income, thous.MNT	7 218.0	5 650.0	768.0	680.0	120.0	-
Total expense, thous.MNT	2 301.0	1 297.0	304.0	610.0	90.0	-
Spare parts for hunting	10.0	-	10.0	-	-	-
Bullets	671.0	457.0	174.0	20.0	20.0	-
Fuel	1 125.0	775.0	100.0	180.0	70.0	-
Rent	20.0	-	20.0	-	-	-
Transport	60.0	60.0	-	-	-	-
Payment for using natural resources	415.0	5.0	-	410.0	-	-

HOUSEHOLDS, RUNNING ARABLE FARMING, AND WHICH RUN FISHERY

In 2011 40 households, running arable farming, run fishery activities. By purpose: the households run for only household purposes and no household, which run for production and/or special purposes.

TABLE 16.35. NUMBER OF HOUSEHOLDS, RUN FISHERY, by purposes, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
Number of households, run fishery	40	5	13	20	1	1
Purpose						
Household	40	5	13	20	1	1
Production	-	-	-	-	-	-
Special	-	- -		-	-	-
Fish caught, kg	2 620	70	2 254	286	5	5

TABLE 16.36. NUMBER OF HOUSEHOLDS, SOLD FISHERY PRODUCTS, income, expense, regions

	Total	Western	Khangai	Central	Eastern	UB
Total	33 461	5 076	7 917	13 190	2 307	4 971
Number of households, sold fish	10	-	7	3	-	-
Total income, thous,MNT	3 190.0	-	2 940.0	250.0	-	-
Total expense, thous.MNT	1 358.0	-	650.0	688.0	20.0	-
Fish bait	56.0	-	-	51.0	5.0	-
Fishing gear	495.0	-	312.0	178.0	5.0	-
Fuel	382.0	-	58.0	314.0	10.0	-
Rent	15.0	-	15.0	-	-	-
Transport	140.0	-	20.0	120.0	-	-
Payment for using natural resources	265.0	-	245.0	20.0	-	-
Other	5.0	-	-	5.0	-	-

From the total households, run fishery activities, 10 or 25.0 percent sold their fish caught and the total sales income was 3.2 million tugrugs. But the total expenses for running fishery was 1.4 million tugrugs, which was mostly spent to payment for using natural resources, fuel and fishing gear.

PART SEVENTEEN

PRIMARY ADMINISTRATIVE UNIT

PRIMARY ADMINISTARTIVE UNIT

The census included questionnaires to be conducted among the primary administrative units and the questionnaire involved all the soums nationwide.

The survey aimed to define geographic, environmental and socio-economic status at the primary unit level and to make chronological list on the impact of infrastructure and service sectors to their development as well infliction with natural disaster.

There are 329 soums as primary administrative units, from which 91 or 27.7 percent is located in Western region, 99 or 30.1 percent in Khangai region, 95 or 28.9 percent in Central region and 44 or 13.4 percent in Eastern region.

GEOGRAPHY AND ENVIRONMENT

NATURAL ZONE OF SOUMS

The natural zones of Mongolia are divided into the 4 zones of steppe, wood steppe, high mountain and gobi, and natural zones of the total soums , considered by types: 127 or 38.6 percent steppe, 69 or 21.0 wood steppe, 46 or 14.0 percent high mountain, 62 or 18.8 percent gobi and 25 or 7.6 percent is located in mixed natural zone.

TABLE 17.1. NUMBER OF SOUMS, by natural zones, regions

	Total	Western	Khangai	Central	Eastern
Total	329	91	99	95	44
Steppe	i127	23	29	39	36
Wood steppe	69	8	36	19	6
High mountain	46	28	17	1	-
Gobi	62	20	8	34	-
Mixed	25	12	9	2	2

TYPES OF LAND SOIL

The land soil of Mongolia is divided into the 4 types of sandy, clay, blackearth and brown soil.

TABLE 17.2. NUMBER OF SOUMS, by soil types, regions

	Total	Western	Khangai	Central	Eastern
Total	329	91	99	95	44
Sandy	74	26	16	27	5
Clay	21	7	4	9	1
Blackearth	37	7	19	7	4
Brown soil	72	8	29	19	16
Mixed	125	43	31	33	18

Total soums by soil types: 74 or 22.5 percent has sandy soil, 21 or 6.4 percent clay, 37 or 11.2 percent blackearth, 72 or 21.9 percent brown soil and 125 or 38.0 percent mixed soil.

SOCIO-ECONOMIC STATUS

NUMBER OF HOUSEHOLDS

As of 2011 there are 453120 registered households in the country, from which 96791 households or 21.4 percent is located in Western region, 160165 households or 35.3 percent in Khangai, 137116 households or 30.3 percent in Central, 59048 households or 13.0 percent in Eastern region.

