



Community Health and Safety

Recommendations and Tools

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**Inter-American
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List of Acronyms

AIDS	Acquired immunodeficiency syndrome
AoI	Area of Influence
CHS	Community Health and Safety
EIA	Environmental Impact Assessment
EPC	Engineering, Procurement, Construction
ERM	Environmental Resources Management
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
HHRA	Human Health Risk Assessment
HIA	Health Impact Assessment
HIV	Human immunodeficiency virus
IDB	Inter-American Development Bank
IPM	Integrated Pest Management
PPE	Personal Protective Equipment
STI	Sexually Transmitted Infections
TB	Tuberculosis

1. INTRODUCTION AND BACKGROUND

Public and private sector infrastructure projects such as roads, dams, pipelines, transmission lines, and mines generate positive benefits but can also result in unintended public health and safety risks and impacts on local communities, especially those located near the project. These risks and impacts vary widely from project to project. Projects can impact community health and safety directly through physical injury resulting from traffic accidents, exposure to hazardous materials, or respiratory effects from air emissions, as well as indirectly via the spread of communicable diseases from population influx, changes to diet due to loss of subsistence foods, or a drain on local health services and infrastructure. To date, the Inter-American Development Bank (IDB) has considered the impact of its projects on community health and safety on an ad hoc basis. Although the IDB's 2006 Environmental and Safeguards Compliance Policy (OP-703) requires that project teams consider health and safety issues in the context of managing project impacts and risks, no specific guidance currently exists on how to do this.

This Community Health and Safety Guidance Note is designed to fill that gap by providing project teams and borrowers with advice on how to systematically identify, prevent, and/or mitigate potential impacts and risks related to community health and safety within the Environmental and Social Impact Assessment (ESIA) process. The Note is intended to help Bank staff, consultants, and borrowers determine if key community health and safety issues have been appropriately addressed for each project. It also includes operational tools to help identify and manage some of the common community health and safety concerns that arise in infrastructure projects.

1.1.OBJECTIVE

The specific objective of this Guidance Note is two-fold:

- Present a framework for identifying and preventing, reducing, and mitigating risks and impacts to the health and safety of communities within the area of influence of IDB-funded projects.
- Provide simple tools to help project teams and potential/future IDB borrowers make the guidance operational.

1.2.SCOPE, APPLICATION, AND STRUCTURE

- This Guidance Note focuses primarily on community health and safety issues associated with the construction and development of infrastructure projects. It only addresses worker health and safety issues that also pose a threat to the health or safety of local communities.
- This voluntary guidance can be applied within the context of the ESIA process when related studies are available. It is designed to ensure that project ESIA's systematically address community health and safety issues material to the project.
- This guidance should be useful for IDB staff, potential and existing borrowers, and the consultants involved in commissioning, developing and/or evaluating project impacts through environmental, social, and health and safety impact assessments. It assumes that the user is familiar with the impact assessment process. The guidance will be adapted to fit the local context and realities of each project.
- This guidance has two main parts:
 1. Section 2 summarizes common sources of community health and safety risks and impacts associated with different aspects of infrastructure projects. This information can help project teams determine how each of the community health and safety risks and impacts apply to their projects.
 2. Section 3 outlines a recommended process for integrating community health and safety considerations into the IDB's existing environmental and social assessment processes. Lessons from IDB projects and other projects are used for illustration.

2. COMMON SOURCES OF COMMUNITY HEALTH AND SAFETY IMPACTS AND RISKS

This section maps out some of the common sources of community health and safety risks and impacts¹ and recommends prevention and mitigation measures.² Since risks and impacts vary significantly from project to project, the categories below can and should be amended depending on the situation.

One key to identifying the full range of potential community health and safety impacts and risks is integrating the views and perspectives of communities affected by the project. Wherever possible, measures should be taken to avoid the risk rather than mitigating a problem once it occurs. This is particularly important in the case of risks that could lead to significant consequences, for instance, death from traffic accidents.

2.1. ROAD INFRASTRUCTURE AND TRANSPORTATION

2.1.1. Potential Health and Safety Risks and Impacts

There are two major sources of potential health risks and impacts related to road infrastructure projects: (1) transport services needed to carry out the infrastructure project; and (2) the infrastructure project itself (e.g., the construction and presence of a road).

Civil works for infrastructure projects normally require large-scale deployment of trucks, other vehicles, vessels, etc. for carrying materials, personnel, and goods to and from a project site. This transport activity, in addition to the construction and use of road infrastructure, can generate both positive and negative effects on community health and quality of life.

Construction of new roads or other linear structures (e.g., pipelines and transmission lines) is often part of an infrastructure project or an associated facility. During construction, the project's use of heavy machinery and materials can expose communities to dust and noise and increase the risk of accidents, particularly if the public continues to use the road during construction. Inadequate safety signage at construction sites and poor public awareness regarding construction risks can increase the risk of injuries and accidents for community members living or working near the road.

1 Adapted from *Health Effects Assessment Tool (HEAT): An Innovative Guide for HIA in Resource Development Projects*. Tania Barron, Marla Orenstein. 2009. Accessed January 2010. <http://www.hiagateway.org.uk>.

2 Recommendations for Emergency Situations, Hazardous Materials, Infrastructure and Equipment, and Natural Resources include content from Performance Standard 4, Community Health, Safety, and Security. International Finance Corporation, World Bank Group, 2006.

Construction traffic, especially heavy trucks and machinery, can increase the risk of accidents and associated injury or death. Those most at risk for traffic-related accidents or injuries are often local citizens whose daily activities occur at the same time or in the same vicinity as the project.

The degree of risk relates to the following:

- Nature of the local community traffic that uses the same roads as the project (e.g., mixed-use traffic involving pedestrians, motorcycles, animals, etc.).
- Condition of the road infrastructure.
- Likelihood that community members will follow or respect project-related road signs.
- Familiarity of local people with heavy motorized vehicles.
- Presence of areas in and near the project, such as schools and markets, where large numbers of people gather. For example, heavy-truck traffic on a rural road used by pedestrian, bicycle, and motorcycle traffic would be likely to present a significant community health and safety risk.

As infrastructure projects are often located in rural and peri-urban areas with limited public transportation and high pedestrian and bicycle traffic, risks from traffic accidents can often be one of the most significant project impacts. Although traffic accidents may not occur frequently, their devastating effect on individuals, families, and communities can be significant and long-lasting.

Other potential negative health effects from traffic associated with civil works include increased noise, vibrations, dust and air pollution; these particularly affect homes and vendors along the road. When roads are widened they reduce the space for small businesses and increase health and safety risks associated with potential spills of dangerous substances transported to and from the work sites.

Furthermore, road projects can create access issues, such as opening up natural resources previously only accessible to local communities, or connecting communities that previously had little interaction. In areas with vector-related diseases (e.g., malaria and dengue), new roads that connect formerly isolated communities may support the transmission or introduction of these diseases.

On the other hand, communities can benefit from the construction of new road infrastructure that improves access to markets, employment, schools, health services, and goods and services.

Reducing the risks posed by project traffic in/near population centers

Commonly used measures to reduce the risk of accidents associated with the increase in project traffic include bypasses to divert heavy truck traffic around population centers; timing project traffic and construction activities to avoid peak road use by the public; driver safety training; community and school road safety programs; regional campaigns to improve road safety culture; establishing specific health and safety procedures for transporting dangerous substances (explosive, toxic and/or corrosive) by trucks, both under normal and adverse weather conditions; developing a truck maintenance program and inspections for ensuring their proper state of conservation; preparation of contingency plans, in coordination with local authorities for responding to accidents involving heavy machinery, trucks or spilling of dangerous substances.

CO-L1019 San Francisco-Mocoa Alternate Road Construction Project

Participatory control measures to protect safety and natural resources in areas made accessible by the construction of roads:

The Pasto Mocoa project involves construction of a road to replace 30 kilometers of an existing road along the eastern slopes of the Andes that has been the scene of accidents and deaths due to landslides and poor visibility. Improved access created by the road could result in increased pressures on local flora and fauna that local people depend on for sustenance. The project used a combination of control measures to protect community safety and natural resources in the areas made accessible by the road, including control posts near protected areas to prevent poaching and other illicit activities, and the development of a forest guard program in which local community members were trained and hired to protect local resources.

2.1.2. Recommendations

It is important to assess and evaluate potential community health and safety risks associated with the construction and upgrading of road infrastructure and project-related traffic both during construction and as a result of likely increases in traffic once the road has been completed.

Traffic impacts need to be assessed and managed in an integrated manner that takes into account all potential impacts from project traffic, including those associated with contractor and subcontractor activities, and incorporates them into a traffic management plan. When assessing risks related to project traffic, it is often important to identify accident hotspots or high-risk areas as well as day/night time circulation times, as well as possible weather conditions, in order to design effective preventative measures. These should be documented in the project's traffic management plan. Common high-risk areas include schools, markets and other community gathering places, intersections of roads with railroads, crossing points for animals, and other areas with high pedestrian, bicycle, motorcycle, and other traffic.

