Report on documentation and evaluation of Urban HEART pilot in Mongolia

2011

Mongolian Association for Environmental and Occupational Health

Contents

Executive summary

Background. The Urban Health Equity Assessment and Response Tool (Urban HEART) was developed by the WHO Centre for Health Development, Kobe, Japan, in collaboration with the regional offices of WHO. The tool enables decision-makers to analyse inequities in health between people living in various parts of the city and belonging to different socioeconomic groups. Mongolia was selected as one of the pilot countries for the application of Urban HEART, and the pilot was implemented in Ulaanbaatar in 2009.

Aims. The aims of this report are to evaluate objectively how the Urban HEART pilot project was implemented, and to describe the process of implementation, the methods of data collection and the accomplishments of the project.

Method. The views of the 15 members who took part in the pilot project in 2009 were sought through in-depth interviews, focus group discussion, and a questionnaire. During this evaluation and monitoring of the pilot project, three working group members were found to have moved employment and one was studying abroad. The remainder took part in the interviews. Data were collected using the questions provided by WHO Centre for Health Development. All conversations were recorded and the content transcribed. Those who participated in the interviews, focus group discussion or questionnaire received a reward of 10,000 Mongolian togrogs. All important points emerging from the process were extracted and analysed.

Document review. A document review was undertaken to assist evaluation of project activities and outcomes. The project document, final technical report, guidelines for the working group for the pilot project, and documents used for the training workshop for assessment were reviewed. Further, WHO documents on Urban HEART were consulted as a reference.

Main results. The Urban HEART project was conducted by 15 representatives from the Ministry of Health, Ulaanbaatar City Government, National Public Health Institute, World Health Organization, Professional Inspection Agency, Air Quality Agency and Department of Statistics of Ulaanbaatar. The Ulaanbaatar City Government took the lead in implementing the project, including convening the meetings. The members were divided into four subgroups: physical environment and infrastructure, social and human development, economics, and governance, within which they discussed the data collection process. The data were mainly collected by using the State statistical reports, though there were some missing data, especially for indicators that were not collected routinely. Missing data were gathered in cooperation with nongovernmental organizations and individual researchers. The response prioritization phase was also implemented by the same members, and decision-makers were not included in the phase. The phases of policy development and programme implementation, and impact and outcome evaluation, were conducted only by Ulaanbaatar City Government. Hence the staff belonging to other organizations, including the Ministry of Health and the Public Health Institute, lacked awareness of the policies and interventions that were being developed and implemented by the Ulaanbaatar City Government. Moreover, community groups were not involved at all throughout the project.

Conclusion. The Urban HEART pilot project was successfully initiated in Ulaanbaatar. The

concept of health equities or inequities was quite new for Mongolia, hence it was hard at the beginning to gain an understanding of the project. In addition, some aspects of the project were not appropriate for circumstances in Mongolia, thus making the collection difficult. Throughout the project, community groups were not involved at all, so enthusiasm and leadership from the community groups were lacking. As those groups are vital to expansion and refinement of any Urban HEART project in the future, the lack of public involvement was one of the major problems of the pilot project. To ensure sustainability of the project, there is a need to improve intersectoral collaboration, ensure financial support, conduct better surveillance of equity data, design proper interventions, and conduct evaluation and monitoring of the project. Advocacy of the tool is important to its proper use and scaling up.

1. Introduction

1.1 Introduction to Urban HEART

The Urban Health Equity Assessment and Response Tool (Urban HEART) was developed by the World Health Organization (WHO) Centre for Health Development, Kobe, Japan, in collaboration with the regional offices of WHO. Pilot tests were conducted in 17 municipalities in 10 countries: Guarulhos (Brazil); Jakarta and Denpasar (Indonesia); Tehran (Islamic Republic of Iran); Nakuru (Kenya); state of Sarawak (Malaysia); Mexico City (Mexico); Ulaanbaatar (Mongolia); Davao, Naga, Olongapo, Parañaque, Tacloban, Taguig and Zamboanga (Philippines); Colombo (Sri Lanka); and Ho Chi Minh City (Viet Nam). The outcomes of the pilot tests have contributed to the development of Urban HEART.[1]

Urban HEART focuses on four policy domains that encompass the key determinants of health: physical environment and infrastructure, social and human development, economics, and governance. Urban HEART enables decision-makers to analyse inequities in health and health determinants between people living in various parts of the city and those belonging to different socioeconomic groups. It also facilitates policy-makers at national and local levels to develop health strategies and policies by providing evidence on which they can be based.

Urban HEART has four characteristics that are desirable in such a tool: (a) it is easy to use; (b) it is comprehensive and inclusive; (c) it is operationally feasible and sustainable; and (d) it links evidence to action. Decision-making is a complex process, but these characteristics of Urban HEART can make the process easier. Also, existing data, including routine statistical data, are available for many categories under Urban HEART, leading to greater time efficiency and cost-effectiveness. For successful implementation of Urban HEART, three core elements are required: (a) sound evidence; (b) intersectoral action for health; and (c) community participation.

Urban HEART is intended to be integrated into the local planning cycle, which typically consists of four phases: (a) assessment (including problem identification); (b) response (agenda setting); (c) policy development; and (d) programme implementation. This cycle enables the outcomes of the assessment to be integrated into local city planning. In addition, it ensures there is a greater chance of influencing allocation of the budget and strengthens linkages with actors in other sectors, organizations and institutions.

1.2 Introduction to Ulaanbaatar

Mongolia was selected as one of the pilot countries for the application of Urban HEART, and the pilot project was implemented in Ulaanbaatar in 2009. The working group for the pilot project consisted of staff from the Ulaanbaatar City Government, Ministry of Health, Public Health Institute, Professional Inspection Agency and the WHO office in Mongolia.

---

[1] World Health Organization. *Urban HEART: Urban Health Equity Assessment and Response Tool*. Kobe, Japan, WHO Centre for Health Development, 2010.

Ulaanbaatar is the capital city of Mongolia, with a population of around 1.1 million and a density of 227 people per square kilometre in 2008. Around 65% of the population of Ulaanbaatar is aged below 35, and over 28% are children aged less than 16.

Ulaanbaatar is situated at 1350 metres above sea level and has a total land area of around 470 000 hectares. Approximately 70% of the land is arable land, followed by forest reserve, developed spaces, and buildings and infrastructure, including roads and squares. There are nine districts in Ulaanbaatar, and they are divided into 132 khoroos (smallest administration unit of the city in Mongolia). Residential apartment buildings occupy about 6 000 hectares of land; on the other hand, more than 10 000 hectares are *ger*[2] areas. Around 61% of the population of Ulaanbaatar lives in ger areas, which consist of traditional felt dwellings and simple houses made of brick.

2. Aims and methodology

2.1 Aims and objectives

The aims of this report are to evaluate objectively how the Urban HEART pilot project was implemented, and to describe the process of implementation, the methods of data collection and the accomplishments of the project. The objectives are (a) to document how Urban HEART was applied; and (b) to evaluate the process of implementation and the impact of the Urban HEART pilot.

2.2 Methodology

The evaluation was conducted between April and August 2011.

Data collection

Data were obtained through in-depth interviews, a focus group discussion and a questionnaire, using the set of questions provided by WHO (annex A). The questions were translated from English into Mongolian, and were distributed to all participants in advance. The in-depth interviews and focus group discussion were conducted at the WHO office and Ulaanbaatar City Hall, respectively. All interviews and the focus group discussion were recorded and the content transcribed.

Participants

A list was compiled of those who took part in the pilot project as members of the working group, and they were asked to participate in an in-depth interview or a focus group discussion. However, several had moved to other employment so could not be included in the interviews. The questionnaires were conducted if the participants could not take part in the interview or focus group discussion. Those who participated in the interview process are listed in annex B. Those who participated in the interviews, focus group discussion or questionnaire received a reward of 10 000 Mongolian togrogs.

---

[2] A *ger* is a traditional Mongolian dwelling similar to a yurt. Clusters of residences consisting of traditional yurts are called *ger* districts. They range from north-western to north-eastern parts of Ulaanbaatar.

Data analysis

A matrix was used to analyse the gathered data. In terms of the in-depth interviews and focus group discussion, the applicable information was extracted from the transcriptions, summarized and placed in the matrix. Information from the questionnaires did not require transcription and was placed directly in the matrix. The data compiled for each question were then compared and analysed. All interviews are found in annex C.

3. Results

3.1 Issues in different phases of implementation of Urban HEART in Ulaanbaatar

Pre-assessment phase

Initial orientation engagement and formation of technical working group

Although some members of the working group did not have a good understanding of the project at the orientation stage, most of them answered that the orientation was useful, especially the data collection. It seemed that national and local governmental staff were effectively involved. However, the opinion was expressed that other provinces and cities should have been involved in the orientation. Also, the group felt that although this phase went well, they would have benefited from additional orientation and training.

Engagement of national and local government officials

The technical working group to carry out the health equity assessment and develop a response strategy was established by order of the Governor of the Ulaanbaatar City Government. The order was enacted on 5 May 2009. The group comprised 15 members, including representatives from the Governor's Office, Department of Health, Professional Inspection Agency, WHO representative's office, Ministry of Health, Public Health Institute and other relevant departments under the City Government. The chair of the working group was the director of the Social Development Department.

The order included three main tasks:

- To assess equity of the population in Ulaanbaatar and to get inputs from stakeholders;
- To develop a response tool and workplan and the required budget;
- To include the workplan and budget in the State and local budget for 2010.

When the working group was established, the members decided to set up subgroups on such matters as finance, administration and infrastructure. Members were allocated to each subgroup and given responsibility for relevant issues. However, some members were unable to attend meetings due to their crammed schedules, resulting in increased burden on other members of the subgroups. Appointing a team leader for each subgroup would have helped in avoiding this situation.

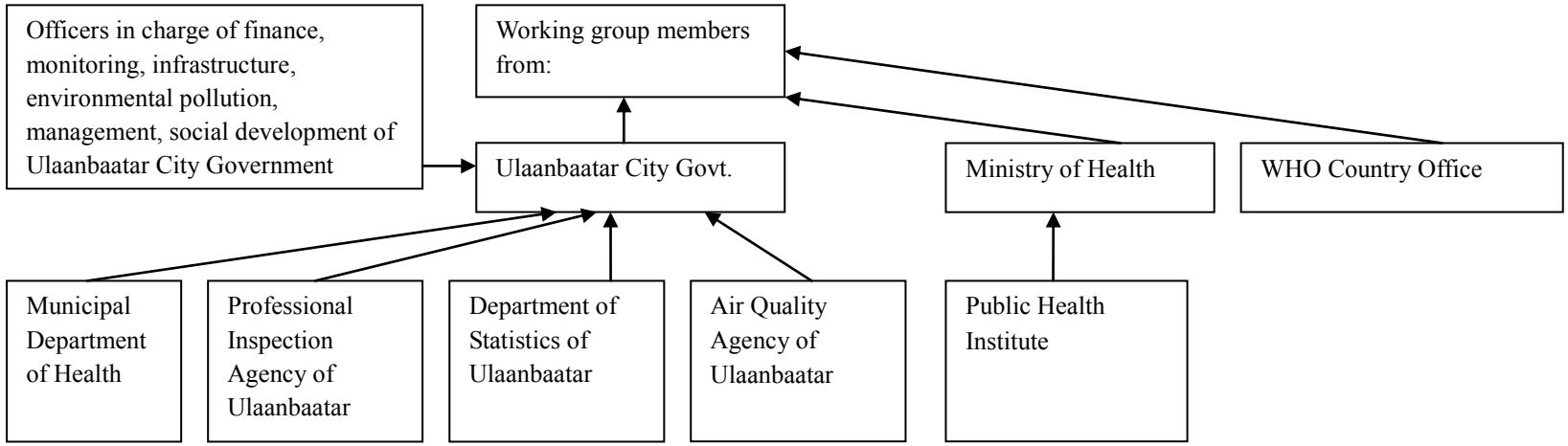
Organization of the local technical working group

The members of the working group were from the Ulaanbaatar City Government, Ministry of

Health, Public Health Institute, Department of Statistics, Department of Health and Professional Inspection Agency of Ulaanbaatar City.[3] The members were then divided into four groups corresponding to the Urban HEART policy domains: physical environment and infrastructure, social and human development, economics, and governance. Figure 1 presents an organizational chart for the working group. The activities were generally carried out on the basis of the time schedule, though some participants said that it took longer than expected to obtain non-routine data and to understand unfamiliar items in the survey.

[3] The Professional Inspection Agency is responsible for law enforcement and regulations and standards related to health, the environment, and food safety.

Figure 1. Organizational chart of working group members



1.

Resources used

Working group members thought that the resources were well mobilized within the limited timeframe, even though they did not fully understand the project at the beginning, as the concept of health equity was new for all members of the working group. Gathering routine data related to health outcomes and diseases was found to be relatively straightforward, but some members reported difficulties when attempting to collect additional data on issues such as violence, while others found it took some time to check whether or not the data matched the districts.

