

## **REGIONAL**

### **Inter-American Development Bank**

### **Knowledge for Managing Local Pollution in Latin American and the Caribbean (LAC)**

## **INDIVIDUAL CONSULTANT**

## **TERMS OF REFERENCE**

### **1. Background**

- 1.1. Local pollution is the leading cause of premature mortality in low- and middle-income countries (GAHP 2013). It is associated with more than eight million deaths per year—two to three times the number of deaths from AIDs, tuberculosis and malaria combined and more than 10 times the number from war, crime and other forms of violence (Landrigan et al. 2018). More than 80 percent of deaths associated with pollution are due to air pollution—both indoor and outdoor—and the remainder are associated with water pollution, poor sanitation, and contaminated sites (GAHP 2013).
- 1.2. Pollution-related disease is most prevalent among vulnerable and marginalized populations because they are exposed to more risk factors and have less access to health services (Landrigan et. al. 2018). Women are also disproportionately affected because they typically have primary responsibility for household activities and therefore are exposed to higher concentrations of indoor pollutants.
- 1.3. As urbanization, industrialization, and commercial agriculture have advanced in Latin America and the Caribbean (LAC), local pollution has become increasingly severe, often despite advances in environmental regulation. At least 150 million people in LAC live in cities that do not meet World Health Organization guidelines. (However, this figure may be underestimated since only 22 percent of LAC population live in areas with ground level air pollution monitors; Riojas Rodriguez et al., 2016). Air pollution in the region causes more than 170,000 premature deaths per year, five percent of all such deaths. Associated welfare losses exceed two percent of GDP (World Bank/IHME 2016).
- 1.4. Water pollution and sanitation also are significant problems. Roughly a quarter of LAC's water bodies have relatively high concentrations of fecal coliforms (more than 10000 nmp/100ml). These high levels of contamination represent a challenge in both urban and rural areas since approximately 25 million inhabitants of rural areas in LAC are in contact with contaminated surface waters from the cities (UNEP 2016). The region would need to invest more than US\$33 billion to increase the fraction of wastewater treated to just under two-thirds by 2030 (Mejía et al., 2012). Thirty-five percent of the region's population do not have access to safely managed drinking water services and 78 percent do not have access to safely managed sanitation services (World Bank 2019).
- 1.5. Despite these pressing problems, funding for research, policies, and programs focused on local pollution in low- and middle-income countries is limited: most funding concerns global problems such as climate change and biodiversity loss. A recent high-profile international commission on the pollution therefore recommends that multilateral development banks along with bilateral funding agencies and other international organizations, "...elevate pollution prevention within the agendas of international development and global health and substantially increase the

resources they devote to pollution, establishing it as a priority in funding mechanisms.” (Landrigan et al. 2018, 499).

## **2. Objectives**

- 2.1. The broad goal of this project is to create new knowledge that IADB and its clients need to develop efficient and effective policies and programs to reduce local pollution and mitigate its effects on human health. A second broad general goal is to create a network among the research teams, policy makers, and IADB staff, focused on the topic of local pollution.
- 2.2. This consultancy has as specific objective of conducting a study that contributes to our understanding of policies and programs to reduce local pollution and mitigate its effects on human health in LAC.

## **3. Activities**

- 3.1. The consultant will conduct rigorous policy-relevant research on local pollution policies and programs in LAC using standard analytic methods such as experimental economics, experimental and quasi-experimental impact evaluation methods, and economic valuation. The research must be of quality and rigor required to publish in a peer-reviewed indexed international journal.
- 3.2. The consultant will develop a dissemination strategy to communicate the results of and policy prescriptions from the research to key stakeholders including those in local and international policy community and the local and international academic community.
- 3.3. The consultant will actively participate in a network of scholars and practitioners focused on local pollution by engaging in the discussion and providing feedback on research questions and knowledge gaps, methodological issues and policy implications.

## **4. Deliverables**

The consultant will deliver the following five outputs:

- Oral presentation of research proposal in workshop (June 2021).
- Draft paper (January 2022).
- Oral presentation of report and participation in workshop (March 2022).
- Final paper (June 2022).

## **5. Payment schedule**

The consultancy includes consulting fees, fares, tolls, taxes and any other costs or expenses necessary for the development of the consultancy, to be paid as follows:

- 50% upon delivery of draft report.
- 50% upon delivery and acceptance of the final report.