All impacts should be managed, whether resulting directly from activities of employees or contractors and subcontractors. Common management measures include driver safety training requirements for contractors and subcontractors, and the development of a detailed traffic management plan that could include the following:

- Limiting hours of project traffic to avoid hours of peak local use, especially around schools and markets.
- Alternative routes to avoid heavily used routes.
- Community traffic safety awareness programs.
- Regular vehicle maintenance.
- Speed control measures.
- Controls on the weight of loads carried in trucks.
- Strict controls to prevent the carrying of unauthorized passengers on project vehicles.
- Ensuring legal compliance, especially for the transportation of dangerous substances.
- Dust management plans.
- Mandatory driver safety training, including strict bans on the consumption of alcohol and drugs and a prohibition on the use of mobile phones while driving.
- Enforcement.

Community education and public awareness about project traffic, routes used, road signage, and safety is particularly critical in high-risk areas. Raising community awareness of road safety is most needed in areas with a previously limited traffic safety culture.

Although environmental impact assessments (EIAs) are generally designed to mitigate air emissions and noise impacts from project traffic, specific measures should also be taken to minimize their impacts on community health and safety. For example, in addition to noise control measures that may be proposed by an EIA team, community consultation, disclosure of monitoring data, the use of a grievance mechanism, it may be necessary to require participatory monitoring to ensure that noise and air emissions control plans, as well as traffic safety plans, take into account the needs and concerns of affected local communities.

2.2.PROJECT WORKFORCE AND WORKER CAMPS

2.2.1. Potential Health Impacts

A project's workforce and worker camps can directly or indirectly put communities at risk, particularly when they are in close proximity. Large and typically all-male workforces with disposable income moving into impoverished areas have been associated with population influx and increased prostitution, availability of alcohol and drugs, crime, and reduced security. Specific community health and safety issues can include the following: introduction of vector-

related diseases, such as malaria and dengue, particularly in tropical areas; the spread of infectious diseases, such as HIV, AIDS; syphilis, tuberculosis; epidemic diseases such as the H1N1 influenza; unwanted pregnancies; worker-community conflict; a decline in community safety related to an increase in prostitution, alcohol, and drug abuse; and pressure on existing health infrastructure and services, including emergency response capacity.

Some of these impacts can be attributed directly to project workers. However, these impacts are more pronounced when the presence of the workforce results in population influx, as follows:

- A project and its workers (predominantly male), particularly in remote or economically deprived areas, attracts outsiders looking for employment, opportunities to provide goods and services, sex workers, etc.
- The potential risks and impacts are greater in remote areas, where most workers are housed in construction especially built for them, and where they are significant ethnic, linguistic or other differences between them and the local population.
- The greater the size and scale of the project and its workforce, the greater the likelihood that population influx into the project area could be sizable and significant.
- The greater the population influx, the greater the likelihood and demand for alcohol and drugs, the risk of introducing and spreading infectious diseases, and pressures on local health clinics and hospitals and water, sanitation, and other services.

2.2.2. Recommendations

It is important to consider measures to prevent population influx when assessing the potential risks and impacts associated with the project workforce. Community health and safety issues raised by the presence of a large workforce or worker camps should, at a minimum, include the following:

- Health risks to communities in relation to the spread of sexually-transmitted infections (STIs) and other communicable diseases (HIV/AIDS, TB, etc.).
- Threats to community safety and the risk of conflicts between local people and outside workers.
- Pressures on local health services and infrastructure.

When analyzing the baseline conditions of the community as part of the impact assessments it is necessary to consider the size and location of communities in relation to the project site and worker camps, local socioeconomic conditions, local and regional employment opportunities for men and women, local disease profiles, cultural norms regarding the use of contraception, the capacity of the local health care system, and whether social problems exist in the region related to alcoholism, drug use, prostitution, crime, and violence.

In addition, the social impact analysis should consider the following: size of the workforce, origins of the workers, length and nature of their contracts (contractors and sub-contractors), and the type of training and management measures (e.g., code of conduct, camp requirements, etc.) they should receive in order to ensure the health and safety of workers and local communities. Various management measures can be considered to address potential impacts from the presence of workforces and worker camps.

Influx:

- Disseminate clear employment and contracting requirements to manage expectations.
- Adopt clear policies for hiring away from the project site (no hiring at the gate).
- Increase local sourcing for direct employment and the provision of goods and services, thus reducing influx into the project area.

Establish exclusion zones around the project site and worker camps to limit illicit activity around project infrastructure and prevent establishment of follower camps.

Institute policies restricting worker contact with the community.

Community safety:

- Establish a worker code of conduct that requires respect for local communities, appropriate behavior during and outside working hours, prohibitions on carrying firearms, knives, or other weapons, prohibitions on the possession or consumption of alcohol and drugs, and, especially in remote areas, on hunting, collecting animals or plants, and enforcement of penalties in the event of worker-community conflicts, petty crime, etc.
- Put in place zero-drug and alcohol tolerance policies.
- Deposit worker payments directly into bank accounts instead of paying workers in cash to reduce the risk of armed robbery and assaults on workers and the incentive for workers to spend their earnings on gambling, drinking, prostitutes, etc.; If necessary, contractors can help workers open bank accounts.

- Provide transport to take workers home or to major urban centers during their periods of leave. Implement a community grievance mechanism. Develop a community education program to explain the code of conduct and the grievance mechanism.

Drain on services and infrastructure:

- Provide health services for workers and contractors, as feasible, to avoid draining resources from existing local health services.
- Work with local government, emergency responders, and others to address problems arising from pressures on local infrastructure. For example, use social investment to support government initiatives to upgrade or improve local infrastructure and services, thus mitigating the effects of additional pressure on these services³. Special care is necessary to ensure that the project does not take over activities that are the responsibility of government, such as providing water, sanitation, or other public services, which would create local dependency on the project and reduce the effectiveness of local institutions.

Spread of diseases:

- Integrate training on STIs, TB, and health issues into worker health and safety induction programs and as a regular part of continuous worker training.
- Support local organizations and/or government initiatives on community STI education, prevention, and treatment programs.
- Carry out pre-employment health checks for all workers employed by primary contractors and subcontractors;⁴
- Coordinate with local or regional public health officials on identification, reporting and surveillance, and management of new cases, particularly in the case of an outbreak of a communicable disease in worker camps or at work sites. Take special measures to prevent the spread of HIV/AIDS and other STIs, both in the workforce and in the greater community. Borrowers can use their influence, position, and strength to address risks to their own employees, contractors and their families, and for the wider community, particularly at or around construction sites. Recommended strategies include:
 - Require contractors to develop an HIV/AIDS and STI prevention and education strategy.

³ Project proponents should take care to ensure that all social investment activities are strategic and sustainable. If the social investment provided by a project is not sustainable, it could negatively impact local communities in the medium to long term, in particular if communities become dependant on the social support provided.

⁴ Note that some countries have legislation that prohibits mandatory testing for HIV/AIDS and/or discrimination against people with HIV/AIDS.

- In the pre-construction phase the strategy should include: (i) community consultations that include women, sex workers, and people living with HIV; (ii) assessing the risks of HIV and STIs; and (iii) establishing a working group or permanent forum for dialogue between all relevant sectors (health, law enforcement, NGOs, primary contractor and subcontractors).
- In the construction phase this includes: (i) encouraging the use of male and female condoms among other forms of contraception and providing access to them; (ii) improving living conditions of workers; encouraging workers to bring their families to the site where possible or providing transport for them to return to their families when they have leave; (iii) ensuring access to voluntary counseling and/or referrals for STI testing services for workers and community members; and (iv) providing or improving health care capacity for STI diagnosis and treatment.
- The effectiveness of HIV/AIDS and STIs programs can be monitored over time in various ways, including measuring program inputs (i.e. frequency of worker attendance at trainings and changes in levels of awareness before and after on key prevention information) as well as outcomes (i.e., changes in the incidence of infection rates etc.). Community outcomes should be monitored in collaboration with local health authorities.⁵

2.3.USE OF RESOURCES (ENERGY, WATER)

2.3.1. Potential Health Impacts

Infrastructure projects can impact natural resources in their area of influence due to the project's use of these resources, or through changes in land, water, energy, and other natural resources. In addition, impacts can result from activities pursued by project workers in their free time. Risks to community health can arise when projects use water, energy, or other natural resources on which local communities depend. The scale of the impacts depends on the following:

- The communities' level of dependence on the affected resource.
- Length of time that the project may impact the resource and the likelihood that the resource will recover or become depleted.
- The communities' ability to adapt to the changes in resources.

⁵ *HIV/AIDS in the Construction Sector, Conditions of Contract for EPC Turnkey Projects*. First Edition. International Federation of Consulting Engineers, 1999.

To determine the effect a project's use of local resources could have on communities, it is important to understand how local communities use these resources and the level of their reliance. For example, if community wells will be affected by a project's use of water, the project needs to consider the following: a) To what extent will community members be able to adapt to the deficit? b) Will the quality or quantity of drinking water be compromised? c) Will the project's use of this resource affect people's health or will it merely represent an inconvenience?