There were various responses regarding staff time required. Two participants said that two or three months were enough to complete this phase, but others thought that six months was a more realistic timeframe. Additionally, some asserted that it was imperative to take account of the starting date of the Urban HEART project, which should be in February or August, as routine State statistical data were published every six months in Mongolia. Therefore, to collect data efficiently, the time when the working group begins the project must be considered.

Facilitating factors

All interviewed participants were satisfied with the arrangements for the meetings provided by the Ulaanbaatar City Government, and several also observed that the guidelines provided by WHO were useful in carrying out the project.

Hindering factors

The concepts of health equity and some indicators presented in Urban HEART were new for the Mongolian team; therefore it took time to understand them. Also, it was difficult to obtain information on some indicators, such as injury and violence, because they were not routinely collected and analysed in the Mongolian context. Additional field research was needed to gather some data, and for this reason one member said that the data collection process or method should have been discussed more thoroughly in advance. All interviewed participants thought that activities in this phase were conducted in a timely manner, though they did not fully understand the objectives and activities of the project at the start.

Lessons learnt

The project participants learnt about Urban HEART and its application in addressing the needs of those sections of the population most affected by health inequities through adequate responses. Moreover, Urban HEART identified key areas where appropriate interventions could improve social and economic development. Participants realized that more advocacy was needed to help understand the process and purpose of the project, given the newness of its methodology, particularly for those who worked in entities where health equity was not addressed.

Assessment phase

Stakeholder engagement

The assessment phase was conducted by the same members, with no change even in the subgroups. The chair of the working group asked the relevant members to collect data, analyse

it, and use it to recommend further actions. Most of the members from the Ulaanbaatar City Government and its departments were involved as stakeholders, though requests for additional data needed to be made to other relevant organizations.

Community groups were not involved in the pilot project, including both the assessment and response phases. No clear reason was identified for this. It was realized, from this experience, that all stakeholders, including community groups, should be involved in the future. One respondent said there was a danger in focusing on the methodology of data collection and losing sight of how to apply those data to health equity issues and responses. The lack of reliable data and routine information for analysis of health equity exacerbated this tendency.

Indicator selection

The indicators were chosen based on the guidelines provided by WHO Kobe Centre, and on the experience of other countries in implementing Urban HEART. Most of the data used for the project were derived from Mongolian and Ulaanbaatar statistical data, but there were some missing data. Additional data were provided by nongovernmental organizations (NGOs) and relevant organizations. The data on health indicators were mainly collected from annual statistical reports issued by governmental agencies, including the State Health Agency under the Ministry of Health. Some data that were not available in the annual statistical reports were gathered from NGOs and individual researchers. The data collected from the State statistical reports was appropriate, but the data on violence and injury obtained from NGOs and individual researchers were not validated and were not always fully representative as they were extracted from only certain areas of the city. To avoid such problems all indicators need to be discussed thoroughly in the pre-assessment phase, and careful consideration given to which indicators are included or omitted.

Urban health equity assessment (Matrix and Monitor)

The Urban Health Equity Matrix and Monitor templates were created on the basis of examples provided by WHO Kobe Centre and implemented by other countries. The Matrix clearly showed that there were negative health impacts related to poor air quality, shortage of sanitary toilets and low access to schools. Overall, the results matched the impressions and expectations of different stakeholders.

One problem faced was the large increase in population in Ulaanbaatar due to rural-urban migration in search of employment, making it very difficult to estimate the population with any accuracy, especially as many of the immigrants had not completed their residential registration. Furthermore, most of the immigrants were in the lower income groups and tended to concentrate in the ger districts, where it was difficult to obtain accurate data on the inhabitants.

Resources used

Financial arrangements were made with the Ulaanbaatar City Government, so they allocated the budget, though some members of the working group lacked information on financial issues and how the budget was allocated. Although the members of the working group responded that the resources were well mobilized, they did not always state how they were utilized.

The staff time was mainly used for data collection, for example in the pre-assessment phase.

There were a variety of responses about what was a realistic timeframe. One respondent stated that two or three months were enough, but others said that six months were essential to collect and validate the data. As some indicators were difficult to understand, more detailed information about them should have been provided. It was apparent that sufficient time and adequate training were crucial for the next implementation of Urban HEART.

Facilitating factors

There were some recommendations on how to improve the Urban HEART assessment component. Greater consideration should be given to examples and information regarding similar projects implemented by other countries, as this could be helpful for people who have never before been involved in an Urban HEART project. In particular, information about methodologies, such as method of evaluation, would be useful and helpful.

Hindering factors

Most respondents stated that there were difficulties and problems with data collection. For example, the data gained from NGOs and individual researchers were not ideal as they lacked accuracy. It took a long time and considerable effort by working group members to find more information and collect additional data from study findings and technical reports, including through visiting different organizations and meeting different people to obtain relevant data. Some members reported that they started collecting data without fully understanding the meaning of the indicators.

Lessons learnt

Some working group members thought that the exercise was appropriate to their professional positions and training and workshops they had attended, though more people with varied backgrounds in the areas of health, social science and policy formulation needed to be involved. One member from the Department of Health with experience of health equity issues was able to shed light on the practice of Urban HEART and aid understanding of its concepts. Most members believed that this phase went well.

Response prioritization phase

Stakeholder engagement

The response prioritization phase was conducted by the same members who conducted the pre-assessment and assessment phases, with no change even in the subgroups. The chair of the working group asked relevant members to collect data, analyse it, and use it to recommend further actions. Most of the members from the Ulaanbaatar City Government and its departments were involved as stakeholders, though requests for additional data needed to be made to other relevant organizations. Community groups were not involved from the beginning. Nevertheless, it should be borne in mind that the focus of Urban HEART was on health equity, so it is imperative that representatives of the health sector take the lead in managing the subgroups.

Prioritization of health equity issues

Representatives of other sectors, such as water, sanitation, education and infrastructure

development, should have been involved in the project, as they needed to take more cognizance of health issues. Health issues had largely been ignored in the drive to develop the economy, including in the mining and infrastructure development sectors. In addition, inclusion of representatives from other sectors would have assisted in assessing the priorities.

There was a variety of opinions on where the priorities lay. Some said that the environment was the key priority, given the extent to which health was impacted by the environment and living conditions (for example sanitation). Others asserted that the priority health equity issues were those magnified by high population density, which was the prime factor in creating health inequities, with negative impacts on access to drinking water, education, and medical facilities.

Prioritization of strategies and interventions

The Matrix and Monitor results were very useful because they facilitated prioritization of issues and development of health strategies, as they clearly showed the characteristics of specific districts. Practical experiences and research carried out by individual researchers and NGOs influenced the prioritization of health equity issues, given the variety of points of view, areas of focus and objectives they represented and differences in their fields of research and experiences. Also, it was useful to take into account the experiences of other countries in dealing with the prioritization phase.

The working group members developed five strategies related to data collection, analysis, development of action plans, evaluation of results and dissemination of the main findings. Urban HEART was used to clarify whether the proposed strategies and interventions were in keeping with the results. Similar projects implemented by other countries and some information from NGOs in Mongolia were taken into account. Community groups were not involved, but most members of the working group agreed on the prioritized strategies and interventions.

Development of proposal and action plan

The strategy to incorporate activities into the urban development plan and budget for 2010 was initiated based on the assessment report and dissemination of results. The main strategic directions were to identify possible risk factors of the residential population of Ulaanbaatar and develop an action plan for improvements in city planning, construction, monitoring of such issues as sanitation, and implementation and enforcement of laws and regulations relevant to health equity. The main inequity issues for consideration in the near future were identified as air pollution, lack of sanitation facilities or safe drinking water, and inadequate provision of education in ger districts.

Resources used

Working group members thought that the resources were well mobilized within the limited timeframe. The meetings that were held and the training activities conducted for working group members proved useful. The guidelines for Urban HEART from the WHO Kobe Centre were translated and used for training with the support of the funding provided. The technical report was written by the working group and translated into English. There was no other funding support mobilized from the government or other sources.

Facilitating factors

The Matrix facilitated this phase because it was easy to compare the results gained from the nine districts.

Hindering factors

One respondent said that financial constraints had made this phase difficult. Most members thought that the phase went well, considering it was the first time of implementation, but some regretted that it was not made more realistic. In addition, one respondent observed that decision-makers, including city and provincial governors and vice-governors, should have been involved in the process of developing proposals and plans, as this would have aided their understanding of priority health equity issues and assisted them in applying the principles of equity in the development of health policies and strategies.

Lessons learnt

All information obtained in this phase should be sent to decision-makers so the response strategies can be applied immediately.

Policy development and programme implementation phase

Policy uptake and development

Most responses related to this phase were provided by staff of the Ulaanbaatar City Government, because staff working at other organizations, including the Ministry of Health and Public Health Institute, lacked knowledge of policy development and programme implementation at the local level.

The proposals or action plans were supported by decision-makers as the Matrix and Monitor clearly showed which districts had the most disadvantaged health status and what kinds of programmes or interventions were needed to improve health status. Activities based on the legislation on prevention of air pollution are currently in progress. The results of the Matrix and Monitor therefore influenced the decision-making process, supported by examples from implementation of Urban HEART in other countries. Decision-makers at the Ulaanbaatar City Government were in agreement that the outcomes of the Urban HEART project could be utilized in developing health policy and implementing relevant interventions. It is necessary to study the outcomes of the Urban HEART project in depth as preparation for implementing a similar project in future.

Programme development and implementation

In the final report on Urban HEART submitted by the team, specific interventions and targets were recommended. Table 1 presents examples in the area of physical environment and infrastructure. The proposals and action plans were presented to the decision-makers of Ulaanbaatar City Government, who further developed them. The resulting priority measures were reflected in the social and economic development strategy for 2010 for Ulaanbaatar and were approved by the Civil Representatives Assembly (Hural) on 23 December 2009. The strategy includes priority actions to be taken in 2010, financial resources to be allocated and responsible institutions.

Table 1. Physical environment and infrastructure

No.	Activity	Results in 2010	Financial resources	Local institutions responsible
1.	Under the project for improving public utilities, a water supply system in the ger districts of Bayankhoshuu, Chingeltei, Dari-Ekhi and Dambadarjaa will be put into operation and not less than 1000 households and offices will be connected to the centralized network	210 000 residents in ger districts will be provided with drinking water from the centralized water supply system, with the possibility of connecting pipes for drinking water into their own homes at their own expense	World Bank	Public utilities responsible for project
2.	Institute mechanism for promoting entities that produce and market environmentally friendly technologies for energy production	Project proposal developed for instituting a mechanism for promoting entities that produce and market environmentally friendly technologies for energy production, in cooperation with Japan International Cooperation Agency (JICA) and other international organizations	City budget for 2010, support from JICA and other international organizations	City Air Quality Department

Implementation of programmes and interventions arising from the project has already commenced. A number of projects to decrease air pollution, improve water quality and reduce soil contamination are being carried out by the Ulaanbaatar City Government with support from other organizations.

Status of implementation

One of the key factors that influenced decision-making was the results of the Matrix and Monitor, because they were easy to understand and illustrated to the staff of Ulaanbaatar City Government what they had to do as a next step. The proposed programmes and interventions took account of the outcomes of the pilot project. One drawback was the lack of involvement of community groups in implementation of the project, as a result of which most members of the working group had little idea of the opinions of community groups on the programmes and interventions.

Sustainability measures

Several key factors were identified that were critical to ensuring the sustainability of Urban HEART implementation. Financial support was seen as crucial, for example to enable continuous monitoring. Second, it was necessary to improve the accuracy of data, including those provided by NGOs and individual researchers. A third factor was demand for Urban HEART from stakeholders, including the government and the public, without which the project

would not continue in the long term. Further, it was vital to disseminate the outcomes of the evaluation and monitoring processes, and information on how the Ulaanbaatar City Government had applied the results in formulating health policy, providing an excellent opportunity to increase awareness of health equity at local and national levels. In reality, although the City Government issued a summary report of the Urban HEART project, it was not disseminated effectively. All in all, however, the sustainability of the project was viewed positively.

Facilitating factors

There were few responses to this question. One respondent answered that the supply of sufficient information facilitated this phase.

Hindering factors

There were no responses to this question.

Lessons learnt

The members felt that the results of this phase were acceptable, but were below their expectations. Many expected an improved response in the annual State planning and budgeting processes, and were disappointed at the funding allocated in the State budget. In addition, the experience had demonstrated that proper provision of information regarding a project was crucial to its successful implementation.

Impact and outcome evaluation phase

Monitoring and evaluation mechanisms

The staff of Ulaanbaatar City Government evaluated and monitored the process of the pilot project, and issued a summary report for the first six months of 2010. However, staff from the Ministry of Health and Public Health Institute were not involved in that activity. It would be desirable in future for people with various backgrounds to participate in this phase to ensure more comprehensive evaluation of the outcomes. The enthusiasm and leadership of community groups would have helped build broad-based support for applying Urban HEART to address health inequities.

