

## Mongolia

### Update on the context and situation of children

Mongolia's economy continues to recover and expected annual growth is 6.7 per cent.<sup>[1]</sup> However, underlying vulnerabilities persist. Mongolia's Corruption Perception Index is 37, ranking 93 out of 180 countries.<sup>[2]</sup> Precarious macroeconomic policies and market-driven provision of services have pushed the country towards a shrinking public sector and hesitancy in achieving a universal life-cycle social security floor. In addition, there is a lack of effective and efficient results-based budgeting processes. Poverty in Mongolia is driven by myriad social, geographic and infrastructural disparities. In total, 28.4 per cent of the population are poor, with child poverty at 37 per cent. **(SDG#1)**

Air pollution is a critical challenge in Ulaanbaatar and other urban areas. Mortality attributed to air pollution is 155.9 deaths/100,000 people, placing Mongolia among the most severely affected countries.<sup>[3]</sup> Government of Mongolia (GOM) efforts have focused on banning the use of raw coal in Ulaanbaatar since May 2019, replacing it with briquettes made from refined coal.<sup>[4]</sup> While this has reduced visible air pollution and particulate matter (pm2.5) levels, the latter are still far above World Health Organization guidelines and thus continue to be a major maternal and child health risk. It should also be noted that there are concerns that the briquettes may increase carbon monoxide poisoning risks. Further investigation is urgently required. **(SDG#3)**

Child outcomes over the past decade show persistent gaps in achievements for boys, children with disabilities, older children and adolescents. The most vulnerable children and adolescents are invisible in data and policy decision-making, increasing the risk of these groups getting stuck in a cycle of intergenerational inequality. **(SDG#10)**

In 2019, the Child and social outcome indicators derived from the Social Indicator Sample Survey (MICS6) 2018 were published. These demonstrate overall stagnation, uneven improvement in coverage and poor quality of services. Under-five mortality has reduced (from 25 deaths per 1,000 live births in 2013 to 19 in 2018). Postnatal health check coverage rates have been sustained at 98 per cent (newborns) and 94 per cent (mothers) since 2013. However, breastfeeding observation by health personnel (60 per cent) and newborn weight assessment (34 per cent) both need to be improved. Full immunization coverage by age 2 is 68 per cent and measles immunization coverage is 81 per cent.

The figures for low birth weight (5 per cent), early initiation of breastfeeding (70–71 per cent), exclusive breastfeeding (47–50 per cent), age-appropriate breastfeeding (63–64 per cent) and minimum acceptable diet (33 per cent) are unchanged since 2013. The nutritional status of children under 5 stagnates at the prevalence rate of underweight 1.8 per cent, stunting 9 per cent, wasting 0.9 per cent and overweight 10.5 per cent. **(SDG#3)**

There is some progress in access to basic water, sanitation and hygiene (WASH) services. By 2018, access to basic water services had reached 87 per cent and access to improved sanitation 89 per cent. However, when quality is taken into account, these rates drop to 22 per cent and 69 per cent respectively. Access to hygiene services has decreased from 92 to 83 per cent. **(SDG#3/6)**

Early childhood education attendance reached 74 per cent in 2018, while the early childhood development index rating has remained at 76 per cent. Nearly all children attend (96 per cent) and complete (98 per cent) primary education. However, lower secondary education completion drops to 92 per cent. Although nearly all children attend primary education, only 62 per cent of children aged 7–14 can read and understand simple texts and just 52 per cent demonstrate basic numeracy skills.

Parental care practices also show little progress. MICS 2018 indicates that some 12.5 per cent of children were left without adequate care. Adults' support for learning is 58 per cent. The percentage of children with books decreased to 29 per cent. New indicators on parental participation in school life reveal that most parents (over 80 per cent) received record cards, discussed their child's performance with teachers and participated in sport and celebration events (74 per cent). However, participation in important decision-making processes related to school management, policies and budget is limited (19 per cent). **(SDG#4)**

The child labour rate of 17 per cent has not changed since 2013. The proportion of children experiencing violent discipline is as high as in 2013 (49 per cent). The adolescent birth rate increased and is 43 births per 1,000 women aged 15–19.