Infrastructure projects frequently require water and energy. The availability and quality of water can be a contentious issue, particularly in areas where the project's use of water affects community use of water for personal necessities, recreation, or livelihoods. Project impacts to water can include depletion of water resource (e.g., drying of wells due to pumping to supply agriculture or industry, or to the construction of tunnels) and effects on the quality of the resource (e.g., contamination of surface and groundwater, or saline intrusion). These risks are particularly relevant in agricultural projects that require the use of fertilizers and pesticides, in intensive livestock production, in food processing and industrial projects, in oil and gas, and in mining projects and some construction projects. In hydropower projects the impacts on water quality and flow can affect communities living in downstream areas by changing or reducing levels of siltation, changes in temperature and oxygen levels, and replacement of seasonal flows with marked diurnal changes, especially when a hydropower plant is used to generate power during peak periods of demand. This can affect potable water sources, fisheries, agricultural uses (especially on fertile river plains that were previously flooded on a seasonal basis) and river deltas, including mangrove and coastal lagoon ecosystems.

Hydropower or linear projects may also affect access to resources by blocking or complicating accessibility due to flooding the reservoir or to project infrastructure (e.g., highway concessions, train tracks, or pipelines constructed between a community and their water sources, farmland or areas used for grazing, etc.).

A project's impacts on local natural resources can have a range of effects ranging from a nuisance (e.g., having to walk further to reach a water source) to more significant and long-term effects, such as increase in cost or inability to access potable water, loss of a subsistence resources (firewood, medicinal plants, fish, water, etc.), changes to nutritional patterns, and an overall decline in livelihoods. Conversely, a project may also develop infrastructure that

improves access to additional sources of water and energy. If projects can share these benefits with communities, allowing them to have a sustainable local source for clean and safe drinking water and/or reliable energy sources, then the medium- to long-term impacts will be positive.

It can be difficult to specifically attribute a specific community health effect to a project-related impact on a local natural resource. Nevertheless, consequences to the livelihoods of local communities may be real and significant, and these need to be covered by the impact assessment.

The emphasis of an impact assessment should not be on establishing a definite causal link between project activities and infrastructure and a specific health effect, but rather, on identifying likely health risks (using established methods) and developing prevention and mitigation measures to prevent the risk from becoming a reality. A practical way to assess the potential risk is to evaluate to what degree the changes made to a natural resource could impact the income or livelihood of a community. Since income or livelihood is a social determinant of health, a resource loss may be related to a health outcome in a given community or population.

2.3.2. Recommendations

All projects must be planned and managed to avoid or minimize adverse short- and long-term impacts on soil, water, energy, and other resources used by local communities, such as fish, plants, game, etc. Baseline information should include these critical natural resources and their quantity, accessibility, and current use. This information may be collected through site assessments, community consultation, household surveys, etc. The borrower should quantify the project's impact on these resources, including energy production water use for project construction and operations, and use of leisure time by employees.

The borrower should implement a resource management plan outlining how natural resources will be managed in order to avoid or prevent significant impacts on the health and livelihoods of local communities. The plan should include targets for resource consumption and replacement of the resource if the impact cannot be prevented. It is also often necessary to include restrictions on workers' free-time activities such as hunting, fishing, or gathering plants, etc., where these activities could conflict with the ability of local communities to maintain their standard of living and/or the quality of their diet. The borrower should strive for efficiency in the use and processing of natural materials. Monitoring mechanisms should be established to ensure that targets are being met.

Participatory monitoring and evaluation of a project's resource use helps to minimize the effects on local communities. Monitoring and evaluation can include changes in diet and nutrition as a proxy measure of potential community health effects. Over the long term, the monitoring of malnutrition and morbidity among the local community could be used to assess a project's effect on community health. However, due to the often limited community-level health baseline data, the complex nature of disease etiology, and confounding factors associated with other social determinants of health may make it difficult to establish definite causal relationships. Regardless, the monitoring of morbidity and malnutrition and similar measures should be carried out where feasible, and inconclusive results should not prevent project proponents from taking action to avoid potential negative impacts on people's health.

2.4. WASTE (SOLIDS, EFFLUENTS)

2.4.1. Potential Health Impacts

Infrastructure projects often generate physical waste and effluents. The amount and type of waste depends on the project. Waste generation can lead to significant risks for community health and safety especially when its level exceeds the ability of local infrastructure to properly handle it.

Inadequate sanitation or waste disposal and leaching from landfills can put local water resources at risk. Such contamination can increase the likelihood of food and water-borne diseases. The people most vulnerable to these health risks include those who rely on the affected streams or groundwater wells for drinking water, live in or near leaching landfills, or who recover items from landfills for personal use, consumption, or sale.

2.4.2. Recommendations

The borrower should assess the type and amount of solid waste and effluent that will be generated by a project and should consider their potential impact on local infrastructure, the environment, and on community health and safety. The borrower should distinguish between dangerous wastes and domestic wastes. Dangerous wastes (toxic, explosive, corrosive, or hospital waste) should be collected, temporarily stored, transported, and treated or disposed in compliance with legal requirements, using specialized and authorized companies. Solid domestic waste (basically, organic waste) can be disposed in local landfills following prior agreement with

local authorities. Liquid domestic waste should be properly treated before being discharged into surface water. Menstrual hygiene needs should be taken into consideration in latrine design. Low-cost, simple, and environmentally friendly disposal measures of women's sanitary products should be used.

Assessing and monitoring potential CHS impacts from project wastes should go beyond issues covered within an EIA to include community health risks of direct contamination from landfills and or strain on local water and sanitation infrastructure; and whether the waste has the potential to directly or indirectly cause health problems related to food, water-borne illnesses, and/or zoonotic diseases. As part of this assessment, the borrower should identify whether project waste management will be handled by existing services using local infrastructure, or whether the project will be responsible for waste containment and eventual disposal.

Production processes should be designed and operated to minimize and segregate effluents, emissions, and solid waste. Whenever possible, materials should be recycled. Appropriate measures for handling and disposing of wastes should be identified to prevent long-term degradation or contamination, contact with community members, and/or dissemination by biological vectors. The borrower should track the waste produced by the project over time. Landfills created for specific projects must not be accessible to local populations who might engage in scavenging their contents.

2.5. CHEMICAL AND HAZARDOUS MATERIALS

2.5.1. Potential Health Impacts

Some infrastructure projects involve the use, transportation, storage, and disposal of chemicals and hazardous materials. When improperly handled, these materials pose a potential hazard to the air, soil, and water, and to human health and safety. These materials pose significant risks from spills, explosions, or releases. Acute exposure can produce headaches, nausea, eye, mouth, and lung irritation, and in extreme cases, death (e.g., from sour gas releases). Long-term exposure to toxic chemicals can cause birth defects and chronic diseases such as cancer and respiratory illnesses. While projects often provide personal protective equipment and educate workers in preventing exposure, similar measures for non-worker populations (including the families of workers) are uncommon. Non-sanctioned use of chemicals or hazardous materials, or the containers used to store these chemicals, can also pose threats. For example, community

members may use old fertilizer containers for water storage without being aware of potential health risks.

Pesticide Use in Agriculture

Agribusiness projects and small-scale farming pose particular threats to local communities from exposure to pesticides and other chemicals. In both activities, it is important to consider different possible exposure pathways when assessing and preventing the health effects, as follows:

- Worker exposure to pesticides can result from lack of awareness of the risk, improper handling and use, and inadequate use or lack of availability of protective equipment.
- Families, and particularly children, can be at risk from secondary or "take-home" exposure due to lack of awareness; wearing contaminated work clothes and shoes at home; and lack of facilities at workplaces for bathing and washing hands or for storing work clothes and changing into clean clothes and shoes before going home.
- Small-scale farmers generally work at or near the home and can contaminate themselves and their families from improper handling, applying, and/or storing pesticides (e.g., applying at a higher dose than required, not wearing protective gloves, or storing pesticide bottles in the kitchen), use of illegal and highly toxic pesticides, lack of awareness and training on the dangers of pesticides, and inability to afford protective equipment.
- Nearby community exposure to pesticides can result from air, water, and soil contamination due to improper application (e.g., spraying during windy or rainy weather, runoff from treated crop fields into nearby rivers, or discarding pesticide bottles on roads), as well as handling and consuming crops with pesticide residues. Health risks from consumer exposure to agrochemicals are of particular concern in areas that continue to use products that the World Health Organization has deemed hazardous to health.

Use of Explosives

Risks in the transport and use of explosives should be identified. Potential community health effects from the use of explosives range from nuisance due to noise and vibrations, to property damage, and in extreme cases, to injury and death. Warning signs and public awareness can help protect community members. Project personnel should coordinate with local responders to plan emergency measures.

Use of Toxic Substances

Some industries use toxic substances for performing their industrial processes, for example, chlorine gas for water purification. Since an accidental spill could impact the health of workers and community members, the borrower should carefully consider risks. Preventive actions should consider specific site conditions (e.g. the prevailing wind direction, the existence of sensitive facilities located downstream from the plant, such as schools or hospitals), and the preparation of an emergency plan involving participation of local people and other stakeholders. The borrower should develop a plan to provide early warning in the event of release of toxic substances.

The importance of developing thorough health baselines When assessing CHS risks related to existing projects, it is very important to have a clear and accurate understanding of all health issues and risks since these risks can affect the reputation of the IDB if it chooses to invest in the project. To this end, it is important to ensure that a thorough health baseline has been carried out to assess pre-existing health conditions and to be able to monitor changes over time. In areas with poor health data and surveillance, quantitative and qualitative health baseline information should be gathered from multiple sources to increase the reliability of the information used. Triangulating information from sources such as country health reports, hospital records, and interviews with health staff and local project stakeholders can increase the accuracy of the baseline information.