## **6. Qualifications of the team**

The consultant team must demonstrate qualifications and experience in the following areas:

- i. Academic Degree / Level & Years of Professional Work Experience: Ph.D. in Economics, Public Health, Public Policy or a related field. Over five years of relevant experience in Latin American and Caribbean contexts
- ii. Languages: Fluency in English and Spanish is highly preferred.
- iii. Areas of specific expertise: (a) local pollution; (b) LAC environmental policy; (c) public health; (d) environmental economics; (e) rigorous quantitative research methods
- iv. Skills: (a) familiarity with academic and gray literature, (b) excellent communication skills, both written and oral; (c) proven ability to communicate complex concepts and prepare reports that are clear, concise and meaningful; (d) ability to apply theory to the specific policy context to identify creative, practical approaches to overcome challenging situations.

## **7. Characteristics of the Consultancy**

- Consultancy category and modality: PEC or consultant
- Contract duration: twelve months
- Place(s) of work: External consultancy
- Division Leader or Coordinator: Allen Blackman, CSD/CSD

## **8. Payment and Conditions**

Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDBG member country.

## **9. References**

- Global Alliance and Health and Pollution (GAHP). 2013. Pollution: The silent killer of millions in poor countries. New York: GAHP.
- Landrigan, P. et al. 2018. The Lancet Commission on pollution and health. 2018. *Lancet* 391(10119): 462-512.
- Mejía, A., et al. 2012. Drinking water and sanitation in Latin America and the Caribbean: realistic goals and sustainable solutions. Caracas, Development Bank of Latin America (CAF). (In Spanish.) publicaciones.caf.com/media/17238/libro\_agua\_esp.pdf
- UNEP 2016. A snapshot of the world's water quality: Towards a global assessment. United Nations Environment Programme, Nairobi, Kenya. 162pp
- World Bank and Institute for Health Metrics and Evaluation. (IHME). 2016. The cost of air pollution: strengthening the economic case for action. Washington, DC: World Bank.
- World Bank. 2019. Open Data Portal. Available at: <https://data.worldbank.org/>

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### **1. Background**

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- 1.3. As urbanization, industrialization, and commercial agriculture have advanced in Latin America and the Caribbean (LAC), local pollution has become increasingly severe, often despite advances in environmental regulation. At least 150 million people in LAC live in cities that do not meet World Health Organization guidelines. (However, this figure may be underestimated since only 22 percent of LAC population live in areas with ground level air pollution monitors; Riojas Rodriguez et al., 2016). Air pollution in the region causes more than 170,000 premature deaths per year, five percent of all such deaths. Associated welfare losses exceed two percent of GDP (World Bank/IHME 2016).
- 1.4. Water pollution and sanitation also are significant problems. Roughly a quarter of LAC's water bodies have relatively high concentrations of fecal coliforms (more than 10000 nmp/100ml). These high levels of contamination represent a challenge in both urban and rural areas since approximately 25 million inhabitants of rural areas in LAC are in contact with contaminated surface waters from the cities (UNEP 2016). The region would need to invest more than US\$33 billion to increase the fraction of wastewater treated to just under two-thirds by 2030 (Mejía et al., 2012). Thirty-five percent of the region's population do not have access to safely managed drinking water services and 78 percent do not have access to safely managed sanitation services (World Bank 2019).
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## **2. Objectives**

- 2.1. The broad goal of this project is to create new knowledge that IADB and its clients need to develop efficient and effective policies and programs to reduce local pollution and mitigate its effects on human health. A second broad general goal is to create a network among the research teams, policy makers, and IADB staff, focused on the topic of local pollution.
- 2.2. This consultancy has as specific objective of conducting a study that contributes to our understanding of policies and programs to reduce local pollution and mitigate its effects on human health in LAC.

## **3. Activities**

- 3.1. The consulting firm will conduct rigorous policy-relevant research on local pollution policies and programs in LAC using standard analytic methods such as experimental economics, experimental and quasi-experimental impact evaluation methods, and economic valuation. The research must be of quality and rigor required to publish in a peer-reviewed indexed international journal.
- 3.2. The consulting firm will develop a dissemination strategy to communicate the results of and policy prescriptions from the research to key stakeholders including those in local and international policy community and the local and international academic community.
- 3.3. The consulting firm will actively participate in a network of scholars and practitioners focused on local pollution by engaging in the discussion and providing feedback on research questions and knowledge gaps, methodological issues and policy implications.