Improvement in awareness and priority setting

As it was the first time that the Ulaanbaatar City Government had released a detailed evaluation report for the nine districts in Ulaanbaatar, it was a good opportunity to disseminate it to the public. However, it was effectively disseminated only to other relevant organizations making policy decisions, such as ministries. Also, although the participants in the project developed increased awareness of health equity issues, they did not think that awareness among the local people had significantly increased, and there was a need to raise community-level awareness of health equity.

Scale-up of Urban HEART

The members of the working group did not perceive any negative effect of the project, though one member thought that the project should have been carried out in a broader context, and not limited to Ulaanbaatar.

The local people, especially those living in ger districts, were the major beneficiaries of the policies and interventions. For example, 170 000 households living in ger districts stand to benefit from greater equity derived from improvements in drinking water, sanitation facilities, waste management, housing and air quality. The Urban HEART project has therefore had a positive influence on the agenda at the city level. The Ulaanbaatar City Government and the Public Health Institute have a plan to scale up Urban HEART implementation, though the Ministry of Health is lacking in that regard. On this occasion only the Ulaanbaatar City Government was involved in the project, but in the future other municipalities should also take part in the project.

There is currently no plan to scale up Urban HEART to the national level, though it is expected that there are large spatial disparities in health within Mongolia, including between rural and urban settings. The demand for Urban HEART exists, and the project should be scaled up and implemented more broadly. The leadership of the Ministry of Health and the cooperation of community groups would be key factors in the success of such a project.

Additional policies and programmes

The Urban HEART project strengthened intersectoral collaboration. For example, the Governor of the Social Development Department of the Ulaanbaatar City Government signed an agreement to strengthen the cooperation mechanism with the Ministry of Health and Ministry of Social Welfare and Labour. On the other hand, some members felt that intersectoral collaboration had been inadequate, and it was necessary to create good-quality guidelines for the process.

Intersectoral action on health

Staff from other sectors participated in the project and offered comments and advice, but generally their involvement was inadequate, and in order to improve assessment more specialists from a variety of sectors should be involved in any future project.

Community participation

Community groups were not officially involved in the working group, but some information was provided by NGOs. However, in a positive move, the Governor of the Ulaanbaatar City Government has recently reached an agreement with 17 NGOs about the project proposals on Urban HEART, in which they commit to working together for city development.

Intervention outcomes on health and health equity

The Urban HEART project positively influenced addressing health equity issues in Ulaanbaatar, thus resulting in increased awareness and knowledge of health equity. The project was also useful in assessing the current status of health in the city.

3.2 Implementation of Urban HEART

Assessment conducted

The equity assessment was conducted using Urban HEART (version 1.2), as developed by WHO. The tool was translated into Mongolian. The objectives of the assessment were to identify health equity issues among the population of Ulaanbaatar and develop interventions

based on the assessment findings. According to the document review, the following areas were included in the assessment phases:

- Physical environment and infrastructure
- Social and human development
- Economics
- Governance

The data, as of the year 2008, were collected from nine districts of Ulaanbaatar. The definitions of indicators in the assessment tool were adjusted to the country context, and data for a total of 40 indicators were collected. Data collection and analysis took place from June to August 2009, followed by identification of response strategies and interventions, during the period September to October 2009.

With the use of selection criteria in the assessment tool, a strategy package to improve incorporation of health in the development of urban areas was chosen as a response strategy for addressing health equity in Ulaanbaatar. Priority interventions were also identified from the list of interventions under the response strategy package.

Main findings of the assessment

The Urban Health Equity Matrix, as developed for the different districts of Ulaanbaatar, is presented in annex D.

4. Conclusions and recommendations

4.1 Conclusions

The Urban HEART pilot project was successfully initiated in Ulaanbaatar. The health equity assessment was conducted with the participation of different stakeholders who understood Urban HEART as an important tool for policy formulation, decision-making and urban planning. The programme and interventions under the pilot project were seen by stakeholders as relevant to their areas of work.

There are large differences in health equity between urban and rural areas of Mongolia and there is hence a demand to implement Urban HEART in other provinces and locations in the country, as well as throughout Ulaanbaatar. To reduce inequities in health, the Urban HEART project should be scaled up and conducted in broader areas. The leadership of the Ministry of Health and the Office of the Governor of Ulaanbaatar, in cooperation with different ministries and organizations, would be key factors for the successful implementation of the tool at scale.

To ensure the sustainability of the project, there is a need to improve intersectoral collaboration, ensure financial support, conduct better surveillance of equity data, design proper interventions, and conduct evaluation and monitoring of the project.

4.2 Recommendations

As some Urban HEART indicators were not appropriate for circumstances in Mongolia, implementation of the Urban HEART project was made more difficult. The guidelines should

provide more detailed explanations of indicators. It would also be very useful to give examples from previous implementation in other countries.

The concept of health equity was relatively new for Mongolia, so it was hard to make initial progress on the project. If Urban HEART is launched in countries where the concept of health equity is not commonly understood, WHO should provide as much information as it can to relevant organizations before implementation of a project. This would definitely make the project more fruitful and efficient.

It is regretted that community groups were not involved in the pilot project. The enthusiasm and leadership of community groups are vital to scaling up and refining the implementation of Urban HEART. Accordingly, the working group should consider participation of community groups in future. In addition, the participation of NGOs should be encouraged, as they would bring added dynamics and diversity to the project. Some working group members thought that similar considerations applied to training and work position; in future, participants with more varied backgrounds, including the health, social science and policy formulation areas, need to be involved.

In addition, some members of the working group said it was important to start the project in February or August, as routine State statistical data were published every six months in Mongolia. This would help in reducing the number of working hours required for the project, reducing the burden on members of the working group, most of whom worked on the project during normal working hours.

Although the Ulaanbaatar City Government issued a summary report of the Urban HEART project, this was not disseminated effectively. Greater efforts should be made to disseminate findings in any future iteration of the project.

4.3 Limitations

There were 15 members of the working group when the project was conducted in 2009, and all of them worked in governmental organizations and institutions. However, almost half of the members had left their positions by the time of this review, due to personal or economic reasons, and it was therefore difficult to interview all members of the working group. It is necessary to take some countermeasures against this problem in order to obtain diverse and unbiased opinions.

When conducting in-depth interviews and focus group discussions, all questions contained in the guidelines for documenting and evaluating Urban HEART implementation were translated from English into Mongolian. Then, the translated question guide was distributed to each interviewee in advance. However, there was some difficulty understanding the exact meaning of questions. As a result, answers that corresponded to the questions were not obtained in some cases. In addition, there were similar questions in each phase, which confused the interviewees. Therefore, a plan to facilitate interviews will be needed next time.

Annex A. Questionnaire for documenting and evaluating Urban HEART implementation for specialists from IHPH

Pre-assessment phase

Orientation of the pilot sites

What did the participants think of the orientation? Was it useful?

Engagement of national and local government officials

How were the national and local government officials engaged in this process?

Organization of the local technical working group

How was the technical working group convened?

What were its organizational structure, mandate, membership, roles and responsibilities?

Was the group multisectoral?

Who were the key stakeholders?

Who was the most/least supportive of the project?

Resources used

What were the funds required, including breakdown by major components (e.g. meetings, materials)?

What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?

How were the resources mobilized?

What is a realistic timeframe in which this phase can be completed in a similar context?

How can the Urban HEART pre-assessment component be improved? What other resources are needed?

Facilitating factors

What were the things that facilitated this phase?

Hindering factors

What were the things that made this phase difficult?

Lessons learnt

Did the stakeholders think this phase went well? Why or why not?

What are the lessons learnt about completing this phase successfully?

How to improve this phase of Urban HEART?

Assessment phase

Stakeholder engagement

What was the mechanism to engage stakeholders in this phase?

How were community groups included in this phase?

What were the stakeholders' (including community) perceptions of being involved in this phase?

Indicator selection

How were the indicators selected? What were the key decision factors?

Data collection and validation

What were the data sources and data types used for each indicator?

How were the data collected and validated?

Were the data appropriate and accurate?

Urban health equity assessment (Matrix and Monitor)

How were the Matrix and Monitor created?

What did the resulting Matrix and Monitor look like?

Did the results match the impressions and expectations of different stakeholders?

Resources used

What were the funds required, including breakdown by major components (e.g. meetings, materials)?

What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?

How were the resources mobilized?

What is a realistic timeframe in which this phase can be completed in a similar context?

How can the Urban HEART assessment component be improved? What other resources are needed?

Facilitating factors

What were the things that facilitated this phase?

Hindering factors

What were the things that made this phase difficult?

Lessons learnt

Did the stakeholders think this phase went well? Why or why not?

What are the lessons learnt about completing this phase successfully?

Response prioritization phase

Stakeholder engagement

What was the mechanism to engage stakeholders in this phase?

How were community groups included in this phase?

What were the stakeholders' (including community) perceptions of being involved in this phase?

Prioritization of health equity issues

What were the priority health equity issues, and why?

How were the Matrix and Monitor results used to prioritize health equity issues?

What other information or factors influenced the prioritization of health equity issues?

What did community members think of the prioritized health equity issues?

Prioritization of strategies and interventions

What were the priority strategies and interventions, and why?

How was Urban HEART used to identify and prioritize strategies and interventions?

What other information or factors influenced the prioritization of health equity issues?

What did community members think of the prioritized strategies and interventions?

Development of proposal or action plan

Was a proposal or action plan developed based on the Urban HEART implementation results?

How and to whom was the proposal or action plan presented?

Resources used

What were the funds required, including breakdown by major components (e.g. meetings, materials)?

What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?

How were the resources mobilized?

What is a realistic timeframe in which this phase can be completed in a similar context?

How can the Urban HEART response component be improved? What other resources are needed?

Facilitating factors

What were the things that facilitated this phase?

Hindering factors

What were the things that made this phase difficult?

Lessons learnt

Did the stakeholders think this phase went well? Why or why not?

What are the lessons learnt about completing this phase successfully?

Policy development and programme implementation phase (if applicable)

Policy uptake and development

Was the proposal or action plan accepted or rejected, and by whom?

What were the key factors that influenced the decision?

What did the decision-makers think of Urban HEART?

[If it was accepted] How closely was the proposal or action plan followed?

Programme development and implementation

Was a programme or intervention developed and implemented?

What were the key factors that influenced the decision?

What was the programme or intervention? How closely was it linked to the proposal?

What did the stakeholders (including community) think of the programme or intervention?

Status of implementation

What is the project's current status?

Sustainability measures

Is Urban HEART implementation sustainable at this site?

Are there any mechanisms (legal, organizational, financial, etc.) in place to ensure sustainability of Urban HEART implementation?

What are the key sustainability factors?

Facilitating factors

What were the things that facilitated this phase?

Hindering factors

What were the things that made this phase difficult?

Lessons learnt

Did the stakeholders think this phase went well? Why or why not?

What are the lessons learnt about completing this phase successfully?

Impact and outcome evaluation

Monitoring and evaluation mechanisms

Have you been monitoring and evaluating the process? If so, how? If not, why?

What are the main accomplishments of the project?

What, if any, are the negative effects of the project?

Who has benefited the most or least from participating in the project?

Improvement in awareness and priority setting

Did the Urban HEART implementation increase awareness about health equity issues among stakeholders and in the community?

Did the Urban HEART implementation result in putting health equity issues higher on the agenda of local, regional or national governments and other agencies?

Scale-up of Urban HEART

Are there plans for scaling up Urban HEART implementation in the region or country?

Have other municipalities adopted or taken interest in Urban HEART?

Additional policies and programmes

Did the Urban HEART implementation generate or strengthen other policies or programmes beyond those directly resulting from the pilot project?

Intersectoral action on health

Did the Urban HEART implementation generate or strengthen intersectoral collaboration to address health and health equity issues?

How was the intersectoral collaboration viewed by participants?

Community participation

Did the Urban HEART implementation generate or strengthen community participation in the local planning process (health planning, urban planning)?

How was the community participation viewed by the participants?

Intervention outcomes on health and health equity

Did the programme or intervention generated by the Urban HEART project affect health, health determinants or health equity? What is the evidence of these effects or outcomes?