In the case of particular concern over a prospective project's health impacts, it may be appropriate to contract third party experts to conduct an independent review as a supplement to the EIA's CHS baseline. Such a move can give the IDB a more accurate assessment of the investment's potential health liabilities, give stakeholders greater confidence that the project is addressing health issues appropriately, and provide a solid foundation on which to conduct a CHS impact assessment, and increase the accuracy of monitoring of health conditions over time.

2.5.2. Recommendations

The borrower should assess community health and safety risks and impacts from the use of hazardous chemicals and materials by mapping all the potential pathways by which community members could be exposed these substances. Depending on the relative proximity of communities to the project and the risk of chemical exposure, a human health risk assessment (HHRA), may be used to assess risk.

An HHRA should identify all potential routes of chemical and hazardous material exposure. It should assess worker exposure, scenarios that involve accidental release or spills that could lead to acute levels of exposure, and non-sanctioned use of hazardous materials or containers. The borrower should prevent or minimize the use of hazardous materials and the potential for exposure of community members. The type, concentration, and quantity of hazardous materials used on the project, and the risks they pose to workers and community members, should be clearly identified. The borrower should not only consider the direct effects

of chemicals, but also indirect exposure to workers' families and the broader community from through contact with contaminated clothing, fumigation, etc.

When possible, the borrower should take measures to reduce or eliminate hazards from chemical exposure. In this regard, the borrower should conduct training programs for employees and the community and provide protective equipment and proper signage. For agricultural workers, particularly in small-scale farming operations, it is important to conduct a survey of knowledge, attitudes, and practices before introducing agrochemicals. Communication and education outreach for workers, community members, and particularly children should also be carried out. The borrower should inform local emergency responders of risks and collaborate with them in emergency response and planning. A monitoring plan, an emergency plan (including spill prevention), and a long-term plan for containing and disposing materials should be developed and carried out. All incidents involving exposure and release of chemicals should be tracked over time.

The borrower should consider taking the following actions:

- Raise awareness among agricultural families working for agribusiness and small-scale farms of the dangers and risks of pesticide exposure, pesticides used locally, and how people may be exposed to pesticides.
- Train workers on the signs and symptoms of acute and chronic poisoning from pesticides, proper pesticide handling, application, storing practices, and decontamination procedures before leaving the workplace.
- Assist workers and families in identifying culturally-appropriate and economically-feasible measures to reduce or prevent pesticide exposure, such as selecting less toxic or nontoxic pest control measures (e.g., integrated pest management), storing pesticides in a secure place out of reach of children, and washing work clothes separately from general household laundry. Integrated pest management (IPM) is used worldwide to reduce reliance on costly pesticides by using biological control methods, including natural predators, to reduce pest damage. IPM does not call for no pesticide use, but rather, the use of smaller quantities or less toxic chemicals, combined with better crop management or biological methods. Training small-scale farmers in IPM techniques has become a part of numerous international development programs.

2.6.DUST AND OTHER AIR EMISSIONS

2.6.1. Potential Health Impacts

The construction activities of an infrastructure project and use of project vehicles on unpaved roads can cause dust and other air pollution. Additional emissions can result from operation of other machinery during construction and operations, or from venting, flaring, or leaks. Substances that pose human health risks include particulate matter, benzene, diesel fuel, polycyclic aromatic hydrocarbons, carbon dioxide, nitrous oxides, sulfur, oxides, volatile organic compounds, hydrogen sulfide, and carbon monoxide.

The air emissions from some industrial activities may affect a large area, causing irritation of the eyes, lungs, throat, and nausea, as well as respiratory problems such as asthma, bronchitis, and other long-term health consequences. Projects that include open storage of coal, raw coke, calcined coke, and any material in a powdery state, has the potential to present health risks. Lack of information in local communities about project emissions can result in high levels of concern and stress among local people.

The impact of these emissions on health depends on many factors, including their concentration, size of the particulate matter (smaller particles are more dangerous); geographic and climatic conditions, existing air quality, and people's vulnerability, with children and the elderly being the most vulnerable. Coatings of dust on crops, forests, surface water, and other places can also have far-ranging impacts on subsistence activities.

***EC-L1005 Quito International Airport
Dust Management***

An often overlooked community health and safety impact of projects is dust generated by traffic on unpaved roads, construction, and other project activities (i.e. loading and offloading). Effects from dust can range from a minor to severe, including eye, throat, sinus irritations, and complications of existing respiratory problems (i.e. asthma), particularly for those without proper protection and who are exposed on a continuous basis, such as vendors along roadways. In severe cases, dust can reduce visibility on roads, and increase the risk of accidents.

In the case of a construction project for the airport in Quito, Ecuador, dust was not initially considered a major risk. Only later did it become evident that it presented a significant threat to community health and safety. Measures used to control dust included use of a dense, nontoxic spray, and monitoring. This case indicates that dust control measures may be necessary for projects for which initial estimates indicate that dust emissions are below the national legal limits, particularly in cases where dust is a nuisance or if it would affect the health and quality of life.

2.6.2. Recommendations

The borrower should establish baseline emission levels in the affected area prior to the start of the project. All potential direct and indirect emission sources from the project should be identified, quantified, and assessed in terms of impacts. The assessment of emissions on respiration is often done as part of a HHRA. In making assessments, it is necessary to distinguish among impacts on different subgroups of the population. For example, children and the elderly may be more vulnerable to air emissions than healthy adults. While the EIA may already assess air emissions risks, these studies often do not address health effects that fall below the legal required limits. Even relatively low emission levels of these substances may cause odor and throat and eye irritation, as well as complicate existing respiratory conditions. Emissions may also produce stress within communities regarding their potential effects.

The borrower should share information with local communities and health officials to address community concerns, whether real or perceived. Actions may include plans for emissions and dust management (for instance coal piles are usually watered with a mix of water and substances to prevent spontaneous combustion), vehicle and equipment maintenance, and traffic management. Air emissions testing should be conducted regularly and over time to ensure that targets are being met. Evaluations should be made of the measures to minimize overall emissions, such as clean technologies, renewable energy, and methods of carbon offsetting (e.g., reforestation programs). Additional measures would include a grievance mechanism to address community concerns, education programs, and participatory monitoring.

2.7.PROJECT INFRASTRUCTURE AND EQUIPMENT

2.7.1. Potential Health Impacts

Project infrastructure and equipment can include the physical and structural elements of a project (industrial complexes, ports, boundaries), machinery, construction activities (land clearing, excavating, dredging), and other large-scale processes that could pose a health and safety risk to local communities. These factors and their health risks vary greatly from project to project and largely depend on how close the community is to the project and/or the likelihood that local people will approach the site. Community members may be more likely to enter a project area if it is located on land they used previously (for grazing, hunting, fishing, water access), if there is

no project boundary, or if there are items at the project site that could be stolen (particularly important in areas with high unemployment and poverty). Risks to communities could include injury and potentially death. Especially in rural areas, where communities have limited or no access to comprehensive health care, even minor accidents may have irreversible, long-term consequences.

An example would be community members entering abandoned quarries and using artificial lagoons for recreation. Because of the sharp drop-offs, such use could result in drowning, particularly in the case of children.

A separate but important CHS risk related to the physical infrastructure and activities is the project's potential to encourage the spread of endemic diseases such as malaria and yellow fever or other vector-related diseases through creation of still-water environments (e.g., water evaporation ponds) for mosquitoes (and other vectors).

Managing risks of linear projects

Open trenches in populated areas have been identified as a particular CHS risk because they can run for miles and are difficult to monitor. Injury and death from falling is the main concern, particularly in small- and medium-scale projects where basic safety management measures tend to be ad hoc. Open trenches and excavated areas also pose the risk of creating still-water environments where malaria-carrying mosquitoes and other vectors can breed.

Management measures in this regard may include:

- Using contractors with a strong safety track record and who follow best practices.
- Including safety requirements in subcontractor contracts.
- Putting up fencing and warning signs.
- Conducting community awareness campaigns.
- Implementing a reporting system for accidents.

2.7.2. Recommendations

The borrower should identify all CHS risks related to project infrastructure and activities that could be affected by existing risks, such as the presence of malaria and other vector-borne diseases and the likelihood of community members entering the complex to gain access to resources or culturally important sites. Management measures include using good international industry practice for design, construction, operation, and decommissioning.⁶

Particular consideration should be given to potential exposure to natural hazards, especially where structural elements of the project are accessible to the community. When dams, tailing dams, former quarries, or ash ponds are located in high-risk locations, their failure or malfunction may pose a threat to safety. Therefore, the borrower should engage outside experts

⁶ Closely adapted from *Policy on Social & Environmental Responsibility*. Performance Standard 4, Community Health, Safety, and Security. International Finance Corporation World Bank Group, 2006.

to conduct a review early in the project's commissioning phase. The borrower should also keep the project site clear of obstructions and provide lighting, fencing, guards, and safety signage to prevent improper and unsafe activities.⁷

Community awareness and education programs can help deter community members from entering the project site. Where possible, creation of still-water environments should be avoided and training for workers should include basic prevention measures to reduce the spread of diseases. In areas at risk for malaria and yellow fever, the project should coordinate with local health officials in reporting new cases.

