EVALUATION REPORT

Final external evaluation of Impact of Air Pollution on Maternal and Child Health Project

Mongolia

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Swiss TPH
Swiss Tropical and Public Health Institute
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Evaluation Report

Final external evaluation of Impact of Air Pollution on Maternal and Child Health Project, Mongolia

Submitted to:
Swiss Agency for Development and Cooperation (SDC)
Swiss Cooperation Office Mongolia

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ABBREVIATIONS

ADB	Asian Development Bank
AgaarNeg Project	Website by Breathe Mongolia on all air pollution related work in Mongolia
AP	Air pollution
APPP	Air Pollution Preparedness Plan
BAM	Instrument to measure particulate matter air pollution
BKH	Bayankhongor Province
BZD	Bayanzurkh District
CAAP	Clean Air Action Plan
CDSA	Clinical Decision Support Algorithms
CHF	Swiss Francs
CHIP	Cooking, Heating and Insulation Products (and Service)
CHW	Community health worker
CIMCI	Community-Based Integrated Management of Childhood Illnesses
CPE	Continuous Professional Education
(T)IMCI	(Tools for) Integrated Management of Childhood Illness
FB	Facebook
FGDs	Focus Group Discussions
FHCs	Family Health Centers
GIZ	German International Cooperation
HC	Health care
HCP	Health Care Provider
IAQ	Indoor Air Quality
KIIs	Key-Informant Interviews
MC	Mother(s) and Child(ren)
MCH	Maternal and child health
MCUD	Ministry of Construction and Urban Development
MLSP	Ministry of Labor and Social Protection
MNUMS	Mongolian National University of Medical Sciences
MoET	Ministry of Environment and Tourism
MoH	Ministry of Health
MUST	Mongolian University of Science and Technology
NAMEM	National Agency for Meteorology and Environmental Monitoring
NCPH	National Centre for Public Health

NCREP	National Committee for Reducing Environmental Pollution
NGO	Non-Governmental Organization
NPRAEP	National Programme for reducing air and environment pollution
NRA	National research agenda
OECD DAC	Organization for Economic Co-operation and Development,
PAC	Project Advisory Committee
PIN	People in Need INGO
$PM_{2.5}$	Particulate Matter with a diameter < 2.5 µm
SAM	Scouts Association of Mongolia
SCIH	Swiss Centre for International Health
SCO	Swiss Cooperation Office
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goals
SH	Stakeholder
SICA	Company name
SKHD	Songinokhairkhan District
Swiss TPH	Swiss Tropical and Public Health Institute
ToC	Theory of Change
ToRs	Terms of Reference
UB	Ulaanbaatar
UNICEF	United Nations Children's Fund
UOB	University of Birmingham
UPenn	University of Pennsylvania
USC	University of Southern California
WGAP	Working Group on Air Pollution
WHO	World Health Organization
WUSTL	Washington University in St. Louis

EXECUTIVE SUMMARY

The Swiss Agency for Development and Cooperation (SDC) commissioned a final external evaluation of the Impact of Air Pollution on Maternal and Child Health Project in Mongolia. The Evaluation was carried out between January and May 2022.

Background

The Impact of Air Pollution on Maternal and Child Health Project is a SDC-funded project in Mongolia, implemented by UNICEF Mongolia Country Office. It aims to contribute to reduced prevalence of pneumonia amongst children under 5 years of age; and reduced incidence of air pollution related pregnancy risks. The Project has a total budget of 10.4 million USD with SDC contribution of 4.8 million CHF. The Project started in October 2018 and will phase out in December 2022. Implementation took place in Bayanzurkh and Songinokhairkhan districts and Bayankhongor province.

Methodology

The objectives of the evaluation were to assess the Project based on the OECD-DAC criteria with a focus on the outcome (and where possible impact) level. The evaluation was also to collect and analyze lessons learnt, challenges faced and best practices (including synergies with others). Further, results were to provide a basis for decisions with regard to a potential continuation of some support by other Swiss stakeholders. A mixed-method approach was used and data analyzed using triangulation.

The following sources were used:

- **Document review:** Approximately 390 documents provided by UNICEF and SDC, complemented by additional literature search
- **Key-informant interviews with stakeholders:** 45 key-informant interviews with a range of national and international stakeholders involved in the implementation of or directly affected by the Project
- **Interviews with direct beneficiaries:** 10 interviews with direct beneficiaries, including CHIP recipients, CHIP suppliers and health care providers
- **Focus Group Discussions (FGDs):** A total of 4 FGDs with CHIP recipients and healthcare providers with a total of 21 participants
- **Site visits:** 11 sites were visited, including kindergartens, health facilities, an innovation center, CHIP households and CHIP suppliers, and a BAM station

Milestones of the evaluation were the kick-off meeting with SDC (19 January 2022) and approval of evaluation concept; the in-country visit (21 March – 4 April 2022); the briefing meeting with SDC, the UNICEF programme and operations team representatives, and Ministry representatives (22 March 2022); the delegation visit (22-23 March 2022); the analysis workshop (4 April 2022); and the debriefing meeting with SDC and UNICEF representatives (4 April 2022). Apart from minor deviations, the evaluation was implemented as planned.

Findings and conclusions

Relevance: The objectives of the Project are and continue to be highly relevant in the Mongolian context. The project achievements align and respond very well with the needs and priorities of the target group as well as the overall population in Mongolia. The large majority of stakeholders interviewed consider the Project as relevant or very relevant; this is confirmed by the document review and research studies conducted on this topic.

Coherence: In regard to internal coherence, the project is consistent with SDC's strategy for Mongolia and UNICEF's strategic plan. In regard to external coherence the Project inspired Governors from other provinces to implement CHIP. A collaboration and co-financing of the refurbishment of kindergartens between SDC and GIZ demonstrates further synergies. Additional synergies were created such as the Development Partners Working Group focusing on the impacts of air pollution and spearheaded by UNICEF.

Effectiveness: The Project is on track to reach the majority of its targets at output and outcome level - and with further continued efforts for some activities prior to the ending of the Project. Stakeholders interviewed emphasized the responsiveness and commitment by the UNICEF implementation team. Respondents also mentioned many positive results at all three outcome levels, with a particular emphasis on CHIP.

Efficiency: The Project delivered high quality services and products, including but not limited to trainings, implementation of CHIP, as well as facilitation of collaborations and working groups was of high quality. Activities were delivered in a timely manner; despite major challenges due to the COVID-19 pandemic interviewees felt that the UNICEF implementation team has responded timely. Respondents felt that the benefits achieved outweighed the costs invested.

Impact: The project aimed to result in positive impact on the health of mothers and children, measured by two impact indicators, namely reduced prevalence of pneumonia amongst children under 5 years of age; and reduced incidence of air pollution related pregnancy risks. While respondents reported of observed improvement of health, it is not possible to clearly attribute the improvements to the Project activities due to the COVID-19 pandemic.

Sustainability: While some of the activities and effects will sustain or have a high potential to be sustained after the completion of the project, a high number of effects are partially sustainable and have high potential to be sustainable if further investments are being made before the ending of the Project. Particularly the activities at the level of health facilities (e.g. capacity building, essential medicines, implementation of APPP) require specific attention so that effects are sustainable in the future and beyond the Project's life cycle. Overall the very large majority identified with the Project activities and were very motivated to sustain the effects in the future.

Transversal themes: The project design had a clear focus on mothers and children. Our findings indicate that the Project had a strong emphasis on gender equality and reached its intended target group through its diverse activities; by doing so it positively transformed their life and health. Regarding good governance, the large majority of stakeholders highly appreciated the coordination efforts by the UNICEF implementation team; however, the issue around the NRA would have required better coordination and transparency.

Recommendations

Based on the findings and conclusions and with closure of the Project in December 2022, we provide the following high-level recommendations:

> Recommendation 1: With the further scale-up of CHIP, address the persistent challenges
> Recommendation 2: Valorization – "do good and talk about it"
> Recommendation 3: Address sustainability issues of selected health package interventions

Further, we made a total of 7 additional suggestions, relating to

1. the promotion of AgaarNeg;
2. the dissemination of study results;
3. sustainability of multi-sectoral collaboration;
4. impact measurement;

5. facilitation of exchange between research institutions;
6. Swiss collaboration and strengthening of data analysis capacities; and
7. capacity building and future support.

1. INTRODUCTION

The Swiss Agency for Development and Cooperation (SDC) commissioned the final external evaluation of the Impact of Air Pollution on Maternal and Child Health Project in Mongolia, implemented by UNICEF. The evaluation was conducted between January and May 2022. The evaluation report contains the findings, conclusions, as well as recommendations by the Evaluation Team.

The report is structured as follows: Chapter 1 provides a background and explains the purpose and scope of the evaluation and the methodology used. Chapter 2 presents the findings and in line with the OECD-DAC criteria of relevance, coherence, effectiveness, efficiency, impact and sustainability, as well as transversal themes of gender, good governance and inclusion of vulnerable target groups. Chapter 3 and Chapter 4 provide conclusions and recommendations. The Annex contains the reference list, the evaluation grid, the document review list, the list of all stakeholders (SHs) consulted for this evaluation, the key- and sub-evaluation questions, information on budget allocation.

1.1 Background

Due to rapid urbanization and industrialization in Mongolia, pollution levels have increased over the past decade, negatively affecting the ecosystem. Ulaanbaatar city and other provincial centers in Mongolia measure high levels of air pollution (AP), with a peak particularly during the cold winter months. It is notable that household stoves of people living in ger (i.e. traditional yurts) districts, usually fired with coal[1], as well as heat-only boilers, are responsible for 80% of all outdoor air pollution in Ulaanbaatar city alone (Government of Mongolia, 2017). According to the National Program for Reducing Air and Environmental Pollution (NPREAP) 2017-2025, "…over 50% of all observation/monitoring results indicate pollution levels in excess of limits set by Mongolian Air Quality Standards" (Government of Mongolia, 2017). Figure 1 from a paper by Soyol-Erdene et al. (2021) shows the development of air pollution levels from 2014-2021 by daily means with peaks during winter time well above what is considered safe by the WHO air quality guideline which sets 24-hour average values not to be exceeded more than 3-4 times per year at 15 µg PM2.5/m^3, 45 µg PM10/m^3, 25 µg NO2/m^3, 40µg SO2/m^3 (World Health Organization, 2021).

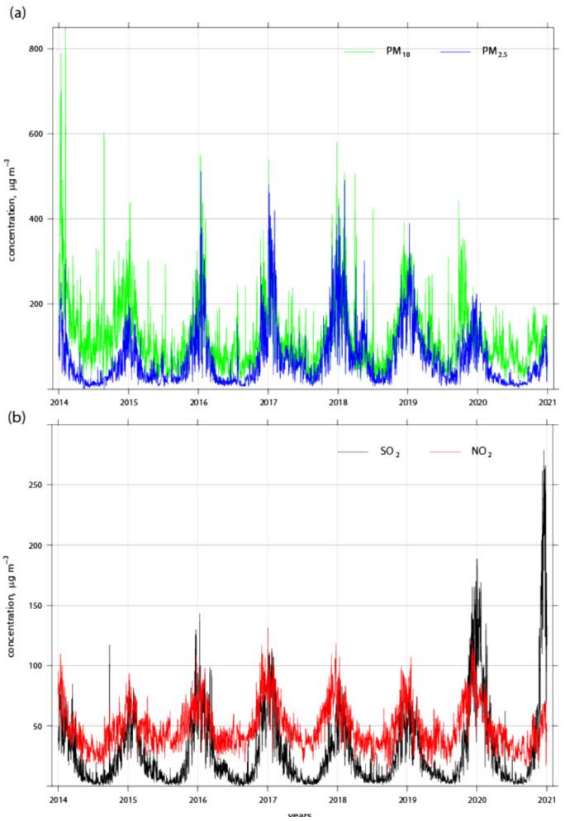

Figure 1 Average air pollutant levels in Ulaanbaatar 2014-2021 for a) of particulate matter air pollution PM10 and PM2.5 and b) NO2 und SO2 (Soyol-Erdene, Ganbat, & Baldorj, 2021)

[1] Raw coal is being used. In May 2019, raw coal was banned in Ulaanbaatar province and had to be replaced by processed coal (bricks).

Earlier efforts to reduce air pollution did not reach the desired results, even though some progress was made. Studies[2] from Mongolia could show the serious harm on human health in the urban population (Allen et al., 2013; Nakao et al., 2017; Sanduijav, Ferreira, Filipski, & Hashida, 2021; Warburton et al., 2018), including respiratory diseases (specifically affecting children) (Dorjravdan et al., 2021; Enkh-Undraa et al., 2019; Ishihara et al., 2016; Liu et al., 2021; Nakao, Yamauchi, Ishihara, Solongo, & Ichinnorov, 2016; Spickett et al., 2005), cardiovascular diseases and negative impacts on maternal and neonatal health outcomes (Badarch et al., 2021; Barn et al., 2018; Barn et al., 2019; Enkhbat et al., 2021; Enkhmaa et al., 2014).

In order to reach acceptable ambient air quality, the Government of Mongolia, with support of various development partners, focuses on clean(er) energy solutions. However, with half of the population living in Ulaanbaatar and continued rapid urbanization also short- to medium-term solutions are required to limit the impact of air pollution on the health of Mongolia's population and specifically those most vulnerable, namely mothers and children.

The Project started in October 2018 and will be completed in December 2022. The Project aims to reduce the risk of air pollution on maternal and child health through enhanced knowledge, evidence-based policies, improved institutional capacities related to this topic, as well as reducing exposure of vulnerable groups through a set of concrete actions. At the impact level, the project aims to contribute to 1) reduced prevalence of pneumonia amongst children under 5, and 2) reduced incidence of air pollution related pregnancy risks.

The project aimed to achieve the following outcomes:

1. Improved capacity to generate and disseminate data, research, analysis and information on air pollution and maternal and child health;

2. Preschool children and pregnant women are at lower health risk from air pollution through community level risk reduction measures;

3. Maternal and child health risk reduction measures are integrated in relevant national and local policies.

The Project targeted women and children (with a specific focus on pregnant women and pre-school children) in Ulaanbaatar (i.e. ger areas of Bayanzurkh (BZD) and Songinokhairkhan (SKHD) districts) and in the Bayankhongor (BKH) provincial centre.[3]

Figure 2: Map of Mongolia and its provinces (i.e. aimags).

Some activities were extended to additional provinces, namely Gobi-Altai (GA) and Umnugobi (UG). The project applies a combination of implementation strategies, including generating and disseminating evidence and information, strengthening capacity, showcasing successful interventions on the ground, leveraging ongoing and planned

[2] From a search in Web of science in December 2021, 15 relevant epidemiological studies have been identified out of 267 hits.

[3] It has to be noted that SKHD was included as an intervention district a later stage, and due to previous collaboration in this district. The Evaluation Team was informed that it was agreed that while the Project would financially contribute to the interventions in BZD, the municipality of UB would fully cover the costs for the intervention in SKHD.

investments from government and development partners, and policy advocacy to reach scale and sustainability.

Table 1: Project key features

Key features	
Duration	October 2018 – December 2022
Total contribution	Total budget: USD 10'414'00 Total SDC contribution: CHF 4,802,500 Received amount from SDC (until 2021): CHF 4'538'000
Donor	Swiss Agency for Development and Cooperation (SDC)
Impact	Contribute to reduced prevalence of pneumonia amongst children under 5 years of age; and reduced incidence of air pollution related pregnancy risks
Outcomes	1. Improved capacity to generate and disseminate data, research, analysis and information on air pollution and maternal and child health; 2. Preschool children and pregnant women are at lower health risk from air pollution through community level risk reduction measures; 3. Maternal and child health risk reduction measures are integrated in relevant national and local policies.
Geographic focus areas	Bayanzurkh (BZD) and Songinokhairkhan districts (SKHD) Districts of Ulaanbaatar (UB), Bayankhongor Province (BKH)

With the onset of the COVID-19 outbreak and Mongolia having the longest shared border with China, the Mongolian government activated the State Emergency Committee in January 2020. As a consequence, borders to China were closed, movement within the country restricted and and all educational institutions (including kindergartens and schools) at all levels were closed starting on 20 January 2020; with a short window from September to November 2020 of re-opening, following by another closure. Following, the Government of Mongolia declared emergency high alert status on 12 February 2020 and prevention measures were put into place (Erkhembayar et al., 2020). By mid-March, Ulaanbaatar and provincial cities were declared quarantine areas and a complete cessation of international travel and further border closures followed, including in-country travel restrictions. Only in April 2021 private sector businesses reopened; and international tourism was permitted from 14 February 2022 onwards. The borders to China, maintaining a zero COVID-19 policy, remain closed for travel (A3M Global Monitoring, 2022). During the pandemic, authorities recommended wearing protective face masks, to avoid contact with infected people and to generally adhere to social distancing and hygiene measures.

As outlined by the World Bank, "(d)ue to the surge of the delta variant, 1 in 5 households who needed medical treatment could not receive it", mainly due to fears of COVID-19 infection and full capacity at hospital facilities (The World Bank, 2021b). Another study revealed, that over 60% of children endured weight loss due to inadequate access to a balanced diet (over 60%), and the overall income declined by 30%, due to reduced trade with China (Sharma, 2022).

1.2 Purpose of the evaluation

With the ending of the Project in December 2022 and no follow-up phase, the objectives of the evaluation are to assess the Project based on the OECD-DAC criteria of relevance, coherence, effectiveness, efficiency, impact and sustainability, as well as transversal themes of gender, good governance and inclusion of vulnerable target groups.

Further, and as outlined in the Terms of Reference, the evaluation shall assess the performance level, implementation status and the capacity to achieve the project objectives. The potential impact and sustainability of results including the contribution of capacity development of local stakeholders was stated. Lastly, the evaluation shall collect and analyze lessons learned, challenges faced and best practices (including synergies with others).

In view of the phase-out of SDC from Mongolia by 2024 and the envisaged transformation of the Swiss-Mongolian cooperation modalities, SDC voiced interest in the results as a basis for decisions with regard to a potential continuation of some support by other Swiss stakeholders. Since this is the single and last phase of the project, the conclusions and recommendations shall distinguish which are the elements that are already sustainable and do not need further external support; and which elements are not yet sustainable and could/should be taken up by other stakeholders active in the sector.

2. METHODOLOGY

The proposed evaluation approach included a document review and the use of qualitative methods for data collection. The methodological approach and analysis methods were outlined in the proposal document for this mandate in greater detail and presented in the Kick-Off Meeting, attended by SDC and the Evaluation Team on 19 January 2022.

Prior to the Kick-Off meeting, the Evaluation Team revised the key-evaluation questions as listed in the Terms of Reference and a joint decision on final questions were made during the meeting. Based on the final key-evaluation questions, the sub-evaluation questions were formulated and qualitative semi-structured guidelines were developed (the final list of key- and sub-evaluation questions can be accessed in Annex 7.1). Findings from the document review and qualitative data were entered into an evaluation matrix.

Data were analyzed using triangulation, unless otherwise indicated (see also Evaluation Matrix in Annex 7.3. Triangulation is a common method used for evaluations to validate findings through cross verification from more than two sources, reducing potential bias and increasing robustness and reliability of the results.[4]

The evaluation focuses on the outcome level, and where possible the impact level, as described in detail in Chapter 1.1. It is important to note that the evaluation did *not* focus on the output level or specific intervention activities. However, examples at the output level were included – and if triangulation was possible - to better illustrate the findings at outcome level.

The different methods and data sources are described below:

Document review: Documents reviewed include approx. 390 documents from UNICEF; key documents include the Project Document, the log-frame, and annual progress reports, as well as studies, guidelines, Terms of Reference etc. The document review helped to further refine the sub-evaluation questions, guided the probing during the data collection phase and to embed the findings and formulate the conclusions and recommendations. In addition we identified and reviewed additional grey literature online. See also Annex 7.4.

Key-informant interviews with stakeholders: A total of 40 key-informant interviews (KIIs) with national stakeholders were conducted in-person. An additional 5 interviews with mostly

[4] https://www.betterevaluation.org/en/evaluation-options/triangulation

international stakeholder were conducted online, following the visit to Mongolia.. The selection of participants was informed by the stakeholder mapping.

Interviews with direct beneficiaries: A total of 10 interviews with direct beneficiaries were conducted on site. These included those who directly benefited from project activities. The selection was informed by the stakeholder mapping.

Focus Group Discussions (FGDs): A total of 4 FGDs – 3 with HCPs and 1 with CHIP recipients –with a total of 21 randomly selected participants were conducted. Participants included Cooking, Heating and Insulation Products (and Service) (CHIP) household recipients and healthcare providers (HCPs).

Site visits: Sites were purposively selected. A total of 11 sites were visited. These included kindergartens, health facilities, an innovation center, CHIP households and CHIP suppliers, as well as the BAM station in BKH.

The following activities and meetings took place prior to and after data collection:

Stakeholder mapping: following the document review a thorough stakeholder mapping was conducted. Both SDC and UNICEF were given the opportunity to complement the list; the ultimate decision on who to interview on behalf of the evaluation was with the Evaluation Team. A list of all consulted stakeholders can be accessed in Annex 7.2.

Kick-Off Meeting: The meeting took place on 19 January 2022 (see information above).

In-country visit: The Evaluation Team conducted an in-country visit in Mongolia between 21 March and 4 April 2022. The in-country visit included data collection in Ulaanbaatar and the Project sites.

Briefing Meeting: A Briefing Meeting with SDC, UNICEF Mongolia programme team and operations team[5] representatives, and Ministry representatives took place in-country on 22 March 2022. The Evaluation Team presented the evaluation approach, methods used and agenda for the in-country visit.

Delegation visit: During the visit of the Evaluation Team, the UNICEF implementation team organized a delegation visit in BKH with a large number of key stakeholders and direct beneficiaries present, which took place in-country on 22 March 2022.

Figure 3: Delegation Visit in Bayankhongor (22 March 2022)

Analysis Workshop: An Analysis Workshop was organized by the Evaluation Team at the end of the visit. A total of 30 stakeholders, who contributed to evaluation, participated in the event. The event served the purpose to validate

[5] To ensure better readability we used the term «UNICEF implementation team» throughout the report from here onwards.

preliminary findings for selected key evaluation questions. The meeting took place in-country on 4 April 2022.