The 2019 Situation Analysis that UNICEF undertook as part of its Medium-Term Review, highlighted the difficult social context of adolescents: they are unable to take charge of their own lives as 'children' but are expected to take up responsibility and duty as 'adults'. Statistics on domestic violence shows low rates, with significant impact on children and young people. Moreover, a significant share of boys (39 per cent) and girls (26 per cent) aged 15–17 have experienced violence in schools. **(SDG#16)**

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Disparities are stratified by different socioeconomic characteristics, and the dynamics of discrepancies also vary. For instance, child labour (national level 17 percent) is dominant among rural boys (32 percent) and children from poor households (33 percent), while access to WASH is worst among the rural poor (0.6 percent accessing safely managed water services and 1.5 percent accessing safely managed sanitation facilities). Access to and quality of education are predominantly the concerns of urban migrants and residents of peri-urban areas (61 percent demonstrating foundational reading skills and 44 percent demonstrating numeracy skills). Both adults and children with functional difficulties are deprived in many areas, including health, education and protection. Like many other aspects of the country, the situation of gender inequity is complex, with toxic masculinity in both urban and rural settings.

[1] [Asian Development Outlook \(ADO\) 2019 Update](#)

[2] <https://www.transparency.org/country/MNG>

[3] [Human Development indices and indicators: 2018 Statistical Update, UNDP 2018](#)

[4] [National Programme for Reducing Air and Environmental Pollution, 2017](#)

### Major contributions and drivers of results

UNICEF Mongolia, together with partners and under the leadership of GOM, continued to focus on equity and ensure that the most vulnerable boys and girls have access to and use basic services, including in humanitarian situations. The results detailed below will contribute to Mongolia's Sustainable Development Vision 2030, in full alignment with the United Nations Development Assistance Framework 2017–2021, the goals set by the UNICEF Strategic Plan 2018–2021 and the UNICEF Country Programme Document 2017–2021.

#### *Goal area 1: Every child survives and thrives*

In its effort to reduce the risk of outbreaks due to a growing population of unvaccinated children, Ministry of Health (MOH), with joint support from the World Health Organization (WHO) and UNICEF, organized supplementary immunization activities. UNICEF provided technical support and procured vaccines (measles and rubella) and commodities. Over 450,000 children were successfully immunized, resulting in zero case of measles and rubella reported for children in Mongolia. Furthermore, under the leadership of the Bayanzurkh District Health Authority, winter preparedness plans to prevent seasonal flu, developed and implemented with UNICEF technical support resulted in lower rate of respiratory symptoms (5,8% ) than in similar districts (10%). .

Reducing air pollution and its impacts on maternal and child health at both national and subnational levels continued to be a priority. UNICEF supported the development and roll out of training modules for health professionals to learn about air pollution and its maternal and health impacts, and a range of information, education and communication materials. UNICEF in coordination with WHO also continued to support strengthening primary health care services as a first line of support for children and (pregnant) women to cope with air pollution related health issues. The Ulaanbaatar Governor's Office agreed to replicate part of the interventions in Songinokhairkhan district using its own budget (US\$240,000).

MOH, with joint support from the Asian Development Bank (ADB) and UNICEF, organized an international conference in Ulaanbaatar in October 2019, 'Combating urban air pollution impacts on maternal and child health in Asia: A science and policy dialogue'. This resulted on three outcomes: a road map to address the rising crisis of air pollution and its impact on health and development in Asia, a draft national research agenda and a draft national communication and advocacy strategy. This was an important opportunity to share the latest knowledge and experiences with the 150 participants from 12 countries, including scientists, policymakers, and both public and private sectors.

Addressing childhood obesity continued including advocacy for restricting advertisement of unhealthy food and drinks, strengthening national capacity to promote and educate schoolchildren on healthy eating and physical activity. Government endorsed integration of the BFHI assessment and monitoring into the hospital accreditation system and standards of fortified flour and salt. A first ever Bachelor's degree programme for nutritionists/dietitians was rolled out at MNUMS. This is a major contribution to long terms strengthening of health and education system for nutrition actions

#### *Goal Area 2: Every child learns*

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UNICEF continued its support for GoM in ensuring an inclusive, quality and safe learning environment exists for children of all ages. The legal framework for the education system was strengthened through development and approval of several policy documents. New evidence and knowledge generated through the conduct of several studies, key findings and recommendations contributed to Master Plan, as indicated in the 'lesson learned' section.

UNICEF Mongolia closely collaborated with development partners such as ADB, UNESCO and the World Bank to support development of the Education Sector Master Plan, which is now scheduled to be finalized in early 2020. UNICEF support focused on knowledge generation and evidence-based policymaking through conducting several studies such as an Education Sector Management System (EMIS) review, a study on the impact of climate change on education, an evaluation of the Inclusive Education Programme and a Multiple Indicator Cluster Survey–Education Analysis for Global Learning and Equity. These were undertaken in collaboration with the UNICEF East Asia and Pacific Regional Office as part of regional initiatives and the key findings and recommendations of the studies were used to define priority issues for the Education Sector Master Plan.

