BHOPAL HEALTHY CITY PROGRAM

FINAL REPORT OF THEMATIC GROUP CONSULTATIONS

HSTP Health Systems Transformation Platform

Swasti THE HEALTH CATALYST

WHAT MAKES A HEALTHY CITY?

FINAL REPORT OF THEMATIC GROUP CONSULTATIONS

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List of Abbreviations

BHCP	Bhopal Healthy City Roadmap
BMC	Bhopal Municipal Corporation
GoI	Government of India
HFA	Health For All
ICDS	Integrated Child Development Services
MPPCB	Madhya Pradesh Pollution Control Board
FSSAI	Food Safety and Standards Authority of India
ONRC	One Nation One Ration Card
HSTP	Health Systems Transformation Platform
NHM	National Health Mission
IEC	Information Education Communication
IIFM	Indian Institute of Forest Management
IMR	Infant Mortality Rate
MMR	Maternal Mortality Rate
NHM	National Health Mission
NCD	Non-Communicable Diseases

Executive Summary

The Bhopal Healthy City team along with the National Health Mission of Madhya Pradesh conducted a two-day thematic group consultation workshop at NHM, Bhopal with over 30 participants across the five themes viz individual and family health, food/ nutrition, water, sanitation, and environment. The participants consulted were predominantly from the BHCP Task Force, including government and private stakeholders, development programs, civil society organizations, community organizations, and educational institutions. Their expertise in specific subject domains provided valuable insights into the current scenario and future planning.

Across the five themes, the sub-topics that were covered in this consultation workshop included reproductive and child health, communicable and non-communicable diseases, substance abuse, nutrition security and safety, food habits, water security, conservation and quality, solid and liquid waste management, sanitation facilities, pollution, waste disposal, urban spaces and safe environments.

The collective vision-building exercise enabled the participants to imagine Bhopal as a healthy city and create a vision of their concept of a 'healthy city'. It included the following themes in the order of priority - healthy food, effective waste management, better urban mobility and traffic management, urban planning and green spaces, community awareness and behavior change communication (BCC), promoting healthy lifestyles, and enhancing inter-sectoral coordination.

The group activity for baseline development helped the participants narrow down the comprehensive list of indicators based on current work, data availability, challenges, and monitoring and evaluation frameworks. The indicators were assessed one by one theme-wise. The participants provided extensive suggestions and feedback for baseline development.

The next step is to complete the baseline report according to the feedback received from the stakeholders. Eventually, collated information from the meetings, consultations, and baseline report will feed into the Bhopal Healthy City Roadmap.

Introduction

The healthy city concept is firmly rooted in an understanding of the historical importance of local governments in establishing health conditions and a firm belief that they can lead in health promotion.

The Healthy Cities initiative was conceived to place health high on the social and political agenda of cities by promoting health, equity, and sustainable development through innovation and multisectoral change. Its creation was based on recognizing the importance of action at the local urban level and the key role of local governments. It thrives at the cutting edge of public health, and this is one of the factors that contributed to its success. Healthy Cities is a strategic vehicle for health development and well-being in urban settings, and actions taken at the city level have a crosscutting relevance to most technical areas of WHO's work.

The Healthy Cities concept emerged in the 1980s based on a new public health movement, the Ottawa Charter, 1986, and the WHO's "Health for All" (HFA) strategy launched in 1978 at Alma Ata. The principles of HFA and the strategic guidance of the Ottawa Charter provide the framework for the WHO Healthy Cities initiatives. The Canadian Healthy Cities Project (now called the Healthy Communities) and the WHO European Healthy Cities Project, initiated in 1986, were the forerunners of this concept. These pioneering projects were built on the themes of primary health care and health promotion, which included challenging communities to develop projects that reduce inequalities in health status and access to services and to develop healthy public policies at the local level through a multisectoral approach and increased community participation in health decision making.

The concept involves focusing on the entire community, with its strengths and problems, rather than being established under the rubric of categorical issues such as tobacco, hypertension, cancer, or child abuse. It is not confined to one or more health problems but "is intended to build health into the decision-making processes of local governments, community organizations, and businesses, to develop a broad range of strategies to address the broad social, environmental, and economic determinants of health" and to change the "community culture by incorporating health." Since then, Healthy Cities has spread rapidly across Europe and other parts of the world. The program is a long-term international development initiative aiming to place health high on decision-makers' agendas and promote comprehensive local health protection and sustainable development strategies.

About the Thematic Consultations

The thematic group consultations were conducted across the five themes. The meeting comprised government and private stakeholders, development programs, civil society organizations, community organizations, and educational institutions. The broad objective of the consultation was consensus building on vision building and baseline development for the Healthy City initiative. The vision and baseline will directly feed into the roadmap to make Bhopal into a model of a "Healthy City".

The following were the objectives of the consultation -

- Develop the vision for Bhopal as a Healthy City initiative
- Finalize the indicators across each of the five themes
- Map the current interventions in Bhopal and changes required to them, in alignment with the vision
- Current challenges that must be overcome at a city level concerning the themes and potential solutions

Scope and Limitations of the Consultation

The consultation consisted of participants from diverse backgrounds across the five themes. The BHCP team identified the participants through government officials/ task force members, the National Health Mission in Madhya Pradesh, and CMHO, CMHO recommendations, and within the network of HSTP and Swasti.

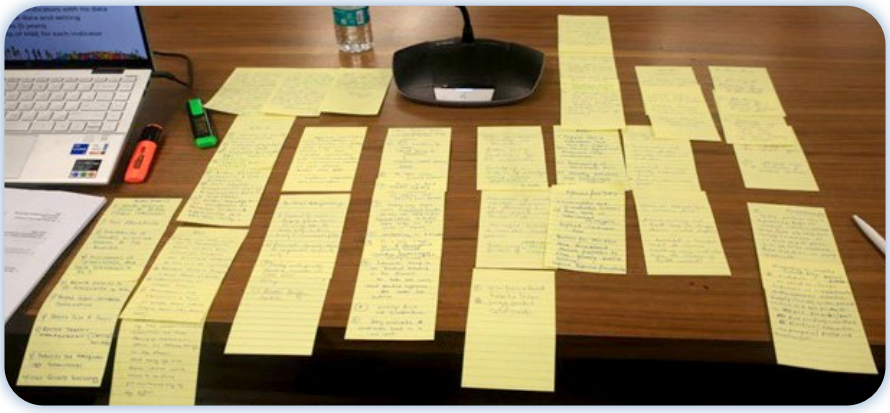
The aim was to gather subject-specific advice across thematic areas, articulate their vision of a Healthy City, and understand the current scenario in the City across the themes. The discussion was limited to the key questions (Annexure 2) the BHCP and HSTP Team prepared. The questions were kept broad to make the participants, firstly, imagine what a healthy city would be like and, secondly, review the theme-wise indicators established, including their monitoring and evaluation mechanism.