Debriefing Meeting: Further preliminary results for selected key evaluation questions and preliminary recommendations were presented to the SDC and UNICEF implementation team at the end of the visit. The meeting took place in-country on 4 April 2022.

Reporting: A draft report was prepared; SDC, the UNICEF implementation team and selected stakeholders had the opportunity to comment on the report, allowing for further participation and validation. Feedback was consolidated and shared with the Evaluation Team. Following, the report was finalized.

2.1 Ethical considerations

The evaluation team has used information and consent forms (ICF) explaining the purpose of the evaluation, how the data will be used and that information will be triangulated and encrypted. All participants were asked to provide written consent prior to participation. Further participants received a copy of the signed ICF. For the few interviews conducted via Zoom/over the phone the ICF was shared in advance and either written or verbal consent sought. Only then the interview was conducted and the voice recording switched on.

2.2 Limitations

The Evaluation Team encountered few operational and evaluation-design challenges:

From an operational perspective, the Evaluation Team was responsible to contact the selected stakeholders and schedule appointments. While the large majority of stakeholders could be reached and interviews conducted, some stakeholders were very difficult to reach or cancelled last minute. The Evaluation Team invested a substantial amount of time into the follow-up, and conducted additional interviews upon return from the in-country visit. Further, the team was supported by SDC to schedule one interview, for which we are thankful. However, a very small amount of selected stakeholders (n=2) could not be included as a result. Secondly, a few interviewees were only able to give limited information on the Project due to the rotation of staff (e.g. at health facility level; government level); where possible the team tried to find a replacement. Lastly, the Evaluation Team was responsible to organize and establish a list of CHIP and HCP training recipients. This was not only time-intense but particularly for the CHIP households challenging: out of 80 CHIP recipients contacted, only 9 agreed to participate in either the group discussion or were willing to open their doors for a site visit; some indicated that they had moved in the meantime. This has the potential for a selection bias.

Our national Evaluation Team member was contracted by UNICEF as a short-term consultant on behalf of this Project between September and November 2019 to develop an overview on national research studies on the topic of air pollution and health. This consultancy and potential conflict of interest was clearly stated in the proposal submitted by Swiss TPH and transparently communicated to parties concerned. Based on this it was agreed with SDC that the national team member would not participate in interviews or involve in the data analysis related to her previous engagement.

The COVID-19 pandemic showed a mixed impact on the health and well-being of children globally. Overall, children were largely spared from direct mortality impacts of COVID-19 (e.g. among 3.7 million COVID-19 related deaths, only 0.4 percent occurred in children and adolescents worldwide; Status: 2020) and evidence showed that health prevention measures put

into place led to reduced infections (e.g. decrease in infection with the human influenza virus) (Tran et al., 2022; UNICEF, 2022a). The early onset of preventive measures in Mongolia (incl. the closure of schools and kindergartens) had its positive and negative effects on the health of children, including disrupted access to health services (also reported by stakeholders during our in-country visit). As a consequence the actual impact of the Project on the health of children, and particularly the impact indicators defined for this project, cannot be interpreted with certainty.

From an evaluation design perspective, the Evaluation Team had proposed a qualitative approach for this evaluation; reasons were openness in the tender documents in regard to the methodological approach, as well as budgetary and time constraints. Given the complexity of the project and high amount of activities, we acknowledge that a survey may have been useful. The team however has conducted a very high number of interviews to reach saturation of results and allow for triangulation of findings.

3. FINDINGS

This chapter presents the findings in line with the OECD-DAC criteria and the key-evaluation questions outlined in the Terms of Reference (see also Annex 7.5).

3.1 Relevance

Do the project achievements align with the needs and priorities of the target group?

With air pollution being responsible for 1.2 million hospital days and 145'000 outpatient consultations among children alone over the period of 2017 (UNICEF, 2018), the document review underlines that health effects of ambient air pollution are (one of) the biggest public health risks in urban Mongolia, especially for pregnant women and children (Government of Mongolia, 2017).

The large majority of stakeholders stated that air pollution has a great impact on the health of the Mongolian population and risk reduction constitutes the highest priority. Stakeholders uniformly emphasized that mothers and children are specifically vulnerable to the risk of AP. While some mentioned that the living conditions (including outdoor and indoor air quality (IAQ) need to be improved, others emphasized the need for prevention (e.g. awareness raising; knowledge increase; leading to self-protection), or treatment of those affected - all aspects addressed by the Project.

Depending on the role and involvement of stakeholders, the importance respondents attributed to the different project objectives varied. Overall, stakeholders perceived that the project objectives, such as the dissemination of information, capacity building, risk reduction measures at the community level and inclusion into local and national policies are relevant and align well with the needs and priorities of the target group. One interviewee said: *"I think air pollution is the most dangerous problem for our children and pregnant women because air pollution has so many health effects...if we cannot have healthy air, we cannot have healthy children; if we cannot have healthy children, we cannot have a healthy future"* (NGO/Implementation Partner).

To what extent are the Project objectives responding to national needs and priorities in Mongolia?

Most stakeholders responding to this question perceived air pollution as an important risk factor for the health of the population, and especially for mothers and children. Respondents pointed out that large infrastructure projects will take time to reduce air pollution and that the current generation needs to be protected from air pollution and its effects now. Thus immediate action

through the reduction of air pollution exposure in the indoor environment, through personal measures to reduce air pollution exposure, as well as the provision of adequate health care regarding air pollution related illnesses, were mentioned as a need.

The project addressed important needs of different administrative entities and target groups according to our informants. The problem was addressed in its entire complexity, according to one stakeholder; various stakeholders from the health sector from different levels placed particular importance on the integration of the health sector to tackle the problem. This finding is also emphasized in the National Programme for Reducing Air and Environmental Pollution: "…there is an urgent need to develop integrated policies for reducing air and environmental pollution in the short term, with concrete implementation action and inter-sectoral coordination using all available technical, financial and human resources." (Government of Mongolia, 2017). Another report from the Ministry of Health (MoH) also emphasized the "urgent need for an information campaign for enhancing public awareness of health impacts from prenatal and early life exposures to air pollution" (Ministry of Health, Asian Development Bank, SDC, & UNICEF, 2020).

Overall, stakeholders mentioned that the project objectives align well with SDC, UNICEF and government priorities. This could be confirmed by the document review (Government of Mongolia, 2017; Ministry of Health et al., 2020; SDC, 2017, 2020, 2021, 2022; SDC Mongolia, 2019; State Great Khural of Mongolia, 2020). Further, the Project aligns well with the Vision 2050 (Government of Mongolia, 2020) also mentioned by stakeholders. In addition, the project's activities are in line with the rights stated in Article 16.2 of the Constitution of Mongolia, namely "(c)itizens of Mongolia have the right to live in a healthy and safe environment and to be protected from environmental pollution and disturbance of the natural balance," (cited in (MNUMS, 2020)). Further, an overall increase in national and local budget allocation for air pollution reduction measures could be observed in the document review (Bayankhongor, 2021; Enkhtur, 2020; Purevdulam & Khishigjargal, 2021) and as reported by stakeholders.

To what extent is the development intervention technically adequate?

The UNICEF implementation team successfully involved various stakeholders, such as the National Committee for Reducing Environmental Pollution (NCREP), People in Need (PIN), the Scouts Association of Mongolia (SAM), and health care providers (including community health workers (CHWs)) in raising awareness on air pollution and its effects on health, creating the knowledge and commitment to reduce exposure and its effects. Studies commissioned through the Project and showing the harmful effects of air pollution in Mongolia and the provision of data on health and air pollution (e.g. through the surveillance system), were considered important elements mentioned by some stakeholders, providing a valuable basis for reliable knowledge creation and accountability. However, reviewing the documents it appeared that an overall and harmonized research strategy on behalf of the Project appeared missing while the involved researchers and institutions were working in silos; this was also confirmed by the stakeholders we interviewed. The National Research Agenda, with approval pending at the time of the evaluation (also partly affected by change of roles and responsibilities at the Ministry level), may have had the potential to strengthen the harmonization.

The majority of stakeholders emphasized the importance of community level risk reduction measures related to health care intervention activities and measures to reduce exposure to air pollution by improving IAQ. For example, health care providers reported that the concept of prevention of health effects through risk reduction was a new and well received concept, introduced by the Project. Also the provision of essential medicines was mentioned as highly useful to reach the most vulnerable. Further, interviewees pointed out the importance of capacity building of CHW, who were perceived as highly relevant in reaching (vulnerable) mothers in children and ensuring the continuum of care also during the COVID-19 pandemic. Several stakeholders mentioned the challenge of high rotation at facility levels, leading to reduced

sustainability. During the evaluation integration of the topic of air pollution and its impact on the health of mothers and children into graduate and post-graduate (i.e. Continuous Professional Education (CPE)) curricula was done and for some underway and may overcome this challenge in the future.

Some stakeholders highlighted the need for clean indoor air, which the Project addressed by installing proper ventilation systems with filtering incoming air and use of air purifiers in health facilities and kindergartens. As 70% of 3-5 year old children spend around 10 to 12 hours per day (Monday – Friday) in kindergartens (Ministry of Health et al., 2020), the strategy appears technically adequate and relevant to reduce air pollution exposure in this setting.

The CHIP was mentioned by almost all stakeholders as an innovative intervention, addressing an important source of air pollution. Household stoves in ger districts and 3200 heat-only boilers operated by entities in UB are responsible for 80% of all air pollution (Government of Mongolia, 2017). However, some stakeholders also mentioned the relevance to address the larger problem of air pollution and carbon emissions – which is done by other larger and long-term projects through e.g. the World Bank or the Asia Development Bank -, mentioning the problem of coal powered electricity generation and heat loss and thus inefficiency of the heating if not properly combined with the insulation of gers.

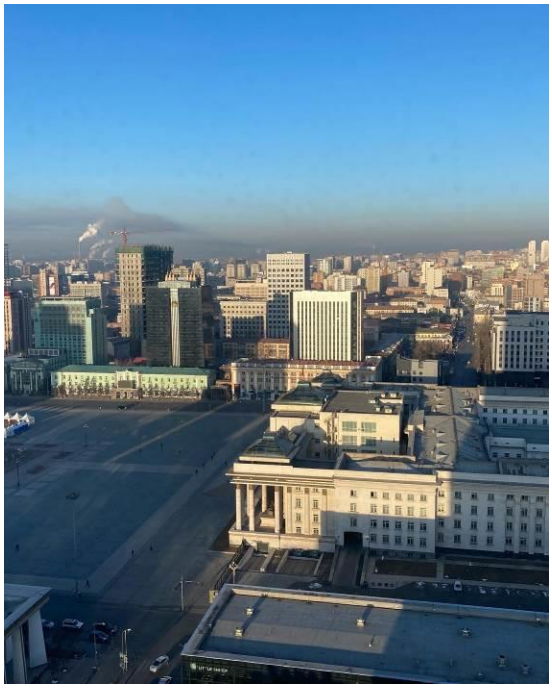

Figure 4: Air pollution in Ulaanbaatar

The building assessment report (UNICEF, 2020a), and synergies which could be built with the “Public Investments in Energy Efficiency (PIE)” Project (funded by SDC and implemented by GIZ see (GIZ, 2022)), also shows what needs to be done to refurbish existing facilities and the approved/planned building codes for health care facilities and kindergartens will ensure that future buildings are well equipped.

Some stakeholders mentioned that the integration of activities into local and national policies was a central step towards making people become active, ensuring continuation of activities. For example, the building codes for health care facilities (approved) and kindergartens (pending at the time of this evaluation) will ensure that future buildings are well equipped with ventilation systems; while the inclusion of funds into local budgets will ensure continuation of some of the activities such as the communication and awareness raising activities by NCREP.

In general, stakeholders were content with the Project's activities and many emphasized the excellent collaboration with the UNICEF implementation team and the high level of technical expertise by the UNICEF implementation team staff. The set-up of multiple working groups (e.g. the Working Group on Air Pollution (NCREP, 2021; Project Advisory Committee, 2021; Purevdulam & Khishigjargal, 2021); or the High Level Meeting in Ulaanbaatar, December 2021 (Ulaanbaatar, 2021), allowing for multi-sectoral collaboration, was perceived as valuable by various stakeholders; the cross-sectoral collaboration at the local government level and facilitated by the UNICEF implementation team was emphasized as particularly useful and enriching.

3.2 Coherence

Internal coherence: to what extent is the intervention compatible/coordinated with other SDC and UN development cooperation?

The project is consistent with 'SDC's engagement for clean air for all' (SDC, 2022), as well as its Global Programme Climate Change and Environment (SDC, 2020). The four objectives in the Global Programme align well with activities and outputs of the project: Objective 1, that targets ambitious and effective national policies mobilizing additional funding corresponds to Project Outcome 3. Objective 2, aiming at access to affordable, reliable and clean energy for all and improvement of sustainability of the built environment corresponds to Outcome 2. Whereas Objective 3, enhancing the capacity of governments and disadvantaged and most vulnerable to implement evidence-based adaptation measures, directly corresponds to Output 1 and 2; and lastly Objective 4, reducing pollution and improving health, livelihoods and resilience, corresponds to Output 2 from the project.

The Project also aligns well with the Swiss Cooperation Strategy 2018-2021 for Mongolia and in which the challenges of rapid urbanization are mentioned as follows: "Climate change issues in urban areas (including promoting energy efficiency and combatting air pollution) will be addressed in dimensions of mitigation and adaptation and primarily from a governance perspective." (2017) and it is integrated in SDC's strategy for 2022-2024 (SDC, 2021). The linkage of the impact of air pollution on the health of people constitutes a new topic in Mongolia, hence no overlaps with other SDC or UN projects could be identified, except for the PIE project co-financed by SDC and the German Government by almost equal shares and described below.

Regarding UNICEF strategies, the Project aligns very well with the overall strategic plan (UNICEF 2018-2021, GOAL area 4: Every child lives in a safe and clean environment. UNICEF works with partners at the global and local levels to ensure that children can live in a safe and clean environment. UNICEF helps put children at the centre of climate change strategies and response plans, recognizing them as agents of change who are taking action everywhere to protect the future of the planet (2017b)) relating to key areas of improving maternal and child health, ensuring that children can live in a safe and clean environment, addressing climate change, empowering women and girls and putting children at the center while recognizing them as agents of change. It embraces issues of environment and air pollution, health, education, data and research and governance (UNICEF, 2022b; UNICEF Mongolia, 2022). We also noticed harvesting of synergies with other UNICEF programs such as the vaccination program or educational work on children's rights, which were mentioned by a few stakeholders as being part of the Project. The UN resident coordinator within the UN system is expected to better coordinate and facilitate synergies between different UN projects and accountability towards the SDGs, according to some stakeholders. One stakeholder mentioned possible synergies with the World Health Organization in Mongolia, enhancing its efforts to disseminate material and enhance capacity to understand the harmful effects of air pollution following its newest air quality guideline from 2021.

External coherence: to what extent is the intervention compatible with interventions of other actors (bilateral and multilateral donors, private sector, NGOs, etc.) in Mongolia and thematic field (complementarity and synergies or overlap/duplication)?

It was emphasized by several stakeholders that there were no projects by other agencies in Mongolia that simultaneously looked into air pollution and maternal and child health, while other donors (mostly with budgets of high volume) work on larger infrastructure projects. This is true with the exception of the PIE project. The Working Group on Air Pollution (WGAP) was mentioned as a place, where different donor agencies exchanged on projects related to air pollution and the set-up of Agaarneg.mn[6] (NCREP; Breathe Mongolia, 2022) was expected to make activities of

[6] https://agaarneg.mn/

different donors and actors more visible and facilitate exchange and reduce duplication of efforts (see UNICEF Mongolia, 2021). The platform was greatly promoted and was joined by 42 organizations in Mongolia and who actively uploaded material. Numerous stakeholders interviewed (and who did not belong to the 42 organizations) however were either not aware of the existence of Agaarneg.mn; and those we interviewed and who knew about it, indicated that they did not actively consult it.

The collaboration with the SDC and German funded "Public Investment in Energy Efficiency (PIE)" project, implemented by the German International Cooperation (GIZ), on the refurbishment of kindergartens and schools was mentioned as the prominent example of shared efforts between SDC and GIZ[7] (GIZ, 2022)[8], exemplyfiyng external coherence. UNICEF facilitated the ventilation systems and GIZ concentrated on insulation and energy efficiency (see also GIZ 2022). The synergies - both in terms of intervention objectives and location focus -, led to a collaboration, including a co-financing and cooperation agreement with a clear division of labor. This collaboration was however not a result of the working group or AgaarNeg, but related to an investigation of potential duplication of work which was solved during the project implementation, according to our respondents. It was noted that The World Bank has also implemented elements of the CHIP project (The World Bank, 2021a), but their phasing out of this kind of activity does not offer an opportunity for further collaboration on this intervention.

3.3 Effectiveness

How did the intervention contribute to the results? Was there a difference between planned input and the input actually needed? What is the reason for this difference?

Stakeholders associate many positive results directly with the Project, and at all three outcome levels. At Outcome 1, numerous stakeholders indicated that they benefited from capacity building (e.g. training on effects/prevention of AP on maternal and child health (MCH); measurement of air pollution and use of new instruments; data collection; data analysis; manuals etc.), leading to knowledge increase. However, the result of the capacity building related to research was viewed as mixed by stakeholders; while some felt that capacity was built, others mentioned that particularly the skills in analysis of data and write-up require further strengthening. With the support of the Project, numerous research studies were conducted with some ongoing, leading to more evidence on the harmful effects of air pollution on health and necessary action (e.g. Building Assessment Report, KAP survey, Surveillance system). Documents provided confirm this, for example the absenteeism report (UNICEF, 2020b) , the building assessment report (UNICEF, 2020a) or (at the time of the evaluation) the pending National Research Agenda (NRA) (Ministry of Environment and Tourism, 2021)[9]. Some mentioned that the dissemination of study results - also among those actively involved in the implementation of Project

Figure 5: Air quality monitoring in a kindergarten equipped by the Project

[7] https://www.giz.de/en/worldwide/17721.html

[8] The closing event of the PIE project took place on 04 May 2022. Capitalisation products are available, including videos and a brochure on Energy Efficiency related to the refurbishment of buildings. Available upon request at GIZ and SDC offices in Mongolia.

[9] The Evaluation Team was informed by the UNICEF implementation team that the NRA was considered as final for approval by the Minister of Environment and Tourism on 13 May 2022 and during the time the draft evaluation report was revised.

activities - could be strengthened. Stakeholders perceived that the dissemination of information lead to increased awareness among the target group and the general population.

At Outcome 2, stakeholders interviewed stated that the various activities regarding the risk reduction of AP on MCH contributed to perceived improvement of the health and well-being of mothers and children. This includes insulation and ventilation in kindergartens; capacity building of HCPs and CHWs, including the provision of essential medicines; and implementation of CHIP. Some stakeholders commented on the weak implementation status of the project activities in SKHD district (e.g. related to health care interventions), which was attributed to missing co-funding from the municipality of UB for scaling up good practices (see also UNICEF 2021). Nevertheless, UNICEF started implementation through mobilization of funding from other sources.

Outcome 3: Through the UNICEF implementation team's and partners' awareness raising on the topic, policy advocacy and training on the importance to reduce the risk of AP on MCH, stakeholders mentioned the development of new policies (final and drafts) and an increased budget allocation as a result. A report shows that the state's allocation of funds for the implementation of the NPRAEP has increased by 18.6 times to 81.9 billion MNT compared to 2017 (UNICEF, 2021). Further, CHIP became eligible and was added to the green loan list. With financial support from NCREP, and by providing green loan interest subsidies to commercial banks, the interest rate could be reduced significantly. In addition commercial banks alleviated an simplified the criteria for loans on behalf of CHIP (Government of Mongolia, 2017). At the provincial level, funds have been allocated to implement the CAAP in BKH and GA (UNICEF, 2021c). An overview of the budget allocation can be viewed in Annex 7.6.

The COVID-19 pandemic was mentioned by some stakeholders and in reports (SDC Mongolia, 2021; UNICEF, 2021c), as a hurdle for activities – be it in facilitating trainings or in-country visits from international partners for example. The dissemination of information and trainings were delayed, but eventually some capacity building was transitioned from face-to-face to digital training. It was also reported that studies were delayed due to the lockdowns; and the pandemic slowed down progress on refurbishments, while preventive measures led to reduced visits of health facilities. Delayed delivery of CHIP products procured in China, resulting also in increased prices, reduced implementation of CHIP in the field. Few stakeholders mentioned that local governments and the health sector were overburdened with the challenges of the pandemic (see also UNICEF, 2021). This might have led to delays in policy approval. Besides the many negative aspects of the pandemic there were also some positive consequences. For example, two stakeholders mentioned that the move to social media for the dissemination of information related to CHIP, turned out to be very successful. A few stakeholders emphasized the importance of the pandemic as a catalyst of realizing that clean air, fresh air and mask wearing are important preventive measures reducing airborne health risks aligning with the project's activities. Lastly, COVID-19 related subsidies of electricity on the other hand likely increased interest and demand for CHIP.

Does the project achieve its intended results?

In line with the document review and stakeholder interviews, the Project has achieved some of its intended results fully, some partially and some require further attention prior to the phasing out of the Project; results presented here are based on stakeholder responses and the document review.

In regard to Outcome 1, *improved capacity to generate and disseminate data, research, analysis and information on air pollution and maternal and child health*, this has been fully to partly reached, depending on the target group. For example, while young people gained strong capacity and have been very active in regard to the dissemination of evidence, the capacity building of health care providers was partly challenging due to high rotations; whereas the capacity building

in regard to analysis of data and write-up, as well as dissemination requires more efforts according to several stakeholders. A large amount of studies was commissioned by the Project, with some still ongoing. Overall, the dissemination of study results requires further attention according to our respondents. The NRA – with the aim to effectively coordinate research efforts and closing important knowledge gaps in the future - constitutes an important element of this outcome and is reflected as a stand-alone indicator in the UNICEF Project logframe. Despite high efforts from the Evaluation Team to seek further insights on the status quo and pending approval of the NRA by the Ministry of Environment and Tourism (MoET) (also a logframe indicator) – likely due to a change of responsibilities of the NRA at the level of MoET during the evaluation -, it remains unclear if approval of the NRA will be achieved before the ending of the Project.