Annex B. List of interviewees

Interviewee	Title	Data collection method
A	Officer in chemical safety and health waste management, Ministry of Health	In-depth interview
B	Director of Centre for Human Ecology, Public Health Institute	In-depth interview
C	Officers in health, City Governor's Office, Ulaanbaatar	Focus group discussion
D	Officers in evaluation and monitoring, City Governor's Office, Ulaanbaatar	Focus group discussion
E	Officers in environmental pollution, City Governor's Office, Ulaanbaatar	Focus group discussion
F	Former inspector of Professional Inspection Agency (currently, this person is an adviser of a private company and NGO)	Questionnaire

Annex C. Interviews

Interviewee A

Pre-assessment phase		
1	What did the participants think of the orientation? Was it useful?	Orientation was very useful training because we did not have any idea about health equity.
2	How were the national/local government officials engaged in this process?	Ulaanbaatar City Government officials were engaged, and their participation was good. This phase was done only at the Ulaanbaatar City level.
3	How was the technical working group convened?	It was convened by the Governor of Ulaanbaatar and all related officials were included.
4	What were its organizational structure, mandate, membership, roles and responsibilities?	The head of the working group was the Ulaanbaatar vice-mayor. The members were from the Ministry of Health and the major departments of Ulaanbaatar City.
5	Was the group multisectoral?	I belonged in the physical environment group. In this group, one member was from the City Inspection Agency, the others were from the Environmental Pollution and Waste Management Department of Ulaanbaatar City and the Environmental Health Department of the Public Health Institute.
6	Who were the key stakeholders?	The member from the Engineering Department was the key stakeholder.
7	Who were the most/least supportive of the project?	The supportive persons were from the City Inspection Agency and the Public Health Institute. Overall, all member were supportive.
Resources used		
8	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	I do not remember about the budget, because the secretary was responsible for the financing. The budget was mainly used for translation and meetings.
9	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	A lot of time was needed to collect some data because they were not routine data. Thus we needed to collect them from other sources.
10	How were the resources mobilized?	The budget was funded by the WHO Regional Office for the West Pacific, but I do not know details about the budget.
11	What is a realistic timeframe in which this phase can be completed in a similar context?	One or two months were enough to finish this phase.
Facilitating factors		
12	What were the things that facilitated this phase?	The WHO guidelines provided by WHO Kobe Centre facilitated us to do this phase, and they were useful.

Hindering factors		
13	What were the things that made this phase difficult?	This project was new for us, so we had difficulty understanding some issues and questions. Some questions were not suitable for the Mongolian situation, which made them difficult to understand.
Lessons learnt		
14	Did the stakeholders think this phase went well? Why or why not?	It was good enough but stakeholders did not have good knowledge about this project.
15	What are the lessons learnt about completing this phase successfully?	We acquired basic understanding of equity, and learnt how this survey could have been done better.
Assessment phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	The same persons and order as for the pre-assessment, but we received some information and data from other relevant people.
2	How were community groups included in this phase?	No community groups.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	We had to think about non-statistical data, and we should pay more attention about health issues.
Indicator selection		
4	How were the indicators selected? What were the key decision factors?	Indicators were chosen from the guidelines.
Data collection and validation		
5	What were the data sources and data types used for each indicator?	The data were mainly collected from Ulaanbaatar statistical databank, but some data were collected from other researchers and relevant organizations.
6	How were the data collected and validated?	The data were not validated because they were from annual reports.
7	Were the data appropriate and accurate?	Most statistical data were appropriate, some questions did not demand statistical data. Thus, these data were not accurate.
Urban health equity assessment (Matrix and Monitor)		
8	How were the Matrix and/or Monitor created?	We created the Matrix for nine districts in Ulaanbaatar.
9	What did the resulting Matrix and/or Monitor look like?	The Matrix made clear which districts we should pay more attention to next year.
10	Did the results match the impressions/expectations of different stakeholders?	Ulaanbaatar City officials can answer this question.
Resources used		

11	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	We received the funds from WHO.
12	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	The same as for the pre-assessment.
13	How were the resources mobilized?	The same as for the pre-assessment.
14	What is a realistic timeframe in which this phase can be completed in a similar context?	Six months.
15	How can the Urban HEART Assessment component be improved? What other resources are needed?	We need time to learn details of this assessment and more training to understand well.
Facilitating factors		
16	What were the things that facilitated this phase?	The same as for the pre-assessment.
Hindering factors		
17	What were the things that made this phase difficult?	Data collection was difficult.
Lessons learnt		
18	Did the stakeholders think this phase went well? Why or why not?	It was fair, not good and not bad.
19	What are the lessons learnt about completing this phase successfully?	The same as for the pre-assessment.
Response prioritization phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	The same 15 people were involved in this stage.
2	How were community groups included in this phase?	No community group.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	Other sectors should have been involved and we needed to pay more attention to health issues.
Prioritization of health equity issues		
4	What were the priority health equity issues, and why?	The priority issue was water supply in yurt districts because they do not have it.
5	How were the Matrix and Monitor results used to prioritize health equity issues?	This was very useful because we could identify which was the priority issue in each category.
6	What other information or factors influenced the prioritization of health equity issues?	Practical experiences.
7	What did community members think of the prioritized health equity issues?	We did not involve the community.
Prioritization of strategies and interventions		
8	What were the priority strategies/interventions, and why?	The same as for the pre-assessment.

9	How was Urban HEART used to identify and prioritize strategies and interventions?	We developed some strategies, interventions and response strategies using Urban HEART.
10	What other information or factors influenced the prioritization of health equity issues?	
11	What did community members think of the prioritized strategies/interventions?	No community group.
Development of proposal/action plan		
12	Was a proposal/action plan developed based on the Urban HEART implementation results?	We developed response strategies about the action plan.
13	How and to whom was the proposal/action plan presented?	Ulaanbaatar City Government presented their development strategy for 2010, which was approved by the Civil Representatives Assembly.
Resources used		
14	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	The same as for the pre-assessment.
15	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	The same as for the pre-assessment.
16	How were the resources mobilized?	The same as for the pre-assessment.
17	What is a realistic timeframe in which this phase can be completed in a similar context?	Two months was enough for this stage.
18	How can the Urban HEART Assessment component be improved? What other resources are needed?	Information from other countries would be useful, for example on what they did, how they improved the situation and what they planned for further action.
Facilitating factors		
19	What were the things that facilitated this phase?	The results of the assessment made it easier to develop future activities.
Hindering factors		
20	What were the things that made this phase difficult?	Financial problems.
Lessons learnt		
21	Did the stakeholders think this phase went well? Why or why not?	It was fair, neither good nor bad. We could have made it better and more realistic.
22	What are the lessons learnt about completing this phase successfully?	The same as for the pre-assessment.
Policy development and programme implementation phase (if applicable)		
Policy uptake and development		
1	Was the proposal/action plan accepted or rejected, and by whom?	This action plan was approved by the Civil Representatives Assembly, but you should ask

		Ulaanbaatar City Government.
2	What were the key factors that influenced the decision?	
3	What did the decision-makers think of Urban HEART?	All participants agreed that Urban HEART was vey new for us and we should consider these items further.
4	[If it was accepted] How closely was the proposal/action plan followed?	
Programme development and implementation		
5	Was a programme/intervention developed and implemented?	
6	What were the key factors that influenced the decision?	
7	What was the programme/intervention? How closely was it linked to the proposal?	
8	What did the stakeholders (including community) think of the programme/intervention?	
Status of implementation		
9	What is the project's current status?	
Sustainability measures		
10	Is Urban HEART implementation sustainable at this site?	
11	Are there any mechanisms (legal, organizational, financial, etc) in place to ensure sustainability of Urban HEART implementation?	
12	What are the key sustainability factors?	
Facilitating factors		
13	What were the things that facilitated this phase?	
Hindering factors		
14	What were the things that made this phase difficult?	
Lessons learnt		
15	Did the stakeholders think this phase went well? Why or why not?	
16	What are the lessons learnt about completing this phase successfully?	
Impact and outcome evaluation		
Monitoring and evaluation mechanisms		
1	Have you been monitoring and evaluating the process? If so, how? If not, why?	I have not been included in this monitoring.

2	What are the main accomplishments of the project?	I do not have any ideas about the main accomplishments, negative effects and benefits.
3	What, if any, are the negative effects of the project?	I do not have any ideas about the main accomplishments, negative effects and benefits.
4	Who has benefited the most/least from participating in the project?	Poor and vulnerable people in the yurt districts must have received the most benefits.
Improvement in awareness/priority setting		
5	Did the Urban HEART implementation increase awareness about health equity issues among stakeholders and in the community?	Yes, and we have to increase awareness more in the future.
6	Did the Urban HEART implementation result in putting health equity issues higher on the agenda of local, regional and/or national governments and other agencies?	The local authority had some understanding of health equity issues, and we will tackle this issue in the future.
Scale-up of Urban HEART		
7	Are there plans for scaling up Urban HEART implementation in the region/country?	
8	Have other municipalities adopted or taken interest in Urban HEART?	No idea.
Intersectoral action on health		
9	Did the Urban HEART implementation generate or strengthen intersectoral collaboration to address health/health equity issues?	Yes, the results identified that vulnerable groups do not have health equity and we realized that we needed to pay more attention to them to improve their health.
10	How was the intersectoral collaboration viewed by participants?	Yes, it was a good to work as a team with the local authority and this project provided a step to improve intersectoral collaboration in Ulaanbaatar City.
Community participation		
11	Did the Urban HEART implementation generate or strengthen community participation in the local planning process (health planning, urban planning)? How was the community participation viewed by the participants?	No, the community was not involved.
Intervention outcomes on health and health equity		
12	Did the programme/intervention generated by the Urban HEART project affect health, health determinants or health equity? What is the evidence of these effects/outcomes?	Ulaanbaatar City Government knows this issue because they implemented it.

Interviewee B

Pre-assessment phase		
1	What did the participants think of the orientation? Was it useful?	This research was correct and efficient.
2	How were the national/local government officials engaged in this process?	It was implemented in Ulaanbaatar only, and it needs to be organized for the country and regions also.
3	How was the technical working group convened?	I don't know how it was established at the beginning. However, the group members were informed prior to every meeting.
4	What were its organizational structure, mandate, membership, roles and responsibilities?	
5	Was the group multisectoral?	The group was divided into several subgroups to collect the required information and data resources.
6	Who were the key stakeholders?	The main participants in my group were Tsetsegsaikhan, Udembor, Tsolmon, Saijaa and Ganbaatar.
7	Who were the most/least supportive of the project?	All were involved well and completed the tasks in a timely and appropriate manner.
Resources used		
8	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	I don't know in detail.
9	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	Organizers selected people with different backgrounds and divided the group into subgroups.
10	How were the resources mobilized?	They were mobilized well. It would have been better if there were more funds and additional time. However, we were used efficiently and supplied with adequate information and breaks between routine work.
11	What is a realistic timeframe in which this phase can be completed in a similar context?	Two or three months were enough.
Facilitating factors		
12	What were the things that facilitated this phase?	Coordination and arrangements were very good.
Hindering factors		
13	What were the things that made this phase difficult?	It took much time because some participants were absent, for example Jargal was sick.
Lessons learnt		
14	Did the stakeholders think this phase went well? Why or why not?	This phase was successfully completed.
15	What are the lessons learnt about completing this phase successfully?	We found information about some factors and infrastructure, and about environmental pollution, which has a negative impact on health. For example: how many latrines were there in Ulaanbaatar, and how many of them

		met hygiene requirements; and how many patients were there due to unhealthy conditions.
Assessment phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	
2	How were community groups included in this phase?	Community groups were not involved. Decision-makers should be involved in the future.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	
Indicator selection		
4	How were the indicators selected? What were the key decision factors?	We collected information and data resources from the following organizations: Air Quality Agency for information about air pollution; City Professional Inspection Agency for soil contamination; Urban Planning Department. Based on the above information, we selected factors that may have impacts on health. Generally, our selection was similar to that of Kobe Centre, Japan. However, there is still a need to find data resources, because such selection has never been done in our country before.
Data collection and validation		
5	What were the data sources and data types used for each indicator?	
6	How were the data collected and validated?	We selected data according to impacts and evaluated about four main subjects.
7	Were the data appropriate and accurate?	Information and data gained from the State Statistical Office was correct and easy to follow, but data resources gained from NGOs and reports from individual researchers were of average quality. For example, information and data were collected by using standard methodologies used in Mongolia. Therefore data on soil, water, and air were absolutely correct.
Urban health equity assessment (Matrix and Monitor)		
8	How were the Matrix and/or Monitor created?	
9	What did the resulting Matrix and/or Monitor look like?	Based on the result from the Matrix and Monitor, it was confirmed that negative impacts on health came from urban construction and utilization, inadequate latrines and air pollution.
10	Did the results match the impressions/expectations of different stakeholders?	The results generally matched the expectations. However, as decision-makers and the public were not involved,

		their opinions were missing.
Resources used		
11	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	I don't know well.
12	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	We completed the evaluation in 14 days.
13	How were the resources mobilized?	They were mobilized well.
14	What is a realistic timeframe in which this phase can be completed in a similar context?	It would have been better if one month was given, because we were studying between our work.
15	How can the Urban HEART Assessment component be improved? What other resources are needed?	
Facilitating factors		
16	What were the things that facilitated this phase?	Similar projects done by other countries facilitated this phase.
Hindering factors		
17	What were the things that made this phase difficult?	Some statistics derived from reports by individual researchers were approximate. For this reason, I cannot consider that the research covered the whole capital city.
Lessons learned		
18	Did the stakeholders think this phase went well? Why or why not?	This phase was successful. However, the plan should be properly considered and more people with different backgrounds should be involved.
19	What are the lessons learned about completing this phase successfully?	Advantages of Matrix methodology.
Response prioritization phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	The previous 15 members were divided into subgroups.
2	How were community groups included in this phase?	There were not.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	
Prioritization of health equity issues		
4	What were the priority health equity issues, and why?	
5	How were the Matrix and Monitor results used to prioritize health equity issues?	It was very useful to use the Matrix and Monitor to prioritize issues, and it was easy to see and to sort out the results from the Matrix.