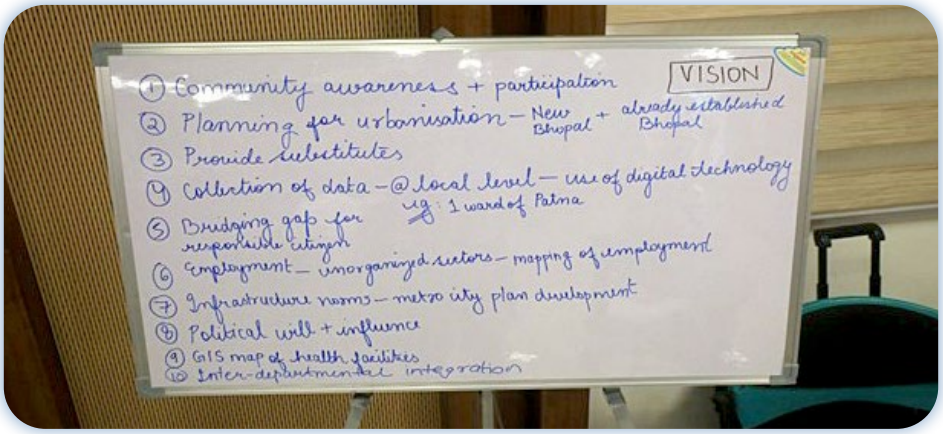
Methodology

The preparation of the consultation started with the development of critical questions, both broad and specific (Annexure 2). Scheduling of consultations was based on the availability at the National Health Mission, M. P., and the logical flow of the themes and sub-themes.

The consultation workshop was organized theme-wise for two days. Day 1 consisted of participants from the Water, Sanitation, and Environment theme, while Day 2 consisted of invitees from the Food/ Nutrition and Individual and Family Health. The format of the workshop was interactive and the following activities were organized:

- **Imagination exercise through a vision board**





Picture 1: The Vision Board

➤ **Group Exercise for baseline development (Baseline worksheet in Annexure 2)**

Picture 2: The Group Activity for Baseline (Participants discussing indicators)

Objective 1:
Vision Building

The vision-building exercise enabled the participants to imagine Bhopal as a healthy city. It helped the participants to visualize how their city would look and feel through a scenario of ten or more years into the future. The exercise paved the way to explore, list, and prioritize recommendations, and build a general consensus towards a vision for Bhopal Healthy City. Some questions that were addressed to the crowd included -

- What would be different from what it is today?
- What action would be needed?

The responses ranged from healthy eating practices, waste management, and green energy to behavioral change communication, conservation, and preservation of natural resources. While the range of responses varied, below are the responses that received maximum consensus.

Healthy Food

Food is a vital element and a basic need for human life as it plays a prominent role in sustaining one's health and livelihood. The quality and quantity of foods, combined with the systems that produce them, have a profound influence on the nutrition status of populations. Food is directly linked to our physical, mental, and social health, as food contains different nutritional elements that are essential for human development. It promotes maternal, infant, and child health, supports a stronger immune system, reduces the risk of diseases, and even improves school and education performance. The following points were highlighted -

- Limiting access to junk food, including processed food, through increased taxation, and limited availability in the markets. Encouraging diet low on FSS (Fat, Sugar, and Salt).
- Maximizing availability and access to seasonal and local foods through local markets and events.
- Targeting low-cost high-nutrition food items.
- Encouraging the concept of safe growing practices through kitchen and vertical gardens.
- Addressing malnutrition among women and children through local initiatives and community awareness.

Effective Waste Management

Effective waste management is crucial for maintaining a healthy environment, conserving resources, and promoting sustainable development. It comprises activities and practices that minimize the generation of waste, proper handling and disposal of waste, and recycling or reusing materials to reduce the impact on the environment. A few key points discussed include:

- Exploring the idea of energy generation from waste.
- Encouraging source segregation to energy generation.
- Conservation of natural resources through effective waste management strategies.

- ⌘ Access to public sanitation facilities especially in the slum areas. Appropriate and routine maintenance of these facilities.
- ⌘ Encouraging the concept of 3 Rs - reduce, reuse, and recycle in society through mass media campaigns.
- ⌘ Promoting the concept of a sustainable built environment.

Better Urban Mobility and Traffic Management

Urban mobility is essentially how people and goods move in the city. Though the definition looks simple, the concept is complex. Numerous factors like history, infrastructure, culture, and politics play a major role in how we navigate cities. Challenges like congestion, public safety, public health, and environmental impact determine the extent of urban mobility. In the current scenario, one of the major challenges is traffic management.

- ⌘ Encouraging the use of public transport through improved access and availability.
- ⌘ Underground electrification for public safety.
- ⌘ Enhancing smart city technologies throughout the city's infrastructure (smart pavement, parking, traffic signals, street lights, cameras, intersections, etc.)
- ⌘ Using Urban Mobility as a service.
- ⌘ Traffic management, including stray cattle management, noise control, women, child, elderly, and disabled-friendly streets, improve walkability and cyclability.

Urban Planning and Green Spaces

With increasing urbanization and migration, the need for effective urban planning becomes significant. Urban planning considers a holistic picture of the city including social, political, economic, environmental, cultural, and historical factors. It develops physical plans for the better living of urban dwellers according to rules and regulations. The key highlights are presented below -

- ⌘ Planning that understands the local needs and context.
- ⌘ Consider important aspects like migration, urbanization, and social exclusion.
- ⌘ Making urban planning inclusive; improving the living conditions of slums/ vulnerable groups
- ⌘ Promoting the concept of green spaces through legal enforcement.
- ⌘ Protection, better coverage and access to green space, including, parks & playgrounds

Community Awareness and Behavioral Change Communication (BCC)

Behavior Change Communication (BCC) and Community Awareness are strategies used to promote positive social and behavioral changes within communities. They are vital tools for addressing various social, health, and environmental issues. They empower communities, promote positive behavior change, and foster a sense of ownership over the change process. However, these strategies come with challenges that require careful planning, cultural sensitivity, and ongoing evaluation to overcome. When executed effectively, BCC and community awareness can drive positive change within communities.

