



# Health and Pollution Action Plans

Accelerating National Actions To  
Address Pollution-Related Illness

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## Executive Summary

The Health and Pollution Action Plan (HPAP) program is designed to assist governments of low- and middle-income countries to develop and implement solutions to pollution-related health challenges. The HPAP program is facilitated by [the Global Alliance on Health and Pollution \(GAHP\)](#), which is a consortium of national ministries of health and environment, international development banks, United Nations agencies, bilateral development agencies, NGOs and other actors working on pollution ([www.gahp.net](http://www.gahp.net)). The HPAP program brings together national Ministries of Environment, Health, Industry, Transport, Energy, Mining, Agriculture and others to advance concrete pollution actions. In countries where a National Environmental Health Action Plan (NEHAP) has already been developed with the support of WHO, the HPAP is intended to support the practical implementation of the key priorities.

The goals of the HPAP program are:

1. Assist governments to identify, evaluate and prioritize existing pollution challenges based on health impacts
2. Establish pollution as a priority for action within national agencies and development plans
3. Define and advance concrete interventions to reduce pollution exposures and related illnesses

The Health and Pollution Action Plan process is driven by national agencies, with facilitation and support by GAHP members. The HPAP differs from other planning processes because it is intentionally structured to bring together different agencies and parties who usually do not work closely together. It is intended to promote collaboration, and result in well-defined and practical outcomes, including commitments by all the participants, including international partners and donors, to undertake specific short- and medium-term actions for improved environmental health.

Depending on the national context, the scope of the HPAP may include indoor and outdoor air pollution, unsafe water and inadequate sanitation, chemical contamination of soil, and occupational exposures to pollutants. The HPAP process is flexible and tailored to the needs of each country, but generally includes the following steps:

PHASE 1. Collection, compilation and analysis of available information on health impacts from pollution and existing pollution management programs by the Ministries of Health, Environment and Industry/Production, with assistance of the GAHP Secretariat.

PHASE 2. Inception meeting to prioritize pollution issues, define next steps, including roles and responsibilities of stakeholders through a participatory process.

PHASE 3. Preparation of a draft Health and Pollution Action Plan describing priority pollutants, pollution sources, health impacts, cost-effective interventions to reduce exposures, resources needed and potential sources of funding by a joint National Working Group with participants from the Ministries of Health, Environment, Transportation, Agriculture, Energy, Industry, Mining and with support from the GAHP Secretariat.

PHASE 4. A draft Action Plan is circulated to national and international stakeholders, which are invited to provide comments. The National Working Group integrates stakeholder comments and a final Health and Pollution Action Plan is created. Stakeholders reconvene to officially endorse and validate the Action Plan and discuss next steps toward implementing suggested actions.

PHASE 5. Dissemination, promotion, fund raising, implementation, monitoring and review of the HPAP through domestic and international initiatives, in collaboration with GAHP members, under the guidance of a joint coordinating team between the Ministries of Health and Environment.

## About the Global Alliance on Health and Pollution

The Health and Pollution Action Plan (HPAP) program is an initiative of the Global Alliance on Health and Pollution (GAHP). GAHP is a global collaborative body that assists low- and middle-income countries to take concrete action to reduce the impacts of pollution on health. GAHP members include more than 40 national ministries of health and environment, development banks, United Nations organizations, other bilateral and multilateral groups, universities and non-governmental organizations. The current GAHP Secretariat is the New York-based non-profit organization, Pure Earth (formerly Blacksmith Institute).

More information about GAHP is available at [www.GAHP.net](http://www.GAHP.net).

## Background on Health and Pollution Prioritization

Global attention to the impacts of pollution has increased in recent years. For the first time, in 2015, pollution was specifically mentioned in the United Nations global development goals. The 2030 Agenda for Sustainable Development includes 17 Sustainable Development Goals. Among these, is Goal 3: “Ensure healthy lives and promote well-being for all at all ages.” Within Goal 3, target 3.9 aims to “by 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.”

In 2017, UN Environment made pollution the focus of its Environment Assembly. Delegations from around the world assembled with the goal of increasing attention, capacity and resources to reduce the environmental and health impacts from pollution.

