

# AID-FOR-TRADE CASE STORY

## Mexico: The International Network of Mesoamerican Highways

### Managing Unintended Consequences in Regional Aid for Trade Infrastructure Projects: The Case of the International Network of Mesoamerican Highways (RICAM)

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### EXECUTIVE SUMMARY

Aid for Trade is one of the WTO's contributions to realizing the United Nations Millennium Development Goals (MDGs). However, the MDGs are interconnected and include fighting disease epidemics, such as HIV/AIDS. This case story focuses on the International Network of Mesoamerican Highways (RICAM), a trade-related infrastructure project. Given the relationship between trade, transportation corridors and the spread of HIV/AIDS, Aid for Trade infrastructure projects, such as the RICAM project, need to integrate strategies to mitigate negative effects on other MDGs, in particular the goal of fighting disease epidemics.

Facilitating trade and travel can have unintended consequences that risk reducing the development potential of the RICAM project. The principal risk that we address is HIV transmission along the transportation corridor. The negative economic impact of HIV/AIDS has been well-documented, as have the consequences for development. Central America has some of the highest HIV infection rates in the hemisphere. Mexico and Central America are the top sources of illegal immigrants in the United States. The association between trucking routes, trade, migration and HIV transmission has been well-documented in other settings. However, prevention programs in India and Africa have succeeded in reducing HIV transmission along transportation corridors. We recommend that similar prevention programs be implemented for RICAM.

### ISSUES ADDRESSED

The United Nations Millennium Development Goals (MDGs) include reducing extreme poverty, reducing child mortality rates, fighting disease epidemics, such as HIV/AIDS, and creating a global partnership for development. The strengthening of the multilateral trading system through the conclusion of the Doha Development Agenda and Aid for Trade are the contributions that the World Trade Organization (WTO) has to make to this goal (Lamy 2010). However, WTO activities must ensure coherence with the other goals, since the MDGs cannot be seen in isolation. This case story focuses on the trade-related infrastructure program of the Mesoamerican Integration and Development Project. The main issue we address is how to ensure that

trade and transportation corridors do not undermine the MDG of fighting disease epidemics, especially HIV/AIDS.

### OBJECTIVES PURSUED

The Mesoamerican Integration and Development Project was launched in June 2001 (then known as the Puebla-Panama Plan) to spur integration and development in the Mesoamerican countries (Mexico, Guatemala, Belize, El Salvador, Honduras, Nicaragua, Costa Rica and Panama), with Colombia joining in 2006. The objectives pursued by the trade-related infrastructure investments in this project are to: (1) connect markets; (2) reduce transport and trade costs; (3) enhance trade competitiveness; (4) improve the climate for foreign investment; and (5) deliver goods and services to world markets more efficiently (OECD/WTO 2009).

The International Network of Mesoamerican Highways (RICAM) is the project's major transportation infrastructure program. RICAM aims to achieve full physical integration, shorten travel distances on north-south and coast-to-coast routes, make border crossings more efficient and introduce international rules and standards for vehicular transit and homogenous weight and dimension regulations (OECD/WTO 2009). The objective is to interconnect the region with smooth and safe communication routes in order to improve access to export markets and promote tourism.

Financing for the project comes from the private sector, the governments themselves and external donors (which include the IADB, the Central American Bank for Economic Integration, the Andean Development Corporation, the World Bank, Mexico, Japan, Taiwan, Norway and the United States) (OECD/WTO 2009). Table 1 sets out the sources of financing.

**Table 1: Financing RICAM**

Institution	Amount in millions dollars	Percentage of total
Governments	3,617	44.53%
Private	2,134	26.27%
Inter American Development Bank	698	8.59%
Central American Bank	626	7.71%
Andean Financial Confederation	158	1.95%
Japan Bank of International Cooperation	225	2.77%
Millennium Challenge Corporation	308	3.79%
Others	355	4.37%
<b>Total</b>	<b>8,122</b>	<b>100.00%</b>

For further details, see Condon & Sinha (2010b).

## DESIGN AND IMPLEMENTATION

Mexico's geographic location, together with its membership in the North American Free Trade Agreement (NAFTA), makes it a gateway to the North American market for Central America.