To better protect children from air pollution and to provide a healthier learning environment, advanced mechanical ventilation and air filtration systems were installed in two kindergartens, in Bayanzurkh District and Bayankhongor provincial centre. An indoor air quality monitoring system was also installed and is generating real-time data. It is anticipated that the results of the indoor air quality assessment will confirm the usefulness of mechanical ventilation and/or suggest further adjustments. The results are expected to provide evidence to support advocacy for adjusting construction codes for future educational buildings and retrofitting of existing facilities.

### *Goal Area 3: Every child is protected from violence and exploitation*

UNICEF Mongolia continued to support GOM to effectively implement and monitor policies and actions at all levels to end violence against children, in collaboration with subnational, national and global stakeholders. Evaluation on Child Protection Law implementation is on-going to further improve the legal framework. Progress was made in social service workforce strengthening, which is key to a well-functioning child protection system and is often the first line of response for children and families in situations of vulnerability and harm: the case management capacity of the social service workforce of 97 multidisciplinary teams and 41 justice for children committees was strengthened at subnational level for coordinated child protection services.

Under the leadership of GOM, UNICEF conducted a situational analysis of risks and responses to Sexual Exploitation and Abuse online. Findings and recommendations are translated into actions: engaging businesses in reducing the availability of child sexual abuse materials (CSAM), harmonizing with international and regional legal instruments that are relevant in the fight against CSAM, and training of social workers and IT teachers on Digital Literacy.

### *Goal area 4: Every child lives in a safe and clean environment*

Recognizing that air pollution is not only an issue in Ulaanbaatar but also many provincial centres, UNICEF supported the Bayankhongor Province with developing its 'Smog-Free Bayankhongor Action Plan'. This plan describes the province's four-year strategic approach to air pollution and health issues. It received parliamentary approval in June 2019 and the Bayankhongor Province government plans to allocate about US\$500,000 to its implementation.

To support households living in gers in Bayankhongor's provincial centre to switch from coal to electric heating, UNICEF and partners developed clean and efficient Cooking, Heating and Insulation Products and Services (CHIPS). A first group of 200 ger households were financially supported to adopt CHIPS. The results were very positive and demand has sharply increased. Local entrepreneurs were trained to produce the CHIPS package, creating new and green jobs locally. Local government has committed to support another 60 poor households using 2019 local budget, and more is planned in its 2020 budget. It also invested in improving the electricity network in the ger district and installed dual tariff electricity meters for the target households.

UNICEF continued to address the urgent needs related to WASH and started to integrate climate resilience in it. Climate-resilient and innovative WASH facilities for remote schools, dormitories and kindergartens were designed, and their demonstration is on-going in three target provinces: innovative indoor dry-type compost toilet and handwashing facility were developed in cooperation with World Vision and MobiCom corporation. Furthermore, three local governments have started to integrate climate resilience into local policies and water safety plans, a result of UNICEF technical assistance.

Overall coordination of the WASH sector was strengthened. The Ministry of Construction and Urban Development, together with the Water Service Regulatory Commission and related sectors, organized the first national consultation on the WASH sector in October 2019. As a result, a national strategy for achieving the WASH Sustainable Development Goal (SDG) targets is being jointly developed and is expected to be finalized in early 2020.

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At the operational level, Smart Water Kiosks initiated with UNICEF support were replicated in two of the four UNICEF Geographical Focus Areas (GFAs), Gobi-Altai and Bayankhongor Provinces.

These kiosks give peri-urban (*ger*) communities equitable access to safe and clean water services. They are new automatic, 24-hour drinking water delivery points that reduce operation and maintenance costs and increase access to safely managed drinking water. For instance, in Gobi-Altai Province, UNICEF provided funding for a server equipment package (including technical and financial monitoring software and 3,000 copies of smart cards for customers) and a Smart Water Kiosk system for one demonstration water kiosk. After the demonstration, the provincial government allocated US \$54,000 for more Smart Water Kiosks in the provincial centre. As a result, water kiosks in the provincial centre became operational 24/7, benefiting all households (over 16,000 people). Following successful implementation and increased demand, GOM allocated US\$74,000, installing Smart Water Kiosks with water filtering equipment in two districts (Erdene and Chandmani) of Gobi-Altai.