## **4. Deliverables**

- Oral presentation of research proposal in workshop (June 2021)
- Draft paper (January 2021)
- Oral presentation of report and participation in workshop (March 2022)
- Final paper (June 2022)

## **5. Payment schedule**

The consultancy includes consulting fees, fares, tolls, taxes and any other costs or expenses necessary for the development of the consultancy, to be paid as follows:

- 50% upon delivery of draft report.
- 50% upon delivery and acceptance of the final report.

## **6. Qualifications of the team**

- i. The consulting firm team must demonstrate qualifications and experience in the following areas:
- ii. Academic Degree / Level & Years of Professional Work Experience: Ph.D. in Economics, Public Health, Public Policy or a related field. Over five years of relevant experience in LAC contexts

- iii. Languages: Fluency in English and Spanish is highly preferred.
- iv. Areas of specific expertise: (a) local pollution; (b) LAC environmental policy; (c) public health; (d) environmental economics; (e) rigorous quantitative research methods.
- v. Skills: (a) familiarity with academic and gray literature, (b) excellent communication skills, both written and oral; (c) proven ability to communicate complex concepts and prepare reports that are clear, concise and meaningful; (d) ability to apply theory to the specific policy context to identify creative, practical approaches to overcome challenging situations.

## **7. Characteristics of the Consultancy**

- Consultancy category and modality: Firm contract
- Contract duration: twelve months
- Place(s) of work: External consultancy
- Division Leader or Coordinator: Allen Blackman, CSD/CSD

## **8. Payment and Conditions**

Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDBG member country.

## **9. References**

Global Alliance and Health and Pollution (GAHP). 2013. Pollution: The silent killer of millions in poor countries. New York: GAHP.

Landrigan, P. et al. 2018. The Lancet Commission on pollution and health. 2018. *Lancet* 391(10119): 462-512.

Mejía, A., et al. 2012. Drinking water and sanitation in Latin America and the Caribbean: realistic goals and sustainable solutions. Caracas, Development Bank of Latin America (CAF). (In Spanish.) publicaciones.caf.com/media/17238/libro\_agua\_esp.pdf

UNEP 2016. A snapshot of the world's water quality: Towards a global assessment. United Nations Environment Programme, Nairobi, Kenya. 162pp

World Bank and Institute for Health Metrics and Evaluation. (IHME). 2016. The cost of air pollution: strengthening the economic case for action. Washington, DC: World Bank.

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### **TERMS OF REFERENCE**

#### **1. Background**

- 1.1. Local pollution is the leading cause of premature mortality in low- and middle-income countries (GAHP 2013). It is associated with more than eight million deaths per year—two to three times the number of deaths from AIDs, tuberculosis and malaria combined and more than 10 times the number from war, crime and other forms of violence (Landrigan et al. 2018). More than 80 percent of deaths associated with pollution are due to air pollution—both indoor and outdoor—and the remainder are associated with water pollution, poor sanitation, and contaminated sites (GAHP 2013).
- 1.2. Pollution-related disease is most prevalent among vulnerable and marginalized populations because they are exposed to more risk factors and have less access to health services (Landrigan et. al. 2018). Women are also disproportionately affected because they typically have primary responsibility for household activities and therefore are exposed to higher concentrations of indoor pollutants.
- 1.3. As urbanization, industrialization, and commercial agriculture have advanced in Latin America and the Caribbean (LAC), local pollution has become increasingly severe, often despite advances in environmental regulation. At least 150 million people in LAC live in cities that do not meet World Health Organization guidelines. (However, this figure may be underestimated since only 22 percent of LAC population live in areas with ground level air pollution monitors; Riojas Rodriguez et al., 2016). Air pollution in the region causes more than 170,000 premature deaths per year, five percent of all such deaths. Associated welfare losses exceed two percent of GDP (World Bank/IHME 2016).
- 1.4. Water pollution and sanitation also are significant problems. Roughly a quarter of LAC's water bodies have relatively high concentrations of fecal coliforms (more than 10000 nmp/100ml). These high levels of contamination represent a challenge in both urban and rural areas since approximately 25 million inhabitants of rural areas in LAC are in contact with contaminated surface waters from the cities (UNEP 2016). The region would need to invest more than US\$33 billion to increase the fraction of wastewater treated to just under two-thirds by 2030 (Mejía et al., 2012). Thirty-five percent of the region's population do not have access to safely managed drinking water services and 78 percent do not have access to safely managed sanitation services (World Bank 2019).
- 1.5. Despite these pressing problems, funding for research, policies, and programs focused on local pollution in low- and middle-income countries is limited: most funding concerns global problems such as climate change and biodiversity loss. A recent high-profile international commission on the pollution therefore recommends that multilateral development banks along with bilateral funding agencies and other international organizations, "...elevate pollution prevention within the agendas of

international development and global health and substantially increase the resources they devote to pollution, establishing it as a priority in funding mechanisms.” (Landrigan et al. 2018, 499).