- ⌘ Inculcating civic sense and responsibility, involving children and youth as change agents.
- ⌘ Awareness building and behavioral change through the introduction of healthy city concepts in the school curriculum and public display of key issues.
- ⌘ Making use of behavioral change models in theory and practice.
- ⌘ Effective use of information, education, and communication (IEC) tools.
- ⌘ Community involvement and leadership in monitoring and evaluation.

Promote Healthy Lifestyles:

Promoting healthy lifestyles is a critical public health endeavor to encourage individuals and communities to adopt behaviors and habits that contribute to overall well-being and reduce the risk of chronic diseases and health problems.

- ⌘ Encouraging physical activity by promoting yoga and other forms of exercise. Ensuring access to safe and maintained public spaces for physical activity.
- ⌘ Promoting AYUSH and traditional Ayurveda practices for well-being.
- ⌘ Ensuring regular screening of lifestyle-related diseases, especially NCDs and mental health disorders, by strengthening urban health services.
- ⌘ Prevention of substance abuse through education, treatment, and support in communities, and legal enforcement like increased taxation and decreasing access to tobacco, drugs, and alcohol.
- ⌘ Creating supportive environments through advocating policies and workplace wellness that encourage healthy lifestyles and behaviors.

Enhance Inter-Sectoral Coordination

The concept of a Healthy City comes from the fundamental idea of integration. This is a joint effort of several departments coming together and working towards a common objective. Thus, inter-sectoral coordination becomes extremely important for effective governance. The following points were highlighted during the discussion:

- ⌘ Creating an integrated yet comprehensive platform for sectors to align their goals and policies towards a collaborative effort.
- ⌘ Develop a coordinated action plan that states the roles and responsibilities of each sector.
- ⌘ Sharing relevant quality data to support evidence-based decision-making.
- ⌘ Encourage regular and open communication channels among sectors and stakeholders to share information and updates.
- ⌘ Tracking progress and outcomes collectively through a joint monitoring and evaluation mechanism.

Objective 2:
Baseline Development

The baseline development group activity enabled the BHCP team to dive deep into each of the thematic aspects (food, water, and sanitation, environment, individual and family health) and tap into the knowledge of the participants regarding the current scenario in Bhopal. The group worked on indicator validation and prioritization, data availability, and monitoring and evaluation frameworks. The discussion took place around the following points:

- ⌘ Assessment of existing indicators
- ⌘ Suggestions on improvement
- ⌘ Data sources for indicators with no data
- ⌘ Verify baseline data and setting benchmarks (5 years)
- ⌘ Ownership of monitoring and evaluation for each indicator

Every group received a working sheet (Annexure 2). The responses and discussion around every indicator are summarized in the form of a table for every theme. The table covers the indicator's name, data sources, and the suggestions received from the participants.

Picture 3: Baseline Group Activity

Individual and Family Health

Health encompasses medical, social, and mental factors that impact individual and community well-being. Chronic and infectious diseases often correlate with lifestyle and access to healthcare, disproportionately affecting vulnerable groups. Mental health, while vital, is commonly overlooked. Effective strategies should aim for prevention, education, and equitable healthcare access to achieve holistic well-being and a sustainable future for all.

During the workshop, experts including Dr. Manish, Deputy Director of Urban Health, refined and consolidated crucial health indicators from 20 down to 17. The panel engaged in a comprehensive review of Bhopal's health landscape, highlighting areas such as communicable diseases and mental health. While appreciative of existing initiatives, the focus was on tackling health disparities and environmental factors like water quality. The aim is to develop a holistic, data-driven strategy to make Bhopal a benchmark for urban health and well-being.

Picture 4: Discussion on Health Indicators

Table 1: Individual and Family Health Indicators

Sl No	Indicators	Definition	Source of Data	Suggestions/ Remarks
1.	Coverage of health services at primary (HWC+PHC), secondary (CHC+DH) and tertiary (Hospitals + Medical colleges) levels at both public and private facilities (%)	(No. of primary or secondary or tertiary health centers/ total urban population) x100	NUHM + AYUSH, DHS	The revised metric includes public and private services at three levels: primary, secondary and tertiary.

Sl No	Indicators	Definition	Source of Data	Suggestions/ Remarks
2.	No. of medical allopathic doctors/ 20-25,000 population and No. of medical allied doctors/ 20-25,000 population	No. of allopathic doctors) / (Total population of city/20-25,000 population) (No. of allied medical doctors) / (Total population of city / 20-25,000 population)	CMHO, Medical Council,	Metric revised from general practitioners to include medical allopathic and allied doctors. This will throw light on the type of practitioners available.
3.	No. of ANM/ 10,000 people and No. of ASHA/ 1000 people	(No. of ANM / (Total population of city / 10,000) (No. of ASHA/ (Total population of city / 1000)	ASHA/ANM	Metric changed from registered nurses to ASHA and ANM. This metric can be changed in future with changes in urbanization rate.
4.	No. of psychiatric practitioners/1 lakh population	(No. of mental health practitioners / (Total population of city / 1,00,000)	NHM, CMHO, Medical Council	The revised metric now includes not only psychiatrists but also social workers and clinical psychologists. It aligns with the Mental Health Act's requirement of one psychiatrist per 100,000 people and considers existing services provided by Health and Wellness Centers (HWCs). The indicator aims to address the increasing prevalence of mental health issues like stress and depression.
5.	Percentage of people over 60 years old screened for NCDs and tuberculosis (%)	(No. of people 60+ screened for NCDs and TB/ 8% of total urban population) x100	CBAC form (ASHA)	The revised metric aligns with WHO standards, targeting 8% of the population aged 60+ and includes annual screenings and an emphasis on healthy practices.