### *Goal Area 5 : Every child has an equitable chance in life*

For the first time in Mongolia, GOM started to strengthen the shock-responsiveness of its social protection system by carefully assessing its feasibility and designing social protection measures for children aimed at protecting them from long-lasting negative impacts of climate-related seasonal shocks. With UNICEF technical support, an innovative approach introducing social protection cash transfer measures for children to better protect them from *dzuds* (harsh winter conditions) was developed. This is now being piloted in selected districts of one province that is most affected by *dzuds*, Zavkhan.

This pilot has multiple purposes : testing whether (i) the existing social protection system could respond during seasonal climate-related shocks, (ii) these measures will have a positive impact on children's well-being and help herder families avoid negative coping strategies during shocks like *dzuds*, the scope and frequency of which are increasing due to climate change. The pilot will also draw lessons learned on cooperation among development partners working on social protection and humanitarian cash transfer. The early action cash transfer uses the existing child money programme, with the aim of testing whether the system performs effectively and efficiently during shocks, reaching herder children timely and at a minimal administrative cost.

### *Cross-cutting issues*

#### *1. Child Friendly Communities*

Child Friendly Communities (CFC) is the programme strategy being used to advance stronger participation of children in decision-making at subnational level. 2019 witnessed a growing commitment and enhanced capacity of local governments in effective implementation of CFCs, particularly ensuring meaningful participation of children in local decision-making in UNICEF GFAs. UNICEF technical support was instrumental in encouraging local governments to make these efforts under the CFC Strategy.

Increased commitment of local governments was evidenced by effective implementation of the provincial governor's decision to initiate a 'Monthly Day to Listen to Children' in GFAs. Reports reveal that every month 1,500–2,000 children from local schools, child-led organizations, Child Development Centres and dormitories actively participate through formal and informal mechanisms in GFAs. Significant numbers of children's requests and ideas were reflected in the decisions and priorities of local government in 2019/20. For the first time in the GFAs, child friendly local budgets were prepared with children's feedback and concerns. The main contributing factors to ensuring meaningful child participation included technical guidance, sustained advocacy and capacity development by UNICEF through the joint programme with local government.

#### *2. Advocacy, communication and partnership*

In commemoration of Convention on the Rights of the Child@30, GOM joined the Global Pledge on the Convention, making a national commitment to realize child rights. On World Children's Day, the Speaker of Parliament announced GOM's commitment to increase the budget allocation for child protection, improve services for adolescents, promote family-friendly policies and protect children from online risks. At local level, the World's Largest Lesson on the Convention on the Rights of the Child and discussions with children and youth were organized in three provinces as part of Convention on the Rights of the Child@30 celebrations, during which governors made specific commitments to children.

GOM presented its first Voluntary National Report on SDG implementation to the United Nations High-level Political Forum in July 2019. Together with other United Nations agencies, led by the United Nations Development Programme, UNICEF helped prepare the Voluntary National Report on SDG implementation and helped facilitate the youth consultation organized by World Vision to reflect their voices in the report.

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UNICEF, in collaboration with ADB and MOH, produced a report titled 'Reducing the impacts of air pollution on maternal and child health: the scientific evidence and key messages to the public' that summarizes evidence of the impacts of prenatal and early exposure to air pollution and uses this information as public messages. As part of awareness-raising efforts, a modern ballet production, 'Life Element – O2', helped strengthen the call for action to fight air pollution and protect children and pregnant women in Mongolia.

Important partnerships to promote programme delivery and increase available resources were forged with a number of development partners, including SDC, KOICA, UNICEF national committees (Canada, Korea, UK, Italy), the Netherlands, Child Fund and End Violence Fund.

### *Child rights and business principles*

Building on previous engagement with the private sector (mining, services, technology, textiles), efforts to maintain and create new collaborative partnerships based on children's rights and business principles are paying off.

Private sector representatives, particularly women business owners and entrepreneurs, were exposed to targeted training sessions on Children's Rights and Business Principles. As a result, businesses are striving to become more child friendly through their business operation by investing in their own employees and their families rather than financing ad hoc activities for children outside of the company. For instance, the International Women's Federation of Commerce and Industry promotes Children's Rights and Business Principles to its member companies and encourages other businesses to comply with international human rights standards.

Partnerships with business associations have been amplified and areas of cooperation expanded. For instance, the Sustainable Finance Association, which includes all commercial banks in Mongolia, is considering incorporating Children's Rights and Business Principles into the banking system and loan policy.