Generally, the Project led to increased knowledge on the impact of air pollution on health, resulting in increased awareness and could demonstrate its effectiveness as this led to actual behavior change, and even beyond the Project's target group.

Figure 6: Package of commodities provided to CHWs

In regard to Outcome 2, *preschool children and pregnant women are at lower health risk from air pollution through community level risk reduction measures,* direct beneficiaries (e.g. CHIP households, HCPs; kindergarten administrator) were content that the large majority of activities were effective and led to positive results. However, some activities require further attention and efforts (e.g. training of HCPs; CHIP implementation and overcoming challenges) to ensure sustainability of the effects. Further and due to the impact of the COVID-19 pandemic, the actual impact on the health of mothers and children through Project activities remains to be seen and requires further attention.

Lastly, and in regard to Outcome 3, *maternal and child health risk reduction measures are integrated into relevant national and local policies*, Project activities led to successful integration at both national and local level. At the national level, activities related to children and adolescents were integrated into the Action Plan (Government of Mongolia, 2017; State Great Khural of Mongolia, 2020) and resulted in contributions of Mongolia to the Paris Agreement 2025 (MOET, 2021); further, children and health were integrated into the Action Plan for the Implementation of Environmental Health 2021-2025; lastly CHIP was integrated into the list of eligible products for state green loans. Nevertheless, some stakeholders said that more could have been done, while risk reduction measures were integrated to a varying extent (e.g. building codes; draft Community Health Worker decree). At the provincial level, the Clean Air Action Plans (CAAPs) set ambitious targets in regard to the implementation of CHIP at household levels and also allocated a substantial amount of budget for it. However, according to some stakeholders, more could have been done in regard to embedding other Project activities into policies (e.g. integration of APPP; continuation of training of HCPs on air pollution within the facilities) and further advocacy to continue focusing on the target group of mothers and children is required.

What were the most significant achievements so far?

Stakeholders and beneficiaries named the increased awareness on air pollution and its risks on health (including that on mothers and children) as *the* major and most significant achievement of the Project, which led to action and behavior change at all levels. This also included the change of behavior among implementing stakeholders, which constitutes a positive and unintended but

impactful result. One stakeholder said: "People were awakened that it [air pollution and its effects on health] is a problem for everyone and not only of one Ministry" (Donor/Implementation stakeholder). Also, the different solutions for reducing air pollution exposure at facility, kindergarten, household, as well as individual level and the prevention of effects were mentioned multiple times. At the aimag and district level (BKH, BZD), the CHIP project was specifically welcomed as an innovative solution for improved living conditions. Finally, the collaboration between different Ministries and stakeholders through multi- and cross-sectoral collaboration, was emphasized as a great and impactful achievement. As one stakeholder said: "[Because of the project] all the sectors working together is a new thing… otherwise we would have divided and conquer [the work]...This was new and it was good and we liked it! We want to continue" (Government Implementation Partner).

Is the monitoring system in place to track the impact of the development intervention suitable in terms of its objective?

The Project comprised of a very high number of different intervention activities. While the progress reporting covered the important aspects of the Project (UNICEF, 2019, 2020c, 2021b), it did not fully reflect the richness of the Project. When reviewing the reports we also noticed that some results at output level were mentioned several times in different sections and repeatedly over time, indicating the need to more closely follow the output level definitions in reporting and the need for more clarity. Nevertheless, internal and external processes in regard to the Donor Report were followed and reports approved by SDC, according to one stakeholder.

When reviewing the UNICEF Project logframe (UNICEF, 2021a), which was provided to the Evaluation Team at the start of the evaluation and as part of the document review, we noticed different dated versions while the most recent dated version was in fact not the most updated (SDC Mongolia & UNICEF, 2022; UNICEF, 2021b, 2021c). Further missing definitions of scores for some indicators made it impossible to understand the progress measured. Most of the issues however could be clarified with further explanations from the UNICEF implementation team.

Overall the majority of indicators at outcome and output level were well defined and allow to monitor the progress of the project with a results-based focus. We particularly noticed the very ambitious impact level indicators set, namely 1) reduced prevalence of pneumonia amongst children under 5 years of age, and 2) reduced incidence of air pollution related pregnancy risks. With the onset of the COVID-19 pandemic and its effect on behavior (e.g. in regard to prevention) and consequently affecting the health of mothers and children, measuring the actual impact on the health of this target group was made impossible. The COVID-19 pandemic certainly impacted the reporting of the impact level indicators and resulted in some adaptations of Project interventions. COVID-19 is an airborne disease, leading to respiratory infection such as pneumonia; further preventive measures introduced due to the pandemic led to reduced transmission of airborne infectious diseases. Both aspects make it impossible to distinguish between the impact of air pollution on the incidence of pneumonia as a result of the project and COVID and measure it accordingly. While we learned that the effect of the COVID-19 pandemic was discussed among the UNICEF implementation team, the UNICEF Project logframe was not adapted to reflect these influences. It has however to be noted, that activities as a result of the pandemic were integrated into the Annual Work Plan for 2021 and 2022 and mitigation measures put in place, resulting in activities as also confirmed by stakeholders.

Further, and while CHIP did not exist in its form at the time when the logframe was developed, we were surprised to see that the CHIP intervention was only marginally integrated (see also UNICEF 2021c revised indicators). Nevertheless, CHIP should be seen as an unintended but very positive result of the Project.

Further, the Project had a strong focus on behavior change, though this was not captured in the M&E framework and the actual effect not measured - shortcomings which were also

acknowledged by the UNICEF implementation team interviewed. Overall, access and quality of data was mentioned as a challenge encountered by the UNICEF implementation team for setting and monitoring some of the indicators. Among the significant amount of research studies commissioned by the Project none seem to have directly informed the logframe and its outcome and impact level indicators with a focus on the actual *effect (or impact)* on the health of participants (e.g. CHIP leading to less burns among children; time series study in relation to coal ban with a focus on pre-term birth). The non-integration of the above listed points are considered missed opportunities by the Evaluation Team and partly undermines the usefulness of the UNICEF Project logframe for learning and steering purposes by the UNICEF implementation team.

The challenges identified in regard to the accessibility and quality of data required to monitor Project results, led to the Haze Gazer project and platform (UNDP Mongolia, 2020)[10] - a joint project by UNICEF and UNDP which started in 2020, collecting air pollution data including piloting approaches such as data generated by citizens. This should be considered as an example of an unintended but very positive development where gaps resulted in valuable actions.

When reviewing the documents we also came across a Theory of Change graphic developed on behalf of the Project Document (UNICEF, 2017a, 2021c), reflecting long-term visions and medium-term results, barriers to overcome and strategies to be applied by the Project. However, linkages between activities, outputs, outcomes and impact level were not integrated. When we asked the UNICEF implementation team whether the Theory of Change was used for monitoring and further adapted (e.g. revision after final design of the project by adding the activity and output level), as well as developing a descriptive text including causal linkages, rationales, assumptions, feedback and interactions between the different levels, we received differing responses: while one stakeholder mentioned that it was actively used, other said this was not the case. The Evaluation Team is of the opinion that with behavior change building an integral (and internal factor) of the Project and with COVID-19 leading to further change of behavior (as an external factor), a Theory of Change measuring the actual change over time and allowing for continuous adaptation and learning appears to have been a useful tool as part of the M&E framework of this Project.

Figure 7: Capital of Bayankhongor with gers

Which major factors have influenced the achievement or non-achievement of the expected results?

It was evident that the UNICEF implementation team was very successful in putting (indoor) air pollution and its health effects as well as possibilities to reduce related risks on the agenda of stakeholders, policy makers and the public. The coordinated efforts with partners on the different communication activities, trainings and campaigns support this finding. However, a few stakeholders and reports (Government of Mongolia, 2017; UNICEF, 2021c; UNICEF & RIVM, 2020), indicate that the "clean coal" message by the Government of Mongolia has the potential to slow down the further implementation of activities from the UNICEF project. Numerous studies have been carried out on behalf of the project supporting capacity building. However, UNICEF implementation team and other stakeholders mentioned that the capacity of national institutions

[10] https://www.mn.undp.org/content/mongolia/en/home/presscenter/speeches/2020/the-launch-event-for-the-haze-gazer-platform---a-public-eye-on-a.html

to carry out quality research, and especially analyze and present data, needs further and continued support. While it appears that the capacity to measure and interpret air pollution levels are sufficient, the combined analysis of air pollution data with health data on national level however is still challenging according to some of our respondents. The NRA is intended to further pave the way but was not yet approved at the time of this evaluation.

The UNICEF's Stock Take report (2021c) and several stakeholders mentioned that the multi- and cross-sectoral approach bringing people from different sectors, Ministries and departments, as well as donor groups together through various working groups was crucial to the Project success. The constant monitoring and support provided by the UNICEF implementation team was mentioned as valuable by a few stakeholders. Some indicated that this is (one of) the first project to integrate and target the health aspect of air pollution. According to stakeholders, getting health care providers on board was crucial in tapping the prevention potential regarding air pollution related health effects. Efforts to include activities in working programs, policy and budgeting were mentioned by several stakeholders as an important step to sustain activities and results. Hindering factors were frequent rotation of human resources on all levels, as mentioned by the majority of stakeholders. Capacity built was lost and new people had to get on boarded again, which slowed down continuous progress.

The various subsidy schemes on coal, coal briquettes and electricity make it difficult to prove whether the CHIP initiative will be a cheaper alternative to people living in gers, even though reports claim that (SICA LLC 2020, some stakeholders, UNICEF and RIVM 2020). Various stakeholders and beneficiaries commented on the electricity price and that beneficiaries might use coal again when electricity would not be subsidized anymore (UNICEF, 2021c). It was mentioned by a few stakeholders that activities in the SKHD district were not implemented as planned due to lack of funding.

On the output level it was observed that proper practice, use and maintenance of the various elements of the project will need further attendance. For example, it was not clear to which degree the IMCI and C-IMCI/C-MCH was put into practice in the field and if that resulted in better quality of care. The evaluation team observed a lack of knowledge and/or practice regarding the maintenance of the appliances reducing levels of air pollution (change of air filters in ventilation system, air purifiers, airing schemes). During the visits in kindergartens, health facilities and at CHIP households, it was noted that users were not aware of the fact that filters need to be exchanged regularly and it was not clear whether the ventilation systems and air purifiers were regularly used. Inclusion of consumables into the budgets was unclear. Overall, the COVID-19 pandemic was described as a disruptor of activities due to very strict lockdowns by several stakeholders. However, few stakeholders mentioned the need to improvise and find new communication channels as a positive effect. As pointed out by one stakeholder, introduction of low-cost devices for air quality monitoring in kindergartens and provision of ventilation systems constituted pilot projects; while some training was conducted more training is planned in the coming months and as confirmed by two stakeholders.

To what extent were the specific project products responding to the needs of target population, considering the socio-cultural, ecological and economic aspects?

In regard to Outcome 1 most stakeholders emphasized the success of the awareness raising activities about harmful effects of (indoor) air pollution on MCH. However, few noted that despite the provision of information, this did not always lead to behavior change (and here specifically adherence to instructions related to new interventions), and which remained a persistent challenge. One stakeholder mentioned that it is very difficult to convey the message to the poor in the ger districts due to the low education level. HCPs also mentioned lack of financial resources to continue the implementation of measures for reduction of air pollution exposure (e.g. use of masks, filters, CHIP). Thus to get from knowledge to behavior change or action is a challenge. It was noted that the AgaarNeg platform was not known by some of the stakeholders interviewed,

and among the few who knew about it not widely used. Dissemination of research findings and reports also could be strengthened as mentioned by few stakeholders. As mentioned above, the epidemiologic capacity to analyze the health impacts were deemed to be low and a coordination within the research community was desirable.

As for Outcome 2, and following the COVID-19 pandemic, the importance of clean and fresh air, especially in health facilities was acknowledged. Stakeholders and beneficiaries had learnt and considered a clean and healthy environment important. However, it seems that the continuous and proper use of the devices needs improvement (Ministry of Health, National Center for Public Health, & UNICEF, 2019) and knowledge did not automatically lead to behavior change. Few beneficiaries mentioned concerns of electricity use and its bills respectively, noise of the devices and air entering the rooms being either too cold or too hot and depending on the season. Also, there seemed to be a lack of knowledge, budgeting and responsibility regarding the maintenance of filters reducing air pollution exposure (e.g. change of HEPA-filters in air purifiers or ventilation systems).

Box 1: CHIP Case Study

CHIP Case Study – Best practices & challenges

The CHIP products are an innovative solution for cooking, heating and insulating a ger. The great majority of stakeholders were enthusiastic about it. The additional electric ventilation system with an opening in the door for letting filtered air into the ger additionally ensures that only filtered outside air penetrates the ger. 60% of the population in UB are living in ger areas. Studies of pollution sources show that household stoves in ger districts and heat-only boilers are responsible for 80% of all air pollution (Government of Mongolia, 2017).
Several socio-cultural, ecological and economic aspects were positively mentioned by stakeholders and beneficiaries supported by reports on CHIP (Braham WW & Hakkarainen M, 2020, 2021; People in Need, 2021; SICA LLC, 2020).

Socio-cultural benefits (see also p. 19 of this report)
The better living-environment was mentioned by all stakeholders comprising a more stable temperature and less workload (no need to recharge coal anymore evevery three hours) for mothers and women. This was thanks to the electric heaters, cleaner indoor environment due to replacement of the coals stove and no coal ash and improved health exemplified by less burns in children and anecdotal fewer hospital visits of previously sick children. This was also reflected in the CHIP household survey (People in Need, 2021, p. 22). The increase in CO-intoxication, often fatal, that seems to be related with the use of ‘refined fuel’ (i.e. briquettes) and improved insulation (UNICEF and RIVM, 2020) is resolved with the use of electric heaters.
The support of CHIP users via Facebook(page/forum) and the expertise of the Innovation Centre in BKH were mentioned by few.

Ecologic benefits
The effect of the product reducing the number of chimneys producing local air pollution, the energy-efficiency throug the insulation of the ger and the absence of toxic residues from coal burning addresses ecological needs according to some stakeholders.

Economic benefits
Less sickness of children, more time for women with increased potential for generating income, the uptake of CHIP into the green loan programme and local job creation for CHIP suppliers or the Innovation Centre or single mothers sewing insulation material were mentioned related to economic benefits.

Challenges that need to be addressed when scaling up CHIP

Reports and stakeholders mention the following challenges regarding the use and the uptake of CHIP.

Figure 8: Ger at the Innovation Center

Socio-cultural aspects:
An integral part of CHIP for energy efficient use of electricity reducing heat loss is the insulation of the ger. Users as well as reports mention the altered indoor air quality (too dry, too humid, steamy or muddy) that can be attributed to the loss of the high air exchange rate of the traditional ger and incorrect use of the ventilation system and airing habits (some beneficiaries, SICA LLC, 2020, People in Need, 2021). Indoor air quality did also not improve according to the measurements of indoor air quality by the University of Pennsylvania (Braham WW & Hakkarainen M, 2020). Few stakeholders also pointed out that with CHIP the traditional known living environment with the high air exchange and loss of the fireplace is lost. The behavior change regarding the regulation of the electric heater, the ventilation system and the payment of monthly electricity bills as opposed to buying coal for the whole winter once were mentioned as challenging.

Ecological aspects:
The energy loss and inefficient use of electric energy for heating due to improper use or installation of insulation or not-energy efficient heaters are challenges regarding the "green" aspect of CHIP mentioned by a few. Two stakeholders were concerned that the overall balance of CHIP regarding greenhouse gas emissions due to coal powered-electricity generation were negative. To promote CHIP as an energy efficient, greenhouse gas reducing product it was mentioned that the CO2-reduction potential of CHIP was unclear and should be explored to integrate it into relevant finance products (one stakeholder and (Enkhtur, 2020)).

Economic aspects:
The cost-efficiency of CHIP remains unclear: Some studies mention lower costs than for coal or wood (Braham WW & Hakkarainen M, 2020, 2021; SICA LLC, 2020), whereas CHIP users and a survey conducted by PIN mention high (perceived) electricity bills and unknown future use when subsidies on electricity ceize. A market economic comparison study was planned but had to be postponed due to the government fully subsidizing electricity bills with the on-set of the COVID-19 pandemic. The stability and capacity of the electric grid as well as the increased demand for electricity were mentioned as critical. Expected power outages are another barrier for continued use of CHIP. According to a report, the initial investment costs constitute a hurdle for poorer people and need to be addressed (Enkhtur, 2020, p. 20); this aspect was however not mentioned by beneficiaries likely due to the significant subsidies provided. Volatile prices due to dependence on import of materials for CHIP, concerns about continued quality (control) of products, a missing one-stop-shop outside of the BKH innovation centre, where the various elements of the product as a whole could be purchased (so far the different elements are offered by different providers), as well as questions on maintenance/support were concerns voiced

regarding the market readiness of the product. Investment costs and running costs were mentioned as economic barriers (see also Enkhtur, 2020).

Conclusion

Despite the above listed challenges and lessons learned, CHIP remains a very interesting and useful innovative solution to persistent air pollution challenges in gers.
In the short- to medium-term, additional efforts in sharing information on the correct use of CHIP at household level, leading to knowledge increase and behavior change measures, as well as further monitoring, remain important to ensure that the intervention is correctly used and sustainable.

Prior to advocating for national scale, the following pre-requisites could be identified:
1. A market economic study during the winter period and following abolition of the subsidies of electrical bills by the government providing potential evidence of its cost-effectiveness for end-users. This may also allow to convince the government in its benefits to reduce the persistent air pollution and consider to shift subsidies from coal briquettes to CHIP subsidies;
2. Expansion of the electric grid, which is required to ensure reliable availability of electricity;
3. The different required elements for CHIP, including insulation material, electrical heater and spare parts, cooking stove and ventilation system should be readily available as a package.

While CHIP should be further promoted at local level and where financial support and interst is available; advocacy for and roll-out at national level requires additional medium-term steps and larger funding beyond this Project. If the above pre-requisites are fulfilled and study outcomes can demonstrate the positive economic effects, an advocacy campaign could be launched to convince the central government of its benefits regarding the reduation of air pollution and its negative impact on health. Further it would allow the central government to significantly contribute to Mongolia's comittments to reducing its CO2 emissions in line with the Paris Declaration.

3.4 Efficiency

How efficient was the project (focus on cost-effectiveness, timeliness, quality of services and products, operational efficiency)?

Quality of services and products

Overall the quality of services was perceived as good, this was particularly true for the trainings provided, as also reflected in the evaluation of the trainings by the Mongolian National University of Medical Science (MNUMS)(MNUMS, 2020, 2021). One stakeholder emphasized that the public awareness facilitated by UNICEF was of good quality and overall all involved partners seemed satisfied with the outcomes of the communication activities. Training material, the essential medicines and the CHIP product were especially praised by some stakeholders. The management of the project with weekly meetings of cross-sectoral working groups was particularly well received at the local level and the quality of support and advice provided by the UNICEF implementation team was rated high. From the answers of stakeholders it was not always entirely clear to the Evaluation Team how much of the results were shaped by the UNICEF implementation team or their consultants and organizations contracted for the Project, which can also be positively attributed to a certain degree of ownership. Regarding the use of the learnt and the proper use of appliances it was noted that support and repeated training should be continued.

Timeliness

The responsiveness of the UNICEF implementation team or contracted consultants in case of problems was favorably mentioned by a few stakeholders. The change of strategy regarding the training of trainers or the selection of who to train as CHW after understanding the problems of high turnover of staff on a certain level (see also stock take report (UNICEF, 2021c)) exemplifies the learning abilities of the project organization.

Several stakeholders mentioned that the rotation of staff at the Governor's office (e.g. one position was replaced three times since the project started) led to challenges and delays.

Further, the COVID-19 pandemic led to significant delays in implementation of activities: the attention at decision-making level was diverted towards the pandemic, while departments in hospitals were converted into COVID related wards and kindergartens were closed over a long period of time. Further few stakeholders mentioned that also the local budgets was reallocated due to COVID-19 and trainings on behalf of the Project had to stop. Overall however stakeholders were content with the timely response to the pandemic by the UNICEF implementation team.

Value for money

Stakeholders involved in the project mentioned that the benefits achieved outweighed the costs (e.g. investment of time and efforts), since "a children's life cannot compare to any price" (Central Government Stakeholder). It was evident that personal gain of knowledge and capacity was valued highly. However, a few stakeholders also mentioned the high extra workload through the project that had to be tackled on top of the usual work, which was perceived as challenging and will be challenging in the future, unless integrated in work programs.

Few stakeholders and the UNICEF Annual Report 2021 (UNICEF, 2021b) critically mentioned duplicate efforts regarding research work and the NRA, which have been attributed to a lack of coordination and timely intervention, which is outlined in more detail in Chapter 3.7, Good governance.

Operational efficiency

Depending on the stakeholder, respondents voiced that the operational efficiency by the UNICEF implementation team varied from improvable to good or excellent. While the change in staff among the UNICEF implementation team was mentioned, the majority of stakeholders did not feel that this had a negative impact. Particularly the project manager was praised for her timely support and high commitment; further one stakeholder mentioned that particularly in the later phase of the project and with the final team set-up the technical capacity was strong and collaboration was particularly smooth. Few mentioned that despite a strong focus on health public health expert, fully dedicated to the Project and in charge of the activities appeared missing. The initial position was however filled by two external consultants bringing the needed expertise on C-IMCI and to develop the APPP, and strongly supported by the Health Team of UNICEF.

Cost-effectiveness

Single stakeholder mentioned that work with a UN organization is quite costly and activities have to take several administrative hurdles e.g. for a contract to be developed and approved. However, the set-up complementing the UNICEF implementation team with UNICEF internal staff and several external consultants was a mean to increase cost-efficiency. One stakeholder, when asked if the project activities could have been produced at a lower cost, put it like this: "We tried to make it cheaper [in SKHD district due to lack of funding] but it was almost a failure" (Local Government Stakeholder). Overall, stakeholders appreciated the expertise provided by UNICEF staff in charge of the project, additional UNICEF expertise provided from other departments and the additional funds mobilized, all contributing to cost-efficiency. With activities resulting in policies sustainability of some parts of the Project could be ensured. Stakeholders uniformly agreed that

the Project activities were cost-effective and could not be done at lower cost with the same quality delivered.