- 1.6. To fill this knowledge gap, the IADB is commissioning a set of three to seven research studies that contribute to our understanding of the consequences of being exposed to high levels of pollution in terms of human health, and the role of public policies in mitigating these risks in Latin American and the Caribbean. The studies will be granted following a competitive process to ensure the selection of rigorous, innovative, and policy-oriented research on local pollution and its links to human health in LAC using standard analytic methods including but not limited to experimental economics, quasi-experimental methods for impact evaluation of policies and programs, and economic valuation. The research question and methods must be compatible with the quality of a peer-reviewed publication at an indexed international journal.

## **2. Objectives**

- 2.1 The broad goal of this project is to create new knowledge that IADB and its clients need to develop efficient and effective policies and programs to reduce local pollution and mitigate its effects on human health. A second broad general goal is to create a network among the research teams, policy makers, and IADB staff, focused on the topic of local pollution.
- 2.2 This consultancy has as specific objective of providing technical advice throughout the process of commissioning, granting, reviewing, and disseminating the outputs of the commissioned studies.

## **3. Activities**

- 3.1 contribute to the call for proposals;
- 3.2 identify relevant researchers and institutions in the region and help disseminate the call;
- 3.3 help evaluate the proposals and award the grants according to their merit;
- 3.4 review outputs from each study and provide written comments and suggestions.
- 3.5 help to develop publication(s) presenting project results and policy prescriptions which may be compiled as a monograph;
- 3.6 actively participate in a network of scholars and practitioners focused on local pollution in LAC; and
- 3.7 help manage the logistical aspects of the project, including the call for proposals, evaluation of proposals, evaluation of research products and dissemination of results;

## **4. Deliverables**

The consultant will deliver the following outputs:

- Call for proposals (November 2020)
- Selection criteria matrix for each submitted proposal (March 2021)
- Participation in workshop (June 2021)



- Review of drafts (February 2022)
- Participation in workshop (March 2022)
- Review of final papers and policy briefs (June 2022)
- Monograph (August 2022)

## **5. Payment schedule**

The consultancy includes consulting fees, fares, tolls, taxes and any other costs or expenses necessary for the development of the consultancy, to be paid as follows:

- 50% upon revision of draft reports.
- 40% upon revision and acceptance of the final reports.
- 10% upon delivery of monograph.

## **6. Qualifications of the team**

The consultant must demonstrate qualifications and experience in the following areas:

- i. Academic Degree / Level & Years of Professional Work Experience: Ph.D. in Economics, Public Health, Public Policy or a related field. Over five years of relevant experience in LAC contexts
- ii. Languages: Fluency in English and Spanish is highly preferred.
- iii. Areas of specific expertise: (a) Air pollution; (b) LAC environmental policy; (c) Public Health; (d) LAC economic development; (e) Impact Evaluation
- iii. Areas of specific expertise: (a) local pollution; (b) LAC environmental policy; (c) public health; (d) environmental economics; (e) rigorous quantitative research methods
- iv. Skills: (a) familiarity with academic and gray literature, (b) excellent communication skills, both written and oral; (c) proven ability to communicate complex concepts and prepare reports that are clear, concise and meaningful; (d) ability to apply theory to the specific policy context to identify creative, practical approaches to overcome challenging situations.

## **7. Characteristics of the Consultancy**

- Consultancy category and modality: PEC or Consultant
- Contract duration: eighteen months
- Place(s) of work: External consultancy
- Division Leader or Coordinator: Allen Blackman, CSD/CSD

## **8. Payment and Conditions**

Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDBG member country.

## **9. Consanguinity**

Pursuant to applicable Bank policy, candidates with relatives (including the fourth degree of consanguinity and the second degree of affinity, including spouse) working for the Bank as staff members or Complementary Workforce contractual, will not be eligible to provide services for the Bank.

#### **10. Diversity**

The Bank is committed to diversity and inclusion and to providing equal opportunities to all candidates. We embrace diversity based on gender, age, education, national origin, ethnic origin, race, disability, sexual orientation, religion, and HIV/AIDs status. We encourage women, Afro-descendants and persons of indigenous origins to apply.