Existing partnerships were maintained and taken to scale: Mobicom Corporation renewed the memorandum of understanding with UNICEF Mongolia and expanded its scope of work from financing WASH programme activities with their corporate social responsibility funds to becoming a child friendly business. It established breastfeeding rooms for its employees and customers and revised its marketing and advertising policy and practice.

### *Adolescent and volunteers engagement*

Adolescents in targeted locations benefited from improved quality of health education, improved regulation for school extracurricular activities, volunteer engagement initiatives, clubs and programs designed to improve their transferrable skills. Applications such as "Lifehack" and "Okky" were developed respectively to contribute to digital sexual education, prevention of substance use and building skills for positive relationship.

A volunteer engagement initiative was established in Mongolia with support from the Global Volunteer Office for UNICEF. System strengthening initiatives included support to develop an online platform for registration and validation of volunteer work and training of trainers selected from key Government staff who oversee youth engagement. They were provided with a newly developed handbook for training on volunteer engagement.

Air pollution was identified as the first topic to focus on for volunteerism. Volunteer groups at local community and school levels were established in Bayankhongor Province and Ulaanbaatar city. These were trained on educate their peers, raise public awareness on air pollution and provide accurate information on air quality monitoring to local communities. In total, 400 young volunteers plus 90 community volunteers conducted engagement activities.

### *Programme monitoring*

UNICEF Mongolia conducted a participatory midterm review (MTR) process aiming at assessing progress towards planned results as well as the effectiveness of the implementation strategy of the programme.

Emerging challenges for children and adolescents were highlighted thanks to the update of the situation of children in the country and the situation analysis of adolescents that were conducted on top of the 2018 Social Indicators Sample Survey. The MTR process also laid the foundation for a thorough discussion on the efficacy and efficiency of the programme implementation approach and its strategies.

Key lessons of the MTR included strengthening child participation in local planning, budgeting and monitoring; integrating models into existing systems and long-term plans through policies and budget to ensure sustainability; promoting transferability of skills to address repeated changes in the workforce; and expanding partnerships to address the multiple

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aspects of children's lives.

The main outcome of the MTR was the expansion of the programme to a fourth province, Umnogobi, making it the fifth GFA. To better align outputs to the programme structure as well better coordinate the programme at national level, it was decided to create a coordination committee under the leadership of the Ministry of Foreign Affairs. Recommended adjustments were approved, in recognition of UNICEF expanding its work on air pollution and increased attention to the consequences of climate change across sectors.

### *Office management and staff participation in enhancing ethics and cultural difference*

The Office continued its efforts to improve workplace culture by building on organizational core values. One of the priorities set in the 2019 Annual Management Plan was improving staff knowledge and awareness on issues related to ethics and cultural differences for day-to-day application and compliance with standards. This initiative has been led by the Staff Association Executive Committee, which supported senior management to start a conversation on issues related to ethics in the office and to follow up on recommendations from the Report of the Independent Task Force on Workplace Gender Discrimination, Sexual Harassment, Harassment and Abuse of Authority. The office took the report recommendations seriously and all staff sat together frequently to reflect on relevant findings and discuss how to address them in the specific context of Mongolia. An action plan was developed and is being implemented, encouraging staff to respect, acknowledge and listen to each other.

The office invested in its human resources for well-being and capacity development as this is also a key factor in meeting office and organization goals. To promote national staff to move to higher levels, including international posts, training sessions – including master classes for new staff – continued to be organized and the office continued to support staff for stretch assignments and other exchanges. As a result, one staff member successfully applied for an international position, which is a consistent trend since 2018

## Lessons Learned and Innovations

### **1. Lesson learned from UNICEF Mongolia's Inclusive Education Programme Evaluation**

UNICEF carried out an evaluation of 'Inclusive Basic Education in the UNICEF Country Programmes 2012–2016 and 2017–2021', with the aim of generating evidence about the results achieved as well as lessons learned. The evaluation concluded that UNICEF support and work in this area is still relevant and valid, and that supporting inclusive education may be even more relevant than before because inclusion and equity are still emerging in education sector development in Mongolia. It further stated that the programme was effective and successful in terms of strengthening legal frameworks, enhancing capacity on and around inclusive education, creating behavioural change towards children with disabilities, and increasing learning opportunities for children with disabilities as well as those from ethnic minorities. Partnerships with MECSS, development partners and civil society organizations have been successfully established and used to implement activities.