TABLE17.3. NUMBER OF HOUSEHOLDS, by regions

	Total	Western	Khangai	Central	Eastern
Number of households, total	453 120	96 791	160 165	137 116	59 048
Percentage to households	100.0	21.4	35.3	30.3	13.0

Households by provinces: the most or 21.0-35.7 thousand households are registered in Bayan-Ulgii, Khentii, Dornod, Bayankhongor, Orkhon, Arkhangai, Tuv, Darkhan-Uul, Selenge, Uvurkhangai and Khuvsgul provinces, which occupies 64.3 percent of the total households, and the least or 4.5-20.5 thousand households are imposed to Gobisumber, Dundgobi, Gobi-Altai, Sukhbaatar, Bulgan, Umnugobi, Dornogobi, Uvs, Zavkhan and Khovd provinces, which occupy 35.7 percent of the total households.

By the average number of households per soum Arkhangai, Gobisumber, Khuvsgul, Dornod, Bayan-Ulgii, Selenge, Uvurkhangai, Darkhan-Uul and Orkhon provinces lead, which are higher than the state average by 1.0 percent or 8 times. As for other provinces, then, it is lower than the state average by 63-546 households or 4.6-39.6 percent.

POWER SUPPLY

From the total soums 297 soums or 90.3 percent are connected to the central electricity supply and the rest 32 soums or 9.7 percent were not connected.

TABLE 17.4. SOURCE OF ELECTRICITY, by regions

	Total	Western	Khangai	Central	Eastern
Total	329	91	99	95	44
Number of soums, connected to the centralized power supply	297	66	96	91	44

The source of electricity for the soums, not connected to the centralized power supply, is diesel station, hydro-electric station, solar energy and mixed electric sources of solar, wind and diesel stations.

From the soums, not connected to the centralized power supply, 5 or 15.6 percent have diesel station, 18 or 56.3 percent have hydro-electric station, 4 or 12.5 percent have solar energy and 5 or 15.6 percent have mixed electric source of solar, wind and diesel station.

DISTANCE FROM SOUM CENTER TO PROVINCE CENTER

The distance from soum center to city and/or settlement was classified as tarmac (cement, asphalt, adapted road), gravel road (improved dirt road is paved by gravel and stones), improved dirt road (simple dirt road is paved and compacted), simple dirt road (steppe road).

TABLE 17.5. TYPES OF ROADS FROM SOUM TO CITIES AND SETTLEMENTS, by regions

	Total	Western	Khangai	Central	Eastern
Total	329	91	99	95	44
Tarmac	37	5	10	19	3
Gravel	4	1	1	2	-
Improved dirt	8	4	2	2	-
Simple	178	53	57	42	26
Mixed	102	28	29	30	15

The roads from all the soums to cities and settlement by types:
37 or 11.2 percent have tarmac roads, 4 or 1.2 percent have gravel roads, 8 or 2.4 percent have improved dirt roads, 179 or 54.1 have simple roads and 102 or 31.0 percent have mixed roads.

WATER SUPPLY IN SOUM CENTERS

Water supply in soum centers was classified as connected to the centralized system, water distributing kiosks, protected wells, springs, water distributing kiosks not connected to the centralized system, unprotected springs, streams, portable water, rivers, lakes, unprotected wells, springs and open water.

TABLE 17.6. WATER SUPPLY IN SOUM CENTERS, by types, regions

	Total	Western	Khangai	Central	Eastern
Total	329	91	99	95	44
By centralized system	7	1	2	2	2
Kiosks, connected to centralized system	8	1	4	3	-
Protected wells	86	23	21	29	13
Protected springs and streams	3	-	1	1	1
Kiosks, not connected to centralized system	2	-	2	-	-
Portable water	11	1	5	3	2
Rivers, lakes, unprotected springs and streams	15	64	32		
Mixed	197	59	60	54	24

The majority of the soum centers provide water by mixed water supply and by protected well sources.

SERVICE SECTOR

EDUCATIONAL, CULTURAL AND SERVICE ORGANIZATIONS

The educational, cultural and service organizations, serving to the soum citizens, were considered by such units as schools, hospitals, kindergartens, social services, postal, internet services, banks, food stores, cultural centers and mountain mining.

TABLE 17.7. NUMBER OF EDUCATIONAL, CULTURAL AND SERVICE ORGANIZATIONS IN SOUMS, by regions

	Total	Western	Khangai	Central	Eastern
Total	12 155	3 336	3 939	3 537	1 343
School	560	153	176	167	64
Hospital	498	130	165	133	70
Kindergarten	566	153	174	167	72
Social services	960	230	252	346	132
Post and communication	380	106	122	100	52
Internet services	352	59	128	120	45
Bank branches	834	213	234	276	111
Food shops	7 255	2 170	2 501	1 949	635
Cultural centers	349	97	104	100	48
Mining units	401	25	83	179	114

Educational, cultural and service organizations by types: food shops or trade centers are more developed in soums and most soums have one cultural center, one post office and communication center.