Sl No	Indicators	Definition	Source of Data	Suggestions/ Remarks
6.	Maternal Mortality Rate	(No. of maternal deaths in a population/ total no. of women of reproductive age)	NHM	Targeting a 10% decrease every 5 years; note some deaths may be inbound, not local to Bhopal. Robust surveillance system required.
7.	Infant Mortality Rate	(No. of deaths of children less than 1 yr of age/ total no. of live births in the same year) x 1000	NHM, SRS (value for now - 33)	It is crucial to create a robust surveillance system for this indicator
8.	Under-5 Mortality Rate	(No. of deaths below age 5 yrs during a given period/ total no. of live births during a given period) x 1000	NHM, SRS, (value for now - 38)	To establish a surveillance system to monitor deaths, targeting a 10% decrease every 5 years
9.	Children age 12-23 months fully immunized (BCG, measles, and 3 doses each of polio and DPT (%)	(No. of children 12-23 months fully immunized/ total no. of children aged 12-23 months) x 100	NFHS/Primary Data Collection, SRS.	Data source updated; 76.5% of EPI vaccines' adverse events were monitored in inaccessible centers compared to private facilities, aiming for a 10% improvement
10.	Households with any usual member covered by a health scheme or health insurance (%)	No. of households with any usual member covered by a health scheme or health insurance/ total no. of households) x 100	ABHA, Ayushman	The revised metric includes Ayushman Bharat, Govt coverage, Ayushman Bharat Vs Private Vs CGHS utilization
11.	Number of HIV positive among tested per 10000 Population	(No. of HIV positive/ total no. of people tested for HIV) x 1000	NFHS, 8/10,000 (MPSACS)	Monitor test rates and positivity through Sentinel Surveillance, ensuring linkage to care as guided by MP Aids Control Organization.
12.	% of the population with Obesity	(No. of obese people/ total no. of people) x 100	NFHS	Regular BMI screenings for obesity at designated venues.

Sl No	Indicators	Definition	Source of Data	Suggestions/ Remarks
13.	Children under 5 years who are stunted (height-for-age) (%)	(No. of children under 5 years who are stunted/ total no. of children under 5 yrs) x 100	ICDS	Inbounds for referral care, NRC (Urban), Anganwadi Inputs
14.	Children under 5 years who are wasted (weight-for-height) (%)	(No. of children under 5 years who are wasted/ total no. of children under 5 yrs) x 100	NFHS/ICDS	Inbounds for referral care, NRC (Urban), Anganwadi Inputs
15.	Children under 5 years who are severely wasted (weight-for-height) (%)	(No. of children under 5 years who are severely wasted/ total no. of children under 5 yrs) x 100	NFHS/ICDS	Inbounds for referral care, NRC (Urban), Anganwadi Inputs
16.	%of population with diabetes	(No. of people with diabetes/ total no. of people) x 100	NCD (CBAC Form)	Regular screening for NCDs, vision impairment, and sedentary lifestyle, with borderline cases linked to care
17.	% of population with heart disease	(No. of people with heart disease/ total no. of people) x 100	NFHS, CBAC Form	Revised metric to include NCDs and, HWC services.

Food/ Nutrition

The role of food, a vital and basic need for human life, in sustaining an individual's health and livelihood can hardly be undermined. In urban areas, especially in developing countries and in countries in transition, people experience a shift in dietary patterns such as diets rich in saturated fat, refined foods, and sugar and low in fiber which create increasing health problems.

The key points of the discussion and finalization of the indicators (4 out of 11 indicators) were based on aspects like food nutrition and security (access and storage), food safety and adulteration, and nutrition and food habits as presented in Table 2.

Picture 5: Food/ Nutrition Theme Discussion

Table 2: Food/ Nutrition Indicators

Sl No.	Indicator	Definition	Source of Data	Suggestions/ Remarks
1.	Stability of food price and supply	Are the food prices (staple grains, vegetables) stable over the last 6 months? Yes/ No If No, what are the main reasons?	Food & Civil Supplies	No change suggested
2.	Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)	Is FIES being calculated? Yes/ No If Yes, what is the score?	Food & Civil Supplies	Bhopal performs well on this indicator, it does not have food insecurity issues. About 80% of the population is covered through the One Nation One Ration Card (ONRC).

3.	Percentage of pregnant women taking Supplementary Nutrition under the ICDS programme regularly	(No. of pregnant women taking Supplementary Nutrition under the ICDS programme / Total no. of women enrolled in the ICDS programme for Supplementary Nutrition) x 100	NHM, WCD	No change suggested
4.	Number of food safety certifications issued (%) for Clean Street Food Hub Certification	(No. of food safety certifications issued/ Total no. of food safety certificate applications) x 100	BMC/ ULB Food Safety and Health Dept	The revised metric includes FDA components. Refer to the guidelines issued by GoI for food street modernisation. Can consider EatRight campus certification.

Water

Safe and accessible water is important for public health, whether for drinking, domestic use, food production, or recreational purposes. Improved water supply and sanitation, and better management of water resources, can boost the countries' economic growth and can contribute greatly to poverty reduction. Water security, conservation, quality, and wastewater management themes were highlighted during the workshop. The indicators are presented in Table 3.

Table 3: Water Indicators

Sl No.	Indicator	Definition	Source of Data	Suggestions/ Remarks
1.	Households that have access to clean and safe water (%)	[(No. of HHs with municipal water supply connection) + (No. of HHs with their own sources like groundwater) + (No. of HHs having access to common/indirect sources like public taps, water tankers, surface water bodies etc.) / Total No. of HHs in the city] x 100	BMC	No change suggested
2.	Number of HHs gaining access to a safely managed drinking water service (%)	[(No. of HHs dependent on municipal water supply) + (No. of HHs with own sources like ROs) + (No. of HHs having access to common/indirect sources like public taps, water tankers, surface water bodies etc.) / Total No. of HHs in the city] x 100	BMC	Indicator to be re-considered. It is a challenge to find this data at the household level.
3.	Households that have direct water connections (%)	(No. of Domestic Water Supply Connections / Total no. of HHs in the city) x 100	BMC	No change suggested
4.	Per capita water consumption (lpcd)	[(quantity of water supplied through piped connections/no. of people covered through piped supply) + (estimated water consumed by people from other sources like groundwater or surface water etc./no. of people using other sources)] / 2	BMC	No change suggested
5.	Buildings practicing rainwater harvesting (%)	[No. of buildings/properties in the city with functional RWH system / Total no. of buildings in the city] x 100	BMC	No change suggested

Sl No.	Indicator	Definition	Source of Data	Suggestions/ Remarks
6.	Households/ Establishments reusing water (on-site) (%)	[No. of HHs and Establishments reusing the domestic wastewater within their premises/ Total no. of HHs and Establishments in the city] x 100	BMC, MPPCB	Indicator to be re-considered. It is a challenge to find this data at the household level.
7.	Integrated Water Resources Management implemented in the city?	Yes/ No If Yes, please share the details	BMC, Water Resources, BDA	No change suggested
8.	Drainage water tested for the presence of any pathogens.	Drainage water is collected and tested for the presence of Pathogens/viruses using technology.	BMC/ Swasti	This is a new indicator added. To establish a mechanism for Drainage water testing and share data with govt. for taking appropriate steps in time.