Mexico also has free trade agreements with several Central American countries: Costa Rica, Nicaragua, El Salvador, Guatemala and Honduras. Mexico also has been negotiating free trade agreements with Panama and Belize. This proliferation of regional trade agreements led to a plan to improve the infrastructure between Mexico and its southern neighbors. In addition, the United States has negotiated free trade agreements with Central American countries and Colombia. The RICAM project also will improve the trade infrastructure connecting these countries to the United States market and Canada. It is well known that the cost of transportation has an impact on trade. Limão and Venables (2001) estimate that the doubling of transport costs would reduce trade volumes by 45 percent.

RICAM was launched as the Plan Puebla-Panama, on June 16, 2001. The plan is to have one corridor through the Pacific Coast and another through the Atlantic Coast with connections in-between (see map in Appendix 1). Health issues were a key component of the design. Then Health Secretary of Mexico, Julio Frenk, referred to regional migration patterns and the need to develop common health strategies to mitigate the spread of pulmonary tuberculosis, HIV/AIDS and other sexually transmitted infections and vector-borne diseases, particularly dengue, malaria and onchocerciasis (River Blindness) (Frenk 2002). However, none of the documents from the sponsoring governments and international organizations addresses health and transportation issues in an integrated fashion. Building highways and increasing intraregional trade will produce more truck drivers and more migration (legal or otherwise). This will increase the transmission of diseases, including HIV/AIDS and other sexually transmitted diseases.

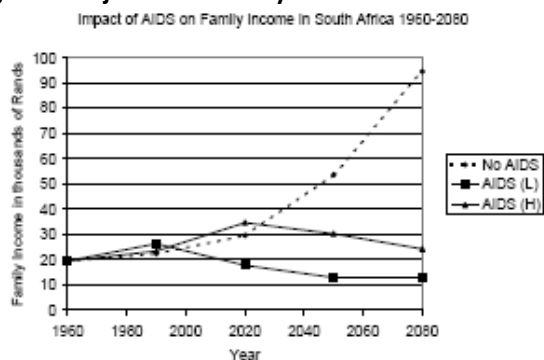
In 2008, the Plan was renamed the Mesoamerica Project and incorporated Colombia. The Mesoamerica Project includes two new themes: (1) Integration for Productivity and Competitiveness (which includes transportation, energy, integrated telecommunications, trade facilitation and competitiveness and biofuels) and (2) Human Development and Environmental Concerns (which includes health, climate change, housing and rural development). RICAM was expanded to cover 13,132 kilometers of highways. The public health aspect of the Mesoamerica Project also expanded, to create a Mesoamerican Public Health Initiative (SRE 2010).

By the end of 2009, nearly eighty percent of the transport projects were either completed or under construction. To facilitate the public health initiative, an institute was created with initial funding of 6 million dollars from the Gates Foundation and the Carso Foundation. However, there is no evidence that the implementation of the public health initiative is addressing the risk that increased migration and greater movement of truck drivers will increase the spread of sexually transmitted diseases across the region (Condon & Sinha 2010b).

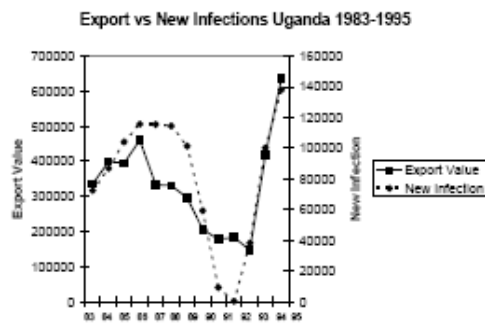
## PROBLEMS ENCOUNTERED

Complementary policies are needed to strengthen the linkages between trade, economic growth, poverty reduction, social inclusion and sustainable development (IDB/WTO 2007). In order to achieve this with RICAM, the project needs to mitigate the spread of HIV/AIDS along trucking routes and via illegal migration from Mesoamerica to the United States. Otherwise, the spread of HIV/AIDS could undermine the development objectives of the project. Falling life expectancy and rising mortality due to HIV/AIDS may lead to lower future economic growth due to the importance of human capital for long-term accumulation of wealth. The economics of HIV/AIDS is quite distinct from other diseases with similar epidemiological and demographic characteristics. In the long run, HIV/AIDS can trap a country in poverty for many generations (Condon & Sinha 2008). Figure 1 projects the impact of HIV/AIDS on family income in South Africa.