What changes occurred in terms of living standards for the target groups addressed by the Project?

Numerous stakeholders, including direct beneficiaries, reported of mainly positive changes regarding the living standards of the target group, while negative changes were mentioned only by few.
Among those respondents who commented on the CHIP intervention, the large majority reported of improved living standards for those living in ger; also supported by the document review (Braham WW & Hakkarainen M, 2020, 2021; Enkhtur, 2020). This ranged from a cleaner environment due to the reduction of ashes, better IAQ, and having to spend less time on making fire and maintaining a warm temperature. One respondent said that "kids can be kids again and play without the risk of getting burned", as well as "life is easy again". Few direct beneficiaries mentioned the increase in electricity costs and lack of clarity if they can pay the bill once subsidies for electricity will end. These concerns have also been described in a report: “Some families have mentioned that the electricity bills after installing CHIP have increased significantly ranging from MNT 80,000-160,000 per month, during the winter. Some families also claimed that the electricity bills resulted in higher amounts after the installation of “smart electricity meters” by the local government. While some families believe that installing CHIP could be a potential burden to the family expenses, many families actually believe that the costs are similar to how much they used to spend for the purchase of coal (Enkhtur, 2020). Further, some respondents mentioned the decrease in the air quality within the ger - however, this can likely be attributed to the wrong use of the ventilation system, which was not used in this case.

With the introduction of insulation and ventilation at kindergartens, the living standards of those spending time in the buildings has increased. Interviewees reported of warm and stable room temperatures, leading to a better work environment (e.g. no longer having to wear several layers of thick clothes), and reduced sickness among staff and children. One respondent said: "I could notice that I became more peaceful and calm. ...but with coming to the new kindergarten I was less stressed. ... Before I had to worry about their [children's] health as well. But through the project I was relieved from this burden."

3.5 Impact

Are there any positive (or negative) impacts of the project (e.g. best practices, change in perception/behavior)?

The vast majority of stakeholders were of the opinion that the project has resulted in many positive effects. Raising the awareness by introducing the population to the connection of the impact of air pollution on the health of people and increasing their knowledge was particularly highlighted as a positive impact. Interviewees reported that increase in knowledge and awareness led to changed behaviors (e.g. at individual level: buying and use of indoor filters; no more us of spray bottles, banning of smoking indoors; spending time outdoors and near rivers, use of CHIP; e.g. at health facility level: provision of information on the impact of air pollution on health to caregivers), both at the level of direct beneficiaries addressed by the project but even beyond the project's target group at stakeholder level. Stakeholders also mentioned that regulations approved or under development as a result of the Project will yield in sustainable impact on the health of mothers and children.

CHIP as an innovative approach to introduce risk reduction measures related to air pollution at household level and reaching vulnerable populations living in ger - developed from an initial idea to a core element of the Project, was also perceived as a highly impactful intervention (see Chapter 3.6). Various stakeholders - from decision-makers to implementers – strongly supported

the implementation of this Project intervention; this even led to the uptake of CHIP in two additional provinces which were not part of the Project initially and constitutes an unintentional but highly valuable positive development. The development of CAAPs in the provinces where the Project was implemented, was unique. Integration of CHIP into CAAPs including allocation of local budgets beyond the Project's timeframe will positively impact mothers and children living in ger. Overall however, action plans at provincial level target the overall vulnerable population (including mothers and children, but also the elderly, unemployed or disabled) with no specific focus on mothers and children. Accordingly to one stakeholder, CAAPs reflect the implementation of the national programme for reducing air and environmental pollution at the provincial level (and not the Project's overall goals and objectives) and mothers and children are not specifically mentioned in Mongolian policy documents but commonly summarized by vulnerable groups.

Does the project have a positive effect on maternal and child health (e.g. due to the policies, services, products in place)?

Respondents including healthcare providers, reported of observed better health outcomes (e.g. such as less burns; faster recovery among children from CHIP households; decreased severe outcomes), resulting in an overall positive impact on the health of children and mothers. As one respondent said:

"Before the project (start) my child was two years old. Although I am a doctor I did not know about it (i.e. harmful effect of air pollution on maternal and child health). I was afraid...when I listened to the information I got stressed and depressed. Because I am a mother I felt very anxious about it. And I understood that although I cannot stop the exposure (myself) I can reduce the exposure. I bought an air purifier. I now have filters in my windows and even have an air purifier in my car. I also bought one for the kindergarten of my child."

Further, the health interventions were reported by some to have a positive impact on the health of mothers and children, such as the provision of the flu- and pneumonia vaccine, the availability of essential medicines and through CHW visits. Several stakeholders reported of overall decrease of child morbidity in the target provinces, as was also reflected in the logframe and its impact indicator on pneumonia among children (UNICEF, 2021c). Multiple stakeholders however also mentioned, that they have no *scientific* evidence of the actual impact on the health of mothers and children they observed and which can be clearly attributed to the project (see Figure 9, showing a general decline in pneumonia cases across provinces). Whether activities resulted in actual health impact has to be interpreted with caution due to COVID-19 being an airborne infectious disease with the possibility to result in pneumonia and making it impossible to distinguish between causes of pneumonia and the related impact of air pollution. Further COVID-19 measures were put in place during Project implementation (resulting in wearing of masks, isolation, closure of kindergartens and schools in early 2020, closure of borders and reduction in hospital visits); further a relatively low sample size of CHIP households poses a challenge to achieve statistically significant health impact results. However, results from a case-control study conducted by the National Center for Public Health (NCPH) among CHIP and non-CHIP households are expected shortly after this evaluation is completed and may provide further answers in regard to the impact on health as a result of the CHIP intervention.

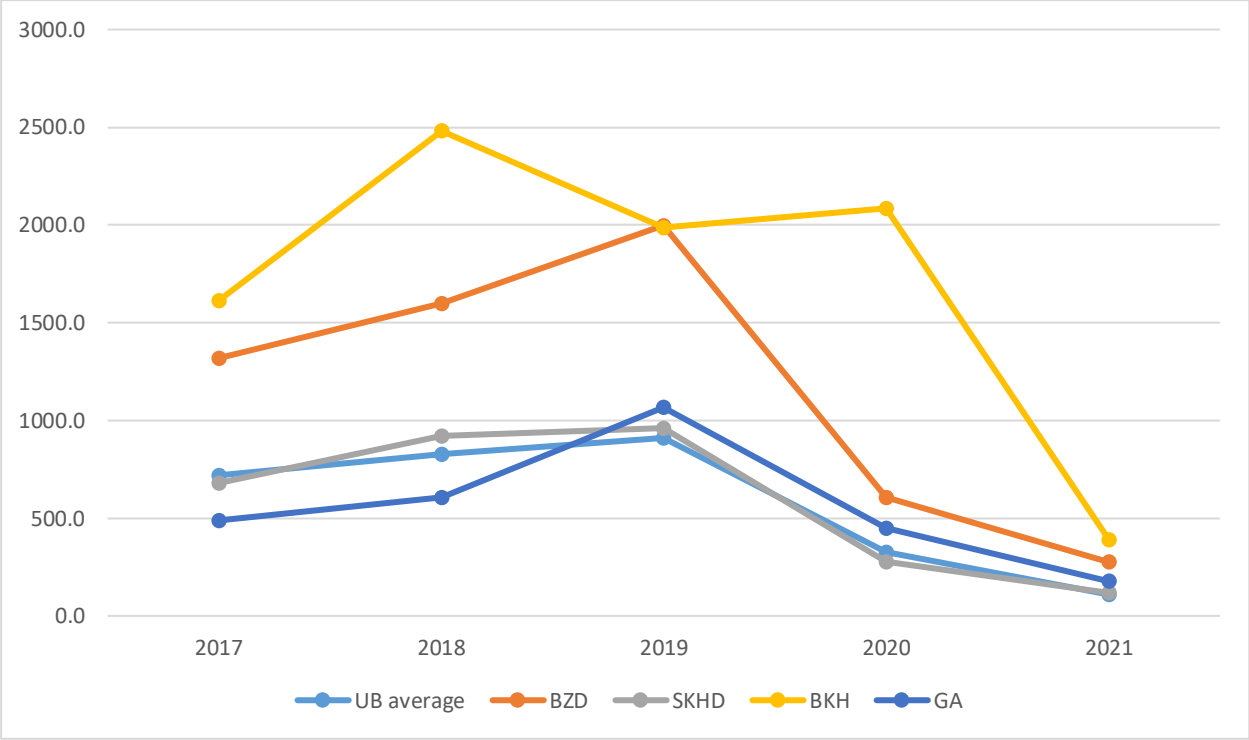

Figure 9: Pneumonia prevalence per 10000 children under 5 years old (outpatient and inpatient). Data source: Health Development Center, Health Statistics Division, Ulaanbaatar.

Some reports on CHIP also warned about possible electricity outages in the future due to instable grids and insufficient grid capacity: “At current, demand levels 20 MW would be enough for all the gers, though the demand would be more than 75% of maximum capacity. This might result in non-constant voltage in the grid. Furthermore, the industrial activities in the areas around BKH (additional mines, HOP [heat-only boilers]), and the increase in use of electrical appliances in the households may likely lead to shortages in the near future. Aiming at 40 to 50 MW installed power might prove to be a more realistic goal.”[…] When electricity is the basis for heat services during the winter a blackout or brown-out (still some power but far from enough (lower voltage)) will create an emergency for the CHIP ger dwellers especially when this condition last for more than a few hours.”(UNICEF & RIVM, 2020).

3.6 Sustainability

What evidence is there that the achieved effects will continue after the completion of the project?

Some effects will/have high potential to sustain after the completion of the project. Examples include the reported change of mind-sets regarding the impact of AP on health, leading to behavior change; the dissemination of information and knowledge on the topic of the risk of air pollution on health through e.g. young people through scout activities (see also p. 25) and the youth parliament which will be continued through financially sustained joint efforts of UN organizations and the parliament itself[11]/NCREP and by HCPs/CHWs; the measurement of air pollution levels leading to increased awareness and allowing for accountability action; the integration of risk reduction measures into policies (CAAPs, Air Pollution Action Plan 2021-24; building codes approved) and integration into local budgets, leading to activities and allocated budget by government entities beyond the project's life cycle. Some stakeholders voiced that

[11] The Evaluation Team was informed by one stakeholder that PIN together with UNICEF submitted a co-funding proposal at the time of the evaluation to further sustain the efforts.

actual enforcement of policies however needs to be ensured. An example provided by stakeholders was the need for the actual implementation of new building codes translating into capacity building in regard to functioning ventilation systems or and training to control building plans needs to be insured.

Some effects will partially sustain - with further investment (e.g. time, budget) it is likely that they can be fully sustained. Examples include the proper use of CHIP/air purifiers/ventilation systems and related maintenance, leading to reduced exposure to air pollution (e.g. in kindergartens, at household and health facility levels). This will require further learning, increase of acceptance and the needed behavior change among direct beneficiaries at households, health facilities and kindergartens. While some stakeholders emphasize the benefits of multi-sectoral collaboration for effective planning and implementation, and want to sustain it beyond the project's life cycle, two stakeholders voiced concerns about the sustainability due to competing priorities.

Based on our findings from interviews, the extent or continuation of some effects will likely not sustain unless Project activities are further embedded into existing systems. Examples include the capacity building of HCPs due to high rotation. The continuation of the implementation of the Air Pollution Preparedness Plans (APPP), allowing for better planning and implementation of air pollution related activities at the healthcare level, may likely not sustain if resources/time of staff remain limited. Lastly, the budgeting for essential medicine and commodities to treat vulnerable sick children requires planning and integration.

Can the partner institutions and involved stakeholders (target group) continue the activity independently (existence of financial resources)? Which project's element should be taken over/taken up by/with other stakeholders?

Relating to Outcome 1, the capacity building to generate and disseminate evidence independently and beyond the Project's life cycle generated mixed findings. While some activities will clearly continue independently and have the required financial resources (where needed) to do so, for other Project activities this remained less clear.

Regarding the generation of evidence and data, stakeholders were positive that the generation of Mongolia specific evidence and dissemination will continue. This includes e.g. the continuation of research on the topic and in collaboration with established international partnerships, as well as the dissemination of evidence. However, the lack of financial resources and rather weak capacity to analyze and interpret data - especially on the complex association of health effects of air pollution on MCH in Mongolia - was mentioned as a challenge by several stakeholders. Additionally, a few stakeholders saw potential for improvement regarding the exchange, transparency and collaboration among national and international researchers in the field; the approval of the NRA, as well as regular exchange among researchers in the field, will help to overcome this

Figure 10: Youth advocates and their teacher in Bayankhongor presenting during the Delegation Visit on 22 March 2022 (included with permission)

challenge. Further, the AgaarNeg platform will be managed and funded by NCREP beyond the Project.[12]

Institutions involved in the training of healthcare providers were eager to continue with the training and had the technical capacity to do so; the importance of the continuation of the training was also voiced at the government level, the financial resources and overall responsibility to continue the training however remained unclear. Further the contextual factors in regard to high rotation rates within some facilities poses a challenge and needs to be addressed (e.g. through shorter, on-the-job and digital trainings). Another example is the BAM station and measurement. The person in charge received capacity building and works independently, whereas the National Agency for Meteorology and Environmental Monitoring (NAMEM) took ownership of the measurements and beyond the Project ending. NAMEM voiced ownership about the maintenance of the sensors (which have a limited lifetime), whereas NCREP showed willingness to provide financial support if being approached. The involvement of young people on the topic will continue independently. This includes for example the scouts in Mongolia who will embed the topics of air pollution and impact on health into their badge system, ensuring that activities will continue independently and are sustainable beyond the Project timeframe, while no additional budget is required.

Focusing on Outcome 2, some of the activities related to the risk reduction measures at community level will very likely continue independently by the involved stakeholders, while the continuation of few activities seem to be at risk.

Examples for the continuation include the appreciation of insulation and ventilation at kindergartens and the development and approval of building codes, anchoring standards at national level. Further, two stakeholders reported of an approved decree related to home-visits conducted by Community Health Workers, while one stakeholder mentioned the current development of a draft ministerial order at the time of the evaluation, including the provision of a small salary to CHWs (who were at the time of the Project working on a voluntary basis). Should this order be approved and costs for the training of CHWs' integrated into local budgets, CHWs' services are perceived to have high potential to continue independently.

As outlined in the logframe, the Project aimed to embed the topic of the impact of air pollution on the health of mothers and children into pre-service training of various health disciplines. While two stakeholders mentioned that this was in the planning and we could identify the integration of the topic of air pollution into newly developed plans, we were unable to verify the integration of the impact of air pollution on maternal and child health as a stand-alone topic into the curricula for the new term in 2022; further integration of in-service (i.e. postgraduate) training into the Continuous Professional Education scheme was planned according to one stakeholder. Stakeholder interviewed appeared motivated to continue the capacity building and should embed the topic into the system be successful there is a high chance to continue the activity independently and generate sustainable impact for future generations of HCPs. However, stakeholders also mentioned the unavailability of budget to continue the actual training of in-service HCPs; while some looked towards NCREP for financial support, others suggested the MoH to be in the lead.

As voiced by some stakeholders, few activities will likely not continue independently after the ending of the Project. This includes translating the implementation of the APPP into action due to a lack of resources and time from staff; further the planning for essential medicines was not yet integrated into annual budgets at facility level and it seemed to lack ownership.

[12] The Evaluation Team was informed by the UNICEF implementation team, that a new officer was approved by NCREP in April 2022 and resonsible for the management of AgaarNeg

As part of Outcome 3, risk reduction measures related to the impact of air pollution on health was successfully integrated into important national and local action plans (examples include: CAAP, Air Pollution Action Plan 2021-2024; National Programme for Reducing Air and Environmental Pollution 2017-25); while target recipients were defined as the vulnerable population, with mothers and children no longer being in the center of attention. Based on the interviews with stakeholders and the document review, Governor's took clear ownership over the independent continuation of CHIP at aimag level, and through the integration of CHIP into the CAAPs and budget allocation providing subsidies for CHIP recipients in the future. According to stakeholders the integration of CHIP into the green loan category list and work on availability of financial support / loans will further allow to continue with the CHIP. The CHIP initiative is potential to be integrated into a program for the Green Climate Fund (GCF); however, as mentioned by two stakeholders and confirmed by a report, the greenhouse gas emission reduction potential of CHIP needs to be analyzed and verified (Enkhtur 2020). UNICEF representatives from the UNICEF implementation team as well as the stock take report mention that some activities will be continued and continuous efforts to mobilize additional funding have been and will be made beyond the project time frame (UNICEF 2021).

Which socio-cultural, institutional, ecological, financial or technical measures could be implemented to increase the chances of the development intervention having a sustainable impact?

As for Outcome 1, stakeholders particularly emphasized the importance of the approval of the NRA allowing for better coordination and priority setting to generate further needed evidence from the Mongolia context. With a change of responsibilities within the MoET a closer follow-up is required to identify potential bottlenecks and provide the needed support. In addition, increased coordination between the different research institutions on the topic of air pollution and health was voiced by several stakeholders and beyond the high-level meetings.

The AgaarNeg was well perceived among higher-level stakeholders; however not many of the stakeholders interviewed knew about the platform and particularly those conducting research on the topic had never heard about it; more dissemination and advocacy to upload information - including the invitation of researchers to actively share research results - is required from the side of NCREP and involved partners.

In regard to capacity building the sustainable impact showed mixed results. For example, among two stakeholders interviewed, who had received research related training, only one was actively using what was learned; HCPs interviewed reported that they remember 30-40% of the content, while at one facility all of the HCPs who had received training through the Project had already rotated elsewhere. Shorter and more frequent training - possibly in a digital format - and adapted to the institutional realities of high rotation of staff at health facilities, including peer-to-peer approaches, could be an option to overcome the challenge and increase sustainable impact.

As for Outcome 2, several socio-cultural, ecological and financial challenges related to CHIP were described in more detail in Chapter 3.3. Stakeholders interviewed particularly emphasized the need for more clarity regarding the expenditures for households and cost-efficiency through a market research study and which was also reflected in reports (Enkhtur, 2020; UNICEF & RIVM, 2020). Some stakeholders interviewed suggested to replace the coal briquettes subsidies by CHIP subsidies at state level; emphasized the need for local and more ecological production of insulation material for ger and local production of heaters; better clarity on cost-efficiency; as well as the need for behavior change was mentioned by numerous respondents to better adapt to ecological, financial and socio-cultural needs and increase sustainability. Furthermore, the bigger picture of overall greenhouse gas emissions was mentioned by a few stakeholders, criticizing the coal based electricity generation. As of the implementation of the APPP at health facility level, the need for more additional resources (i.e. time, staff) was mentioned by some HCPs.

As for Outcome 3, the value of multi-sectoral collaboration was mentioned by numerous stakeholders at aimag-level. However, several stakeholders explained that multi-sectoral collaboration is not culturally embedded in Mongolia and there is need from the UNICEF implementation team to further sustain the set-up.

Are the changes at people's level sustainable? If behavior change was achieved to what extent is the behavior change sustainable?

As mentioned earlier, one of the major achievements of the Project was the increase of awareness of the impact of air pollution on health and the associated behavior change. This was not only observed among direct beneficiaries targeted by the project but also positive and unintended results could be observed beyond the Project's scope, positively influencing the behavior of involved stakeholders. Respondents reported of an overall change of awareness at the government level, leading to higher commitments; at the community level and direct beneficiaries' level; an example includes reported change in behavior among HCPs after having received capacity building, and who either banned indoor smoking or even moved to a less polluted area within the soum. These intended and unintended behavior changes appear to be sustainable even beyond the Project's life cycle.

The extent of the intended behavior change achieved at the various intervention sites (CHIP household, kindergarten, health facility) varied. While e.g. some CHIP recipients adapted well to the new system, several struggled in using CHIP correctly to attain desired efficient use of energy and improvement of indoor air. At the two kindergartens visited, benefits of the insulation and ventilation led to a reported behavior change. The contrary was the case when it comes to the use of the air purifiers installed at one of the health facilities visited. The Evaluation Team noticed that none were plugged in, despite consultation rooms being attended by HCPs; an observation also supported in the KAP survey: "Among the participants who had air filter in the office room, 79.7 percent (51) from Health Centers (HCs) and 70.7 percent (331) from Family Health Centers (FHCs) never use it" (Ministry of Health et al., 2019).

Figure 11: Air purifier unplugged in one of the facilities visited by the Evaluation Team

3.7 Transversal themes

How adequately were issues of gender and good governance addressed across the project interventions? How did it contribute to the achieved results?

Gender equality and good-governance constitute transversal themes and are central elements of the Swiss Cooperation Strategy 2018-2021 in Mongolia (SDC, 2017). Gender issues shall be addressed "…in all projects through a focus on equality, equity and inclusion of women and men, as well as the analysis of sex disaggregated data. Equal access to assets and knowledge, and balanced participation in project processes and decision-making are supported" (p. 15). Good governance includes accountability, transparency, participation and efficiency.

Gender equality

By nature, the project design targeted specifically women and children. For Outcome 1 (capacity building), stakeholders who conceptualized training material uniformly confirmed that content was gender neutral and inclusive of e.g. both mothers and fathers; our review of some of the training material confirmed this finding. Training recipients were disaggregated by sex as mentioned by

one stakeholder. For Outcome 2, women and children were particularly reached, as mentioned by the majority of stakeholders. Examples include the health interventions as well as the CHIP installation, particularly decreasing the burden on women, who are traditionally responsible for the fire in the gers. However, through the criteria applied for eligibility of CHIP and particularly among the elderly population, both men and women were reached. The M&E system did not report on disaggregated data by sex, neither at the impact nor outcome level (UNICEF, 2021c) and did not enable to showcase the extent to which e.g. women were involved and benefitted from the project, or differences on health impact by sex of children. As highlighted by one stakeholder however, gender-disaggregated data is available e.g. on trainings and workshops received or CHIP beneficiaries; however, local governments do not always provide gender-disaggregated results.