#### **11. References**

- Global Alliance and Health and Pollution (GAHP). 2013. Pollution: The silent killer of millions in poor countries. New York: GAHP.
- Landrigan, P. et al. 2018. The Lancet Commission on pollution and health. 2018. *Lancet* 391(10119): 462-512.
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**10. Background**

- 10.1. Local pollution is the leading cause of premature mortality in low- and middle-income countries (GAHP 2013). It is associated with more than eight million deaths per year—two to three times the number of deaths from AIDs, tuberculosis and malaria combined and more than 10 times the number from war, crime and other forms of violence (Landrigan et al. 2018). More than 80 percent of deaths associated with pollution are due to air pollution—both indoor and outdoor—and the remainder are associated with water pollution, poor sanitation, and contaminated sites (GAHP 2013).
- 10.2. Pollution-related disease is most prevalent among vulnerable and marginalized populations because they are exposed to more risk factors and have less access to health services (Landrigan et. al. 2018). Women are also disproportionately affected because they typically have primary responsibility for household activities and therefore are exposed to higher concentrations of indoor pollutants.
- 10.3. As urbanization, industrialization, and commercial agriculture have advanced in Latin America and the Caribbean (LAC), local pollution has become increasingly severe, often despite advances in environmental regulation. At least 150 million people in LAC live in cities that do not meet World Health Organization guidelines. (However, this figure may be underestimated since only 22 percent of LAC population live in areas with ground level air pollution monitors; Riojas Rodriguez et al., 2016). Air pollution in the region causes more than 170,000 premature deaths per year, five percent of all such deaths. Associated welfare losses exceed two percent of GDP (World Bank/IHME 2016).
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- 10.5. Despite these pressing problems, funding for research, policies, and programs focused on local pollution in low- and middle-income countries is limited: most funding concerns global problems such as climate change and biodiversity loss. A recent high-profile international commission on the pollution therefore recommends that multilateral development banks along with bilateral funding agencies and other international organizations, "...elevate pollution prevention within the agendas of international development and global health and substantially increase the

resources they devote to pollution, establishing it as a priority in funding mechanisms.” (Landrigan et al. 2018, 499).

## **11. Objectives**

- 11.1. The broad goal of this project is to create new knowledge that IADB and its clients need to develop efficient and effective policies and programs to reduce local pollution and mitigate its effects on human health. A second broad general goal is to create a network among the research teams, policy makers, and IADB staff, focused on the topic of local pollution.
- 11.2. This consultancy has as specific objective of producing a publication based on the inputs generated in the project that reflect the lessons learned and future steps to be published as an IADB knowledge product (working paper, monograph or similar).

## **12. Activities**

- 12.1. The consultant will prepare, proofread, edit, and typeset for the publication and related knowledge and dissemination products that derive as outputs of the project.

## **13. Deliverables**

The consultant will deliver the following outputs:

- First draft of documents and dissemination products (July 2022)
- Final products for publication and circulation (September 2022)

## **14. Payment schedule**

The consultancy includes consulting fees, fares, tolls, taxes and any other costs or expenses necessary for the development of the consultancy, to be paid as follows:

- 50% upon delivery of draft documents
- 50% upon delivery and acceptance of the final products

## **15. Qualifications of the team**

The consultant team must demonstrate qualifications and experience in the following areas:

- i. Academic Degree / Level & Years of Professional Work Experience: bachelor's degree in communications, journalism, or English.
- ii. Languages: Fluency in English and Spanish is highly preferred.
- iii. Areas of specific expertise: (a) local pollution; (b) LAC environmental policy; (c) public health; (d) environmental economics; (e) rigorous quantitative research methods.
- iv. Skills: Demonstrated experience in communication and editing. Ability to adapt complex ideas to different audiences. Experience in delivering scientific findings to policy makers, experience with editing and proofreading. Excellent interpersonal skills.

## **16. Characteristics of the Consultancy**

- Consultancy category and modality: PEC or consultant
- Contract duration: three months
- Place(s) of work: External consultancy
- Division Leader or Coordinator: Allen Blackman, CSD/CSD

## **17. Payment and Conditions**

Compensation will be determined in accordance with Bank's policies and procedures. In addition, candidates must be citizens of an IDBG member country.

## **18. References**

- Global Alliance and Health and Pollution (GAHP). 2013. Pollution: The silent killer of millions in poor countries. New York: GAHP.
- Landrigan, P. et al. 2018. The Lancet Commission on pollution and health. 2018. *Lancet* 391(10119): 462-512.
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