Sanitation

Access to clean water and sanitation facilities are major factors impacting the health of urban populations. Poor sanitation not only contributes to the spread of disease but also undernutrition which is caused by a lack of access to safe drinking water, sanitation, and hygiene. The lack of access to clean sanitation facilities also impacts women's education and health. Safe sanitation is extremely essential to maintaining a healthy lifestyle, as well as to improve the mental and social well-being of people. The key themes highlighted as a part of indicator deliberations (Table 4) include WASH practices, access to sanitation facilities, hygiene, and solid and liquid waste management.

Table 4: Sanitation Indicators

SL No.	Indicator	Definition	Source of Data	Suggestions/ Remarks
1.	Percentage of HHs with reliable access to improved sanitary facilities	[(HHs with individual toilets) + (HHs having access to well-maintained shared/ community toilets)] / Total no. of HHs in the city x 100	BMC	No change suggested
2.	Basic sanitation facilities provided in health facilities and schools (%)	[(No. of schools with functional gender-segregated toilets) + (No. of health facilities with functional gender-segregated toilets)] / Total no. of schools and health facilities in the city x 100	BMC, Education, Health	No change suggested
3.	Women and girls with improved menstrual hygiene practices (%)	(Estimated women and adolescent girls using safe and hygienic menstrual practices) / No. of women and adolescent girls in the city) x 100		Revised metric to include slums. Adolescent girls' data can be obtained from schools and AWCs.
4.	Buildings connected to underground drainage to safely dispose of wastewater (%)	No. of buildings/properties connected to UGD in the city / Total no. of buildings/ properties in the city) x 100	BMC	No change suggested
5.	The portion of wastewater generated in the city that is scientifically treated (%)	(Quantity of wastewater scientifically treated / Total quantity of wastewater generated in the city) x 100	BMC, MPPCB	No change suggested

SL No.	Indicator	Definition	Source of Data	Suggestions/ Remarks
6.	Portion of treated wastewater reused (%)	(Quantity of treated wastewater reused / Total quantity of wastewater scientifically treated in the city) x 100	BMC, MPPCB	No change suggested
7.	Buildings covered by solid waste collection system (%)	(No. of buildings/properties covered by waste collection system in the city / Total no. of buildings/properties in the city) x 100	BMC	No change suggested
8.	A portion of solid waste collected in the city that is scientifically treated (%)	(Quantity of solid waste scientifically treated / Total quantity of solid waste generated in the city) x 100	BMC	No change suggested
9.	Portion of solid waste that is reused (%)	(Quantity of treated solid waste reused / Total quantity of solid waste scientifically treated in the city) x 100	BMC	No change suggested

Environment

The ecological environment combined with the living spaces and the safety together makes an immense and direct impact on people's health. Environmental diseases impact the marginalized population, in particular, women, children, and senior citizens, much more than the rest of the population, enabling an environment that supports healthy life thus needs to focus on improving air, water, and noise pollution, creating better urban spaces, and enhancing at least the physical safety of citizens. The impact of the environmental indicators on building healthy cities was discussed in the context of four sub-topics- ; pollution, waste generation, urban spaces, and safe environment as stated below (Table 5). The panel finalized 12 out of the 13 indicators.

Picture 6: Environment Indicators Discussion

Table 5: Environment Indicators

Sl No.	Indicator	Definition	Source of Data	Suggestions/ Remarks
1.	Proportion of days with good and excellent air quality (%)	(No. of days in a year with AQI less than 100 / 365) x 100	BMC, Smart City, MPPCB	No change suggested
2.	Access to clean fuels and technologies, (% of population)	Estimated no. of people using clean fuels for cooking, transportation etc./ Total population of the city) x 100	MP Urja Vikas Nigam Ltd., Vehicle registration data from RTO, LPG user data under Ujjwala scheme	Revised metric to define clean fuels in each sector e.g. CNG in transportation.
3.	% of the energy used by the city derived from renewables	(Energy sourced from renewable sources / Total energy consumption of the city) x 100	MP Urja Vikash Nigam Ltd., MPEB, Rooftop Solar Installations	Check MPEB targets for renewable sources

Sl No.	Indicator	Definition	Source of Data	Suggestions/ Remarks
4.	% of population living in slums	(No. of people living in urban slums / Total population of the city) x 100	BMC or Self Identification Survey	Alternate indicators like inadequate housing could be measured. Data on the BPL population could be a proxy
5.	Number of homeless people per 10,000 population	No. of homeless people / (Total population of the city /1000)	Planning Dept. BMC for night shelters data.	Revised metric to include No. of people using Night Shelters.
6.	Hazardous waste generated per capita	Quantity of hazardous waste generated in the city / Total population of the city	MPPCB	Revised metric to define hazardous waste
7.	Tonnes per capita of greenhouse gas emissions	Quantity of greenhouse gasses generated in the city / Total population of the city		No change suggested
8	% of neighborhoods that have a park	(No. of neighborhoods with a park / Total no. of neighborhoods in the city) x 100	City Biodiversity Register, IIFM	An alternative indicator could be the availability of green spaces in a ward/ population of that ward. Measure footfall data in parks and playgrounds.
9.	% of neighborhoods with public transport stops in their geographical center	(No. of neighborhoods with a public transport stop within walkable distance / Total no. of neighborhoods in the city) x 100	MPRTC	Alternative indicator could be Year on Year increase in ridership of the public transport system.
10.	Level of Pedestrianization in the city (%)	[(Total length of footpaths in the city x 2) / Total length of roads in the city)] x 100	BMC	No change suggested
11.	Traffic accident rate per 10,000 vehicles	No. of traffic accidents in a year / (Total no. of vehicles in the city /10,000)]	Traffic Dept	No change suggested
12.	Traffic injury mortality rate (%)	[No. of mortalities due to traffic accidents in a year / (Total no. of traffic accidents in a year)]x 100	Traffic Dept	No change suggested

Conclusion and Way Forward!