Good governance

The majority of stakeholders highly appreciated the coordination efforts by the UNICEF implementation team. This was particularly emphasized for Outcome 3, and the set-up of various Technical Working Groups, and the Project Steering Committee, as well as support in the set-up of multi-sectoral collaborations e.g. at the aimag level. According to the large majority of stakeholders, the coordination provided by the UNICEF implementation team substantially contributed to the achievement of results. The establishment of the AgaarNeg platform was perceived as a useful source increasing access to information and consequently also serving as an accountability tool, as mentioned by few stakeholders. For Outcome 1, a case of complaints was raised prior to the evaluation and related to the development and potential duplication of work related to the NRA (UNICEF, 2021c). The case was handled in collaboration with the Swiss Compliance Office and solved with SDC during the project implementation. As outlined by several stakeholders interviewed, and also described in the UNICEF Annual Report 2021 (UNICEF, 2021b), the reason was perceived to be a lack of coordination and timely reaction from the side of the UNICEF implementation team. In regard to potential duplication of work, the few stakeholders who could comment on the topic explained the difference between different products developed on this topic: while the first study (not part of this Project) provided an overview on the evidence of air pollution impact on maternal and child health at an international level, which resulted in a publication of a brochure on scientific evidence and key messages for the public (Ministry of Health et al., 2020), the second study provided an overview on existing studies at the national level and identified research gaps (Lodoisamba, 2019), whereas the third document and NRA currently pending approval[13], provides an overview on research and projects done and priorities regarding future research on air pollution at national level (Contractor: National University of Mongolia, 2021). It needs to be mentioned that the Evaluation Team had only received Mongolian versions of the documents, which made comparison challenging. Further and despite numerous follow-ups, the Evaluation Team was also not able to talk to the newly appointed person in charge of the NRA. From the translation of table 11 on future research topics in the report, it was noted that the study of impacts of air pollution on the health of the Mongolian population receives less weight than other research areas such as monitoring, modeling, source apportionment and research on reduction measures or technologies. It however needs to be mentioned, that the research priorities set for this Project aimed to be complimentary to support the National Programme on Reducing Air and Environmental Pollution. From an advocacy point of view, such studies are powerful tools to convince stakeholders from various sectors and levels and ultimately policy makers to take action against air pollution.

[13] See footnote on page 12.

Table 2: Translation of table 11 regarding future research topics of the NRA (Contractor: National University of Mongolia, 2021).

Direction	Scope	Order	Research Topic
Impact assessment of air pollution policy, legislation and actions	Law / resolution on air	1	Improve air quality management
	Policy document	2	Investigate the social and economic impact of air pollution
			Preliminary public participation study on air pollution reduction measures
	Standard	3	Improve and update emission standards
			Monitor and update air quality standards
Air pollution monitoring	Ambient air quality monitoring	1	Predict and report air quality
		2	Audit Ulaanbaatar and local air quality monitoring networks and develop recommendation
		3	Research on the use and scope of satellite data for air quality monitoring
Identify sources of air pollution	Composition and main sources of air pollution	1	Determine the source of air pollution based on the study of the composition of air pollutants
	Emission calculation	2	Estimation and study of air pollutant emissions
Engineering and technological solutions and measures to reduce air pollution	Promoting green energy, clean energy and reducing emissions	1	Research on energy, heat source emission reduction solutions, efficiency, cost and benefits
			Study on the effectiveness of measures to reduce emissions from mobile sources
	Economic incentives	2	Reduce air pollution by promoting green procurement
	Green infrastructure development	3	Reduce air pollution by improving urban infrastructure and develop optimal urban planning solutions
Health effects and exposure	Indoor air and workplace exposure	1	Investigate indoor air pollution according to the environment, location, and industry, and disseminate it to the public
	Diseases caused by air pollution and ways to reduce them	2	Air pollution exposure and health impact studies
	Civil education	3	Opportunities to reduce exposure by improving civic education
Air pollutants	Distribution, transition, modeling	1	Study of horizontal and vertical distribution of air pollution, chemical and physical transitions
	Climate change and air pollutants	2	Investigate the effects of air pollution on climate change
	Impact of air pollution on ecosystems	3	Study the impact of air pollution on the viability of urban green spaces and develop recommendations for selecting and planting resistant trees and plants

	Contamination composition, level, toxicity, Dry and wet precipitation	4	Carry out air pollution level, composition and toxicity studies in cities, towns and mining areas

One stakeholder mentioned that more could have been done to coordinate among the various institutions involved in capacity building for data and evidence generation, and research studies should have been more openly tendered. In regard to the transition of the coordination and Project activities, interviews showed a mixed result, which may also be due to the fact that the Project is still running until the end of 2022. While transition of some output related activities were clear (e.g. AgaarNeg; CHIP including integration into action plans (CAAP) and allocation of budget over several years at aimag level, NGO status and continued financing of the Innovation Centers etc.), the transition of other activities at output level were less clear; for example some HCPs were not aware of the ending of the Project in 2022 and continuation of external support to implement the APPP or responsibilities to budget for essential medicines in the future and as provided on behalf of the Project, was unclear.

To what extent does the project promote inclusion of the most excluded/vulnerable mothers and children?

Based on the document review the Project defined "preschool children and pregnant women as the most vulnerable to air pollution" (UNICEF, 2017a); further defined criteria were used to reach the vulnerable population by specific project interventions (i.e. Outcome 2, namely CHIP and health interventions). When asking the stakeholders, they uniformly agreed that mothers and children belong to the vulnerable population and particularly those considered poor or unemployed; living in ger areas and/or remote areas; those not officially registered; single mothers; mothers with several children; disabled mothers/children; and elderly living in ger were also frequently mentioned. Criteria were put in place to identify vulnerable beneficiaries, such as for CHIP or essential medicines. Those stakeholders who could respond to the question felt that with the criteria applied (by the FHCs / Governor's office and Innovation Center) vulnerable mothers and children could be correctly identified. One respondent voiced concern that criteria were not applied at the beginning of CHIP implementation leading to the inclusion of non-eligible recipients – a finding which could not be triangulated.

While the most vulnerable caregivers will continue to be reached according to our respondents (e.g. through the provision of information; essential medicines), some voiced that with the provision of CHIP the most vulnerable and excluded could not be reached. As one stakeholder said: "I they cannot afford CHIP, they cannot afford the electricity". However, others were clear that reaching the most vulnerable with CHIP was never aimed for.

4. CONCLUSIONS

Questions addressed the different OECD-DAC criteria, as well as the transversal themes of gender equity and good governance. Based on the findings above – and informed by stakeholder interviews and the document review through triangulation – we established a rating for each DAC criteria outlined below. The scale ranged from 1. “unsatisfactory”, to 2. “unsatisfactory to satisfactory”, to 3. “satisfactory”, to 4. “satisfactory to highly satisfactory”, to 5. “highly satisfactory”. A highly successful project is one that fulfills all DAC criteria at highest scale. Find below a spider web illustrating the achievements of the Project, as well as the related conclusions.

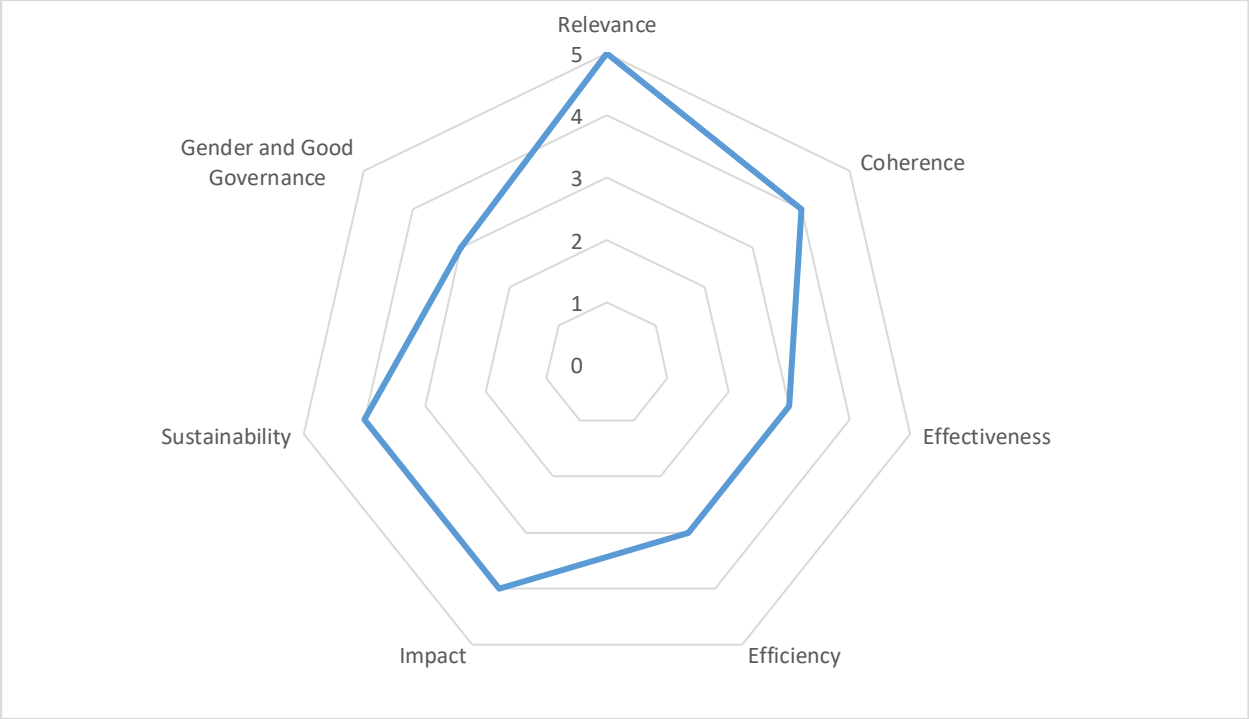

Figure 12: Spider web of the conclusion's rating, reflecting the DAC criteria

Table 3: Conclusions in line with OECD-DAC Criteria and justification.

OECD-DAC Criteria & Rating	Justification
Relevance: Highly satisfactory	The objectives of the Project are and continue to be highly relevant in the Mongolian context. The project achievements align and respond very well with the needs and priorities of the target group as well as the overall population in Mongolia. The large majority of stakeholders interviewed consider the Project as relevant or very relevant; this is confirmed by the document review and research studies conducted on this topic.
Coherence: Satisfactory to highly satisfactory	In regard to internal coherence, the project is consistent with SDC's engagement for Clean Air for All, as well as its Global Programme Climate Change and Environment. Further, it aligns well with the Swiss Cooperation Strategy 2018-2021 for Mongolia and the UNICEF Strategic Plan 2018-2021. Overall, the Project was unique in its approach to address the direct impact of air pollution on maternal and child health. In regard to external coherence the Project (and namely its CHIP initiative) inspired Governors from other provinces to implement CHIP. A collaboration and co-financing of the refurbishment of kindergartens between SDC and GIZ underlined these synergies. Further, UNICEF spearheaded the Development Partners Working Group focusing on the impacts of air pollution and allowing to further explore synergies for collaboration.
Effectiveness: Satisfactory	The Project appears on track to reach the majority of its targets at output and outcome level and with continued efforts for some activities and with its phase-out by December 2022. However, some aspects

	require further attention, extra efforts and close follow-up. These include for example the sustainability of interventions at the health facility level, as well as pending approval of the National Research Agenda. Stakeholders mentioned many positive results at all three Outcome levels. Particularly the replication of CHIP in other provinces showed that the piloting of this innovation was timely and filled an urgent gap regarding the important contribution to air pollution caused by coal burning and inefficient use of energy in gers / ger areas. However, the scale-up of CHIP poses several challenges spanning from market-readiness to proper use for maximum exploitation of the energy saving potential (see Chapter 3.3). Most stakeholders emphasized the great support received by the UNICEF implementation team and the technical expertise by UNICEF staff was highly valued. One of the major achievements of this Project is certainly the awareness raising regarding the impact of air pollution on health, resulting in increased knowledge and actual behavior change - even beyond the Project target audience.
Efficiency: Satisfactory	Stakeholders confirmed that the quality of services and products, including the capacity building, implementation of CHIP, training of healthcare providers and essential packages, as well as facilitation of collaborations and working groups was of high quality. Despite major challenges due to the COVID-19 pandemic interviewees felt that the UNICEF implementation team has responded timely. Almost all stakeholders mentioned that the benefits achieved outweighed the costs invested. The opinions regarding the operational efficiency varied greatly depending on the collaboration. The great majority however felt that the efficiency was good to excellent. Overall, few respondents voiced that working with UN organizations is costly but at the same time respondents felt that the interventions could not have done at lesser costs without compromising on quality. It however has to be mentioned, that all contracts were made based on the UNICEF procurement policy.
Impact: Satisfactory to highly satisfactory	The vast majority of stakeholders were of the opinion that the project has resulted in many positive effects. This includes e.g. CHIP, which developed from an innovative idea to a core element of the Project and resulted in uptake and implementation in additional provinces beyond the Project. Further, respondents reported of observed better health outcomes (with an emphasis on children). The Project had set impact indicators; however, due to the COVID-19 preventive measurements put in place it is not possible to clearly attribute the improvements in child health to the Project activities. This rating is therefore based on incomplete information.
Sustainability: Satisfactory to highly satisfactory	While some of the activities and effects will sustain or have a high potential to be sustained after the completion of the project, a high number of effects are partially sustainable and have high potential to be sustainable if further investments are being made before the ending of the Project. Particularly the activities at the level of health facilities (e.g. capacity building, essential medicines, implementation of APPP) require specific attention so that effects are sustainable in the future and beyond the Project's life cycle. Overall the very large majority

	identified with the Project activities and were very motivated to sustain the effects in the future.
Transversal themes: Satisfactory	The project design had a clear focus on mothers and children. Our findings indicate that the Project had a strong emphasis on gender equality and reached its intended target group through its diverse activities; by doing so it positively transformed their life and health. Regarding good governance, the large majority of stakeholders highly appreciated the coordination efforts by the UNICEF implementation team; however, the issue around the NRA would have required better coordination and transparency.

Please find the SDC Assessment Grid in Annex 7.7.

5. RECOMMENDATIONS

The recommendations are a result of the findings of this evaluation. In the context of the phasing out of the Project by December 2022 (and with no follow-up phase), the recommendations are primarily targeted at the UNICEF implementation team, either for the remaining time of the project or for the future engagement of UNICEF/other stakeholders in the sector. Further, we have made additional suggestions, of which some are directly targeted at stakeholders involved in this Project and with a focus on sustainability. In view of the phase-out of SDC from Mongolia by 2024 and the envisaged transformation of the Swiss-Mongolian cooperation modalities, SDC voiced interest in the results as a basis for decisions with regard to a potential continuation of some support by other Swiss stakeholders. We have further listed opportunities here, which should be explored.

Recommendation 1: With the further scale-up of CHIP, address the persistent challenges

Justification: Numerous challenges around CHIP (and as outlined in detail in the case study, Chapter 3.3) persist; with further investment (time/resources) many can be solved.

With the further planned scale-up of CHIP to ensure sustainability we recommend to address the persistent challenges and consider to apply the “Lean Startup Approach” (do-learn-adapt-repeat) and link with the Innovation Hub at the UNICEF Asia & Pacific Regional Office. Many problems observed relate to expected behavior change. We highly recommend to collaborate with a Behavior Change Expert to tackle these aspects; further we recommend to develop a Theory of Change for CHIP and actively use it to closely monitor the changes and allow for timely learning and adaptation. We recommend to assess the cost-efficiency and market-readiness; and conduct CO2 calculations in winter as soon as the electricity bills will not be paid anymore by the government. In order to successfully and sustainably scale CHIP and e.g. further integration into Green Loan packages and roll-out at national level, we recommend to address the above listed recommendations first to build a strong basis, followed by strong advocacy (and depending on the evidence generated).

We recommend that the above listed recommendation should be started during the remaining time of the Project the UNICEF implementation team. We acknowledge that the behavior change component will take time to see the intended effect, while efforts may require additional time beyond the remaining Project duration and larger funding for scale.

Recommendation 2: Valorization – "do good and talk about it"

Justification: The Project conducted a high number of activities which should be made more visible

The Project has conducted a high number of activities and used innovative approaches. This includes the use of social media and reaching a high number of direct beneficiaries; the introduction of CHIP; the successful involvement of young people with high potential for sustainability; or working with Community Health Workers and reaching mothers and children despite the pandemic. We recommend that SDC, and the UNICEF implementation team together with partners, to document activities and its associated achievements (incl. best practices, lessons learnt) and to share them for potential replication even beyond the Closure Event, within and beyond Mongolia.

This recommendation is directed towards SDC, the UNICEF implementation team and its partners and should be realized prior to the ending of the Project and also beyond.

Recommendation 3: Address sustainability issues of selected health package interventions

Justification: While stakeholders emphasized the importance of healthcare related activities, sustainability remains unclear

While all stakeholders interviewed, and who could comment on healthcare related activities of the Project, emphasized the importance and usefulness of the healthcare related activities introduced, sustainability of some of the activities beyond the Project appear at risk. Interviews revealed that the continuation of the healthcare provider training facilitated through the Project remains unclear due to the challenge of high rotation in some clinics, as well as missing clarity in regard to ownership and budget allocation. To overcome the situation of high staff rotation we propose a set of solutions, such as appointing a master trainer, which is immediately replaced in case of staff rotation; and breaking down the trainings into shorter and potentially digital on-the-job units, and making it requisite for new staff to take the training. Further follow-up on the potential of continuous education and explore potential ownership and integration of costs into annual budgets to ensure sustainability. While healthcare providers voiced the need particularly of the essential medicine to reach vulnerable mothers and children, ownership and particularly responsibility for budgeting remained unclear and should be addressed. The implementation of the APPP seems useful, however healthcare staff claimed to lack manpower and time to implement it.

This recommendation should be addressed by the UNICEF implementation team and prior to the ending of this Project.

5.1 Further Suggestions

Further we have formulated a few additional suggestions, and recommend that they are taken up by the UNICEF implementation team and relevant partners:

1. AgaarNeg

Justification: The existence of AgaarNeg website should be further promoted, particularly among researchers and stakeholders at provincial level. . We therefore recommend to NCREP to further advertise AgaarNeg, ensure that it is among the top results when conducting a Google search, and to promote active use by involved stakeholders and keep it updated. Researchers should be particularly targeted to share their results through the website.

2. Study results

Justification: Stakeholders, particularly at aimag and soum level, felt that more could have been done by the UNICEF implementation team in regard to sharing of study results. We suggest that the UNICEF implementation team ensures (wider) dissemination of study/research/assessment results. Depending on the recipients research findings should be translated into simple language, as well as policy briefs.

3. Multi-sectoral collaboration

Justification: Numerous stakeholders emphasized the benefits of multi-sectoral collaboration (particularly at provincial and district level). We suggest that the UNICEF implementation team further advocates for the continuation of multi-sectoral collaboration beyond the Project's life cycle.

4. Studies

Justification: So far limited evidence on the actual impact on the health of children as a result of the Project is available. Overall the impact on infectious diseases (e.g. pneumonia) due to the COVID-19 measures put in place and resulting effects (e.g. isolation, wearing of masks, closure of kindergartens, decrease in health facility visits) are difficult to assess, we propose to conduct a rapid inquiry on the number of burns among children from CHIP and non-CHIP households.

However, one study from Mongolia indicates a potential increase of household injuries among children due to the closure of kindergartens and being unattended.[14]

5. Regular exchange between research institutions in Mongolia

Justification: It appeared that so far different research institutions work in silos, albeit sharing the same research interests related to the impact of air pollution on health. Having commissioned a high number of studies, with numerous institutions working on air pollution and its impact on health, and with raising awareness among the Mongolian population, we suggest to facilitate the establishment of a regular research group meeting beyond the institutions, which is open to all working on the topic (and to also attract the next generation of researchers) and with the intention to share funding calls, establish potential collaborations within and beyond Mongolia, share research plans and results. In addition, this might lend the research topic more visibility regarding the national research priorities.

The below suggestions 6 and 7 refer specifically to the request in the ToRs to provide advice in regard to a potential continuation of some support by other Swiss stakeholders:

6. Research capacity building

Justification: The capacity to collect research data on the impact of air pollution on health in Mongolia is existent and does not require further support; however, more investment is required in regard to the capacity building for the analysis of data (e.g. analyzing the effect and impact of air pollution on health) and scientific write-up for an international audience.
While national and international stakeholders were highly motivated to continue with their work, numerous mentioned that financial resources to continuously fund research on this topic are scarce and expertise regarding data analysis among national researchers requires further investment. The Evaluation Team recommends to explore the Government Excellence Scholarships (ESKAS) awarded by the Swiss Confederation on annual basis or comparable

[14] Also here however results need to be interpreted with caution; as a recent study from Mongolia could show, potential increase of household injuries among children due to the closure of kindergartens and being unattended. Darkhan-Uul Province Governor's Office. Accident report on recent tragic loss of three young children. NEMA. (2020). "Three young children were hit by a pot at home and killed (translated from Mongolian)." Retrieved 27.3., 2022, from http://darkhan.gov.mn/%D0%BC%D1%8D%D0%B4%D1%8D%D1%8D/1/kxQyYDvQsyYhTQQbT.

schemes from other countries. The ESKAS scholarships allow for research collaborations between Swiss and Mongolian Research Institutions and provide financial support and opportunity for capacity building. More information can be found here: https://www.sbfi.admin.ch/sbfi/en/home/education/scholarships-and-grants/swiss-government-excellence-scholarships.html#1582163571 (SERI 2022)
Further we recommend to subscribe to the newsletter by the Asia Leading House, an initiative by ETH, sharing funding opportunities and scholarships for research, accessible here: https://leadinghouseasia.ethz.ch/

7. Future support

Justification: The impact of air pollution on the health of the Mongolian population will remain a priority over the coming years. While some Project activities will be sustainable beyond this Project phase, others require further support such as the continuation of trainings, the behavior change aspects and CHIP scale-up. The Evaluation Team recommends SDC, the UNICEF implementation team and its partners to explore a potential collaboration with the Climate and Clean Air Coalition (CCAC). The CCAC is a global voluntary partnership of governments, intergovernmental organizations, businesses, scientific institutions and civil society organizations committed to improving air quality and protecting the climate through actions to reduce short-lived climate pollutants. The coalition provides technical support (e.g. in national planning; or the provision of training material; also for HCPs) and networking opportunities across countries (e.g. opportunities for peer-to-peer learning). The work is divided into different sectoral hubs, while health and household energy constitute one of 12 sectors the coalition is focusing on. Further, the CCAC trust fund provides an opportunity to apply for financial resources. Following an interview with the CCAC secretariat interest in the Project was raised. More information on the coalition's work can be found here: https://www.ccacoalition.org/en/content/about

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7. ANNEXES

7.1 Final evaluation questions

Note that some questions were only explored with selected stakeholders.