In the case of dams, and particularly tailings dams, downstream risks can be minimized through measures taken in coordination with communities to avoid or reduce exposure and plan for contingencies.

2.8. EMERGENCY SITUATIONS

2.8.1. Potential Health Impacts

Unplanned events and emergencies, such as crashes, spills, explosions, flooding, and fires, may impact project operations and worker safety as well as present health risks for nearby communities. The potential for emergencies, which varies greatly from project to project, could include sudden failure or collapse of project equipment due to accidents or natural disasters, such as hurricanes, floods, and earthquakes, as well as fires, spills of hazardous materials, failure of dams, etc.

Infrastructure projects often have well developed plans to address emergencies on the project site itself, but rarely off site. Local emergency response capacity may not be adequate to provide first aid, health care, and other services in the case of such an event. Emergencies could range from minor cuts and bruises to severe injury and even death, particularly where communities lack access to medical services. Emergencies can also have long-term mental health and social consequences, including trauma, anxiety, depression, and damage to the social fabric.

2.8.2. Recommendations

The borrower should assess specific CHS risks from emergencies and unplanned events associated with the project's industrial facilities (e.g., dams, combustible storage, chemical

⁷ *Conditions of Contract for EPC Turnkey Projects. First Edition.* International Federation of Consulting Engineers, 1999.

industrial processes, etc.) and activities (e.g., use of explosives, transport of dangerous substances). Measures to address CHS should include community awareness programs and coordination and capacity building of local emergency management personnel. If possible, emergency response and contingency plans should include explosives management plans that are developed and tested in collaboration with local emergency responders.

Projects that involve inherently dangerous activities, such as use of explosives, toxic materials and/or corrosive devices and materials, should document emergency preparedness and response activities, resources, and responsibilities. Mitigation measures should include the creation of warning and alert systems and identifying and training of both workers and members of the general community. The borrower should work with the community and local government agencies in planning the response to emergency situations. If local government agencies have little or no capacity to respond effectively, the borrower should provide the necessary training. The borrower should track all accidents and emergencies and their impacts and evaluate how well the situation was handled.

2.9.PROJECT SECURITY

2.9.1. Potential Health Impacts

Security risks on a project site include conflicts with neighboring communities, gender-based violence, and theft and violence among camp residents. Consequences of gender-based violence include acute or chronic physical injury, unwanted pregnancy, sexually transmitted infections, HIV/AIDS, urinary tract infections and fistulas, reproductive health problems, emotional and psychological trauma, stigmatization, rejection, isolation, depression, increased gender discrimination, and sometimes death.

Preventing gender-based violence requires a comprehensive understanding of the risks to women, girls, boys, and men. Security can be strengthened by attention to design of facilities, education, and monitoring by an external security or community-based firm. The amount of project security required for a particular project will depend on the project's scale and the level of local conflict and security concerns in the area.

The presence and conduct of security enforcement staff can have a significant influence on the quality of life of local residents. One major concern is the potential conflict that can arise between enforcement staff and the local community, which can cause resentment in the local

community towards the project. Also, excessive use of force by security personnel could lead to injury or death of community members. This is a particular concern in high-conflict areas and where companies have limited control over third-party security personnel protecting project infrastructure, such as when government forces are involved.

Some projects require continued security enforcement during their operational phase in order to protect and preserve the health of the community. This is the case for water plants, which can be potential targets for terrorist groups. In other cases, security enforcement is needed to comply with international agreements, as implementation of the PBIP code for river and maritime ports.

2.9.2. Recommendations

In establishing levels of security enforcement, the borrower should conduct a full assessment of the risk posed to the project based on local and regional factors, including the community's socio-economic conditions, level of existing violence, and prior experience with security personnel. The borrower should assess safety risks within and outside the project site. The borrower should follow good international hiring practices, ensure employees hired have not been implicated in past abuses, and provide specific training in human rights. A code of conduct that respects the rights, safety, and culture of the local community and the local law should be established and enforced.

In places where experience suggests that risks to community safety are high from the presence of security personnel, the borrower should make special efforts to:

- Screen all security staff for prior criminal records before hiring.
- Provide human rights training to all security staff as part on induction and on-the-job training.
- Clearly establish procedures and “rules of engagement”for dealing with the public and anyone that represents a threat or risk to the security of the project.
- Establish rigorous procedures for control of firearms (e.g., prohibit security staff from taking their firearms home, account for all munitions, etc.).
- Ensure that all security personnel receive training in dealing with the public, in cultural sensitivity and the appropriate use of force.

Measures for preventing and mitigating gender based violence should include the following:

- Provide separate, well-lit bathing and latrine facilities for men and women.
- Design safe and appropriate structures and mechanisms for reporting, responding to, and preventing GBV.
- Monitor camp areas that present potential security risks, including latrines and showers, collective areas, and entertainment centers.

The use of force should be prohibited except for preventative and defensive purposes. The community should be provided with a culturally appropriate grievance mechanism for expressing concerns about the conduct of security personnel and for filing formal reports about unlawful or abusive acts. The borrower should investigate such reports within a reasonable time and should take action as necessary. Cooperation with local public authorities should be encouraged. The borrower should monitor conflicts with local community members as well as community perception of security personnel.

2.10. SOCIAL INFRASTRUCTURE PROJECTS

2.10.1. Potential Health Impacts

Social infrastructure projects such as schools, health posts, hospitals, water supply and sanitation systems, housing, and community recreation facilities can also present CHS risks and impacts, if proper siting, construction, and safety measures are not used.

Because these projects tend to be small and are often carried out by local contractors, construction standards may be low. They may also generate risks and impacts in relation to resource use, transportation, and infrastructure, as outlined above. Additional issues may include the following:

- Schools and/or other community facilities should not be built in high risk areas, such as places subject to flash floods, landslides, beaches exposed to hurricanes or areas that are contaminated by industrial or other waste.
- Financing should be conditional on carrying out an assessment of building standards and materials to ensure they are appropriate and safe, in particular in earthquake prone regions.

Guidance for multiple works projects can be a useful tool for operational plans or as a requirement for all projects undertaken by an executing agency

Water supply and sanitation systems can greatly improve community health. However, if they are poorly designed, operated, and maintained, they can also pose serious health risks. Malfunctioning systems can contaminate surface waterways or groundwater, as well as drinking water. Infrastructure that does not take into account the local endemicity of vector-borne diseases can create breeding sites for mosquitoes and other vectors.⁸

Rural water supply and sanitation systems are often the responsibility of the ministry of health or agriculture, which in many developing countries may not have the in-house engineering expertise required for construction and maintenance (World Bank, 2001). As in rural areas, projects in peri-urban areas should be designed for low-density populations and include measures to accommodate agricultural and animal waste. A major issue in peri-urban areas is the introduction of flush toilets with inadequate facilities for treatment, leading to flooding or contamination of surface and/or groundwater. For projects to build community water systems, such as in urban areas, lack of drainage can create mosquito breeding sites and increase the risk of endemic vector-borne diseases, such as malaria and dengue.

Poorly maintained low-cost, on-site sanitation (such as latrines and septic tanks) has a high likelihood of malfunctioning, thus putting households and communities at risk for a wide range of diseases. When latrines or septic tanks are emptied or do not properly treat solids, ground and surface water can become polluted and create vector-breeding habitats.

Terms of reference for water supply and sanitation projects should specify proper design, construction, operation, and maintenance, using experts who are independent from ministries of health and agriculture, if appropriate. Community participation may be vital to ensure long-term operation and maintenance and cost recovery and to conduct education in hygiene.

A high level screening exercise should identify the degree of CHS risk that may be generated by the social infrastructure project. If it is determined that CHS risks need further study, this analysis should at least involve an assessment of the major risk sources presented in Section 2.0 of this Guidance Note.

⁸ The World Bank. 2001. *Environmental Health: Bridging the Gaps*. Authors: James A. Listorti and Fadi M. Douman.

3. RECOMMENDATIONS FOR INTEGRATING COMMUNITY HEALTH AND SAFETY ISSUES INTO AN EXISTING ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

CHS issues should be integrated into ESIA studies and Environmental and Social Management Plans (ESMPs) to improve their management of risks and impacts. Doing so will allow IDB social and environmental staff to take an integrated approach to assessing these risks as part of the existing project review process.

3.1.SCREENING

3.1.1. Introduction

IDB staff and/or borrowers should screen projects at the project profile/ESS stage, when potential issues are identified, studies prepared, and terms of reference drawn up for project analysis/due-diligence. Scoping potential issues early on can inform the due-diligence process, ensuring that the preparation of environmental and social management reports addresses the issues in sufficient detail. Identifying potential issues as early as possible helps to ensure that management plans are adequate, become part of the formal loan agreements, and are adequately monitored and supervised during project implementation.

As part of the ESIA process, screening should be conducted to determine the degree of CHS risk triggered by the project. In this way, IDB staff and borrowers can quickly classify projects in accordance with their level of CHS risk. If the risk is significant, then the CHS issues should be thoroughly addressed within the ESIA (refer to Section 3.2). The intent is not to produce a separate health and safety plan. Rather, community health and safety issues should be addressed in an integrated manner within the existing ESIA process and any related processes or plans. If an ESIA has already been prepared without addressing CHS issues, a fit-for-purpose study may have to be conducted focusing on CHS issues such as a Health Impact Assessment (HIA).