SERVICE ORGANIZATIONS FOR AGRICULTURAL PURPOSES

The service organizations for agricultural purposes, serving to the soum citizens, were collected by veterinaries, places to sell agricultural products, storehouses, cellars, processing places, processing factories and repair workshops for agricultural techniques.

Places to sell agricultural products included special places to sell wool, hides, dairies and milk products, wheat and grass storehouses as storehouses to store agricultural products, potato, vegetable and meat cellars as cellars to store agricultural products and wool, hide, dairy, milk, fruit and berries processing places and factories as places and factories to process agricultural products.

TABLE 17.8. NUMBER OF SERVICE ORGANIZATIONS FOR AGRICULTURAL PURPOSES, by regions

	Total	Western	Khangai	Central	Eastern
Total	6 032	1 145	1 261	3 281	345
Veterinaries	804	274	212	199	119
Agricultural product					
sales places	763	87	387	257	32
storehouses	317	107	78	69	63
cellars	3 646	537	475	2 535	99
processing places	246	54	31	146	15
processing factories	119	53	39	21	6
workshops for agricultural machines, techniques	137	33	39	54	11

The cellars to store agricultural products are the most, but the most soums do not have factories, workshops for agricultural machines and techniques.

INFLICTED WITH NATURAL DISASTERS

Special questions were included to the census questionnaire in order to study the frequency of natural disasters and inflictation to drought and severe winters (zud), the results were summarized.

The inflication to severe winters for the last 10 years: 37.3 percent of the total soums was inflicted in 2002, 13.9 percent in 2003, 46.5 percent in 2009, and 42.6 percent in 2010 and they were inflicted to zud disasters every 2 consequent years.

The inflication to drought for the last 10 years: about 12.0-24.0 percent of the total soums of the country has been inflicted to drought disasters every year since 2002.

But only in 2011 the inflict to droughts and zuds reduced and 2.1-2.4 percent of the total soums were inflicted to droughts and zuds.

TABLE 17.9. NUMBER OF SOUMS, INFLICTED TO NATURAL DISASTERS, for the last 10 years

	Number of soums	Percentage				
		to zuds	to droughts	Number of soums	to zuds	to droughts
2002	330	123	75	100.0	37.3	22.7
2003	331	46	46	100.0	13.9	13.9
2004	331	19	48	100.0	5.7	14.5
2005	331	17	54	100.0	5.1	16.3
2006	331	25	39	100.0	7.6	11.8
2007	331	23	42	100.0	6.9	12.7
2008	329	54	51	100.0	16.4	15.5
2009	329	153	80	100.0	46.5	24.3
2010	329	140	39	100.0	42.6	11.9
2011	329	7	8	100.0	2.1	2.4

PROJECTS AND PROGRAMS, BEING IMPLEMENTED IN AGRICULTURAL SECTOR

In 2011 by doubled numbers totally 1992 projects and programs are being implemented in the agricultural sector at soum level.

These projects and programs by regions: 530 or 26.6 percent is being implemented in Western regions, 478 or 24.0 percent in Khangai, 624 or 31.3 percent in Central, 360 or 18.1 percent in Eastern region.

TABLE 17.10. ON-GOING PROJECTS AND PROGRAMS, by finance sources, regions

	Total	Western	Khangai	Central	Eastern
Total	1 992	530	478	624	360
Governmental organization	1 056	216	249	366	225
Non-governmental organization	269	126	57	68	18
International organization	549	141	155	181	72
Other sources	118	47	17	9	45

The projects and programs under implementation by sources: the most soums are involved to the programs and projects, implemented from governmental organizations. Also, the number of projects and programs, implemented from non-governmental organizations and international organizations is not few.

There are totally 3143 herders and cultivators groups, from which 2368 or 75.3 percent herders and 775 or 24.7 percent cultivators' groups. Mostly herders establish groups, compared to the cultivators.

TABLE 17.11. NUMBER OF HERDERS AND CULTIVATORS GROUPS, by regions

	Total	Western	Khangai	Central	Eastern
Total	3 143	717	1 146	866	414
Herders' group	2 368	563	845	660	300
Cultivators' group	775	154	301	206	114

Herders' group by provinces: the provinces with the most livestock such as Arkhangai, Zavkhan, Uvurkhangai and Tuv provinces have the most herders' groups. And the main arable farming provinces such as Selenge, Uvurkhangai, Arkhangai, Khentii and Orkhon provinces have many cultivators' groups.