Part of the increased attention on pollution is due to improved data about pollution’s impacts on public health and economic development. Agencies such as the World Health Organization (WHO) and the Institute for Health Metrics and Evaluation (IHME) have conducted increasingly sophisticated global burden of disease studies that reveal the mortality and morbidity associated with exposures to different forms of pollution. These studies show that pollution is responsible for between nine million and thirteen million deaths annually, and is now one of the leading risk factors causing preventable, premature death in the world.

The overwhelming majority of the burden of disease from pollution (92%) falls on people in low- and middle-income countries. Pollution’s impacts are felt most acutely by communities that are poorly equipped to address the problem and recover from its impacts. Pollution has severe implications for sustainable development, exacerbates the poverty cycle, harms the environment and biodiversity, causes lifelong disability, and stagnates economic growth.

There is also strong evidence that pollution is not an inevitable outcome of development. New, cost-effective and alternative technologies and well-tested solutions can prevent, mitigate and remediate pollution problems and reduce toxic exposures. Many middle-and high-income countries and industrial sectors have successful experiences and expertise with best available technologies and best environmental practices aimed at preventing and combatting air, water and soil pollution. Countries can take decisive action to prevent and clean up pollution, without sacrificing economic growth, saving thousands of lives in the process and improving sustainable development.

GAHP has received requests from over 20 low- and middle-income country governments to facilitate research, prioritization, planning, project selection and design, and the development of funding strategies to address pollution challenges. Although GAHP is not a funding agency, the expertise and experience of its member organizations can be highly valuable for countries where national institutions face limitations related to funding and technical capacity. In response to these requests for assistance, the GAHP Secretariat developed the Health and Pollution Action Plan program—a process that can be tailored to the needs of an individual country, and aims to identify, prioritize and accelerate national interventions to reduce pollution-related illness.