Relevance

1. Do the project objectives align with the needs and priorities of the target group?

1.1 In your opinion, what are the greatest needs and priorities of this target group in Mongolia? How did the project address these?

1.2. How relevant were the different Project activities to address these needs?

2. To what extent are the Project objectives responding to national needs and priorities in Mongolia?

2.1 In your opinion, what are the greatest national needs and priorities regarding climate change and air pollution in Mongolia? And regarding air pollution and MCH?

2.2 To what extent does the design of the project address important national needs and priorities of the different target groups?

2.3. To what extent do project objectives align with SDC/UNICEF/government priorities?

3. To what extent is the development intervention technically adequate?

3.1 Was the project design and approaches/strategies used by the project implementation unit (PIU) technically adequate to achieve the intended results? [

3.2 What was done well? What requires improvement?

3.3 What may be sustainable in the future? Why/why not? Where should support focus on?

Coherence

4. Internal coherence: to what extent is the intervention compatible/coordinated with other SDC and UN development cooperation?

4.1 To what extent are there synergies, counter-synergies or overlaps with other SDC or UN projects of similar scope/thematic focus? How were they used / overcome?

4.2 Has the Project done enough to coordinate between actors with a similar thematic focus? Where could coordination and collaboration been strengthened (if at all)?

4.3 How could potential synergies be used (if any) to ensure sustainability of project activities beyond this project's timeframe?

5. External coherence: to what extent is the intervention compatible with interventions of other actors (bilateral and multilateral donors, private sector, NGOs, etc.) in Mongolia and thematic field (complementarity and synergies or overlap/duplication)?

5.1 Who else is working on air pollution issues and health - possibly also directly or indirectly targeting mothers and children - in Mongolia?

5.2 To what extent are there synergies, counter-synergies or overlaps with other donor-/private-sector/NGO-funded interventions of similar scope/thematic focus? How were they used / overcome?

5.3 Has the Project done enough to coordinate between actors with a similar thematic focus? Where could coordination and collaboration been strengthened (if at all)?

5.4 How could potential synergies be used (if any) to ensure sustainability of project activities beyond this project's timeframe?

Effectiveness

6. How did the intervention contribute to the results? (originally 14.) Was there a difference between planned input and the input actually needed? What is the reason for this difference?

6.1 Which Project activities led to improved capacity to generate + disseminate data/evidence? [Outcome 1] Can you provide an example? How important was it? How was it achieved/not yet achieved and what does it require?

6.2 Which community level activities led to reduced risks of AP on MCH? [Outcome 2] Can you provide an example? How important was it? How was it achieved/not yet achieved and what does it require?

6.3 The PIU worked towards the integration of MCH risk reduction measures into national + local policies and budgets. [Outcome 3] Can you provide an example? How important was it? How was it achieved/not yet achieved and what does it require?

6.4 Were there activities not conducted by the project which you think were needed? Why were they not considered?

7. Does the project achieve its intended results? What were the most significant achievements so far? (except goals/impact level) (originally 16.) Is the monitoring system in place to track the impact of the development intervention suitable in terms of its objective?

Interview with SDC/UNICEF on project + log-frame

7.1 Where does the project achieve its intended outcomes? Why? Why not?

7.2 Were the indicators suitable to track the results? How were the target values + scores set?

7.3 What were the most significant achievements in your opinion? Why?

7.4 What data did they look at (hospital data, AP data, KG data, knowledge of mothers etc.)?

7.5 How was the data collected + when + by whom

7.6 How were "effects" measured (e.g. behavior change)?

7.7 How did the COVID-19 pandemic influence the results framework - were any of the targets adjusted because of that?

Interview with stakeholders

7.8 To what extent will the project achieve that...

a) capacity to generate + disseminate evidence has improved? b) the risk of MCH due to AP through community level measures is reduced? c) MCH risk reduction measures are integrated into national + local policies?

Interview with all:

7.9 In your opinion, what was/were the most significant achievement(s) of the project so far?

8. Which major factors have influenced the achievement or non-achievement of the expected results?

8.1 Can you name any reasons that influenced the achievements of project results?

8.2 Can you name any reasons that influenced the non-achievement of project results?

9. To what extent were the specific project products responding to the needs of target population, considering the socio-cultural, ecological and economic aspects?

Depending on the stakeholder interviewed, check the following products:

- Dissemination + communication of evidence
- Ventilation systems + air purifiers
- CHIPS
- Training (training for research capacity; CIMCI/flu for HCPs/CHWS; training for pre-service HCPs; training for YP)
- Essential medicines + commodities

Efficiency

10. How efficient was the project (focus on cost-effectiveness, timeliness, quality of services and products, operational efficiency)?

10.1 How do you perceive the quality of services (training, advice, events etc.) and products (e.g. platform, courses, preparedness plans?

10.2 Did the project deliver its services timely?

10.3 Value for money: Did the benefits reaped from the project outweigh the costs (i.e. personal time investment - such as implementation support, participation in meetings/working groups, attendance of trainings, participation in surveys; money)

10.4 How do you perceive the collaboration between PIU, SDC and other stakeholders? How did the set-up of the PIU (national/international/technical expertise) contribute to the operational efficiency?

10.5 Value for money (PIU): Could any of the outputs be produced at a lower cost?

11. What changes occurred in terms of living standards for the target groups addressed by the Project?

11.1 With the introduction of CHIPs at the household level, have living standards of women and children (and households overall) changed? Why/why not?
11.2 With the introduction of expanded health services related to risk of air pollution on maternal and child health (this included training of HCPs/CHWs, medicine, home visits etc.), has the health of women and children improved?

Impact

12. Are there any positive (or negative) impacts of the project (e.g. best practices, change in perception/behaviour)?
(previous 19.) Does the project have a positive effect on maternal and child health (e.g. due to the policies, services, products in place)?

12.1 What do you think were the most important positive effects of the project? And can you name any negative effects (consequences)?

12.2 What were the most significant changes (consequences; e.g. behavior change, change in perceptions etc.) achieved by the project? Why those? And why?

Sustainability

13. What evidence is there that the achieved effects will continue after the completion of the project? Which of the activities are embedded into the existing system/landscape (e.g. policies, capacity building (sustainable?), and people's views) and will continue after the ending of the Project?

14. Can the partner institutions and involved stakeholders (target group) continue the activity independently (existence of financial resources)? Which project's element should be taken over/taken up by which other stakeholder?

14.1 Who among the involved stakeholders have the requisite technical capacity and motivation to sustain results?

14.2 Who among the stakeholders have the requisite financial resources to sustain the results?

14.3 Are contextual factors conducive to sustain results?

Your institution was involved in the following activities [name activities here]

14.4 Is there sufficient capacity within your institution in terms of technical expertise/staff/time availability/financial resources to continue with the implemented activities independently in the future? Which/which not and why?

14.5 Which elements of the project shall be taken over by whom (+ in collaboration with whom)?

14.6 How would you rate your ownership and independence in regard to the activities you are involved in?

14.7 How could synergies of other initiatives/topics of interest/projects/shared budgets contribute to sustained project activities? (e.g. climate change; Asian Development Bank (ADB); GIZ etc.)

15. Which socio-cultural, institutional, ecological, financial or technical measures could be implemented to increase the chances of the development intervention having a sustainable impact?

15.1 The project focused on [Sustainability] …describe the three outcomes. Are there any measures, which could be implemented to increase sustainable impact of the intervention?

16. Are the changes at people's level sustainable? If behaviour change was achieved to what extent is the behaviour change sustainable?

16.1 Do you know of any behavior changes as a result of the Project? If no, why not?

16.2 If yes, do you think the behavior change you described is sustainable? Why/why not? What could be done to further sustain it?

Transversal themes

Gender

17. How adequately were issues of gender and good governance addressed across the project interventions? How did it contribute to the achieved results?

17.1 How many of the Project recipients were women? Were fathers also approached? Are there specific achievements which benefitted women more than others - which? Are there differences between geographical locations?

17.2 Have men and women benefitted to equal parts of the project? Why or why not? Are there any concerns or negative experiences?

17.3 Was gender mainstreamed in the capacity building/trainings/data - disaggregated?

17.4 Does the M&E consistently report disaggregated data to showcase the extent to which women are involved and benefit from the project activities?

Good governance

17.5 How well was the coordination provided by the PIU between different stakeholders involved in the Project?

17.6 To what extent will the coordination efforts (e.g. new partnerships, TWGs etc.) be sustainable after the project ending?

17.7 Who will be in the position to take on accountability in the future? Do you see any specific strength/challenges here?

17.8 How well is the transition of the coordination and project activities (e.g. provision of subsidies/green loans for CHIPS) organized? Where do you see room of improvement?

18. To what extent does the project promote inclusion of the most excluded/vulnerable mothers and children?

18.1 Who are the most excluded MCs in Mongolia in your opinion and why? Were they adequately addressed through the project?

18.2 Were the most excluded MCs correctly identified and how? Definition available at the beginning of the project?

18.3 How did the Project promote the inclusion of the most excluded during activities of partners / during own activities? How were they onboarded? Did this lead to more equity?

18.4 Were the most excluded reached through the project? Accessible? In line with their needs? sustainable?)

18.5 Are the activities to reach the most excluded sustainable?

7.3 Evaluation matrix

DAC Criteria - ToR	Key Evaluation Question	Document review	Key informant interviews	Direct Beneficiaries	FGDs with direct beneficiaries	Site visits
Relevance	1. Do the project objectives align with the needs and priorities of the target group?	x	x	x	x	x
	2. To what extent are the Project objectives responding to national needs and priorities in Mongolia?	x	x	(x)		
	3. To what extent is the development intervention technically adequate?		x			
Coherence	4. Internal coherence: to what extent is the intervention compatible/coordinated with other SDC and UN development cooperation?	x	x			
	5. External coherence: to what extent is the intervention compatible with interventions of other actors (bilateral and multilateral donors, private sector, NGOs, etc.) in Mongolia and thematic field (complementarity and synergies or overlap/duplication)?	x	x			
Effectiveness	6. How did the intervention contribute to the results? (in ToRs question 14.) Was there a difference between planned input and the input actually needed? What is the reason for this difference?	x	x			
	7. Does the project achieve its intended results? What were the most significant achievements so far? (except goals/impact level) (in ToRs question 16.) Is the monitoring system in place to track the impact of the development intervention suitable in terms of its objective?	x	x			
	8. Which major factors have influenced the achievement or non-achievement of the expected results?		x	x	x	x
	9. To what extent were the specific project products responding to the needs of target population, considering the socio-cultural, ecological and economic aspects?	(x)	x	x	x	x
Efficiency	10. How efficient was the project (focus on cost-effectiveness, timeliness, quality of services and products, operational efficiency)?		x			
	11. What changes occurred in terms of living standards for the target groups addressed by the Project?	(x)	x	x	x	x
Impact	12. Are there any positive (or negative) impacts of the project (e.g. best practices, change in perception/behavior)? (in ToRs question 19.) Does the project have a positive effect on maternal and child health (e.g. due to the policies, services, products in place)?	(x)	x	x	x	x
Sustainability	13. What evidence is there that the achieved effects will continue after the completion of the project?	(x)	x	x	x	x
	14. Can the partner institutions and involved stakeholders (target group) continue the activity independently (existence of financial resources)? Which project's element should be taken over/taken up by which other stakeholder?	(x)	x			

	15. Which socio-cultural, institutional, ecological, financial or technical measures could be implemented to increase the chances of the development intervention having a sustainable impact?	(x)	x			
	16. Are the changes at people's level sustainable? If behavior change was achieved to what extent is the behavior change sustainable?	(x)	x	x	x	x
Cross-cutting themes	17. How adequately were issues of gender and good governance addressed across the project interventions? How did it contribute to the achieved results?	x	x	(x)	(x)	
	18. To what extent does the project promote inclusion of the most excluded/vulnerable mothers and children?	x	x	x	x	x

7.4 Document review

Over 390 documents were provided by the PIU and SDC. The following Mind-map gives an overview over the various documents in the folders the evaluation team was provided with (status March 30, 2022). The arrows indicate duplicates. Note that not all documents provided were entered into the mind map and document titles do not necessarily reflect content of the document.

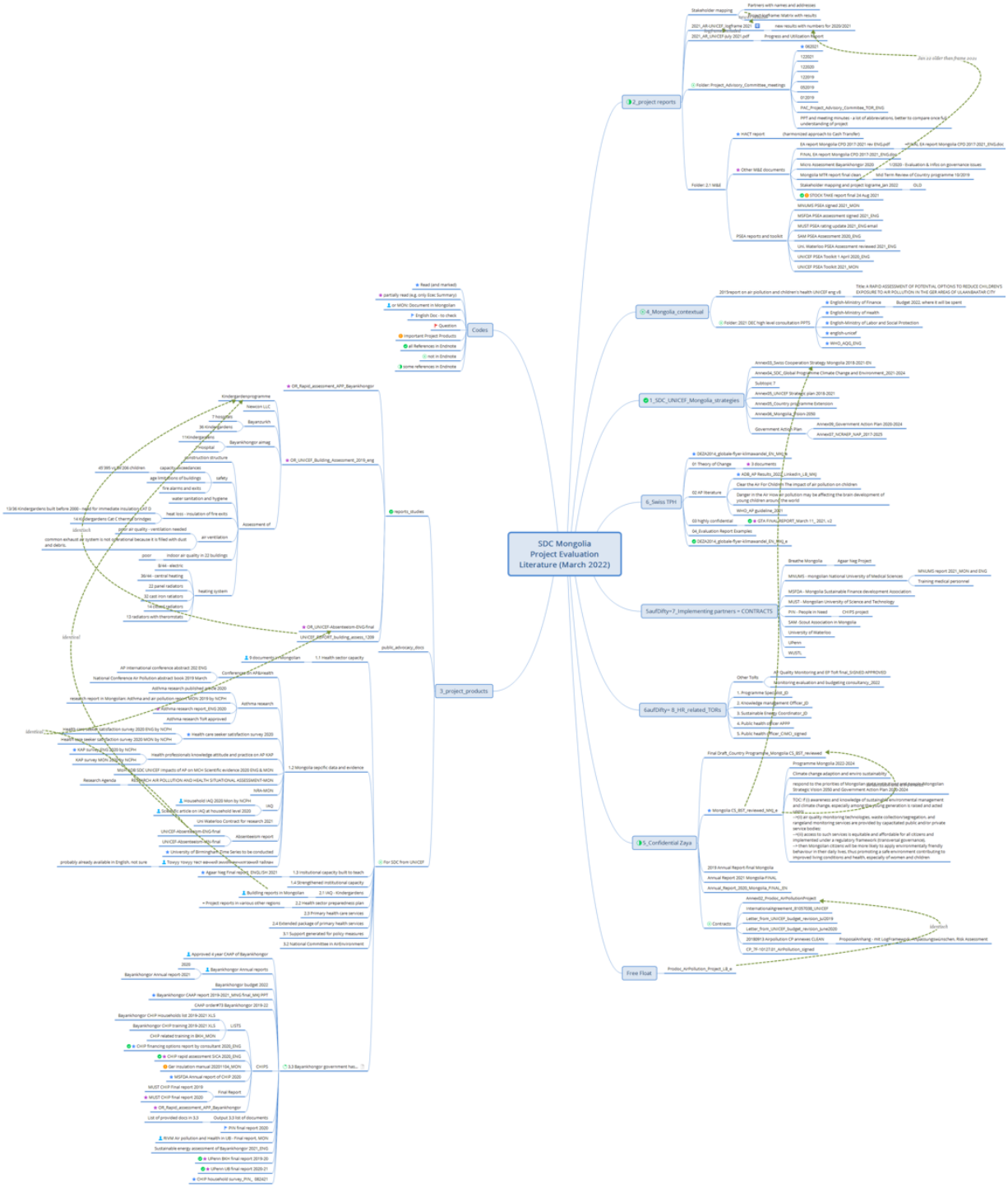

Figure 13: Overview on provided folders and documents.

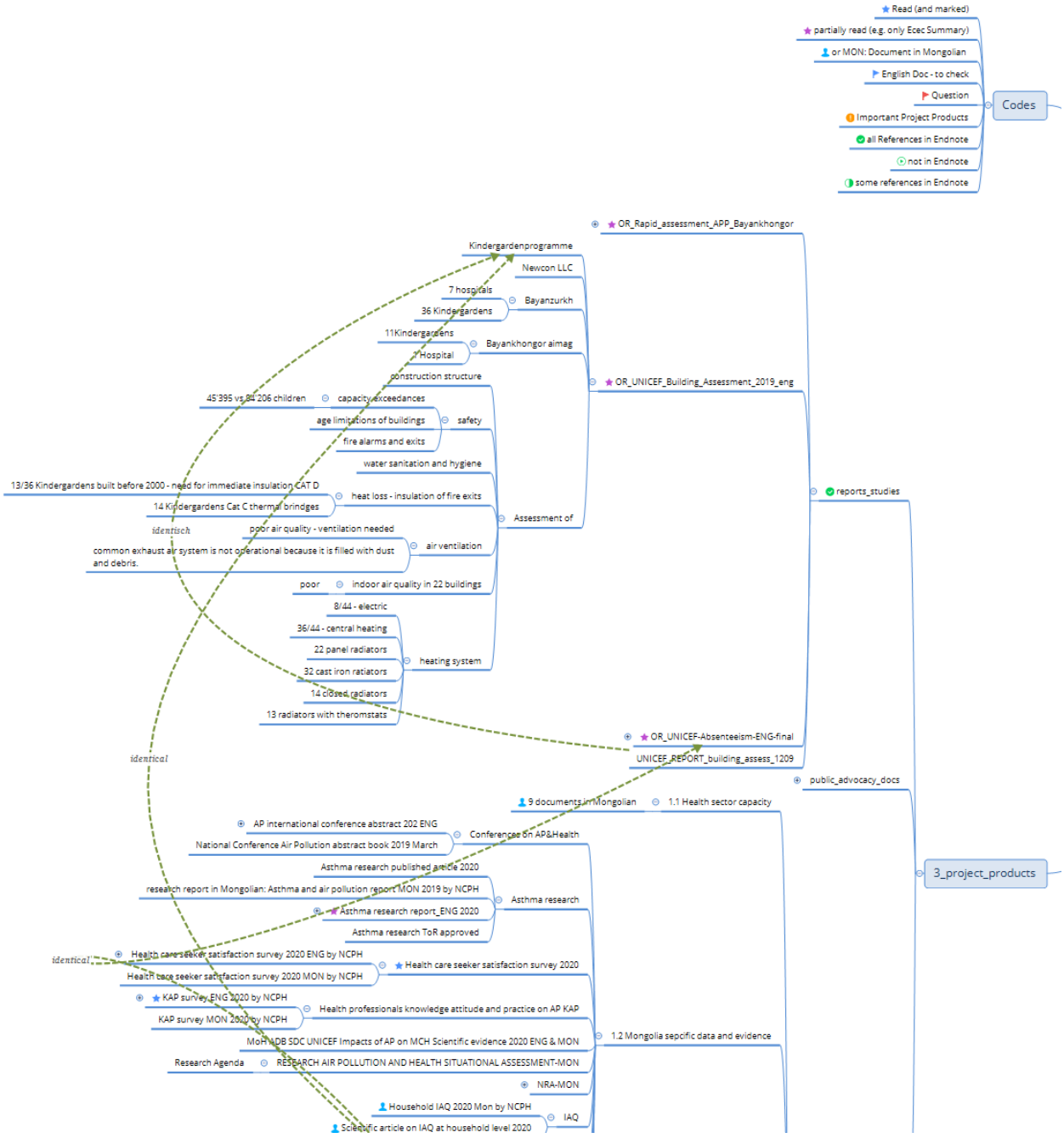

Figure 14: Zoom 1 into overview on provided folders and documents.