6	What other information or factors influenced the prioritization of health equity issues?	
7	What did community members think of the prioritized health equity issues?	I don't know because I was not involved.
Prioritization of strategies and interventions		
8	What were the priority strategies/interventions, and why?	We developed five strategies using the following steps: collect data, analyse data, develop action plans, evaluate results.
9	How was Urban HEART used to identify and prioritize strategies and interventions?	
10	What other information or factors influenced the prioritization of health equity issues?	
11	What did community members think of the prioritized strategies/interventions?	
Development of proposal/action plan		
12	Was a proposal/action plan developed based on the Urban HEART implementation results?	
13	How and to whom was the proposal/action plan presented?	The proposal and action plan was devoted to the public and community.
Resources used		
14	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	I don't know about this.
15	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	I was not present during the selection. I just became involved by invitation of the coordinators.
16	How were the resources mobilized?	They were mobilized well.
17	What is a realistic timeframe in which this phase can be completed in a similar context?	Two months were enough.
18	How can the Urban HEART Assessment component be improved? What other resources are needed?	
Facilitating factors		
19	What were the things that facilitated this phase?	
Hindering factors		
20	What were the things that made this phase difficult?	
Lessons learnt		
21	Did the stakeholders think this phase went well? Why or why not?	This phase went well. However, in terms of the project goal, it was not successful, as the decision-makers were not involved, which caused delay in the timeframe for

		implementation.
22	What are the lessons learnt about completing this phase successfully?	
Policy development and programme implementation phase (if applicable)		
Policy uptake and development		
1	Was the proposal/action plan accepted or rejected, and by whom?	It was supported. A law on prevention of air pollution in Ulaanbaatar was issued, and implementation is in progress.
2	What were the key factors that influenced the decision?	Results from research.
3	What did the decision-makers think of Urban HEART?	The decision-makers considered that the Urban HEART project was very important, as it has never been discussed in detail before.
4	[If it was accepted] How closely was the proposal/action plan followed?	There was not a chance to observe closely.
Programme development and implementation		
5	Was a programme/intervention developed and implemented?	I don't know well.
6	What were the key factors that influenced the decision?	I don't know well.
7	What was the programme/intervention? How closely was it linked to the proposal?	No.
8	What did the stakeholders (including community) think of the programme/intervention?	Community members were not involved.
Status of implementation		
9	What is the project's current status?	I don't know well.
Sustainability measures		
10	Is Urban HEART implementation sustainable at this site?	
11	Are there any mechanisms (legal, organizational, financial, etc) in place to ensure sustainability of Urban HEART implementation?	I don't know well.
12	What are the key sustainability factors?	
Facilitating factors		
13	What were the things that facilitated this phase?	
Hindering factors		
14	What were the things that made this phase difficult?	
Lessons learned		

15	Did the stakeholders think this phase went well? Why or why not?	
16	What are the lessons learned about completing this phase successfully?	
Impact and outcome evaluation		
Monitoring and evaluation mechanisms		
1	Have you been monitoring and evaluating the process? If so, how? If not, why?	No, I was not involved in that phase.
2	What are the main accomplishments of the project?	Enhancing understanding of the project among the public.
3	What, if any, are the negative effects of the project?	It should have been done in a broader area.
4	Who has benefited the most/least from participating in the project?	Targeted whole society.
Improvement in awareness/priority setting		
5	Did the Urban HEART implementation increase awareness about health equity issues among stakeholders and in the community?	Participants understood about this project well, however it did not target the public. Therefore, it will be good if we promote it well and provide community groups with consistent information.
6	Did the Urban HEART implementation result in putting health equity issues higher on the agenda of local, regional and/or national governments and other agencies?	The results were put on agenda better than before.
Scale-up of Urban HEART		
7	Are there plans for scaling up Urban HEART implementation in the region/country?	There is a plan.
8	Have other municipalities adopted or taken interest in Urban HEART?	Other municipalities have not adopted, though we understand it is necessary.
Intersectoral action on health		
9	Did the Urban HEART implementation generate or strengthen intersectoral collaboration to address health/health equity issues?	Urban HEART project is not about health only; it is also important for intersectoral collaboration, while providing some guidance. However, intersectoral collaboration was insufficient.
10	How was the intersectoral collaboration viewed by participants?	
Community participation		
11	Did the Urban HEART implementation generate or strengthen community participation in the local planning process (health planning, urban planning)? How was the community participation viewed by the participants?	I don't know.

Intervention outcomes on health and health equity		
12	Did the programme/intervention generated by the Urban HEART project affect health, health determinants or health equity? What is the evidence of these effects/outcomes?	

Interviewee C

Pre-assessment phase		
1	What did the participants think of the orientation? Was it useful?	It was a very useful survey and I understood many things from this.
2	How were the national/local government officials engaged in this process?	We, City Government officials, were involved effectively.
3	How was the technical working group convened?	This group included staff from WHO, Ulaanbaatar City Government, Ministry of Health and other relevant agencies.
4	What were its organizational structure, mandate, membership, roles and responsibilities?	Collect data and materials related to topics and areas in a timely and appropriate manner.
5	Was the group multisectoral?	We were divided into four subgroups.
6	Who were the key stakeholders?	People added into the list were Galsandulam from the Labour Department, Ulaanbaatar City Government, Munkhzaya from the Education Department, Soninkhuu from the City Department of Health and Air Quality Agency.
7	Who were the most/least supportive of the project?	
Resources used		
8	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	We implemented all activities within the approved budget, US$10 000.
9	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	In general, we completed activities on time.
10	How were the resources mobilized?	We could manage all issues raised, including politics and even election procedure.
11	What is a realistic timeframe in which this phase can be completed in a similar context?	Six months were enough, though it is important to consider when we start a survey. It is preferable to start in February or August, at the beginning or end of the year. If we start in March, the report for the first six months may not be ready. As a result, we may have to wait until it is available. We have to wait for a few more months or use the data for the previous year.
Facilitating factors		

12	What were the things that facilitated this phase?	Ulaanbaatar City Government, the Ministry of Health and WHO were good supporters.
Hindering factors		
13	What were the things that made this phase difficult?	It would be useful if relevant organizations were informed of the data collection process before starting the survey.
Lessons learnt		
14	Did the stakeholders think this phase went well? Why or why not?	It was successfully completed.
15	What are the lessons learnt about completing this phase successfully?	We understood that Urban HEART should be discussed earlier. Urban HEART had never been considered before in urban planning. Generally, it should take account of the population density.
Assessment phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	Same as previous content.
2	How were community groups included in this phase?	We selected ordinary people for our survey.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	
Indicator selection		
4	How were the indicators selected? What were the key decision factors?	The indicators were selected based on previous examples and handouts.
Data collection and validation		
5	What were the data sources and data types used for each indicator?	Mongolian State statistics and various materials.
6	How were the data collected and validated?	There were three available methodologies to collect data.
7	Were the data appropriate and accurate?	Information obtained from NGOs and other agencies did not cover the whole country, but represented only specific areas.
Urban health equity assessment (Matrix and Monitor)		
8	How were the Matrix and/or Monitor created?	Basically, the Matrix and Monitor were created by referring to the studies previously implemented by other countries.
9	What did the resulting Matrix and/or Monitor look like?	Problems arising included school accessibility and education of the people.
10	Did the results match the impressions/expectations of different stakeholders?	

Resources used		
11	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	Same as the previous phase.
12	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	
		Same as the previous phase.
13	How were the resources mobilized?	They were mobilized sufficiently.
14	What is a realistic timeframe in which this phase can be completed in a similar context?	If the timeframe is too long, the same results as before will not be gained.
15	How can the Urban HEART Assessment component be improved? What other resources are needed?	
Facilitating factors		
16	What were the things that facilitated this phase?	Similar research and surveys previously implemented by other countries facilitated this phase.
Hindering factors		
17	What were the things that made this phase difficult?	Some NGOs had only brief reports or data.
Lessons learnt		
18	Did the stakeholders think this phase went well? Why or why not?	This phase was completed successfully.
19	What are the lessons learnt about completing this phase successfully?	
Response prioritization phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	The previous 15 members were divided into subgroups.
2	How were community groups included in this phase?	
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	
Prioritization of health equity issues		
4	What were the priority health equity issues, and why?	Number of population.
5	How were the Matrix and Monitor results used to prioritize health equity issues?	Matrix resulted in challenges and priority issues becoming clear.
6	What other information or factors influenced the prioritization of health equity issues?	Priority issues and challenges.
7	What did community members think of the prioritized health equity issues?	They thought that it was good to be able to identify what the challenges are.

Prioritization of strategies and interventions		
8	What were the priority strategies/interventions, and why?	Identification, prioritization and covering of issues were very broad.
9	How was Urban HEART used to identify and prioritize strategies and interventions?	It was required to prioritize issues on the basis of their content and usefulness.
10	What other information or factors influenced the prioritization of health equity issues?	Some reports and information influenced the prioritization of health equity issues.
11	What did community members think of the prioritized strategies/interventions?	The members thought it was useful.
Development of proposal/action plan		
12	Was a proposal/action plan developed based on the Urban HEART implementation results?	Yes, based on the Urban HEART implementation, many projects and programmes have been started by NGOs in the city.
13	How and to whom was the proposal/action plan presented?	To decision-makers.
Resources used		
14	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	As mentioned above.
15	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	The previous members.
16	How were the resources mobilized?	They were well mobilized.
17	What is a realistic timeframe in which this phase can be completed in a similar context?	It is not necessary to take a long time.
18	How can the Urban HEART Assessment component be improved? What other resources are needed?	Examples of the projects and programmes that have been implemented in other countries can improve the Urban HEART Assessment, because they explain how the survey was implemented and by whom, how it was evaluated, and the methodology used. Detailed files and reports were preferred.
Facilitating factors		
19	What were the things that facilitated this phase?	
Hindering factors		
20	What were the things that made this phase difficult?	
Lessons learnt		
21	Did the stakeholders think this phase went well? Why or why not?	It went well and clear results were obtained.
22	What are the lessons learnt about completing this phase	

	successfully?	
Policy development and programme implementation phase (if applicable)		
Policy uptake and development		
1	Was the proposal/action plan accepted or rejected, and by whom?	Supported.
2	What were the key factors that influenced the decision?	Good examples from other countries.
3	What did the decision-makers think of Urban HEART?	They agreed that Urban HEART was an issue.
4	[If it was accepted] How closely was the proposal/action plan followed?	
Programme development and implementation		
5	Was a programme/intervention developed and implemented?	Implemented. It has been reflected in the strategy and policy of the City Government.
6	What were the key factors that influenced the decision?	Results.
7	What was the programme/intervention? How closely was it linked to the proposal?	It was found to be closely enough linked as we worked at this project.
8	What did the stakeholders (including community) think of the programme/intervention?	
Status of implementation		
9	What is the project's current status?	
Sustainability measures		
10	Is Urban HEART implementation sustainable at this site?	It will hopefully be sustainable.
11	Are there any mechanisms (legal, organizational, financial, etc) in place to ensure sustainability of Urban HEART implementation?	There are some problems, for example, it is difficult for NGOs to get funds when they initiate a new project or programme.
12	What are the key sustainability factors?	There are demand, and the need to implement the project.
Facilitating factors		
13	What were the things that facilitated this phase?	
14	What were the things that made this phase difficult?	
Lessons learnt		
15	Did the stakeholders think this phase went well? Why or why not?	Yes.
16	What are the lessons learnt about completing this phase successfully?	

Impact and outcome evaluation		
Monitoring and evaluation mechanisms		
1	Have you been monitoring and evaluating the process? If so, how? If not, why?	The summary report of the results for the first six months of 2010 was produced.
2	What are the main accomplishments of the project?	Our results.
3	What, if any, are the negative effects of the project?	At this moment, we do not see any negative effects.
4	Who has benefited the most/least from participating in the project?	The public who will use the decisions.
Improvement in awareness/priority setting		
5	Did the Urban HEART implementation increase awareness about health equity issues among stakeholders and in the community?	I do not think that public knowledge was improved.
6	Did the Urban HEART implementation result in putting health equity issues higher on the agenda of local, regional and/or national governments and other agencies?	Health equity was placed higher on the agenda, including through greater intersectoral collaboration.
Scale-up of Urban HEART		
7	Are there plans for scaling up Urban HEART implementation in the region/country?	We have a plan.
8	Have other municipalities adopted or taken interest in Urban HEART?	
Intersectoral action on health		
9	Did the Urban HEART implementation generate or strengthen intersectoral collaboration to address health/health equity issues?	Intersectoral collaboration was improved. The Governor of the Social Development Department signed an agreement to cooperate with the Ministry of Social Welfare and Ministry of Health. This agreement was put into practice in 2010 and 2011.
10	How was the intersectoral collaboration viewed by participants?	
Community participation		
11	Did the Urban HEART implementation generate or strengthen community participation in the local planning process (health planning, urban planning)? How was the community participation viewed by the participants?	Public involvement has been increased through NGOs.
Intervention outcomes on health and health equity		
12	Did the programme/intervention generated by the Urban HEART project affect health, health determinants or health equity? What is the evidence of these effects/outcomes?	The programme and interventions were affected positively. In addition to us, participants in the project and programme, including decision-makers and citizens, improved their knowledge of Urban HEART.