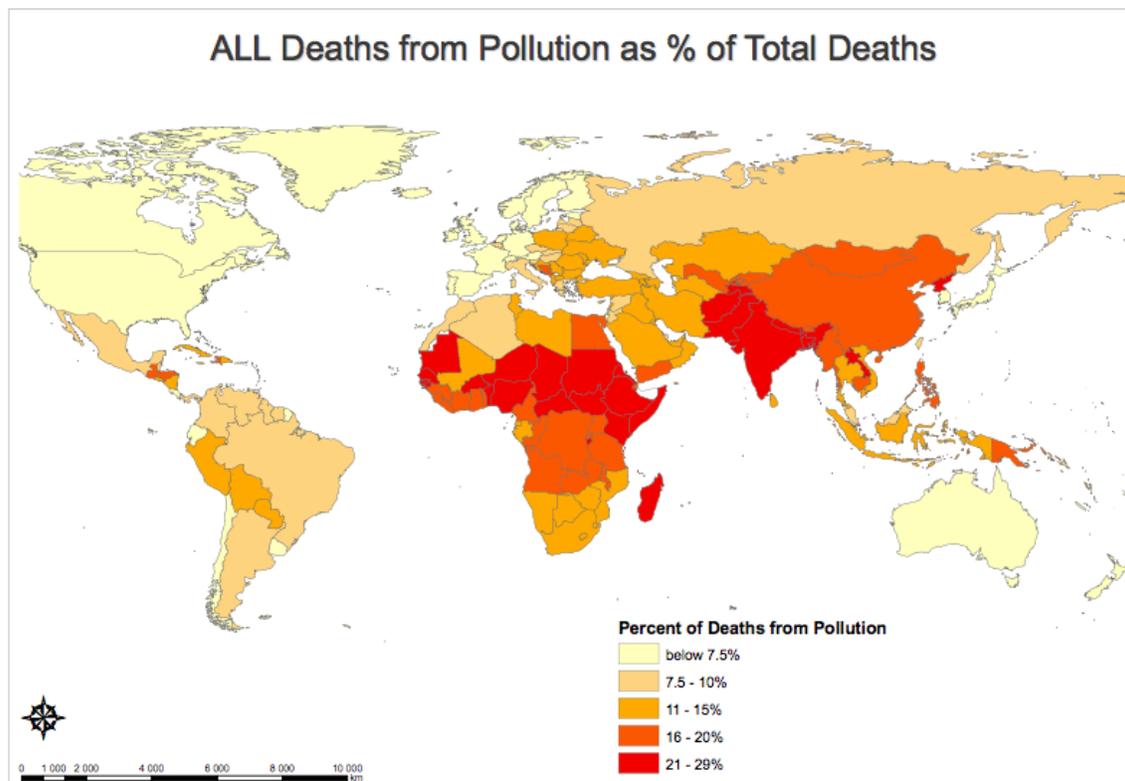


Figure 1. Percentage of all deaths in 2015 that were caused by pollution  
Source:

## Goals and Scope of the HPAP Program

Data related to health impacts from pollution in low- and middle-income countries is often incomplete, making it difficult to analyze and estimate the true scope and severity of pollution's health burden. Such data gaps limit the ability of governments to assess the full impacts from pollution, prioritize future actions, and monitor outcomes of interventions based on health impacts and potential health and economic gains. Recognizing this reality, the HPAP program aims to identify all available data related to the burden of disease from pollution, identify data gaps, and create a strategy to prioritize and accelerate cost-effective actions to fill gaps and reduce pollution-related illness.

The Health and Pollution Action Plan (HPAP) program is a collaborative process with government agencies and other local and international stakeholders to:

1. Identify, evaluate and prioritize existing pollution issues based on health impacts
2. Establish pollution as a priority for action within national agencies and development plans
3. Define and advance concrete interventions to reduce pollution exposures and related illnesses

The scope of the HPAP program is limited to pollutants that cause a direct impact to human health. Depending on the particular challenges in a given country, the program may analyze the following pollution risk factors:

1. **Exposures to ambient (outdoor) air pollution (AAP)** - AAP is a relatively modern form of pollution and is largely associated with industrial production, urbanization and the increasing use of motor vehicles. AAP is produced by stationary sources - industrial, chemical production plants, large-scale agricultural operations, feedlots, power plants, and diesel generators - and also by mobile sources - cars, trucks and buses.
2. **Exposures to household (indoor) air pollution (HAP)** - HAP is the predominant form of air pollution in much of the developing world. An estimated 2.8 billion people globally use biomass for cooking and heating. Particulates, carbon monoxide (CO), formaldehyde, benzene and polycyclic aromatic hydrocarbons (PAHs) are the principal pollutants in HAP. HAP increases risks of acute lower respiratory infections in children under 5 years of age and of stroke, ischemic heart disease, chronic obstructive pulmonary disease, lung cancer, and cataracts in adults. HAP has also been linked to preterm birth, low birth weight, tuberculosis, neurodevelopmental disorders and leukemia. The health impacts of HAP mirror those of tobacco smoke and risk levels are intermediate between those of active and passive smoking.

3. **Unsafe water and inadequate sanitation** - many parts of the world still lack safe water supplies and many people, particularly in precarious urban settlements and rural areas, lack adequate sewer systems and urban waste collection, despite decades of effort under successive international programs. Relevant technologies and systems exist, but poverty, lack of knowledge and other priorities at the local level all constrain the adoption of improvements, despite their proven benefits for public health and the high cost of inaction.
4. **Exposures to soil pollution from heavy metals and toxic chemicals** - Polluted soil from active and abandoned mines, smelters, industrial facilities and hazardous waste sites threatens the environment and human health in communities worldwide. Most contaminated sites tend to be relatively small, but the aggregate number of people impacted by the many thousands of these sites worldwide is large. Pollution at contaminated sites can spread into the surrounding environment through leaching of toxic chemicals into lakes, rivers and groundwater as well as through airborne spread of contaminated dusts, especially in dry, desert climates. Poor communities tend to occupy polluted lands or live close to them putting them at high risk. Polluted sites are most commonly contaminated by informal, small-scale, unregulated local industry or artisanal activity in urban or suburban areas exposing low-income communities (e.g. by the informal production and recycling of lead-acid batteries, small-scale gold mining using mercury, or e-waste recycling).
5. **Occupational exposures to pollution** - Occupational pollution has become highly prevalent in recent years in low- and middle-income countries. Much of the global manufacture and use of toxic chemicals and pesticides has shifted to low- and middle-income countries. Examples includes the ongoing exposure of more than 1 million workers in Asia and sub-Saharan Africa to chrysotile asbestos, usually with little or no respiratory protection; occupational exposure to lead in informal recycling of car batteries; mercury exposure in artisanal gold mining; occupational exposure to chromium in tanneries; and exposures related to e-waste dismantling. The worst of these exposures tend to occur in informal, small-scale, locally owned establishments. Occupational exposures are frequently passed on to family members through the transfer of pollution on clothing, increasing the burden of disease to children at home.