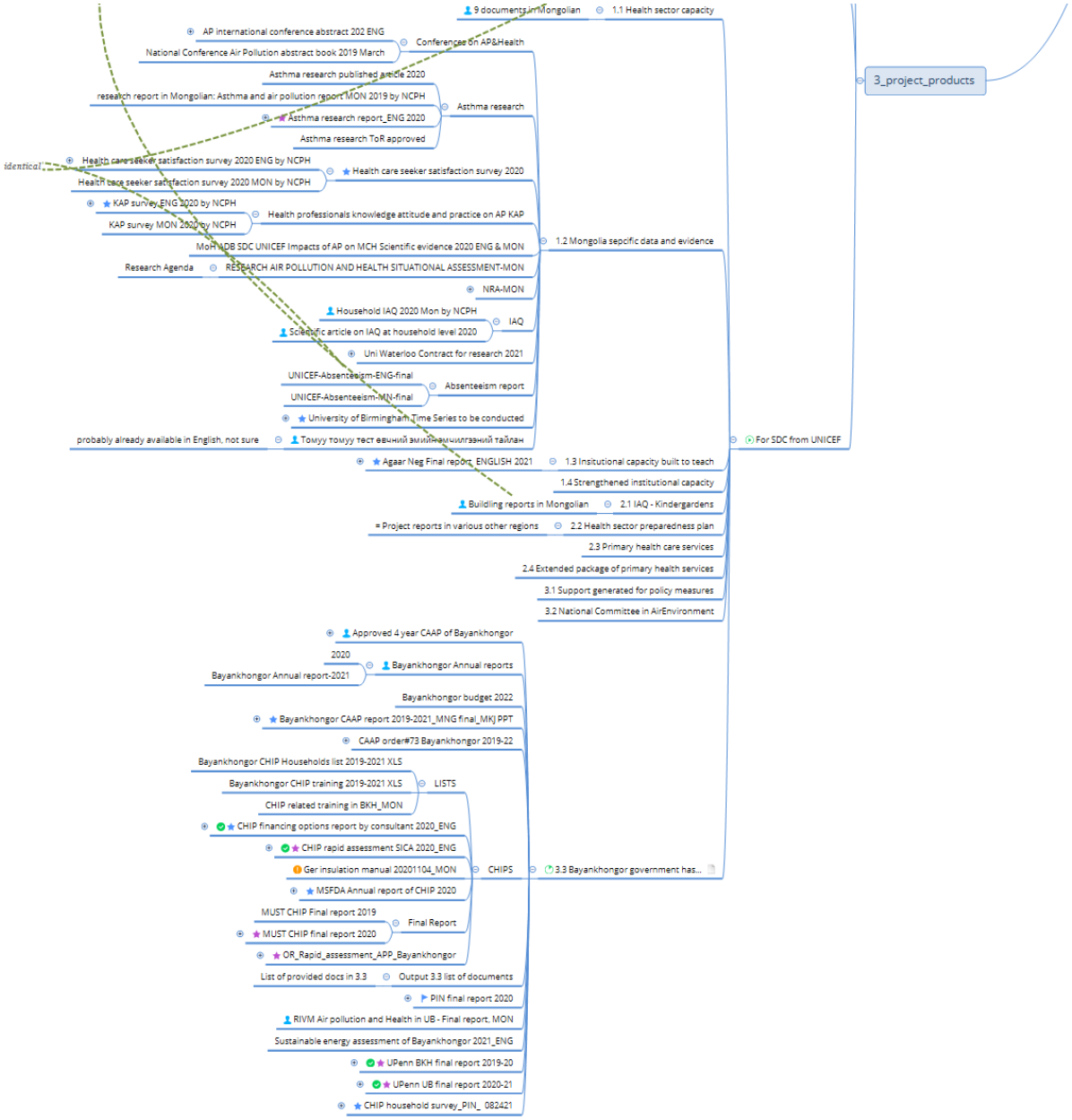

Figure 15: Zoom 2 into overview on provided folders and documents.

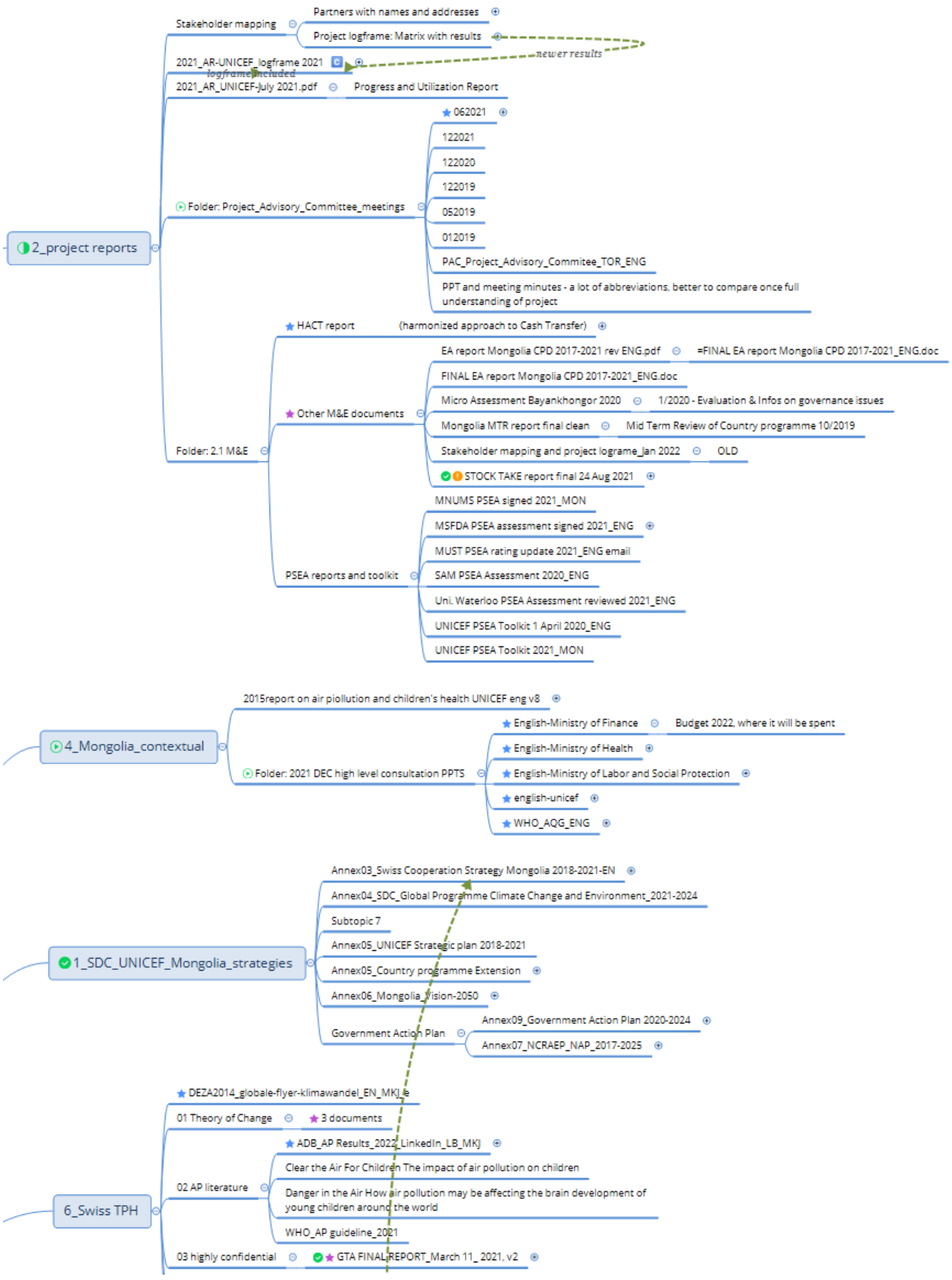

Figure 16: Zoom 3 into overview on provided folders and documents.

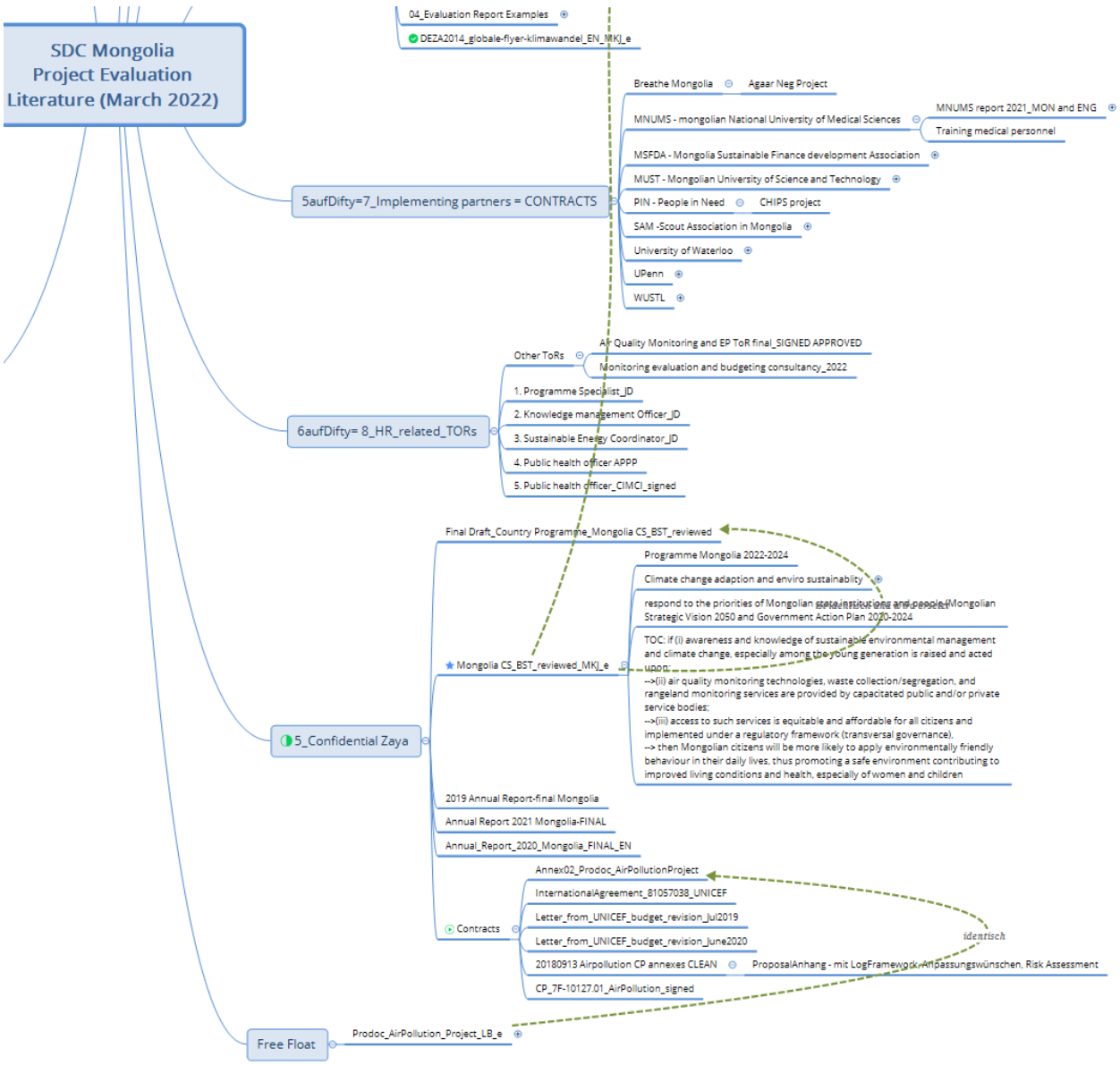

Figure 17: Zoom 4 into overview on provided folders and documents.

7.5 Terms of Reference

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Foreign Affairs FDFA
Swiss Agency for Development and Cooperation SDC
South Cooperation Department
Asia Division

Swiss Cooperation Office and Consular Agency in Mongolia

Reference: 7F-10127.01

Terms of Reference

Swiss Cooperation Office Mongolia

Project evaluation

Evaluation title:

External final evaluation of
"Impact of air pollution on maternal and child health" project

2018 – 2022

Place of Mission:	**Mongolia**
Timeframe:	January - March 2022 (depending on the consultants' availability and offer, with an alternative timing February – April 2022)
Number of working days:	**Maximum 48-50 days** (including preparation and report writing)

Table of Contents

Terms and Abbreviations

BZD	Bayanzurkh District
BKH	Bayankhongor Province
CHIPS	Cooking, heating and insulation products and services
CHF	Swiss franc
CIMCI	Community-based Integrated Management of Childhood Illnesses
CMCH	Community-based Maternal and Child Healthcare
FHCs	Family Healthcare Centres
IAQ	Indoor air quality
MCH	Maternal and child health
MCUD	Ministry of Construction and Urban Development
MNT	Mongolian tugrik
MoET	Ministry of Environment and Tourism
MoH	Ministry of Health
MNUMS	Mongolian National University of Medical Science
MUST	Mongolian University of Science and Technology
NCPH	National Centre for Public Health
NPEH	National Programme for Environmental Health
PM2.5	Particulate Matter with a diameter < 2.5 microns
SAM	Scouts Association of Mongolia
SCO	Swiss Cooperation Office
SDC	Swiss Agency for Development and Cooperation
SKHD	Songinokhairkhan District
UB	Ulaanbaatar
UNICEF	United Nations Children's Fund
USD	United States dollar
WASH	Water, sanitation and hygiene
WGAP	Working Group on Air Pollution
WUSTL	Washington University in St Louis

1. Introduction

This document sets out the requirements relating to the evaluation of **the project "Impact of air pollution on maternal and child health",** the selection process and criteria.

The Terms of Reference (ToR) describe the purpose, context, objectives (including guiding indicative evaluation questions), scope and a proposed methodology of the evaluation. They further describe the evaluation process and the expected deliverables. The ToR will become an integral part of the contract for this evaluation mandate.

2. Background information and context of the evaluation

Air pollution in urban Mongolia has become a public health crisis where every child and pregnancy is at risk. In winter months, the levels of $PM_{2.5}$ pollution in Ulaanbaatar city (UB) can reach 1,985 micrograms per cubic meter — nearly 80 times the level WHO recommends as safe[1]. The vast majority of that pollution is caused by the burning of coal for heating of the homes. Children in particular are suffering from a dramatic increase in morbidity and fatality rates due to increased exposure to air pollution during the cold season. Pneumonia is now the second leading cause of under-five child mortality. Children living in a highly-polluted district of central Ulaanbaatar were found to have 40% lower lung function than children living in a rural area. In Ulaanbaatar (UB), a 3.5-fold increase in foetal deaths in the winter months has been documented. Preliminary analysis shows that in the last 10 years, the incidence of respiratory diseases in the country has increased alarmingly, including a 2.7-fold increase in flu, flu-like symptoms and asthma[2]. These harmful effects are likely to manifest throughout their lives - limiting their ability to learn and later to earn a living and fulfil their potential as adults - in turn fuelling intergenerational cycles of disadvantage.

There has been a shortage of Mongolia specific data, research, evidence and information on health impacts of air pollution on people, especially children and pregnant women. Oftentimes the records are limited, incomplete, and with concerns about quality. Furthermore, the capacity of the national research community and government institutions to undertake the necessary high-quality analysis is limited. Indoor air quality is not systematically monitored in public facilities. Only limited data by the National Public Health Centre and UNICEF are available.

There has been insufficient awareness, information and advocacy related to air pollution attributable maternal and child health risks. Although there is a general understanding amongst the public and government that air pollution is a health risk, in-depth information and solid evidence, understanding and appreciation of the impacts on maternal and child health are missing. Additionally, there is no guidance available to caregivers, pregnant women, health care providers and school and kindergarten staff about what can be done to reduce these risks.

Polices and efforts have been ill-coordinated for comprehensive action to reduce health risks of air pollution. Policies and incentives in the health sector focus on curative and inpatient services rather than supporting preventive and public health. Consequently, it is common during the cold season for hospitals to quickly become overwhelmed with child patients. Policy and regulations on a comprehensive approach (going beyond the simple provision of air purifiers) to improve and maintain indoor air quality in kindergartens, schools and hospitals are required.

Mongolian health care capacity is still experiencing shortages to treat children suffering from air pollution attributable diseases. With shortage of essential commodities, medicines and tools, family health centres and secondary hospitals struggle with preparing and responding to the recurring air pollution induced maternal and child health crisis. Expertise to counsel, diagnose and take care of air pollution affected pregnant women and children is inadequate.

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[1] Mongolia joins the Breathe life Network: National Action Plan's 59 measures for clean air. City Updates / National Government of Mongolia (Sept.2017)

[2] UNICEF Mongolia (2018) Unpublished data

The current financing and management practices of the health sector, combined with the absence of mechanisms to monitor results, lead to insufficient budgetary allocations and inefficient use of resources at the primary health care level.

Approaches to reduce the exposure of preschool children and pregnant women have not been systematically piloted, evaluated and rolled out. During the cold season, children spend a considerable amount of time indoors (up to 90%). But, largely due to penetration of outdoor air pollution into the buildings, especially in the ger districts, levels of indoor air pollution (on average 300 µg/m3 in buildings without air filters) have been rampant. The situation is further exacerbated by COVID related restrictions and lockdown measures.

Government and development partners are investing little in mitigating the significant health impacts of air pollution. Most air pollution related initiatives from the government and development partners are focusing on cleaner energy solutions, which will take at least 10-15 years to result in acceptable air quality in UB and Mongolia.

COVID-19: Uncertainty related to COVID-19 has had a major impact on the Project implementation. The delivery of some outputs by the partners was delayed in 2020 and shifted to 2021. Due to travel bans, international missions were cancelled. Economic activity shrinkage and budget constraints in UB Municipality and the provinces have necessitated shifting funds initially allocated to scaling up UNICEF interventions to COVID prevention and response activities.

3. Objective, scope and focus of the evaluation

3.1. Evaluation object

The agreement between SDC Mongolia and UNICEF Mongolia to implement the four-year Project was signed on 5 October 2018. At the impact level, the Project aims to contribute to: 1) reduced prevalence of pneumonia among children under 5; and 2) reduced incidence of pregnancy risks related to air pollution. In order to achieve the impact, it aims to achieve the following outcomes:

1. Improved capacity to generate and disseminate data, research, analysis and information on air pollution and maternal and child health (MCH).

2. Preschool children and pregnant women are at lower health risk from air pollution through community-level risk reduction measures.

3. MCH risk reduction measures are integrated in relevant national and local policies.

The focus population includes 1) Preschool children and pregnant and lactating women in Ulaanbaatar, especially in Bayanzurkh (BZD) and Songinokhairkhan Districts, and 2) Preschool children and pregnant and lactating women in Bayankhongor (BKH) provincial centre. The project applies a combination of implementation strategies, including generating and disseminating evidence and information, strengthening capacity, showcasing successful interventions on the ground, leveraging ongoing and planned investments from government and development partners, and policy advocacy to reach scale and sustainability.

The Project contributes mainly to Sustainable Development Goals 3, 7 and 11. It is firmly in line with the UNICEF Global Strategic Plan 2018–2021, with a focus on Goal Area 1 (Every child survives and thrives), Goal Area 4 (Every child lives in a safe and clean environment), and Goal Area 5 (Every child has an equitable chance in life), and its cross-cutting priority, gender equality. The Project contributes to the Swiss Cooperation Strategy 2018-21, and its objectives under the Country Strategy Governance Domain which foresees enhanced sector governance interventions in peri-urban areas, i.e., improve health care services delivery in the ger areas, benefitting marginalized groups, and tackling the air pollution crisis. The Project is also aligned to the development policies of the Government and the Municipality of UB, with the Mongolia Vision-2050, the National Programme on Reducing Air and Environmental Pollution (NPRAEP) 2017 – 2025, the Master Plan of Reducing Air Pollution of Ulaanbaatar 2018 - 2025 and the Mongolian Government Action Plan (GAP) 2020-2024.

Considering the cross-sectoral nature of the Project, a **broad range of national and local government and non-government institutions** have been involved: MoH, MoET, the Ministry of Labour and Social Protection, MCUD, the National Agency for Meteorology and Environmental Monitoring, NCPH, UB Municipality, BKH Governor's Office, the National Centre for MCH, Mongolian University of Science and Technology (MUST), the Mongolian National University of Medical Science and SAM.

UNICEF partnerships with international institutions reported to have progressed since the beginning of the Project, contributing to Mongolia-specific scientific data and evidence generation, and national institutional and research capacities: partners include WUSTL, the University of Pennsylvania, the Netherlands National Institute for Public Health and Environment, the University of Bath and the University of Birmingham. However, coordination and communication on studies remain a challenge.

The Project reported several results at national and provincial levels. Mongolia-specific research work was carried out, creating Mongolia-specific new scientific data and evidence generation for policy advocacy. The evidence was translated into publicly understandable language and simple and short messages to reach out to the community and protect people from exposure to air pollution. Technical assistance to the government partners has been provided to support the development and approval of national codes on buildings and air ventilation systems in kindergartens/schools as well as health facilities; important factors for the health, comfort and performance of children and adults. Thanks to the Project support, the Government of Bayankhongor province approved a four-year "Smog Free Bayankhongor Action Plan, 2019-2022" in June 2019. The Ministry of Environment and Tourism (MoET) approved the "cooking, heating and insulation products and services" (CHIPS) developed by the Project for the Green Loan Programme for all provinces and the UB City. However, because of COVID negative impact on household incomes for the period of December 2020 to June 2021 the Government began providing partial subsidies on purchase of coal briquettes for ger[3] area residents and 100% subsidies for electricity and heating cost for UB city citizens. This temporary solution might have been an ambitious response to COVID impact, benefitting poor and vulnerable groups, but is not consistent with the previous policies and might have reversed the behavioral changes for responsible consumption.

The launch of the knowledge management platform "Agaarneg.mn" was announced by MoET with the aim to disseminate the knowledge on air pollution and its impact to the public, serving as a one-window information source on all relevant researches and studies. Yet, the content has to be significantly developed by adding information, data and research studies. Institutional capacity to teach and train current and future health practitioners on the risks of air pollution to MCH has been supported by integration of AP and health concepts into curricula and introducing of the of 1-credit course and pilot trainings in the National University of Medical Science. Communication and advocacy on air pollution prevention reached out to a wide range of the population and sensitized them on the tremendous negative impacts of air pollution on human health.

3.2. Purpose and objectives

The Project has been implemented since October 2018 and will be completed in December 2022. The evaluation will inform to which extent the project achieved its intended results (impacts, outcomes). There will be no follow-up phases by the Swiss Cooperation Office Mongolia (SCO). However, in a view of the phase-out of SDC from Mongolia by 2024 and the envisaged transformation of the Swiss-Mongolian cooperation modalities, SDC needs the evaluation results as a basis for decisions with regard to a potential continuation of some support by other Swiss stakeholders, for e.g., Global Programme for Climate Change.

The evaluation will assess the performance level, implementation status and the capacity to achieve the project objectives. Moreover, it will assess potential impact and sustainability of results including the contribution of capacity development of local stakeholders. It will collect and analyse lessons learnt, challenges faced and best practices (including synergies with other

[3] Peri-urban areas of Ulaanbaatar, mostly settled by "gers", the traditional tents of nomads

projects) obtained during implementation which will inform the governmental partners and CSOs, and guide SDC for decision-making.

The Project evaluation should be guided by the **OECD/DAC Criteria**[4] of relevance, coherence, effectiveness, efficiency, impact and sustainability. The relevant evaluation criteria are to be selected in order to formulate pertinent evaluation questions that will be presented in the bid. The focus on and the exclusion of criteria should be explicitly stated in the **bid of the consultant** as well as the **final evaluation report**.

Since this is the single and last phase of the project, the conclusions and recommendations should clearly distinguish which are the elements that:

- are already sustainable and do not need further external support
- are not yet sustainable and could/should be taken up by other stakeholders active in the sector.

3.3. Scope

The breadth and depth of the evaluation will be informed by the indicative evaluation questions that the evaluation seeks to answer (see chapter below). The geographical scope includes Bayanzurkh (the intitial focus district) and Songinokhairkhan district (additional focus) of Ulaanbaatar, Bayankhongor province, and the additional provinces - Gobi-Altai and Umnugobi.