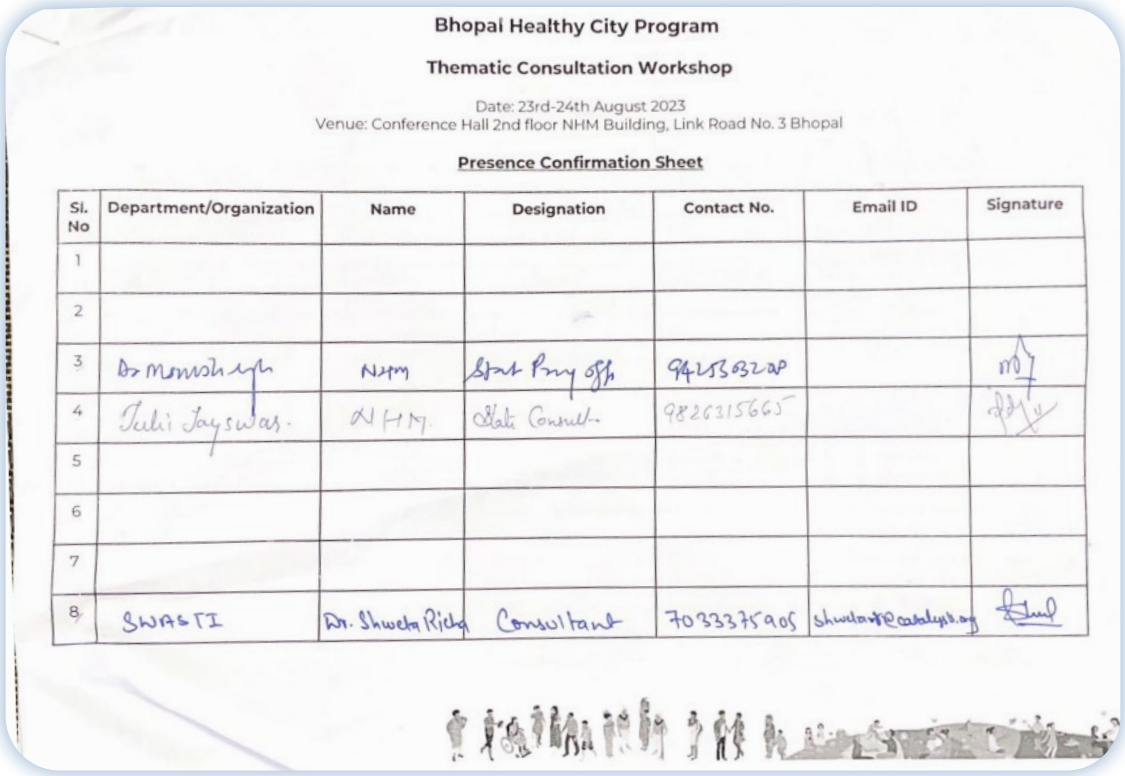
The thematic consultations helped in consensus building towards a collective vision through the imagination exercise and discussions. The baseline development session concluded with the finalization of indicators, data availability, and monitoring and evaluation mechanisms. The discussion highlighted the current interventions in Bhopal and changes required in line with the vision along with the current challenges that must be addressed at the city level in relation to the themes and potential solutions.

The next step is to fill the gaps in the baseline report. A comprehensive list of the indicators across the five themes will be taken to establish the baseline. The BHCP Team will approach the relevant departments, which indicate data availability for specific indicators. A mechanism will be established in the Roadmap to measure the indicators for which the data was unavailable. The baseline report forms a crucial part of the BHCP Roadmap document.

Finally, the feedback received from the first city-level meeting with the task force members, technical expert consultation, thematic consultation workshop, and the baseline report will feed into the roadmap. Eventually, a final Roadmap for Bhopal Healthy City will be developed and finalized. There will be a Task Force meeting scheduled under the chairmanship of the District Collector to sign off on the Bhopal Healthy City Plan, which will mark the closure of this phase of the program.

Annexure 1

➤ **Presence Confirmation Sheet - Day 1 (Water, Sanitation and Environment)**



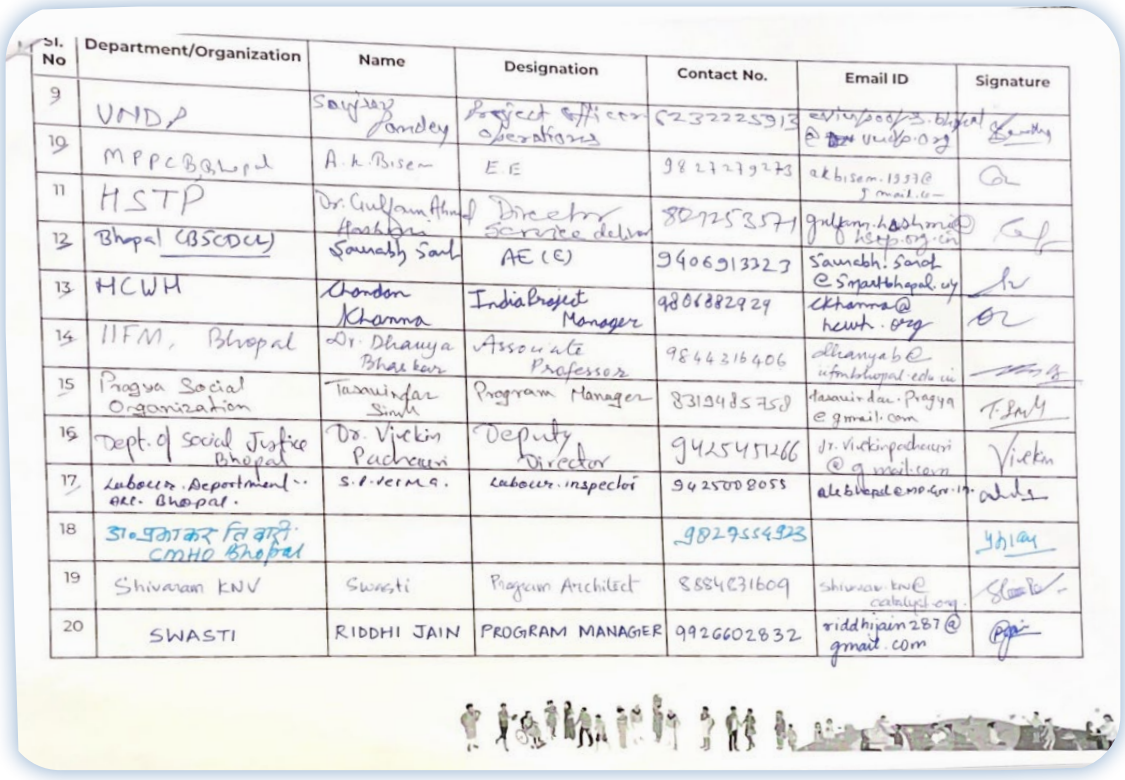
Bhopal Healthy City Program

Thematic Consultation Workshop

Date: 23rd-24th August 2023
Venue: Conference Hall 2nd floor NHM Building, Link Road No. 3 Bhopal