The HPAP program is not intended to analyze or address the following types of pollution:

- Non-toxic municipal waste
- Non-toxic plastic waste on land or at sea
- Naturally occurring substances released into air, water or soil through natural processes (e.g., naturally occurring arsenic in groundwater)
- Greenhouse gasses

- Tobacco smoke
- Noise pollution
- Light pollution

## Description of the HPAP Process

The Health and Pollution Action Plan process aims to establish pollution prevention, mitigation and remediation as priorities within national agencies and agendas, and to define a roadmap for action that is coordinated among, and supported by the international community.

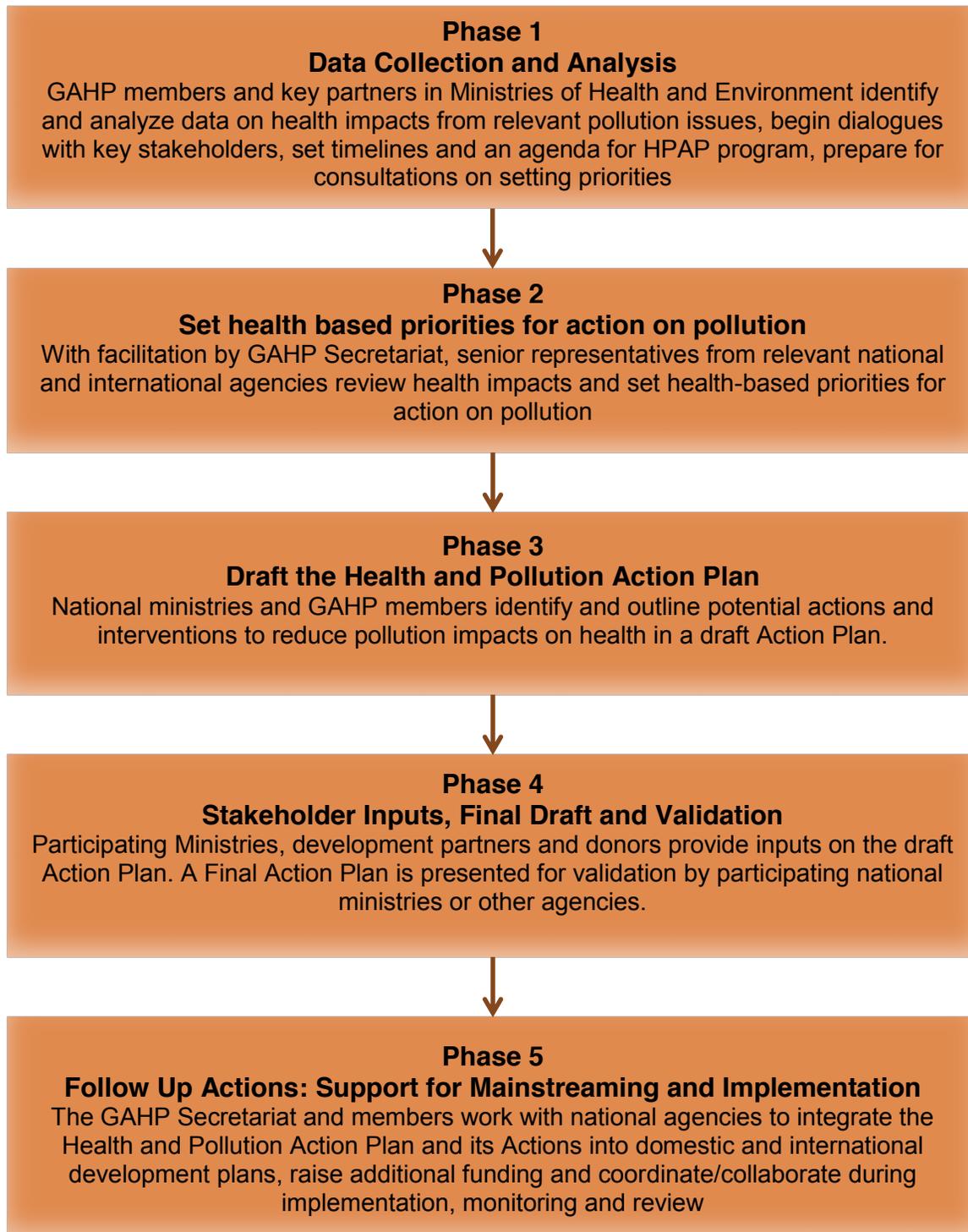
The HPAP process is led by relevant national agencies, and is facilitated and supported by the GAHP Secretariat and other GAHP members. The HPAP program is not conducted *for* a country *by* GAHP, but rather is a locally driven process with input and facilitation by the GAHP Secretariat, with support from its members.