Interviewee D

Pre-assessment phase		
1	What did the participants think of the orientation? Was it useful?	We did not have a good understanding of the project at the beginning.
2	How were the national/local government officials engaged in this process?	They were involved efficiently.
3	How was the technical working group convened?	In 2009, based on ordinance no. 201 issued by the City Governor, the working group started with 15 members consisting of staff from WHO, Ulaanbaatar City Government, Ministry of Health and other relevant organizations.
4	What were its organizational structure, mandate, membership, roles and responsibilities?	I was doing some financial tasks and mainly translated the relevant documents.
5	Was the group multisectoral?	We were divided into four subgroups. For nine districts of Ulaanbaatar, we developed 42 main questions and implemented research based on statistics and information for 2008 for Ulaanbaatar.
6	Who were the key stakeholders?	Staff of Ulaanbaatar City Government.
7	Who were the most/least supportive of the project?	Based on the City Governor's ordinance, the deputy to the City Governor, Ms Tsogzolmaa, supported well. She provided us with some guidance and tasks after she chaired the first meeting.
Resources used		
8	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	All activities were implemented within the approved budget of US$ 10 000.
9	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	From June 2009, data collection continued for six months. On 23 December 2009, the Civil Representatives Assembly was held, and the issues were included in the social and economic objectives for 2010.
10	How were the resources mobilized?	We worked as hard as we could. For example, we evaluated and checked in detail if the statistical data matched exactly with the relevant districts.
11	What is a realistic timeframe in which this phase can be completed in a similar context?	Information from other agencies should match with the timeframe. Some results were released after six months and others after a year. In the future, it is better to prepare in July, as the results for the first six months are released.

Facilitating factors		
12	What were the things that facilitated this phase?	Participants were very interested because it was a new idea and new project.
Hindering factors		
13	What were the things that made this phase difficult?	It took some time for translation because the guidelines were published only in English.
Lessons learned		
14	Did the stakeholders think this phase went well? Why or why not?	The phase was successfully completed.
15	What are the lessons learned about completing this phase successfully?	In general, Urban HEART should directly link with the density of population.
Assessment phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	The same as the previous mechanism.
2	How were community groups included in this phase?	During data collection, there were several indicators that were not covered by the statistical records of the country. We therefore needed to collect data from NGOs working in the field, where similar surveys had previously been undertaken by researchers. One example was the indicator on people affected by violence.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	In future, public involvement is necessary. In addition, all decision-makers need to be involved.
Indicator selection		
4	How were the indicators selected? What were the key decision factors?	We used a survey with 48 questions and 42 factors.
Data collection and validation		
5	What were the data sources and data types used for each indicator?	State summary statistics were used, but some data were obtained from NGOs.
6	How were the data collected and validated?	There were three methodologies to collect data. One was to access the Ulaanbaatar City statistics for 2008. Where data were not available from State statistics, we worked with NGOs and the private sector to obtain them. When it was not possible to get the data using the above two methods, we tried to collect the data ourselves.
7	Were the data appropriate and accurate?	
Urban health equity assessment (Matrix and Monitor)		

8	How were the Matrix and/or Monitor created?	Basically, we followed the templates of other countries and sorted out the Matrix by using three different colours.
9	What did the resulting Matrix and/or Monitor look like?	The comparison completed for the nine districts in Ulaanbaatar was very useful, and the Matrix and Monitor made the comparison very clear. Based on the results, it can be said that allocation of the State budget has been directly linked with the Urban HEART findings.
10	Did the results match the impressions/expectations of different stakeholders?	Yes, overall, the results matched with the city challenges.
Resources used		
11	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	The same as the previous phase.
12	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	The same as the previous phase.
13	How were the resources mobilized?	They were mobilized well.
14	What is a realistic timeframe in which this phase can be completed in a similar context?	It is not necessary to spend much time because a long timeframe can negatively affect employees' working hours. Two to three months will be enough for the evaluation process if all the data are collected.
15	How can the Urban HEART Assessment component be improved? What other resources are needed?	It is advisable to introduce this project well to organizations that own information and data resources.
Facilitating factors		
16	What were the things that facilitated this phase?	Similar projects implemented by other countries.
Hindering factors		
17	What were the things that made this phase difficult?	Some data were not summarized, for instance the population numbers were different for each district of the city.
Lessons learned		
18	Did the stakeholders think this phase went well? Why or why not?	It was completed successfully.
19	What are the lessons learned about completing this phase successfully?	
Response prioritization phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	In the same manner as before, the 15 members were divided into subgroups.

2	How were community groups included in this phase?	They were not.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	Reasons for Urban HEART and challenges.
Prioritization of health equity issues		
4	What were the priority health equity issues, and why?	Identification, prioritization and coverage of issues are very broad. Therefore, it is required to prioritize issues based on their context and benefits.
5	How were the Matrix and Monitor results used to prioritize health equity issues?	As the exercise and related collection of data had not been carried out before, everything was new for us. Therefore we used the Matrix methodology for the first time, and it helped a lot to prioritize issues.
6	What other information or factors influenced the prioritization of health equity issues?	The priority issues.
7	What did community members think of the prioritized health equity issues?	We thought that the community members were very important and necessary in our activities.
Prioritization of strategies and interventions		
8	What were the priority strategies/interventions, and why?	We thought about the strategies and interventions based on the five main strategies.
9	How was Urban HEART used to identify and prioritize strategies and interventions?	We identified strategies and interventions for Urban HEART based on its context and benefits, as well as its characteristics.
10	What other information or factors influenced the prioritization of health equity issues?	Similar projects and reports implemented by other countries and NGOs were very useful.
11	What did community members think of the prioritized strategies/interventions?	There was no opposed opinion by community members regarding the prioritized strategy and interventions.
Development of proposal/action plan		
12	Was a proposal/action plan developed based on the Urban HEART implementation results?	Yes. Based on Urban HEART, many city projects were started through NGOs.
13	How and to whom was the proposal/action plan presented?	Since the project results were introduced to the City Government and the Civil Representatives Assembly, the proposal and action plan have been reflected in the social and economic objectives of the city and some projects have been started.
Resources used		
14	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	The same as the previous phase.
15	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	The same as the previous phase.

16	How were the resources mobilized?	Well.
17	What is a realistic timeframe in which this phase can be completed in a similar context?	It is not necessary to take a long time.
18	How can the Urban HEART Assessment component be improved? What other resources are needed?	It is good to recruit people with experience of working on similar projects.
Facilitating factors		
19	What were the things that facilitated this phase?	Matrix and Monitor.
Hindering factors		
20	What were the things that made this phase difficult?	
Lessons learned		
21	Did the stakeholders think this phase went well? Why or why not?	This phase was done successfully. Although it was a new project, it was implemented well.
22	What are the lessons learned about completing this phase successfully?	
Policy development and programme implementation phase (if applicable)		
Policy uptake and development		
1	Was the proposal/action plan accepted or rejected, and by whom?	There was no rejection by decision-makers because the statistics and facts were obvious and true.
2	What were the key factors that influenced the decision?	The Matrix helped us to understand the results.
3	What did the decision-makers think of Urban HEART?	It is very useful and necessary to study more details.
4	[If it was accepted] How closely was the proposal/action plan followed?	
Programme development and implementation		
5	Was a programme/intervention developed and implemented?	
6	What were the key factors that influenced the decision?	When challenges became clear enough.
7	What was the programme/intervention? How closely was it linked to the proposal?	
8	What did the stakeholders (including community) think of the programme/intervention?	
Status of implementation		
9	What is the project's current status?	Good.
Sustainability measures		
10	Is Urban HEART implementation sustainable at this site?	The Urban HEART project will be sustainable.

11	Are there any mechanisms (legal, organizational, financial, etc) in place to ensure sustainability of Urban HEART implementation?	There were no mechanisms (legal, organizational, financial, etc) to facilitate the implementation of Urban HEART.
12	What are the key sustainability factors?	To keep providing information.
Facilitating factors		
13	What were the things that facilitated this phase?	
Hindering factors		
14	What were the things that made this phase difficult?	
Lessons learned		
15	Did the stakeholders think this phase went well? Why or why not?	The stakeholders thought it was good enough, but it was less than their expectations.
16	What are the lessons learned about completing this phase successfully?	Any project can be implemented sustainably when it is necessary.
Impact and outcome evaluation		
Monitoring and evaluation mechanisms		
1	Have you been monitoring and evaluating the process? If so, how? If not, why?	We have regularly conducted such evaluation and monitoring, and we completed some comparisons on the basis of the city monthly social and economic evaluation and summary reports.
2	What are the main accomplishments of the project?	It was new and good to use the summary evaluation for the nine districts, which was completed by the four subgroups.
3	What, if any, are the negative effects of the project?	None.
4	Who has benefited the most/least from participating in the project?	It was good for decision-makers to find out information concerning important issues.
Improvement in awareness/priority setting		
5	Did the Urban HEART implementation increase awareness about health equity issues among stakeholders and in the community?	It increased awareness among the participants.
6	Did the Urban HEART implementation result in putting health equity issues higher on the agenda of local, regional and/or national governments and other agencies?	The results of the Urban HEART implementation could positively influence the agenda at city level, although I am not sure whether or not they could exert influence at the governmental and regional levels.
Scale-up of Urban HEART		
7	Are there plans for scaling up Urban HEART implementation in the region/country?	We have a plan.
8	Have other municipalities adopted or taken interest in Urban HEART?	The City Governor and his deputy.

Intersectoral action on health		
9	Did the Urban HEART implementation generate or strengthen intersectoral collaboration to address health/health equity issues?	Some changes have been carried out.
10	How was the intersectoral collaboration viewed by participants?	We worked satisfactorily, however it is necessary to improve intersectoral collaboration.
Community participation		
11	Did the Urban HEART implementation generate or strengthen community participation in the local planning process (health planning, urban planning)? How was the community participation viewed by the participants?	Public involvement increased through NGOs.
Intervention outcomes on health and health equity		
12	Did the programme/intervention generated by the Urban HEART project affect health, health determinants or health equity? What is the evidence of these effects/outcomes?	The Urban HEART project started the process of identifying city health issues at certain levels. It can be seen that some methodologies are useful for identifying city health issues.

Interviewee E

Pre-assessment phase		
1	What did the participants think of the orientation? Was it useful?	Overall, it was not so clear at the beginning. Thus, the working group had several meetings. Enkhtsetseg, a former WHO staff member, and Khongorzul from the Ministry of Health provided us with information about the matter because they had training in this topic, which helped us to understand the project.
2	How were the national/local government officials engaged in this process?	They were very well involved. The City Governor and his deputy were chairpersons of the first meeting.
3	How was the technical working group convened?	All people from the Ulaanbaatar City Government, the Ministry of Health, WHO and the other relevant organizations participated.
4	What were its organizational structure, mandate, membership, roles and responsibilities?	When we established the working group, we had some discussion on the selection of subgroups, according to financial, public, administrative, infrastructural, and ecological themes. Then, we provided the members with information through the course of our meetings.
5	Was the group multisectoral?	It was divided into four main subgroups, according to the methodology. Specifically, Enkhtur headed the finance group, and Soninkhuu, who was head of the City Department of Health, was the chief of the social

		and human development group. I was in that working group. Dulguun and Khongorzul were in the governance group. Due to the limited timeframe, some people from the relevant organizations also worked together.
6	Who were the key stakeholders?	All of them completed their duties well. Overall, the staff from the Ulaanbaatar City Government were the main stakeholders.
7	Who were the most/least supportive of the project?	All were equally involved.
Resources used		
8	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	We completed a lot of work, such as developing the survey and meeting with people. As many unfamiliar things happened during the survey, some funds and time were allowed for that.
9	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	We spent about five to six months providing and collecting information in cooperation with the participants.
10	How were the resources mobilized?	The resources were mobilized efficiently. As there was no statistical indicator regarding violence in Mongolia, we met NGOs in person that specialized in the field, and sourced their records for the purpose of the research.
11	What is a realistic timeframe in which this phase can be completed in a similar context?	Six months were too tight.
Facilitating factors		
12	What were the things that facilitated this phase?	The City Government agencies gave good support in supplying relevant information.
Hindering factors		
13	What were the things that made this phase difficult?	Participants did not have enough information about this.
Lessons learnt		
14	Did the stakeholders think this phase went well? Why or why not?	It was completed successfully. They achieved some basic understanding about the State health organizations.
15	What are the lessons learnt about completing this phase successfully?	We realized which issues were key areas, and what we needed to reflect in the 2010 social and economic strategies.
Assessment phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	The same criteria that were previously mentioned.