3.4. Indicative evaluation questions / key focus area

During the Desk review the evaluators, in consultation with the SCO, should further refine and prioritise the questions that are structured according to the OECD DAC-Criteria. The bidder is also expected to address these questions within the technical bid.

Relevance	▪ How consistent are the achieved effects with the needs of the target group(s)? ▪ To what extent are the Project objectives responding to national needs and priorities of Mongolia? ▪ To what extent is the development intervention technically adequate? ▪ To what extent does the Project address the policy, sector or region promoting inclusion of the most excluded?
Coherence	▪ Internal coherence: to what extent is the intervention compatible/coordinated with other SDC and UN development cooperation? ▪ External coherence: to what extent is the intervention compatible with interventions of other actors (bilateral and multilateral donors, private sector, NGOs, etc.) in Mongolia and thematic field (complementarity and **synergies**)?
Effectiveness	▪ How did the intervention contribute to the results? Is it possible to demonstrate to what extent the changes can be attributed to the development intervention and not to external factors? ▪ To what extent were the intended results of the intervention achieved (or are likely to be achieved) at the levels of output, outcome and the overall goals of the intervention? ▪ Which major factors have influenced the achievement or non-achievement of the expected results?

[4] OECD/DAC Network on Development Evaluation: Better Criteria for Better Evaluation. Revised Evaluation Criteria Definitions and Principles for Use (2019).

	▪ To what extent were the specific project products responding to the needs of target population, considering the socio-cultural, ecological and economic aspects? ▪ What have been the investments (time, finance, capacity, reflection) of a Project for reaching out to the excluded groups? Were they sufficient? ▪ What changes occurred in terms of living standards or of the specific needs for the target groups addressed by the Project?
Efficiency	▪ To what extent was the intervention implemented cost-effectively and in a timely manner? ▪ Was there a difference between planned input and the input actually needed? What is the reason for this difference? ▪ Was the development intervention implemented on the basis of a results-oriented approach? ▪ Is the monitoring system in place to track the impact of the development intervention suitable in terms of its objective? ▪ Did the targeting of the intervention mean that resources were allocated efficiently?
Impact	▪ Which positive, lasting effects and behavioural changes can be identified? Which unexpected and unintended positive and negative (side) effects have occurred? ▪ To what extent do the actual impacts caused by the development intervention match the targeted impacts?
Sustainability	▪ What evidence is there that the achieved effects will continue after the completion of the project? Which major factors might enhance the effects achieved or prevent them from continuing? ▪ Can the partner institutions and involved stakeholders (target group) continue the activity independently (existence of financial resources) and adjust their strategies to changing conditions? Which project's element should be taken over/taken up by with other stakeholder? ▪ Which socio-cultural, institutional, ecological, financial or technical measures could be implemented to increase the chances of the development intervention having a sustainable impact? ▪ Are the changes at people's level or at the institutional or policy levels sustainable?
Cross-cutting themes	How adequately were issues of gender and good governance addressed across the project interventions? How did it contribute to the achieved results?

4. Evaluation process and methods

4.1. Evaluation methodology

The methodology proposed by the consultants to conduct the mission must be part of the narrative offer. The minimum following elements are expected:

- Preparation based on the available documentation (see Annexes)
- Briefing with SDC, UNICEF and the Government in Mongolia, at its office in Ulaanbaatar/online

- Meetings with key stakeholders (Ministry of Health, Ministry of Environment and Tourism, the Ministry of Labour and Social Protection, Ministry of Construction and Urban Development, the National Agency for Meteorology and Environmental Monitoring, NCPH, UB Municipality, Bayankhongor Governor's Office, the National Centre for MCH, Mongolian University of Science and Technology, the Mongolian National University of Medical Science etc)
- Meetings (can be online) with relevant international stakeholder;
- Field mission, including meetings with all key field stakeholders;
- Facilitate a workshop for key stakeholders to receive a feedback on key findings and to consolidate them;
- Debriefing with SDC in Mongolia, UNICEF and the Government at SDC office in Ulaanbaatar/online;
- Report writing and submission (including consultation on the draft report).

Given the restrictions/challenges caused by the COVID-19 related restrictions, innovative evaluation methodologies (including remote ones) are particularly welcomed in the offer, which should be presented in form of options.

4.2. Roles and responsibilities of the evaluator(s)

The evaluation will be conducted by a team composed of an international consultant and local consultant/s. The overall responsibility will lie with the international consultant who will be the sole contract partner with SDC. The evaluation team will report to SDC Mongolia. Administrative, conceptual and logistical support to the team will be provided by UNICEF Project team.

4.3. Evaluation process and timeframe

The evaluation (including preparation and report writing) will last a **maximum of 48-50 days** for the team during **January – March 2022** (ideal option A for SDC). The offer must contain a detailed mission plan with a clear job division, taking the following preliminary schedule into consideration. The overall time plan presented below provides the estimates of initiation and completion of the evaluation, the consultants can propose another schedule during **February – April 2022,** which is the option B.

ATTENTION: Due to the unpredictable evolution of the COVID-19 pandemic and of the related evolving restriction measures of the Mongolian Government, the **offer must present 2 scenarios to conduct such an assignment, both time wise and in terms of methodology** (including potential implications on the team composition and on the budget). Consultants are expected to show flexibility and innovations.

Overall time plan (January – April 2022)

Activity	Date	Responsibilities
Date of the call publication/invitation	05 October 2021	**SDC**
Deadline for the submission of the proposals	03 November 2021	**SDC**
Concluding the contract with the selected consultant/s	November -December 2021	**SDC**; Consultants
Initial meeting with evaluation team	January 2022	**SDC**; Consultants
Desk review (remote), interviews with stakeholders, partners and, if relevant, focus group discussions and workshops, preparations for the in-country mission	January - February 2022	Consultants
Briefing meeting with evaluation team in	March 2022	**SDC**; Consultants

Ulaanbaatar/online		
In-country mission with data collection, on-site interviews etc	March 2022	Consultants, supported by the Project Team
Validation workshop in Ulaanbaatar	Max. 1 day	Consultants, supported by the Project Team
Debriefing meeting in Ulaanbaatar	March 2022	SDC; Consultant/s
Data analysis and preparation of Draft Evaluation Report (remote)	March 2022	Consultants
Draft Evaluation Report submission	5 April 2022	Consultants
Feedback on the Draft Evaluation Report by SDC	10 April 2022	SDC
Final Evaluation Report	By 20 April 2022	Consultants
SDC Management Response	By 25 April 2022 at latest	SDC

5. Deliverables

The following documents must be submitted by evaluators to SDC:

1) **Briefing** presentation, explaining how the evaluation will be conducted.
2) **Debriefing** presentation
3) **Draft** (narrative and financial) **reports**
4) **Final evaluation report** in English, with a maximum of 30 pages (without annexes).
5) **Final financial report**, following the same format as the budget.
6) The **SDC's Assessment Grid** must be completed by the evaluators and attached to the final evaluation report

6. Reference Documents

After signing the contract, the following documents will be provided to the evaluators for the evaluators' first desk review:

- SDC Credit Proposal for the Project
- Project's semi and annual operational reports during 2018-2021
- SDC Mongolia Annual Reports 2018-2020
- Contracts with UNICEF
- Knowledge products of the Project (hard and soft copies)
- UNICEF Annual workplans
- UNICEF Communication Strategy

➢ Studies conducted within the project ➢ Any other relevant document

7. Competency profile of the evaluator(s)

The evaluation team is expected to bring along the following evaluation and thematic expertise and experience.

Consultants:	Roles:	Required qualifications:
Team Leader International consultant	➢ Responsible for the mandate's planning and execution; ➢ Responsible for the deliverables (see chapter 5); ➢ Conduct a desk review of the relevant literature; ➢ Guide the national consultant's work for quantitative and qualitative data collection; ➢ Identify the main stakeholders and beneficiaries to contact for interviews; ➢ Design the qualitative data collection and lead it with support of the national consultant; ➢ Conduct a validation workshop with the relevant stakeholders (could be done on a remote basis) towards the end of the assignment.	➢ Post graduate degree in public health or environment or any related topic; ➢ Up-to-date knowledge and in-depth experience and expertise (at least 5 years) in air pollution research, ➢ Experiences in maternal and child health research are preferred; ➢ Extensive working experience and in depth knowledge of facilitation methods, participatory and inclusive methodologies (at least 5 years) ; ➢ Experience in knowledge management, documentation and reporting writing; ➢ Confirmed experiences in evaluation of similar multilateral and bilateral development projects abroad (at least 5 years); ➢ Excellent English skills, speaking and writing; ➢ Proven previous experiences as an evaluation team leader during the last 5 years (attestations and some samples to be provided); ➢ Competency with gender, governance and 'leave no one behind (LNOB)' issues (application of gender and governance sensitive evaluation methodologies). ➢ Social competence including intercultural sensitivity and ability to work with a range of stakeholders.

Team Member National consultant	➢ To participate in the Desk review; ➢ To carry out quantitative and qualitative data collection; ➢ To contextualize findings, conclusions, recommendations and validate the outcome data under the instruction of international consultant; ➢ Interpret/translate when required; ➢ Support the drafting of initial and final reports; ➢ To organize and assist the stakeholders' consultation meetings and support final presentations of the evaluation findings; ➢ To conduct the validation workshop jointly with the Team Leader; ➢ Participate in Briefing and Debriefing meetings with SDC.	➢ Medical degree, or degree in public health/environment/public finance management/economics or relevant similar subjects; ➢ Extensive experience (at least 5 years) in public health and/or air pollution research ➢ Experiences in maternal and child health research are preferable ➢ Experience in knowledge management, documentation and reporting writing ➢ Proven experiences in evaluation/reviews of development projects. ➢ Excellent verbal and writing skills in English skills and Mongolian; ➢ Social competence including intercultural sensitivity and ability to work with a range of stakeholders.

8. Application procedure

The offers have to be submitted to SDC by email to the following addresses by 03 November 2021.

Mrs. Zayasaikhan Dugeree
Senior National Programme Officer
E-mail: zayasaikhan.dugeree@eda.admin.ch
Direct phone: +41 58 480 26 33
Standard phone: +976 11 331422

With copy to:
Mr. Benoît MEYER-BISCH
Deputy Director of Cooperation
E-mail: benoit.meyer-bisch@eda.admin.ch
Direct phone: +41 58 465 04 52
Standard phone: +976 11 331422

The offer must comprise:

1) **Narrative offer** of maximum 10 pages (without annexes) including:

I. Understanding of the assignment
II. Approach to and methodology for the assignment, including an option B due to the COVID-19 pandemic and its implications
III. Consultants' profiles (with Curriculum Vitae in annexes) and their availability during the periods, outlining experience with similar assignments, references on last and relevant missions; list of referees
IV. Draft evaluation work plan and schedule, including an option B
V. Draft report outline

VI. Summary of budget
VII. List of organisations for meetings and interviews.

2) **Financial offer comprising:**

- a submission letter with date and signature, showing the offer's total amount
- a budget form using the SDC template. In addition to the consultants' fees and per diem, the offer must contain all the necessary costs to conduct the in-country mission. All rates should be outlined in CHF.

9. Contracting

The contract will be awarded by SDC Mongolia following an analysis of technical and financial proposals received in response to these terms of reference.

10. Annex

1) The SDC Assessment Grid for the DAC Criteria
2) Project document
3) Swiss Cooperation Strategy for Mongolia 2018-2021
4) SDC Global programme 2021-2024 on Climate Change
5) UNICEF Global Strategic Plan 2018–2021
6) Mongolia Vision 2050
7) National Programme on Reducing Air and Environmental Pollution (NPRAEP) 2017 – 2025,
8) Master Plan of Reducing Air Pollution of Ulaanbaatar 2018 – 2025,
9) Mongolian Government Action Plan (GAP) 2020-2024;

7.6 CAAP and CHIP budget allocation

We noticed discrepancies between information regarding the budgeting and number of CHIP household recipients in the target provinces/districts among sources from UNICEF, within the CAAPs, in the National Environmental Health Plan 2021-2024, by Governors (delegation visit and interviews) and our visit at the Innovation Office. Find below the most comprehensive overview provided by the UNICEF implementation team on 29 April 2022.

Number of CHIP HH per year + each aimag/soum (BKH, BZD, SKHD, UMG, GA)

Year	Govi-Altai	Bayankhongor	Umnugovi	Bayanzurkh	Songinokhairkhan
Number of CHIP HH					
2019	0	230	0	0	0
2020	50	110	20	48	0
2021	97	151	0	10	8
2022	0[15]	9	0	0	1
Sub total	**147**	**500**	**20**	**58**	**9**
Number of Kindergartens					
2020-2021	0	14	0	2	0
Total of each aimag	**147**	**514**	**20**	**60**	**9**
Total					**750**

[15] According to one stakeholder, Govi-Altai aimag planst o increase the number to a total of 800 (including those households who have already received CHIP). A total of 800 million MNT has been budgeted for 2022.

Planned number of CHIP HH per year + each aimag/soum

Year	Govi-Altai	Bayankhongor	Umnugovi	Bayanzurkh	Songinokhairkhan
Number of CHIP					
2019	0	230	0	0	0
2020	50	260	20	50	0
2021	97	107	82	45	45
2022 /planning HHs/	520	130	85	173	81
Total of each aimag	**667**	**727**	**187**	**268**	**126**
Total					**1975**

Spent/planned total budget for CAAP per year + each aimag/soum

Year	Govi-Altai		Bayankhongor		Umnugovi	
	Plan	Spent	Plan	Spent	Plan	Spent
2019	N/A	N/A	1’138.80	1’181.10	N/A	N/A
2020						
2021	8’482.90	2’782.70			1’200.00	933.2
2022		unknown			900	unknown
2023		unknown	N/A	N/A	unknown	unknown
2024		unknown			unknown	unknown
Total of each aimag	**8’482.90**	**2’782.70**	**1’138.80**	**1’181.10**	**2’100.00**	**933.2**

Spent/planned budget for CHIP per each year (2019/20/21/22/23/24) + each aimag/soum

Year	Govi-Altai		Bayankhongor		Umnugovi		Bayanzurkh		Songinokhairkhan	
	Plan	Spent	Plan	Spent	Plan	Spent	Plan	Spent	Plan	Spent
2019	0	0	98	98	0	0	0	0	0	0
2020	0	0	288	288	18	18	0	0	0	0
2021	50	50	150	150	150	150	0	0	0	0
2022	752.2	0	150	0	150	0	200	0	20	0
Total of each aimag	802.2	50	686	536	318	168	200	0	20	0

Spent/planned subsidies in % per HH + per year + each aimag/soum

Year	Govi-Altai	Bayankhongor	Umnugovi	Bayanzurkh	Songinokhairkhan
2019	N/A	83%, 85%, 100%	N/A	N/A	N/A
2020	100%	60%, 100%	100%	100%	N/A
2021	60%, 70%	60%	70%	50%	50%
2022	70%	60%	70%	70%	70%

7.7 SDC Assessment Grid

Version: 30.06.2020

Note: this assessment grid is used for evaluations of SDC financed projects and programmes (hereinafter jointly referred to as an 'intervention'). It is based on the OECD Development Assistance Committee evaluation criteria.[16] In mid-term evaluations, the assessment requires analyzing the likelihood of achieving impact and sustainability. All applicable sub-criteria should be scored and a short explanation should be provided.

Please add the corresponding number (0-4) representing your rating of the sub-criteria in the column 'score':
0 = not assessed
1 = highly satisfactory
2 = satisfactory
3 = unsatisfactory
4 = highly unsatisfactory

Key aspects based on DAC Criteria	**Score** (put only integers: 0, 1, 2, 3 or 4)	**Justification** (please provide a short explanation for your score or why a criterion was not assessed)
Relevance **Note**: the assessment here captures the relevance of objectives and design *at the time of evaluation*. In the evaluation report, both relevance at the design stage as well as relevance at the time of evaluation should be discussed.		
1. The extent to which the objectives of the intervention respond to the needs and priorities of the target group.	1	The objectives of the Project are and continue to be highly relevant in the Mongolian context. The project achievements align and respond very well with the needs and priorities of the target group as well as the overall population in Mongolia. The large majority of stakeholders interviewed consider the Project as relevant or very relevant; this is confirmed by the document review and research studies conducted on this topic. This is outlined in Chapter 3.1.

[16] For information on the 2019 revisions of the evaluation framework see: Better Criteria for Better Evaluations. Revised Evaluation Criteria. Definitions and Principles for Use, OECD/DAC Network on Development Evaluation, 2019.

2. The extent to which the objectives of the intervention respond to the needs and priorities of indirectly affected stakeholders (not included in target group, e.g. government, civil society, etc.) in the country of the intervention.	1	The objectives of the Project are highly relevant and consistent with the needs and demands of Mongolia and its sector policies and strategies as outlined in Chapter 1.1 and Chapter 3.1.
3. The extent to which core design elements of the intervention (such as the theory of change, structure of the project components, choice of services and intervention partners) adequately reflect the needs and priorities of the target group.	1	The design of the Project was perceived as technically adequate to reach the objectives as described in Chapter 3.1.
Coherence		
4. Internal coherence: the extent to which the intervention is compatible with other interventions of Swiss development cooperation in the same country and thematic field (consistency, complementarity and synergies).	1	In regard to internal coherence (Chapter 3.2), the Project is consistent with SDC's engagement for Clean Air for All, as well as its Global Programme Climate Change and Environment. Further, it aligns well with the Swiss Cooperation Strategy 2018-2021 for Mongolia and the UNICEF Strategic Plan 2018-2021. Overall, the Project was unique in its approach to address the direct impact of air pollution on maternal and child health.
5. External coherence: the extent to which the intervention is compatible with interventions of other actors in the country and thematic field (complementarity and synergies).	2	In regard to external coherence (Chapter 3.2), the Project (and namely its CHIP initiative) inspired Governors from other provinces to implement CHIP. A collaboration and co-financing of the refurbishment of kindergartens between SDC and GIZ underlined these synergies. Further, UNICEF spearheaded the Development Partners Working Group focusing on the impacts of air pollution and allowing to further explore synergies for collaboration.
Effectiveness		
6. The extent to which approaches/strategies during implementation are adequate to achieve the intended results.	2	Stakeholders mentioned many positive results at all three Outcome levels. Particularly the replication of CHIP in other provinces showed that the piloting of this innovation was timely and filled an urgent gap regarding the important contribution to air pollution caused by coal burning and inefficient use of energy in gers / ger areas. However, the scale-up of CHIP poses several challenges spanning from market-readiness to proper use for maximum exploitation of the energy saving potential (see Chapter 3.3). Most stakeholders emphasized the great support received by the

		UNICEF implementation team and the technical expertise by UNICEF staff was highly valued. The COVID-19 pandemic was mentioned by some stakeholders and in reports, as a hurdle for activities.
7. The extent to which the intervention achieved or is expected to achieve its intended objectives (outputs and outcomes).	2	The Project appears on track to reach the majority of its targets at output and outcome level and with continued efforts for some activities and with its phase-out by December 2022. However, some aspects require further attention, extra efforts and close follow-up. These include for example the sustainability of interventions at the health facility level, as well as pending approval of the National Research Agenda.
8. The extent to which the intervention achieved or is expected to achieve its intended results related to transversal themes.		NA
Efficiency		
9. The extent to which the intervention delivers the results (outputs, outcomes) cost-effectively.	2	Overall, stakeholders appreciated the expertise provided by UNICEF staff in charge of the project, additional UNICEF expertise provided from other departments and the additional funds mobilized, all contributing to cost-efficiency. Stakeholders uniformly agreed that the Project activities were cost-effective and could not be done at lower cost with the same quality delivered.
10. The extent to which the intervention delivers the results (outputs, outcome) in a timely manner (within the intended timeframe or reasonably adjusted timeframe).	2	The responsiveness of the UNICEF implementation team and contracted consultants was favorably mentioned. Despite major challenges due to the COVID-19 pandemic interviewees felt that the UNICEF implementation team has responded timely.
11. The extent to which management, monitoring and steering mechanisms support efficient implementation.		NA
Impact		
12. The extent to which the intervention generated or is expected to generate 'higher-level effects' as defined in the design document of the intervention. **Note**: when assessing this criterion, the primary focus is the intended 'higher-level effects'. In the event that *significant* unintended negative or positive effects can be discerned, they must be specified in the justification column, especially if they influence the score.	(2)	The vast majority of stakeholders were of the opinion that the project has resulted in many positive effects. Numerous respondents reported to have observed a positive impact on the health of mothers and newborns. With the onset of the COVID-19 pandemic and introduction of protective measures (COVID-19 and

		impact of air pollution on health sharing similarities, such as an airborne infectious route and e.g. resulting in pneumonia), it is however not possible to clearly attribute the improvements in maternal and child health to the Project activities. This rating is therefore based on incomplete information.
Sustainability		
13. The extent to which partners are capable and motivated (technical capacity, ownership) to continue activities contributing to achieving the outcomes.	1	The large majority of stakeholders identified with the Project activities and were very motivated to sustain effects in the future.
14. The extent to which partners have the financial resources to continue activities contributing to achieving the outcomes.	2	While some activities will clearly continue independently and have the required financial resources to do so, for other Project activities this remained less clear. For example, the lack of financial resources and limited capacity to analyze and interpret data (especially on the complex association of health effects of air pollution on maternal and child health) was identified as a continuous challenge.
15. The extent to which contextual factors (e.g. legislation, politics, economic situation, social demands) is conducive to continuing activities leading to outcomes.	2	Overall the extent to which contextual factors are conducive to continuing the activities beyond the duration of the Project, resulted in mixed findings. Reducing the impact of air pollution on health is high on the political agenda and many of the Project activities will be sustained. However, frequent rotation of staff – particularly at the government level – and shifting responsibilities will remain a challenge.

Additional information (if needed): NA
Title of the intervention: External Evaluation of the “Impact of Air Pollution on Maternal and Child Health” Project
Assessor(s): Dr Leah F. Bohle (evaluation lead), Mrs Meltem Kutlar Joss (evaluation co-lead); Dr Delgerzul Lodoisamba (evaluation team member)
Date: 25 May 2022