The HPAP process will give governments (at local and national levels) a clear picture of where control of pollution will produce the greatest health benefits, allowing them to target efforts and resources and provide international donors with defined priority areas for support.

The process begins with meetings to gain the commitment from key agencies, including ministries of environment, health, production/industry, agriculture, mining, finance, development, transport and others. International agencies may also be included, appropriate to the country or region, such as the World Bank, UNEP, UNDP, UNIDO, regional development banks (e.g. Asian, African, Inter-American), bilateral development agencies, and others.

The success of the HPAP process depends on the interest and commitment of the leaders and staff of relevant national ministries and agencies. It is an ongoing effort, with the steps outlined below as the start of a process that integrates agency activities under a common goal of reducing the health impacts of pollution.

## Summary Of Initial HPAP Process Steps



## Phase 1. Data Collection

The HPAP process begins with data collection to assemble and analyze all available baseline data on pollution concentrations, exposures, sources and associated health impacts. A National Working Group led by key partners in the Ministries of Environment and Health provide locally generated data from national agencies, while the GAHP Secretariat provides data from the World Health Organization (WHO) and the Institute for Health Metrics and Evaluation (IHME) on the annual deaths and disability adjusted life-years (DALYs) associated with relevant national pollution challenges. A review of known exposure pathways is conducted for pollution risk factors with significant impacts on health. Any existing pollution source-apportionment studies are reviewed and integrated in the analyses.

The National Working Group makes a particular effort to investigate pollution issues that are often understudied, and therefore may have a higher associated burden of disease than previously estimated. These include:

- **Household air**, especially with respect to enhancing fuel types, such as support for alternative energies or available technologies (bottled gas, sun ovens, better ventilation and smoke extraction, others) instead of open burning of dung, wood or charcoal.
- **Contaminated sites**, not just those communities settled near large industries, but also a focus on toxins from smaller or informal urban industries, especially in high-density areas or poor settlements on polluted sites. These may include mercury contamination from artisanal small-scale gold mining and lead contamination from informal lead-acid battery recycling.
- **Distributed lead exposure issues**, which include lead in pottery glazes, lead in paint, informal car battery and cable recycling and other pathways that may be specific to a particular culture or community.
- **Occupational risks**, including those of asbestos.

During the data collection period, the GAHP Secretariat and key national agency representatives identify other relevant stakeholders, begin dialogues about planning and coordination, develop agendas and presentations, and invite national and international leaders and organizations to the HPAP consultations on priority setting in Phase 2.

## Phase 2. Setting health based priorities for action on pollution

The first open and inclusive step of the HPAP process is an Inception Meeting of senior staff from relevant agencies, including ministries of environment, health, production/industry, finance, mining, transport and others, as well as relevant international agencies such as development banks, United Nations agencies, and other regionally significant groups. The aim of the Inception Meeting is to analyze available pollution-related health data, communicate existing pollution programs between agencies, and establish a common approach to prioritizing future actions.