3.1.2. Risk Assessment

A project's level of CHS risk can be assessed with reference to the country/region, sector/project, and reputational/legacy issues as follows:

- Country/region: The level of health, poverty, and social development in the country; whether the country is, or has been, in a recent state of conflict; and whether national laws require community health to be integrated in the EIA or in a similar process.
- Sector/project: The project sector, project type (e.g. greenfield vs. expansion), scale, and location; and whether it is a national level multiple works project.
- Reputational/legacy: Existing or past public concern over the community health and safety impacts of projects within the same country, sector and/or by the same borrower.

3.1.3. Risk Rating

A simple, combined risk rating can help project teams classify projects based on level of risk and in this way ensure that CHS issues are addressed in the EIA or ESIA and ESMPs in accordance with the level of risk they present (refer to Table 1). Risks associated with each risk rating are outlined below:

- High-risk projects could present significant community health and safety risks and raise major reputational issues. Such projects will require a robust assessment of community health and safety issues in the ESIA and ESMPs (likely also to be Category A).
- Medium-risk projects may or may not raise reputational issues. These projects will also require that health and safety issues be addressed in the ESIA and ESMPs. However, impacts and reputational issues are expected to be less serious and their management less complicated (may or may not fall-into Category B).
- Low-risk projects are likely to present insignificant health and safety and reputational issues. Project teams may determine if addressing CHS issues within the ESIA will be necessary, and if requirements for prevention, safeguards, or monitoring are warranted.
- Multiple works projects, where subprojects have not been identified but potential issues can be envisaged, should integrate community health and safety into the impact assessment process for all subprojects.

This risk assessment process is a simple qualitative exercise that will help the borrower and IDB staff to determine early on the level of CHS risk that may be present and the degree of effort required to address these issues in the ESIA.

3.2.IMPACT ASSESSMENT AND MANAGEMENT PLANS

3.2.1. Overview

Projects that present high to medium CHS risk, as identified by the screening exercise in Section 3.1, will require the integration of a HIA into the ESIA process, known as an environmental, social and health and safety impact assessment. By this means, all potential community health and safety risks and project impacts are identified and evaluated for each stage of the project in parallel with the evaluation of social and environmental issues. Following that process, mitigation measures to prevent or minimize impacts should be developed, with community consultation. The level of detail provided throughout the assessment of community health and safety risks/impacts should be commensurate with the level of risk associated with the project (low, medium, or high). Key issues that should be addressed are outlined below (see Table 2).

While all the tools in this Guidance Note can be applied to multiple works projects and small-scale projects, it is recommended that CHS risks for these projects be addressed by a simplified risk checklist. In the interim, the tools in this Guidance Note can be used, but applied in a flexible and fit-for-purpose manner, according to the type of project in question.

3.2.2. Area of Influence

The CHS area of influence (AoI) should be determined for each project and should be clearly identified within the EIA report. While the AoI for CHS issues may be similar to the one identified for environmental and socio-economic issues, it could also differ in important ways (e.g. the downstream impacts of dams, tailings dams, etc.).

The AoI should include physical project infrastructure, transportation routes used, location of worker camps, areas which will be frequented by project workers (whether direct employees or contractors), etc. The AoI should also include health infrastructure and facilities that could be impacted by the project workforce. The direct AoI includes the human and social environment affected by the project's long-term physical presence. For example, people living near a dirt road used by heavy trucks carrying project materials will be directly affected by dust

and air emissions. In contrast, the extended area of influence often includes communities that could be affected in an indirect way, to a lesser extent, or only periodically. For example, if nonlocal workers spend their leisure time in a town close to the project, the town could be indirectly affected by an increase in prostitution that could result in the spread of STIs.

When identifying the AoI, it is important to consider all the project components, as they may have different AoIs. For example, certain local and/or regional towns and settlements may be affected by a project's use of water and/or energy. Other communities may be impacted by new roads and/or increased traffic.

3.2.3. Baseline

Any ESIA including an assessment of risks/impacts to community health and safety will require baseline information for determining later impacts. At a minimum, the baseline should include the following:

- An epidemiological profile of the population by sex, using the most up-to-date information available, focusing on the AoI and/or the specific region where the project is located.
- An overview of existing health infrastructure in the area and its quality and capacity.
- An outline of health trends affecting the region.
- Stakeholder opinions regarding the health status of the population in the AoI, potential project impacts, and suggestions for preventative measures and mitigation.

Epidemiological surveillance and health records vary widely from country to country. Therefore, it is strongly recommended that health information from various sources be obtained and that this data be triangulated to increase its reliability. It is also important to use a combination of quantitative (e.g. morbidity and mortality data) and qualitative (e.g. interviews with local health personnel, self-reported health surveys) information to obtain a more accurate picture of the health conditions and social determinants of health. Data collection should focus on health risks or impacts expected from the project, for example data on lung diseases for a project that may lead to increased levels of air contamination.

3.2.4. Identifying and Rating Impacts

Potential impacts to community health and safety should be identified for each stage of the project, including those related to contractors and subcontractors. Cumulative impacts (such as combined effects of construction and operation of unrelated projects within the same region), should also be considered where relevant (see Table 3).

The following information should be included in an assessment of CHS impacts:

- Source of the impact or risk and/or project factors that contribute to the impact/risk.
- Significance rating of the impact/risk, factoring in measures of likelihood and severity.
- Suggested mitigation measures.
- The residual significance rating, post-mitigation.

3.2.5. Management Plans and Monitoring

If the project creates adverse impacts and/or risks to the health and safety of local communities, the borrower should develop an action plan, or integrate specific actions into other plans, to prevent and/or mitigate the adverse effects, including the activities of contractors. Action plans should be disclosed in a timely manner and in a way that ensures understanding of the issues in affected communities.

Management plans should contain measures to identify and address issues that may arise during implementation. Throughout project implementation, checkpoints should be established to review the effectiveness of mitigation/prevention measures and their conformance to the action plan. Monitoring can be integrated into existing project management processes. The results of monitoring activities should be used to revise the prevention/mitigation measures where they are found not to be effective. Reviews should be documented. Information from these reviews will be helpful in developing community health risk control strategies for future projects.

Emergency plans should involve management of project personnel, facilities and equipment, as well as nearby community infrastructure, organizations and authorities. These plans should have an internal component associated with the construction and/or operation of the project itself and an external component that addresses potential effects on the community. As a guideline for evaluating the suitability of emergency plans, the Seveso Directive (Council Directive 82/501/EEC) should be consulted, particularly for projects involving chemical and dangerous substances.

3.2.6. Consultation and Engagement

Consultation with affected communities and other health stakeholders (e.g., local health officials and health staff) is recommended throughout the assessment process. At a minimum, the health baseline and the identification of impacts and mitigations should incorporate views of affected communities and health stakeholders, such as regional health officials, health service providers, civil society organizations, and religious groups involved in health service delivery. It is important to ensure that all CHS risks/impacts and prevention/mitigation measures be discussed with these stakeholders. A grievance redress mechanism is critical to identify and address risks and community concerns early on and should be a standard requirement on all major infrastructure projects.

4. CHECKLIST TOOLS

The three checklists presented below are designed to assist IDB project teams and borrowers. The purpose of each is outlined below:

- *Checklist 1 – What Level of Health and Safety Risk is this Project Likely to Present to CHS?*
Use this simple, combined risk-rating checklist to classify projects based on level of risk for CHS issues. This tool can provide a quick sense of the level of effort required to adequately address community health and safety issues on a project relative to the risks presented by the project and context in which it is located. The EIA or ESIA and related managements plans should address CHS issues related to the level of risk. The level of risk is first assessed within three contexts: (a) country/regional/local; (b) sector/project; and (c) reputational/legacy issues. Screening questions provide guidance in ranking the level of risk for each context, i.e., the more questions requiring the answer yes, the higher the level of CHS risk. Overall knowledge of the project and local context should be used to determine the overall CHS risk level of the project. This project review can be conducted prior or as a tool during a site visit.
- *Checklist 2 - How Well are Health Issues Addressed in the Project ESIA?*
Use this checklist to assess how adequately the EIA or ESIA and ESMPs identified and addressed community health and safety issues. Guidance is provided to help determine the assessment's adequacy and to identify gaps. Ideally, this project review can be conducted prior to a site visit or as a tool during a site visit.

- *Checklist 3 - What are Potential CHS Impacts and Mitigations Related to the Project?*
Use this checklist to ensure that all CHS risks/impacts and mitigations have been thoroughly considered. Common types of prevention and mitigation measures are provided for consideration. This review can be conducted as part of a site visit.

Annex 1: CHECKLIST 1- What Level of Health and Safety Risk is this Project Likely to Present to CHS?