2	How were community groups included in this phase?	During data collection, it was found that the data required for several indicators were not available in any of the Mongolian statistical records. Therefore, we needed to collect data from the records of NGOs and researchers. Thus, these people can be considered as representative of community groups.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	In the future, it is necessary that the public should be involved, and all decision-makers as well.
Indicator selection		
4	How were the indicators selected? What were the key decision factors?	The indicators were selected based on the template provided by the WHO Kobe Centre in Japan. In addition, we included specific issues for our country.
Data collection and validation		
5	What were the data sources and data types used for each indicator?	State statistical records, reports from NGOs, and reports from the private sector were used for each indicator. Agencies supplying data included the National Centre against Violence, Police Department, Environmental Department, political parties, Election Committee, Centre for Voters Education and National Centre for Legal Issues.
6	How were the data collected and validated?	Data resources were selected as described above.
7	Were the data appropriate and accurate?	Data resources and records obtained from the State statistical records were correct, but data obtained from other sources, such as NGOs and the private sector, may not be accurate enough.
Urban health equity assessment (Matrix and Monitor)		
8	How were the Matrix and/or Monitor created?	We used the Matrix, taking into account the way it had been implemented before.
9	What did the resulting Matrix and/or Monitor look like?	Based on the results, there were issued that Ulaanbaatar City Government had to consider.
10	Did the results match the impressions/expectations of different stakeholders?	The results matched well.
Resources used		
11	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	The same as for the previous phase.
12	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	The same as for the previous phase.
13	How were the resources mobilized?	They were mobilized sufficiently.

14	What is a realistic timeframe in which this phase can be completed in a similar context?	Two months were enough.
15	How can the Urban HEART Assessment component be improved? What other resources are needed?	The detailed and specialized State statistical data and records are necessary.
Facilitating factors		
16	What were the things that facilitated this phase?	Similar research or surveys conducted by different countries.
Hindering factors		
17	What were the things that made this phase difficult?	Some data and statistics made this phase difficult, for example the variations in population figures for each district and for the capital city.
Lessons learnt		
18	Did the stakeholders think this phase went well? Why or why not?	It was done successfully.
19	What are the lessons learnt about completing this phase successfully?	Advantages of the Matrix methodology.
Response prioritization phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	The same 15 members were divided into the subgroups.
2	How were community groups included in this phase?	They were not.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	Priority issues of State health organizations.
Prioritization of health equity issues		
4	What were the priority health equity issues, and why?	Health equity issues within the entire population, and the density of population was important because everything else depended on it.
5	How were the Matrix and Monitor results used to prioritize health equity issues?	They were beneficial for health organizations and for relevant departments. They were useful in helping to understand the specific districts.
6	What other information or factors influenced the prioritization of health equity issues?	Research done by individual researchers and NGOs.
7	What did community members think of the prioritized health equity issues?	We gained an understanding of what we needed to consider before proposing issues or initiating projects.
Prioritization of strategies and interventions		
8	What were the priority strategies/interventions, and why?	We developed five strategies. We collected and analysed information and, based on the evaluation, we developed further actions. Following that, we reported

		on all the outcomes of the implementation of the project.
9	How was Urban HEART used to identify and prioritize strategies and interventions?	We used Urban HEART to clarify whether or not the strategies and interventions were reflected in the results.
10	What other information or factors influenced the prioritization of health equity issues?	Information from similar types of projects implemented overseas was beneficial.
11	What did community members think of the prioritized strategies/interventions?	Community members had a good impression of the strategies and interventions.
Development of proposal/action plan		
12	Was a proposal/action plan developed based on the Urban HEART implementation results?	We developed projects and programmes to eliminate air pollution, improve water quality and decrease soil contamination. The Ministry of Nature and Environment mobilized funding to implement the Clean Air Act.
13	How and to whom was the proposal/action plan presented?	It presented to the public well.
Resources used		
14	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	The same as for the previous phase.
15	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	The same as for the previous phase.
16	How were the resources mobilized?	They were mobilized well.
17	What is a realistic timeframe in which this phase can be completed in a similar context?	One month was enough.
18	How can the Urban HEART Assessment component be improved? What other resources are needed?	It is better to ask relevant specialists or experts who participated in the project.
Facilitating factors		
19	What were the things that facilitated this phase?	The Matrix integrating nine districts.
Hindering factors		
20	What were the things that made this phase difficult?	
Lessons learnt		
21	Did the stakeholders think this phase went well? Why or why not?	They thought that this phase was successful.
22	What are the lessons learnt about completing this phase successfully?	All collected information should have been sent to decision-makers, because it was presented clearly. The responses should be implemented urgently.

Policy development and programme implementation phase (if applicable)		
Policy uptake and development		
1	Was the proposal/action plan accepted or rejected, and by whom?	The projects that should necessarily be done were supported.
2	What were the key factors that influenced the decision?	The key factors were clearly stated. They matched the issues that were encountered at the city level.
3	What did the decision-makers think of Urban HEART?	They agreed with the results and recognized that they matched the priority issues.
4	[If it was accepted] How closely was the proposal/action plan followed?	Planned activities and issues from the agenda were followed up after each meeting, and reports were released in a timely and appropriate manner.
Programme development and implementation		
5	Was a programme/intervention developed and implemented?	It was completed.
6	What were the key factors that influenced the decision?	The key factor was that it was easy to understand for decision-makers.
7	What was the programme/intervention? How closely was it linked to the proposal?	Compared with other participants, we were closer to the project implementation because we were from the City Government agency.
8	What did the stakeholders (including community) think of the programme/intervention?	
Status of implementation		
9	What is the project's current status?	Good.
Sustainability measures		
10	Is Urban HEART implementation sustainable at this site?	It is sustainable.
11	Are there any mechanisms (legal, organizational, financial, etc) in place to ensure sustainability of Urban HEART implementation?	I guess no.
12	What are the key sustainability factors?	The key sustainable factors were support by the Ulaanbaatar City Government and demand for the project.
Facilitating factors		
13	What were the things that facilitated this phase?	The provision of information.
Hindering factors		
14	What were the things that made this phase difficult?	
Lessons learnt		

15	Did the stakeholders think this phase went well? Why or why not?	They thought that it was acceptable.
16	What are the lessons learnt about completing this phase successfully?	
Impact and outcome evaluation		
Monitoring and evaluation mechanisms		
1	Have you been monitoring and evaluating the process? If so, how? If not, why?	We completed evaluation at each phase.
2	What are the main accomplishments of the project?	The project gave basic understanding about the State health agencies to the public.
3	What, if any, are the negative effects of the project?	None.
4	Who has benefited the most/least from participating in the project?	It was beneficial, mainly for the citizens in Ulaanbaatar.
Improvement in awareness/priority setting		
5	Did the Urban HEART implementation increase awareness about health equity issues among stakeholders and in the community?	Awareness of participants increased. I did not think that knowledge of the public increased.
6	Did the Urban HEART implementation result in putting health equity issues higher on the agenda of local, regional and/or national governments and other agencies?	Urban HEART resulted in directing much attention to my field.
Scale-up of Urban HEART		
7	Are there plans for scaling up Urban HEART implementation in the region/country?	We have a plan.
8	Have other municipalities adopted or taken interest in Urban HEART?	They should have been involved, but they were not.
Intersectoral action on health		
9	Did the Urban HEART implementation generate or strengthen intersectoral collaboration to address health/health equity issues?	Some changes have been done.
10	How was the intersectoral collaboration viewed by participants?	Intersectoral collaboration recognized that health issues included other sectors, therefore people with various backgrounds were involved. Their comments and advice were adopted in the project.
Community participation		
11	Did the Urban HEART implementation generate or strengthen community participation in the local planning process (health planning, urban planning)? How was the community participation viewed by the	Recently, our Governor agreed that Ulaanbaatar City Government would work with 17 NGOs based on their project proposals, as there is an increased need for city development. The total amount of budget was 90

	participants?	million Mongolian togrogs, and it will be released from the City Government budget.
Intervention outcomes on health and health equity		
12	Did the programme/intervention generated by the Urban HEART project affect health, health determinants or health equity? What is the evidence of these effects/outcomes?	The programme and intervention had a positive effect, as some decision-makers and the public received information about the Urban HEART project.

Interviewee F

Pre-assessment phase		
1	What did the participants think of the orientation? Was it useful?	It was useful to collect data from each area to identify inequities.
2	How were the national/local government officials engaged in this process?	They were involved well.
3	How was the technical working group convened?	It held a meeting according to the agenda.
4	What were its organizational structure, mandate, membership, roles and responsibilities?	There were representatives from every sector.
5	Was the group multisectoral?	I think it was divided into subgroups.
6	Who were the key stakeholders?	City Department of Health, Ministry of Environment and Infrastructure.
7	Who were the most/least supportive of the project?	I do not know.
Resources used		
8	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	I do not know well.
9	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	In every meeting, participation of the members was not perfect because meetings were held during work hours.
10	How were the resources mobilized?	They were mobilized well.
11	What is a realistic timeframe in which this phase can be completed in a similar context?	I cannot answer.
Facilitating factors		
12	What were the things that facilitated this phase?	Overall, arrangements were very good, as Ulaanbaatar City Government was managing the project.
Hindering factors		
13	What were the things that made this phase difficult?	Much research was required, presenting difficulties at the start.

Lessons learnt		
14	Did the stakeholders think this phase went well? Why or why not?	It was implemented according to the plan.
15	What are the lessons learnt about completing this phase successfully?	This methodology was new, therefore I could not understand it.
Assessment phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	We targeted professionals in particular posts.
2	How were community groups included in this phase?	There was no public involvement in my group.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	
Indicator selection		
4	How were the indicators selected? What were the key decision factors?	We chose the indicators that demonstrated most risk and vulnerability.
Data collection and validation		
5	What were the data sources and data types used for each indicator?	I do not remember now.
6	How were the data collected and validated?	We studied relevant reports, information documents and booklets.
7	Were the data appropriate and accurate?	They should have been gathered by subject and sector.
Urban health equity assessment (Matrix and Monitor)		
8	How were the Matrix and/or Monitor created?	They were created by the standard methodology.
9	What did the resulting Matrix and/or Monitor look like?	It seemed to be similar to the multifactoral analysis.
10	Did the results match the impressions/expectations of different stakeholders?	I do not know.
Resources used		
11	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	I do not remember well.
12	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	I do not know.
13	How were the resources mobilized?	I did not use resources well.
14	What is a realistic timeframe in which this phase can be completed in a similar context?	

15	How can the Urban HEART Assessment component be improved? What other resources are needed?	
Facilitating factors		
16	What were the things that facilitated this phase?	Involvement of City participants was better.
Hindering factors		
17	What were the things that made this phase difficult?	Some participants who were in charge of assigned tasks were absent, causing delay at the developmental stage.
Lessons learnt		
18	Did the stakeholders think this phase went well? Why or why not?	It was completed according to the plan.
19	What are the lessons learnt about completing this phase successfully?	
Response prioritization phase		
Stakeholder engagement		
1	What was the mechanism to engage stakeholders in this phase?	
2	How were community groups included in this phase?	No.
3	What were the stakeholders' (including community) perceptions of being involved in this phase?	
Prioritization of health equity issues		
4	What were the priority health equity issues, and why?	The environment, living conditions and incomes.
5	How were the Matrix and Monitor results used to prioritize health equity issues?	The use of the Matrix influenced prioritization.
6	What other information or factors influenced the prioritization of health equity issues?	
7	What did community members think of the prioritized health equity issues?	I do not know because I did not have a chance to get involved.
Prioritization of strategies and interventions		
8	What were the priority strategies/interventions, and why?	
9	How was Urban HEART used to identify and prioritize strategies and interventions?	
10	What other information or factors influenced the prioritization of health equity issues?	
11	What did community members think of the prioritized	

	strategies/interventions?	
Development of proposal/action plan		
12	Was a proposal/action plan developed based on the Urban HEART implementation results?	I guess no.
13	How and to whom was the proposal/action plan presented?	To decision-makers to identify the challenges.
Resources used		
14	What were the funds required, including breakdown by major components (e.g. meetings, materials)?	I do not know well.
15	What was the staff time required, including breakdown by different skill sets (e.g. project manager, data analyst)?	I was not involved in deciding it.
16	How were the resources mobilized?	They were mobilized well.
17	What is a realistic timeframe in which this phase can be completed in a similar context?	
18	How can the Urban HEART Assessment component be improved? What other resources are needed?	
Facilitating factors		
19	What were the things that facilitated this phase?	
Hindering factors		
20	What were the things that made this phase difficult?	
Lessons learnt		
21	Did the stakeholders think this phase went well? Why or why not?	
22	What are the lessons learnt about completing this phase successfully?	
Policy development and programme implementation phase (if applicable)		
Policy uptake and development		
1	Was the proposal/action plan accepted or rejected, and by whom?	I think it was supported.
2	What were the key factors that influenced the decision?	I think it revealed challenges to be considered in the future.
3	What did the decision-makers think of Urban HEART?	
4	[If it was accepted] How closely was the proposal/action plan followed?	
Programme development and implementation		

5	Was a programme/intervention developed and implemented?	I do not know.
6	What were the key factors that influenced the decision?	I do not know well.
7	What was the programme/intervention? How closely was it linked to the proposal?	
8	What did the stakeholders (including community) think of the programme/intervention?	Community members were not involved.
Status of implementation		
9	What is the project's current status?	I do not know well.
Sustainability measures		
10	Is Urban HEART implementation sustainable at this site?	
11	Are there any mechanisms (legal, organizational, financial, etc) in place to ensure sustainability of Urban HEART implementation?	I think there are some mechanisms.
12	What are the key sustainability factors?	Support by Ulaanbaatar City Government, right allocation of the budget.
Facilitating factors		
13	What were the things that facilitated this phase?	
Hindering factors		
14	What were the things that made this phase difficult?	
Lessons learnt		
15	Did the stakeholders think this phase went well? Why or why not?	
16	What are the lessons learnt about completing this phase successfully?	
Impact and outcome evaluation		
Monitoring and evaluation mechanisms		
1	Have you been monitoring and evaluating the process? If so, how? If not, why?	No.
2	What are the main accomplishments of the project?	Evaluation of the circumstances, which revealed the problems well.
3	What, if any, are the negative effects of the project?	None.
4	Who has benefited the most/least from participating in the project?	I do not know.