Presence Confirmation Sheet

Sl. No	Department/Organization	Name	Designation	Contact No.	Email ID	Signature
1						
2						
3	Dr Manish Singh	NHM	State Prog Offr	9425303208		[signature]
4	Tulsi Jayswar.	NHM.	State Consult.	9826315665		[signature]
5						
6						
7						
8	SWASTI	Dr. Shweta Richa	Consultant	7033375905	shwetant@catalyst.org	[signature]



Sl. No	Department/Organization	Name	Designation	Contact No.	Email ID	Signature
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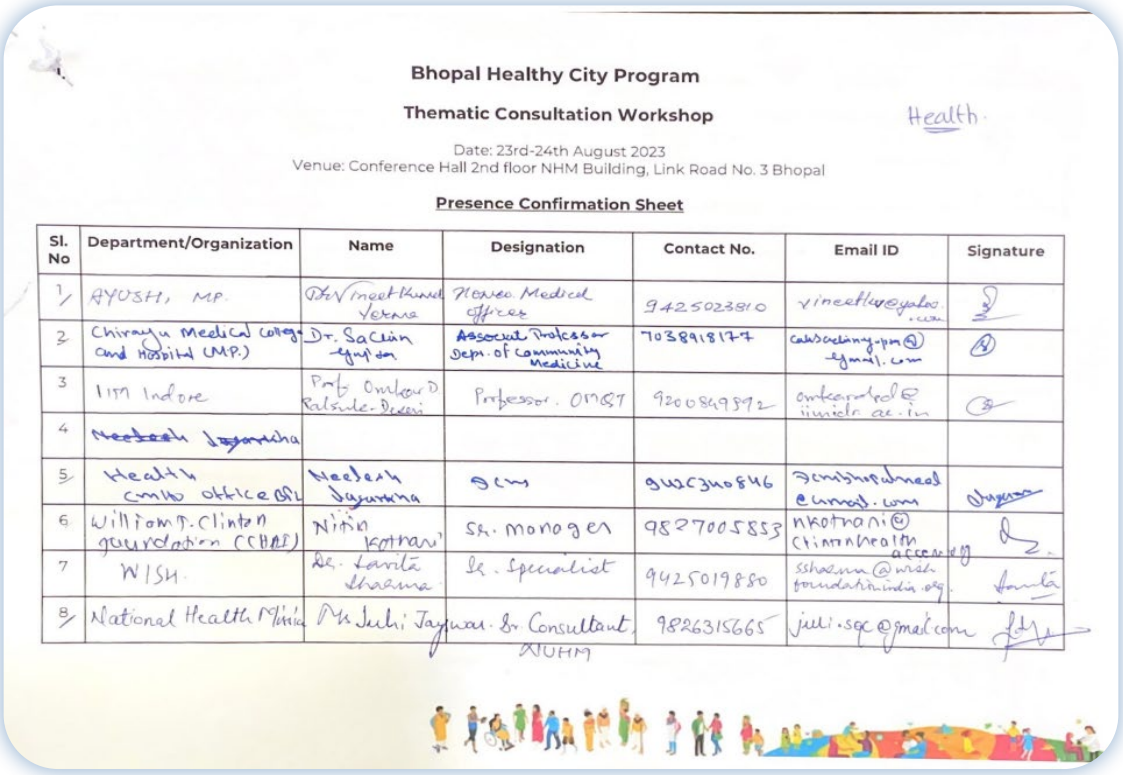
18	डा० प्रभाकर तिवारी CMHO Bhopal			9827554923		[signature]
19	Shivaram KNV	Swasti	Program Architect	8884831609	shivaram.knv@catalyst.org	[signature]
20	SWASTI	RIDDHI JAIN	PROGRAM MANAGER	9926602832	riddhijain287@gmail.com	[signature]

➤ Presence Confirmation Sheet - Day 2 (Health and Food/ Nutrition)



Bhopal Healthy City Program

Thematic Consultation Workshop

Health.

Date: 23rd-24th August 2023
Venue: Conference Hall 2nd floor NHM Building, Link Road No. 3 Bhopal

Presence Confirmation Sheet

Sl. No	Department/Organization	Name	Designation	Contact No.	Email ID	Signature
1	AYUSH, MP.	Dr Vineet Kumar Verma	Nonco. Medical officer	9425023810	vineetkv@yahoo.com	
2	Chirayu Medical College and Hospital (MP.)	Dr. Sachin Gupta	Associate Professor Dept. of Community Medicine	7038918177	cahsachinyupm@gmail.com	
3	IIM Indore	Prof Omkar D Palsule-Desai	Professor. OMQT	9200849892	omkardpd@iimidr.ac.in	
4	~~Neelesh Jayarkha~~					
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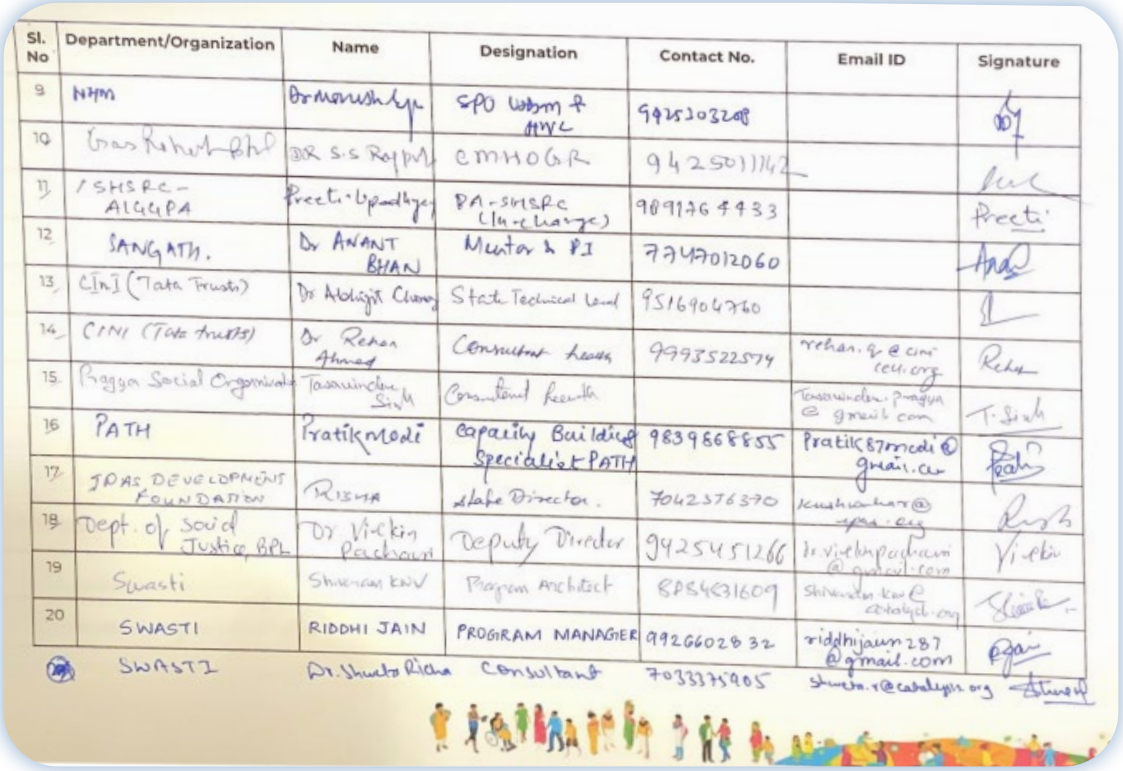
8	National Health Mission	Ms Juhi Jaywar	Sr. Consultant NUHM	9826315665	juhi.sgc@gmail.com	