Instructions: Use this checklist to determine the level of CHS risk related to the project based on three contexts: (a) country/regional/local; (b) sector/project; and (c) reputational/legacy issues. Screening questions are provided to guide in ranking the level of risk for each context, i.e., the more questions requiring the answer yes, the higher the level of CHS risk. Overall knowledge of the project and local context should be used to determine the overall CHS risk level of the project. This project review can be conducted prior to a site visit

<p>High-Risk Projects present significant CHS risks and raise major reputational issues. Such high risk projects require a robust assessment of community health and safety issues in the EIA or ESIA and ESMPs (likely to also to be Category A).</p>	<p>Medium-Risk Projects present moderate CHS risks and may or may not raise reputational issues. These projects will also require health issues to be addressed in the EIA or ESIA and ESMPs. Impacts and reputational issues are expected to be less severe and their management less complex (may or may not fall into Category B).</p>	<p>Low-Risk Projects present low to negligible CHS risks, and reputation issues likely are insignificant. Project teams may determine if addressing CHS issues within the EIA or ESIA will be necessary and if prevention measures and safeguard or monitoring requirements are warranted.</p>
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Context for Health and Safety Risk (Screening Questions)	Risk Ranking
<p>COUNTRY / REGIONAL / LOCAL <i>Socioeconomically depressed areas, with high poverty rates and low access to infrastructure and services, may be less able to adapt to project impacts. Communities in areas with existing public health issues (e.g., high prevalence of respiratory illnesses, malaria, and STIs,) may be more vulnerable to CHS impacts. A thorough assessment of CHS issues may be necessary for projects located in regions with potentially vulnerable populations.</i></p>	
<ul style="list-style-type: none"> • Does the country have high poverty, and low social indicators (e.g., low literacy rates, low GDP, high unemployment)? • Is there social/political unrest or conflict in the region where the project is located? • Could vulnerable or historically disadvantaged groups be affected by the project? • Is the project located in a rural or peri-urban setting? • Does the project area present traffic safety problems owing to the circulation of trucks or heavy machines? • Is there a high incidence of diseases/illnesses associated with poor living conditions near the project area? • Are there endemic diseases in the project area? • What is the HIV/AIDS prevalence rate in the project area? • Do communities near the project have well-prepared and equipped emergency organizations (firefighters, hospitals, civil emergency organizations)? • Do communities near the project area have historical problems with the provision or availability of any vital resource for its subsistence (e.g. water, air, energy)? • Have there been problems with air or water contamination produced by other industries in the project area? • Is the project area subject to natural threats? (e.g. earthquakes, floods, tsunamis, hurricanes, etc.) 	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

<p>What is the level of health risk given the country/regional/local context?</p>	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low
<p>SECTOR / PROJECT <i>Sectors that involve significant resource use, infrastructure development, waste production, and/or heavy traffic may present greater CHS risks and require a more thorough assessment. A greenfield project may result in greater CHS issues and likelihood of relocation than a project on an existing footprint. Large-scale expansions may be more likely to present health risks than small-scale expansions. Consider all project components together to understand the cumulative effect on CHS issues.</i></p>	
<ul style="list-style-type: none"> • Is this a greenfield project? • Is resettlement likely to occur as a result of the project? • Does the project involve construction of major infrastructure, heavy machinery, and industrial processes? • Does the project involve prominent and new linear features, particularly road transport? • Does the project involve storage of significant quantities of dangerous substances (explosive, toxic and/or corrosive)? • Does the project require local resources (e.g., domestic water supply, energy, water, sewers)? • Is a large workforce required? • Is the project area located near a residential area? • Could the new project, together with existing projects, create cumulative impacts or risks on CHS through normal operations or by a domino effect during an emergency? • Could emergency situations generate explosions, fire, toxic flows, and/or toxic clouds? • Is the project expected to generate significant amounts of dangerous wastes? • Will the project generate explosive, toxic, or corrosive products? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>What is the level of health risk given the Sector/Project context?</p>	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low
<p>REPUTATIONAL/LEGACY ISSUES <i>Public concerns over the project in question and health effects of the industry and/or other industrial projects in the region could put pressure on the company and government authorities to conduct a thorough assessment of health impacts, regardless of whether national EIA legislation requires it.</i></p>	
<ul style="list-style-type: none"> • Have health concerns been raised by country/regional/local stakeholders regarding this project and/or this industry? • Could these issues come up in the future? • Has the borrower ever been involved in industrial projects that presented threats to neighboring communities? • Do officials of the borrower company have a proper awareness of the magnitude of potential health and safety risks that the project could present to the community; and did they demonstrate proper behavior in the past? • Could activities of the borrower’s contractors or suppliers present a threat to the health and safety of neighboring communities? (e.g. producers of raw materials that could be involved in the use of illegal products for fumigation operations and/or unhealthy or unsafe sub-contractors working conditions)? 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>What is the level of health risk given e reputational/legacy issues?</p>	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low
<p>OVERALL PROJECT RISK LEVEL TO COMMUNITY HEALTH AND SAFETY</p>	<input type="checkbox"/> HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW
<p><u>Explanation of Rating:</u></p>	

Annex 2: CHECKLIST 2- How Well are Health Issues Addressed in the Project ESIA?

Instructions: Use this checklist to assess how adequate the EIA or ESIA and ESMPs identified and addressed CHS issues. Guidance is provided to help determine the level of adequacy and identify gaps. This project review can be conducted prior to a site visit.

Key ESIA Sections	Extent to which health issues were adequately addressed in each ESIA section	Identify Information Gaps
<p>Area of Influence – Were health issues adequately considered in defining the area of influence for the ESIA? <i>Guidance:</i> Were the following considered in determining the AoI:</p> <ul style="list-style-type: none"> • Location and size of worker camps. • Project transportation routes. • Location of health infrastructure potentially impacted by the project. • All communities potentially affected by the project, including vulnerable groups. • Location of communities potentially impacted by harmful effects of project construction or operation (e.g: electromagnetic fields, air pollution, noise, etc.). • Location of communities potentially impacted by an emergency event (fire, explosion, spills, dams break, etc.). 	<ul style="list-style-type: none"> <input type="checkbox"/> Adequate (no gaps) <input type="checkbox"/> Somewhat adequate (some gaps) <input type="checkbox"/> Inadequate (major gaps) 	
<p>Baseline - Does the baseline adequately include information on community health issues within the area of influence? <i>Guidance:</i></p> <ul style="list-style-type: none"> • Is there an epidemiological profile for affected communities? • Are existing health conditions within the AoI sufficiently explained to permit assessment of health impacts? • Is the quality and capacity of local health care infrastructure and services within the AoI discussed in the baseline? • Are stakeholder concerns/perceptions over health issues included in the baseline? • Was more than one source of information used to develop the health section of the baseline? 	<ul style="list-style-type: none"> <input type="checkbox"/> Adequate (no gaps) <input type="checkbox"/> Somewhat adequate (some gaps) <input type="checkbox"/> Inadequate (major gaps) 	

<p>Identification and Rating of Impacts - Does the impact assessment adequately identify and evaluate the CHS impacts? <i>Guidance:</i></p> <ul style="list-style-type: none"> • Were CHS impacts clearly identified for the construction vs. the operational phases of the project? • Was there an evaluation of potential CHS impacts related to contractor and subcontractor activities? • Were project-related sources or factors that contribute to the CHS impact/risk clearly identified? • Were CHS impacts/risks rated for significance based on likelihood and severity? • Was the severity of potential impacts/risks associated with the vulnerability of potentially affected communities determined? 	<ul style="list-style-type: none"> <input type="checkbox"/> Adequate (no gaps) <input type="checkbox"/> Somewhat adequate (some gaps) <input type="checkbox"/> Inadequate (major gaps) 	
<p>Management Plans and Monitoring – Do management plans (including monitoring) adequately address main CHS impacts/ risks? <i>Guidance:</i></p> <ul style="list-style-type: none"> • Do the management plans include corrective, preventive, and mitigation measures to address the main health and safety issues identified in the risk/ impact section? • Do the measures include awareness raising and engagement with communities specifically regarding CHS impacts? • Are the monitoring measures sufficient to identify and address CHS issues that arise during implementation? • Are emergency plans adequate for addressing potential project-related emergency situations? • Are community organizations and authorities sufficiently informed and involved in the project-related emergency plans? 	<ul style="list-style-type: none"> <input type="checkbox"/> Adequate (no gaps) <input type="checkbox"/> Somewhat adequate (some gaps) <input type="checkbox"/> Inadequate (major gaps) 	
<p>Consultation and Engagement – Did the consultation and engagement process adequately integrate community’s views into the:</p> <ul style="list-style-type: none"> • Collection of health baseline information? • Identification and assessment of impacts? • Development of corrective, preventive and mitigation actions? • Development of emergency plans? 	<ul style="list-style-type: none"> <input type="checkbox"/> Adequate (no gaps) <input type="checkbox"/> Somewhat adequate (some gaps) <input type="checkbox"/> Inadequate (major gaps) 	

Annex 3: CHECKLIST 3- What are Potential CHS Impacts and Mitigations Related to the Project?

Instructions: Use this checklist to ensure that all potential CHS risks/impacts (positive and negative) have been thoroughly considered. Common types of prevention and mitigation measures are provided for consideration. This review can be conducted as part of a site visit.