Improvement in awareness/priority setting		
5	Did the Urban HEART implementation increase awareness about health equity issues among stakeholders and in the community?	Participants got basic understanding.
6	Did the Urban HEART implementation result in putting health equity issues higher on the agenda of local, regional and/or national governments and other agencies?	It is better to answer based on implementation of the evaluation.
Scale-up of Urban HEART		
7	Are there plans for scaling up Urban HEART implementation in the region/country?	
8	Have other municipalities adopted or taken interest in Urban HEART?	
Intersectoral action on health		
9	Did the Urban HEART implementation generate or strengthen intersectoral collaboration to address health/health equity issues?	It was a way to improve intersectoral collaboration.
10	How was the intersectoral collaboration viewed by participants?	
Community participation		
11	Did the Urban HEART implementation generate or strengthen community participation in the local planning process (health planning, urban planning)? How was the community participation viewed by the participants?	I do not know.
Intervention outcomes on health and health equity		
12	Did the programme/intervention generated by the Urban HEART project affect health, health determinants or health equity? What is the evidence of these effects/outcomes?	We would have some results if there were planned actions targeting prevention of inequity.

Annex D. Matrix of health equity in Ulaanbaatar, Mongolia

Indicators / district			Bayanzurkh	Bayangol	Baganuur	Bagakhangai	Nalaikh	Sukhbaatar	Songino-Khairkhan	Chingeltei	Khan-Uul	Average	Imformation origin
Physical environment and infrastructure													
1	Percentage of population with improved drinking water supply		32.3%	75.0%	40.3%	53.9%	24.5%	44.9%	25.8%	20.6%	33.4%	40.0%	City statistical report 2008
	Percentage of population without improved drinking water supply		67.7%	25.0%	59.7%	46.1%	75.5%	55.1%	74.2%	79.4%	66.6%	61.0%	
2	Percentage of population with improved sanitation facilities		33.9%	72.2%	46.3%	52.9%	26.2%	46.7%	29.0%	23.5%	33.4%	40.4%	
3	Percentage of households connected to solid waste management infrastructure		76.5%	57.5%	64.8%	52.1%	56.2%	64.0%	70.0%	55.0%	53.4%	61.0%	Departmental reports on environment pollution and solid waste management
4	Percentage of population consuming solid fuel		67.0%	28.0%	53.7%	46.8%	75.0%	54.0%	72.0%	77.0%	59.1%	59.1%	City statistical report 2008
5	Number of alcoholic beverage sale outlets per 100 000 population		266	196	23	9	81	149	185	126	103	126.4	Target is 50 alcoholic stores per 100 000 population. Ulaanbaatar statistics for food and beverage sales, 2008
6	Workplace incidence of accident, illness or death	Illness per 10 000 population	1.05	1.44	1.16	0.00	0.00	1.60	0.93	1.23	4.75	1.35	Ulaanbaatar health organization 2008 report. Data from National Accident Research Centre; few injury cases registered to
		Deaths per 10 000 population	0.02	0.04	0.46	0.00	0.00	0.04	0.01	0.05	0.22	0.09	

Indicators / district			Bayanzurkh	Bayangol	Baganuur	Bagakhangai	Nalaikh	Sukhbaatar	Songino-Khairkhan	Chingeltei	Khan-Uul	Average	Imformation origin
													district hospitals
7	Number of traffic accidents involving injury or death	Accidents per 10 000 population	1.47	1.41	27.40	0.00	14.78	4.27	13.30	0.89	10.99	8.27	
		Deaths per 10 000 population			0.15	1.00	0.10						
8	Green house occupation percentage		3.5%	0.3%	0.8%	0.0%	2.4%	35.3%	1.6%	20.2%	12.5%	8.5%	City Land Department statistical report 2008
Social and human development													
9	Literacy rate		99.9%	99.7%	98.5%	99.7%	99.7%	88.6%	99.9%	99.9%	99.9%	98.4%	City educational report 2008
10	Proportion of births attended by skilled health personnel		99.6%	99.9%	99.7%	99.9%	99.0%	99.4%	99.7%	99.6%	99.6%	99.5%	City statistical report 2008
11	Proportion of 1-year-old children immunized against measles		97.3%	97.6%	99.8%	100.0%	97.4%	96.5%	99.2%	96.6%	97.5%	97.7%	City statistical report 2008
12	Prevalence of underweight children under 5 years of age		0.7%	0.1%	0.5%	1.8%	0.9%	0.1%	0.7%	0.3%	1.3%	0.7%	City statistical report 2008
13	Prevalence rate of teenage births		4.4%	2.1%	9.5%	4.0%	4.5%	1.3%	8.1%	3.9%	4.1%	4.6%	City report of UN national programme 2008
14	Prevalence rate of tobacco smoking		27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	27.6%	WHO report on risk factors for

Indicators / district			Bayanzurkh	Bayangol	Baganuur	Bagakhangai	Nalaikh	Sukhbaatar	Songino-Khairkhan	Chingeltei	Khan-Uul	Average	Imformation origin
													noncommunicable diseases 2005
15	Prevalence rate of domestic violence against women or children												Research of the Human Rights Centre 2005
16	Proportion of emergency room admissions due to violence-related injuries		9.7%	9.6%	75.0%	45.0%	50.0%	9.6%	8.5%	10.2%	11.1%	25.4%	Statistical report of City Emergency Medical Care Centre 2008
17	Proportion of people walking and bicycling to work, with a duration of 10 minutes or more		42.0%	39.0%	61.0%	75.0%	65.0%	41.0%	46.0%	38.0%	39.0%	49.5%	Result of survey
18	Infant mortality rate per 1000 live births		16.7	14.6	18.1	24.6	22.8	12.8	12.6	12.8	17.4	16.9	City statistical report 2008
19	Under-5 mortality rate per 1000 live births		20.1	16.6	23.6	61.7	28.2	15.5	16.3	15.6	19.6	24.1	City statistical report 2009
20	Maternal mortality rate per 100 000 live births		0.66	0.57	0.00	0.00	1.35	0.00	0.55	0.63	0.00	0.42	City statistical report 2010
21	Sexually transmitted infection rate per 10 000 population	Syphilis	18.7	7.6	26.6	37.1	30.7	10.1	20.6	16.3	15.1	20.3	City statistical report 2010
		Gonorrhoea	14.1	3.1	34.8	7.5	11.9	6.1	5.1	2.2	10.4	10.5	
		Trichomoniasis	9.8	7.8	40.2	18.5	21.2	7.1	4.2	5.3	11.7	13.9	
22	TB prevalence rate per 10 000 population		22.76	15.22	14.70	16.90	23.08	23.92	25.59	25.59	24.03	19.43	Report of National Centre for Communicable Diseases 2008

Indicators / district				Bayanzurkh	Bayangol	Baganuur	Bagakhangai	Nalaikh	Sukhbaatar	Songino-Khairkhan	Chingeltei	Khan-Uul	Average	Imformation origin
23	Dental caries rate among children aged 5–6		Prevalence	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	78.6%	WHO research on incidence of oral and dental disease in Mongolia 2008
			Decay speed										3.38	
24	Injury	Injury at work places	Morbidity per 10 000 population	24	24	30	5	19	21	21	17	46	23	City statistical report 2010
			Mortality per 10 000 population	5	6	12	4	11	5	3	7	21	8.2	
		Road accident	Morbidity per 10 000 population	1.5	1.4	27.4	0.0	14.8	4.3	13.3	0.9	11.0	8.3	
			Mortality per 10 000 population			0.15	1	0.1					0.2	
		Domestic accident	Morbidity per 10 000 population	11.45	20.0	471.9		113.61	35.16	188.8	16.21	184.2	130.2	
			Mortality per 10 000 population			0.62		0.75					0.75	
25	Hypertension		Per 10 000 population	26.73	92.64	246.03	67.60	83.68	7.68	30.18	31.76	22.41	67.63	City Health Office report 2008
26	Diabetes		Per 10 000 population	8.45	11.29	4.25	5.1	23.08	8.39	18.45	10.41	4.63	10.45	City Health Office report 2008

Indicators / district			Bayanzurkh	Bayangol	Baganuur	Bagakhangai	Nalaikh	Sukhbaatar	Songino-Khairkhan	Chingeltei	Khan-Uul	Average	Imformation origin
27	Cancer	Per 10 000 population	17.04	10.92	85.49	11.5	5.41	5.70	11.08	14.13	18.97	20.02	City Health Office report 2008
Economics													
28	Unemployment rate / employment contribution level		52.4%	55.6%	54.4%	55.2%	57.9%	56.0%	56.8%	64.8%	62.5%	57.3%	Analysis of employment statistics
29	Woman's employment contribution level		55.7%	59.6%	57.0%	51.1%	54.8%	57.9%	56.5%	63.8%	61.7%	57.6%	City Statistics Office employment report 2008
30	Average salary of women (US$ per month)		156.2	153.9	194.9	171.7	133.8	256.2	158.9	167.5	197.4	176.7	City Statistics Office report 2008 (women's ave. monthly salary for Ulaanbaatar approx. $176.7, close to national average)
31	Percentage of female-headed households		9.0%	7.1%	13.8%	14.9%	15.6%	12.2%	8.6%	11.1%	13.3%	11.7%	City Social Development Department 2008
32	Percentage of households with access to credit (income-generating activities)		1.0%	0.6%	4.2%	0.2%	1.0%	0.8%	1.9%	1.3%	0.9%	1.3%	City Social Development Department 2008
33	Proportion of households with secure tenure		99.4%	99.4%	100.0%	100.0%	100.0%	98.8%	99.6%	98.5%	99.0%	99.4%	City Social Development Department 2008
Governance													
34	Percentage of government spending allocated to health		12.9%	10.0%	31.8%	11.5%	24.4%	12.8%	14.8%	12.9%	14.0%	16.2%	Financial report of districts 2008

Indicators / district		Bayanzurkh	Bayangol	Baganuur	Bagakhangai	Nalaikh	Sukhbaatar	Songino-Khairkhan	Chingeltei	Khan-Uul	Average	Imformation origin
35	Percentage of government spending allocated to education	74.6%	78.7%	51.6%	44.0%	56.0%	69.2%	74.2%	71.3%	69.1%	65.3%	Financial report of districts 2008
36	Voter participation rate in civil representatives election	74.2%	61.1%	61.1%	61.1%	61.1%	61.7%	66.4%	68.4%	59.1%	64.5%	City Election Committee report 2008
37	Voter participation rate in State Great Hural (Parliament)	67.9%	76.9%	75.2%	75.2%	67.9%	72.3%	73.2%	77.4%	75.2%	73.1%	City Election Committee report 2008
38	Enrolment ratio in primary education	33.0%	33.3%	55.4%	12.5%	29.9%	49.0%	39.5%	41.5%	29.2%	37.4%	City statistical report 2008
39	Proportion of population covered by health insurance	61.5%	78.9%	77.5%	70.1%	67.7%	82.7%	57.9%	80.0%	84.4%	73.4%	City statistical report 2008
40	Number of development projects planned and implemented with the community			6	1	3	5	4		11	8	Report of districts 2008