Sl. No	Department/Organization	Name	Designation	Contact No.	Email ID	Signature
9	NHM	Dr Manish Gupta	SPO WBM & HWC	9425303208		
10	Gas Rehab Bhopal	DR S.S Rajpal	CMHOGR	9425011142		
11	SHSRC-AIGGPA	Preeti Upadhyay	PA-SHSRC (In-charge)	9891764433		Preeti
12	SANGATH.	Dr ANANT BHAN	Mentor & PI	7747012060		
13	CINI (Tata Trusts)	Dr Abhijit Chowg	State Technical Lead	9516904760		
14	CINI (Tata trusts)	Dr Rehan Ahmed	Consultant health	9993522574	rehan.q@cini.cell.org	Rehan
15	Pragya Social Organization	Tasavinder Singh	Consultant health		Tasavinder.pragya@gmail.com	T. Singh
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17	IPAS DEVELOPMENT FOUNDATION	RISHA	State Director.	7042376370	kushwahar@ipas.org	
18	Dept. of Social Justice, BPL	Dr Vivekin Pachauri	Deputy Director	9425451266	dr.vivekinpachauri@gmail.com	Vivekin
19	Swasti	Shivaram KNV	Program Architect	8284831609	shivaram.knv@catalyst.org	
20	SWASTI	RIDDHI JAIN	PROGRAM MANAGER	9926602832	riddhijain287@gmail.com	
	SWASTI	Dr. Shweta Richa	Consultant	7033375905	shweta.r@catalyst.org	

Food / Nutrition.

Sl. No	Department/Organization	Name	Designation	Contact No.	Email ID	Signature
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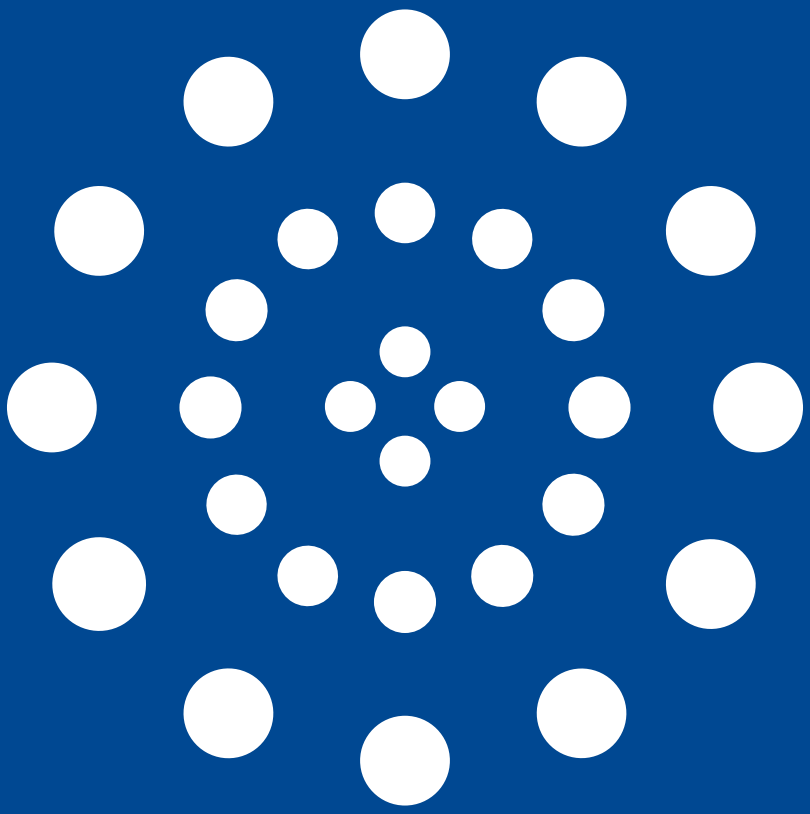
22	Food civil supplies and consumer Protection Dept	Mubina Kadri	Junior supply officer	9826305505	mubi.191@gmail.com	[signature]
23	Food Safety Administration	D.K. Dubey	Sr. Food Safety Officer	7000667761	ddd002@gmail.c.	[signature]
24	Agriculture dept Sushma Ahirwar	Sushma Ahirwar	Ass. Dir. of Agr.	9685721211	ddagri@mp.gov.in	[signature]
25	CMS	Umashankar.	Sr. Public Health Spl.	6300490031	Umashankar@cmhlm.org.	[signature]
26	HSTP	Dr. Gulfam Ahmed Hashmi	Dep Director	8527253571	gulfam.hashmi@hstp.org	[signature]
27	Swasti	Shivaram KNV	Program Architect.	8884831609	shivaram.knv@catalysts.org.	[signature]
28	SWASTI	RIDDHI JAIN	PROGRAM MANAGER	9926602832	riddhijain287@gmail.com	[signature]
29	SWASTI	Dr. Shweta Richa	Consultant	7033375905	shweta.r@catalysts.org	[signature]
30						
31						
32						

Annexure 2

➤ **Worksheet for Baseline Development Group Activity Template**

#	Indicator	Definition/ How to calculate	Value	Source of Data	Benchmark (5 years)	Stakeholder responsible for measurement	Suggestions/ Notes on Alt. indicators, Methods of measure-ment etc.



BHOPAL
Healthy City

Swasti
THE HEALTH CATALYST