Common Sources of Risks and Impacts	Potential Health Impacts (Check all that may related to the project)	Explain	Common Types of Prevention and Mitigation Measures	Comments (Management measures and monitoring)
Road transportation and infrastructure	<p>Potential negative impacts:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Traffic accidents - Ranging from minor physical injury to debilitating injury or death. <input type="checkbox"/> Respiratory impacts - From dust and emissions, ranging from minor effects such as irritation of eyes, throat, and lungs, to chronic conditions including asthma and bronchitis. <input type="checkbox"/> Stress – From potential annoyance, sleep disturbance from noise to reduction of overall quality of life. <input type="checkbox"/> Decrease in standard of living and increase in poverty – Associated with depletion of natural resources such as forests (opened up for logging), change in distribution or number of animals (for hunting), and disruption of community access routes / access to land or other natural resources. <input type="checkbox"/> Potential contamination of vital resources, such as water, caused by accidental spills of dangerous substances. <p>Potential positive impacts:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Better health services - Resulting from Improved access for emergency response vehicles. <input type="checkbox"/> Increased use of resources that affect livelihood- From greater community access to markets, hunting grounds, jobs, and/or social support networks. 		<ul style="list-style-type: none"> • Traffic management plan, including: <ul style="list-style-type: none"> - Driver safety training, including identification of local accident hotspots, awareness of weather conditions, topography characteristics, daytime and nighttime, and high traffic community areas such as schools, churches, etc. - Enforcement of zero drug and alcohol tolerance policy. - Awareness raising among local communities on project traffic, routes used, high risk areas, and prevention of accidents. • Dust management plan, including: • Air monitoring as required depending on location of local people and other receptors. • Maintenance and supervision plan for company and contracted vehicles. • Consideration of hours and frequency of transport to avoid conflicts with the community. • Weight control of trucks to avoid road destruction. 	<p>Include in baseline traffic density and traffic accidents and deaths. Track this data over time. Similarly track community perceptions regarding risk of traffic accidents and related injury over time.</p>

Common sources of risks and impacts	Potential Health Impacts (Check all that may related to the project)	Explain	Common Types of Prevention and Mitigation Measures	Comments (Management measures and monitoring)
Project workforce and worker camps	<p>Population influx, increase in prostitution, sexual interaction between workers and community, and rise in crime could contribute to:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Spread of sexually transmitted infections including HIV/AIDS and syphilis. <input type="checkbox"/> Introduction of other communicable diseases including TB and influenza. <input type="checkbox"/> Unwanted pregnancies and births. <input type="checkbox"/> Social problems related to increased alcohol and drug use and abuse associated with the presence of large workforces with disposable incomes. <input type="checkbox"/> Illnesses caused by unsanitary living conditions, including diarrhea, cholera, hepatitis A, overcrowding, and pressure on services such as water and sanitation. <input type="checkbox"/> Increased pressure on health services and infrastructure potentially resulting in decreased effectiveness of these services. <input type="checkbox"/> Increased solid waste generation. <input type="checkbox"/> Mental stress/impact on quality of life associated with community-worker conflict, increase in cost of living, rising crime, or reduced sense of personal safety, etc. <p><i>Highly dependant on communities' ability to adapt to changing circumstances, arrival of outsiders, social mores, etc.</i></p>		<p><i>A local hiring and training plan that evaluates the following:</i></p> <ul style="list-style-type: none"> • Local sourcing of labor and goods and making such hiring practices very clear to help prevent population influx. • Provision of training to local community members to help them meet basic hiring requirements. • Good employment and management practices including: <ul style="list-style-type: none"> - Worker employment health and safety screening criteria. - Provision of worker health care. - Worker education on drugs, alcohol, and sexually transmitted diseases, and cultural sensitivity training. - Enforcement of a worker code of conduct. <p><i>Raising awareness about HIV/AIDS through:</i></p> <ul style="list-style-type: none"> • Dissemination of information to communities and workers. • Generating discussion. • Promoting abstinence and avoidance. • Provision of condoms. • Monitoring of outcomes in collaboration with National HIV/AIDS authorities. 	<p>Include in baseline health and demographic information about STIs, illnesses, drug and alcohol abuse, and birth data. Track this data over time. Similarly, track community perceptions regarding sexual relations and prostitution, social problems, effectiveness of health services, and cost of living. Regarding monitoring of HIV/AIDS prevention among workers and the local community:</p> <ul style="list-style-type: none"> • Prevalence of HIV/AIDS among workers and local population. • Frequency of attendance at training seminars. • Condom use • Understanding of the anti-HIV/AIDS training among staff and local people.

Common sources of risks and impacts	Potential Health Impacts (Check all that may related to the project)	Explain	Common Types of Prevention and Mitigation Measures	Comments (Management measures and monitoring)
<p>Changes to, or use of resources by the project or workers during free-time (energy, water, other natural resources)</p>	<p><i>Potential negative impacts:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Decrease in living standards and increase in poverty associated with less access to vital resources or greater effort/cost in accessing these resources. <input type="checkbox"/> Dietary changes and malnutrition associated with changes in access to water for personal consumption and use, access to energy sources (electricity, etc.), and natural resources (firewood, flora, fauna, etc.). <p><i>Potential positive impacts:</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> Increase in standard of living associated with increased access to water, energy, and other vital resources. <p><i>These impacts are highly dependant on the degree to which the communities rely on natural resources and their ability to adapt to changes in those resources.</i></p>		<p><i>Resource management plan or an environmental management system that considers the following:</i></p> <ul style="list-style-type: none"> • Avoidance or minimization of adverse impacts on soil, water, and other natural resources due to project activities. • Efficient management of processes. • Consideration of alternative energy sources. • Mechanisms for measuring resource use. • Providing local accesss to surplus energy and water if this does not lead to dependence. • Code of conduct for workers to ensure that they do not compete with local communities in hunting, fishing, or gathering of local flora, firewood, etc. Hunting and fishing is often prohibited for workers. 	<p>Include in the baseline the location, current use, and capacity of existing resources. Track changes in usage over time.</p>

Common sources of risks and impacts	Potential Health Impacts (Check all that may related to the project)	Explain	Common Types of Prevention and Mitigation Measures	Comments (Management measures and monitoring)
Waste (solids, effluents)	<input type="checkbox"/> Acute or chronic poisoning associated with contamination of surface and groundwater and soil caused by sewage waste and/or leaching of landfill and/or access to landfill. <input type="checkbox"/> Spread of food and water-borne diseases and zoonotic diseases , including <i>Salmonellosis, E. coli, and parasites</i> . <i>Impacts could be more severe in areas with limited existing sanitation and waste services and infrastructure. Those most affected would be residents living in or near landfills or who rummage through landfills for items to consume, use, or sell (i.e., the reuse of oil tanks and other receptacles to gather water or for other household uses).</i>		<p><i>Waste management plan that includes the following:</i></p> <ul style="list-style-type: none"> • Measures to minimize effluents, emissions, and solid waste. • Emphasis on waste minimization and segregation. • Measures for handling and disposing of waste. • Measures for securing landfills, where necessary, to prevent rummaging. • Measures for transporting waste. 	<p>Include in the baseline the location of existing landfills and waste management centers and waste production sites. Track changes in waste production over time. Also include and track data about food and water-borne diseases.</p>
Chemical and hazardous material use	<input type="checkbox"/> Short-term health effects caused by poisoning (e.g., nausea, headaches, eye and lung irritation). <input type="checkbox"/> Long-term and chronic consequences such as cancer, respiratory illnesses, and birth defects. <i>Associated with the accidental spill, release, or explosion of chemicals, leading to air, water, and/or soil contamination. Also from the non-sanctioned uses of hazardous materials or containers that previously contained these materials.</i>		<ul style="list-style-type: none"> • Prevention and minimization of the use of chemicals and hazardous materials and public exposure. • Implementation of integrated pest management and integrated vector management practices. • Chemical and hazardous waste management plan, including prevention and contingency plans in the event of a spill, accident, or fire. • Long-term handling, storage, transportation, and disposal plans. • Training in hazardous materials handling and emergency response for employees, contracted personnel and local emergency services. • Activities to communicate risk to the community. • Development of an emergency plan by the project company that includes the roles of firefighting, medical and existing community organizations. 	<p>Monitor number of incidents of chemical/hazardous materials exposure. Track short- and long-term health effects and illnesses related to chemical exposure. Develop and run mathematical models of the possibility of explosions and accidental spills to generate knowledge for mitigating potential effects on the community.</p> <p>Prepare and implement training programs for addressing emergency situations that involve company staff, contracted personnel, and community organizations (firefighting, hospitals, and other organizations).</p>

Annex 4: Approach

Information from various sources was used in the development of this Guidance Note. The following Inter-American Development Bank (IDB) policies were reviewed to ensure alignment with the Guidance Note:

- *Environmental and Safeguards Compliance Policy* (OP-704), 2006;
- *Operational Policy on Involuntary Resettlement* (OP-710), 1998;
- *Operational Policy on Indigenous People* (OP-765), 2006; and
- *Operational Policy on Public Health* (OP-742), 1972.

Relevant community health and safety-related policies developed by other multilateral financial organizations were also considered in developing a framework for addressing community health and safety issues at the IDB. These policies included the following:

- Policy on Social & Environmental Responsibility, International Finance Corporation, World Bank Group, 2006.
- Environmental and Social Policy, European Bank for Reconstruction and Development, 2008.
- Conditions of Contract for EPC Turnkey Projects, International Federation of Consulting Engineers, 1999.

Interviews with social and environmental specialists at the IDB also provided important background information on how community health and safety issues have been handled in specific projects as well as lessons for developing practical guidance that would be useful in public and private sector projects across various sectors.

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