However, there is still room for improvement in enhancing effectiveness and ensuring the sustainability of the programme. For instance, further efforts are needed to ensure that the concept of inclusive education is translated into pedagogical practices and learning outcomes. More support is needed in translating inclusive education policies into action and strengthening EMIS to enhance the monitoring system, particularly for children from vulnerable groups, both in and outside of the school system. UNICEF efforts, thus far, have focused on piloting a model for inclusive education in target areas and developing relevant policies and regulations. Moving forward, more focus will be placed on supporting the Government to ensure implementation of these policies.

It was also observed from the programme implementation process that there is no common understanding and interpretation of inclusive education among different stakeholders in Mongolia, which often leads to debate and argument during meetings and discussions, affecting the effectiveness and quality of the initiatives. Also, lack of coordination among development partners could be seen as another weakness, where MECSS' lead is essential to avoid duplication and ensure complementarity of different donor organizations' investments and efforts. It was also evident that local government commitment in terms of human resources and funding is critical to sustainability of the initiatives, particularly in the target areas.

Moving forward, UNICEF will continue to support the development of inclusive education, particularly for children with disabilities. Several policies, regulations and/or Minister's orders in support of mainstreaming children with disabilities in regular schools have been issued recently. It is essential that UNICEF supports MECSS in ensuring implementation of these policies in 2020–2021..

In relation to system strengthening, MECSS, with UNICEF support, recently commenced a study/research to examine basic

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concepts and terminology used around inclusive education in Mongolia. This research, which will conclude in early 2020, will help ensure a common understanding of inclusive education and interpretation of terminology around it. Recommendations from this study will inform the Education Law (currently under revision) and other relevant policies on inclusive education. UNICEF support for the EMIS system will continue to integrate data on children with disabilities. It was agreed that the MICS 2018 methodology for the disability functioning module will be used to expand EMIS with data on disability.

Regarding partnership and coordination among donors, at the initiative of the Japan International Cooperation Agency and UNICEF, key stakeholders and partners including MECSS have recently set up a coordination mechanism to discuss and exchange ideas and experience and to improve the complementarity of each other's work. For instance, MECSS sees UNICEF-supported Child Development Centres as a good model and is planning to replicate this model in 21 provinces with World Bank support in the next two years.

### 2. Innovation

Throughout the winter of 2018/2019, UNICEF continued its ger innovation challenge to improve energy efficiency in traditional homes (*gers*) to reduce air pollution caused by the burning of coal in these *gers*. With support from international and local partners (ArcTeryx, The North Face, University of Pennsylvania and KieranTimberlake Architects, Gerhub), a number of prototypes were designed, constructed and tested and their performance was monitored in real time throughout the winter of 2018/2019. The results were promising.

Building on the results, UNICEF together with the Bayankhongor government, Mongolian University of Sciences and Technology (MUST) and the University of Pennsylvania (UPENN) and the local private sector and community, developed clean and efficient "CHIPS": Cooking Heating, Insulation Products and Services. As described in the results section, the objective of the CHIPS package is to support all 6,000 ger households in the Bayankhongor provincial centre to replace their coal stoves with clean and efficient electric cooking and heating, supported by good insulation and ventilation. There is growing interest from other provinces and Ulaanbaatar to learn more about CHIPS and try it out. If there would be a substantial demand beyond Bayankhongor, it would likely be possible to significantly reduce production costs and thus make it more affordable.

To date, 200 households have received the CHIPS package and the initial response from the end users has been very positive. In 8 *gers*, real time energy performance and indoor air quality monitoring sensors were installed and electricity consumption and bills are closely monitored as well. These data will provide key insights in the performance of CHIPS and affordability of electricity bills.

In partnership with Washington University of St Louis (WUSTL) and MUST, UNICEF installed a high-end air quality monitoring station in Bayankhongor. This reference grade station measures pm2.5 levels hourly throughout the year. Initial data (November–December) show that pm2.5 levels in Bayankhongor are equal to and frequently higher than in Ulaanbaatar, highlighting the urgent need for action. The reference station is also being used to develop an innovative low-cost approach to citywide air quality monitoring: six different brands of low-cost monitoring devices are tested against the reference station to assess if any of the devices can produce reliable measurements in the extreme environmental conditions of Mongolia (extremely high levels of pollution, extreme temperatures in summer and winter). Initial data indicate two low-cost devices show promising results. Final conclusions are expected to arrive mid-2020.