Main elements for setting priorities include:

- Existing data and information on health impacts from risk factors such as exposures to outdoor and indoor air pollution, unsafe water and inadequate sanitation, exposures to chemicals in soil, occupational exposures to contaminants, and others.
- Existing successes, gaps and lessons learned from current or past pollution control efforts.
- Willingness and abilities of participating national and international stakeholders to contribute to the next steps and potential programs and interventions.

The output from the prioritization exercise is a brief summary describing existing pollution challenges, approximate health impacts of each (measured in annual deaths, disability adjusted life years (DALYs)), and selected priorities. The summary report serves as the foundation for an ongoing process of identification and further prioritization of cost-effective actions based on exposure and health impacts and potential improvements to health outcomes from various actions and interventions.

### Phase 3. Drafting the Health and Pollution Action Plan

Based on the outcome of Phase 2, the National Working Group and GAHP facilitators conduct a deeper review of relevant sources of pollution, routes of exposure and potential interventions to be described in a draft Health and Pollution Action Plan. The draft Action Plan may contain the following types of analysis for each priority pollution area:

- Analyze current national policies, regulations, capacities and programs related to each of the identified priority pollution areas.
- Review and analyze potential solutions and interventions for each high priority pollution type, considering the political will to implement effective solutions, the capacity available, and the potential effect on public health indicators/metrics.

- Explore the practical effectiveness of potential interventions, measured against costs, and begin to identify funding sources, both national and international. Utilize GAHP members with significant expertise to aid in determining which solutions are right for which problem.
- Create a road map for implementation to address the top priorities selected, for each pollution area, taking into account the political realities and sources of funding. The ideal outcome is a roadmap of action, with timetables, and an investment map prioritizing vulnerable and at risk populations that can save lives. This roadmap should estimate the health outcomes if investments are effective.
- Identify, for each intervention:
  - Monitoring systems that are robust, transparent, and credible.
  - Targets for achievement that have reasonable timeframes.
  - Key challenges and responses, taking into account feasibility, visibility and replicability.
  - Agreed agency responsibilities.
  - Expected improvements in health outcomes.

The final recommendations are selected taking into account local economic, political, and social realities. The roadmap will describe priority pollutants and sources, vulnerable and at risk populations, recommendations for effective actions and interventions, potential improvements to health outcomes from recommended actions, and potential sources of funding.

#### Phase 4. Stakeholder Inputs, Final Draft and Validation

Once a complete draft Action Plan has been created by the National Working Group, the draft is circulated among participants of the Inception Meeting and other national and international stakeholders, including development partners. Stakeholders are invited to provide comments on the draft. All comments are considered by the National Working Group and incorporated into the final Action Plan where there is general consensus.

Once the final Action Plan document is complete, it is circulated back to the relevant national ministries or agencies in preparation for validation. In most cases, the National Working Group and GAHP facilitators will convene a final Validation Meeting to officially endorse the Health and Pollution Action Plan and discuss next steps toward implementing actions and interventions.

#### Phase 5. Accelerating Pollution Actions and Interventions

Post-Workshop, there will be a wide range of actions that need to be undertaken for successful implementation of the Action Plan. GAHP can assist the country with the follow up that will be necessary to ensure that progress is being made against the targets and goals outlined in the implementation plan. The range of actions could include:

1. Implementation of the detailed programs.
2. Monitoring and Evaluation. Regular follow up of progress against the goals and targets in the intervention plan will be necessary to ensure the plan outlined in the workshop is implemented.
3. Continue to convene. Challenges will likely come up with the implementation of the plan that requires a coordinated agency effort to resolve. The workshop members should continue to convene to address these challenges, outline solutions and adapt the plan if necessary.
4. Hold responsible agencies accountable for delivery of agreed actions assigned to them in the implementation plan.
5. Monitor impact and successes. It is important to identify and make known the achievements and successes in reducing pollution and its impact on local communities. Therefore, it is important to be able to monitor results, as well as to understand where and why results may take longer to achieve.
6. Share successful experiences. Governments undertaking the HPAP process will be among the first to develop a country-driven process/plan to prioritize and tackle pollution using health metrics. This experience can be showcased by GAHP and used to create a template for other countries to follow and replicate.