**Figure 1 Projection of Family income**



**Figure 2 Exports versus HIV Incidence for Uganda**



Studies in India and Africa have demonstrated relationship between trucking routes and spread of HIV/AIDS. Migration, travel and trade are prime drivers of the HIV/AIDS epidemic. Klitsch (1992) noted the relationship between trade routes, commercial sex and HIV in Uganda. Steinbrook (2007) observed the relationship between major truck routes in India and high rates of sexual transmission of HIV. Okware (2007) found that in HIV prevalence in Uganda declined during 1993-2001, but began to rise between 2003 and 2005. Oster (2007) found evidence that a large portion of such changes can be explained by changes in exports. Oster (2007) found a remarkable relation between exports and HIV incidence for Uganda, illustrated in Figure 2. She applied the same methodology for Burkina Faso, Cameroon, Kenya, Malawi, Mali, Zambia and Zimbabwe. The results hold up for all countries, in varying degrees. This research confirmed the relationship between trade, transportation routes and the spread of HIV.

The connection between exports and HIV suggests that targeting prevention at vulnerable groups would be an effective strategy in preventing and addressing HIV epidemics. Increased exports lead to increased transportation of goods and people movement. Truckers and other migrants are important drivers of the overall epidemic, which means that targeting prevention activities at that group would decrease HIV transmission. In addition, if increases in economic activity make the HIV epidemic worse, economic growth strategies need to incorporate HIV prevention strategies (Condon & Sinha 2008). This is particularly true in the case of trade-related transportation infrastructure.

Table 2 shows the HIV infections rates for Mesoamerica and indicates the top source countries for illegal immigrants in the United States. All of the Central American countries have higher rates of HIV/AIDS infection (0.4-2.1) than Mexico (0.3), with the exception of Nicaragua (0.2). These infection rates are low compared to sub-Saharan Africa. However, once the infection rate passes one percent, the risk of an epidemic in the general population increases (Condon & Sinha 2008). The combination of increased trade, better transportation infrastructure, illegal migration and significant infection rates in the region requires measures to mitigate the spread of HIV/AIDS along transportation routes.

Mexico and Central America are major sources of illegal immigrants to the United States. Illegal immigrants from Central American countries pass through Mexico en route to the United States. Since illegal immigrants are not documented, it is not possible to calculate their numbers precisely. Warren (1995) estimated that the average number of Mexicans illegally entering the United States was around 164,000 per year between 1982 and 1992. More recently, between 2000 and 2009, the rate has accelerated to around 250,000 per year.

Mexico, El Salvador, Guatemala and Honduras rank first, second, third and fourth, respectively, as sources of illegal immigrants (Hoeffler, Rytina & Baker 2009). It is likely that transportation corridors from Central America to Mexico will be used by illegal immigrants en route to the United States.

**Table 2: HIV/AIDS & illegal immigration in the Project Mesoamerica Zone**

Country	Total Infected	Infection Rate	% of US Illegal Immigrant (Total illegal Population from that country)
Belize	3,600	2.1	--
Colombia	170,000	0.6	--
Costa Rica	9,700	0.4	--
El Salvador	35,000	0.8	5% (530,000)
Guatemala	59,000	0.8	4% (480,000)
Honduras	28,000	0.7	3% (320,000)
Mexico	200,000	0.3	62% (6,650,000)
Nicaragua	7,700	0.2	--
Panama	20,000	1.0	--

Sources: <http://www.avert.org/southamerica.htm>; Hoeffler, Rytina & Baker (2009).

The lesson for RICAM is clear. Achieving the development goals of the trade infrastructure project could be compromised over the long run unless prevention strategies are implemented to avoid the potential economic impact of increased HIV/AIDS transmission in the Mesoamerican region. However, restricting the movement of people with HIV/AIDS is not a practical solution. In practice, it would be difficult to apply such a measure. Many people are unaware that they carry the virus and would rather not know if they do. Infected individuals show no outward sign of infection for several years, making it difficult to screen out infected travelers based on outward appearance. It would be impractical to test each traveler for HIV. Testing at the border would only impede international commerce. Alternatively, the risk of cross-border HIV transmission could be reduced by requiring visa applicants to submit to an HIV test. However, those who view mandatory HIV tests as an unacceptable requirement would cross borders illegally. Thus, mandatory HIV testing would fail to achieve the policy objectives of reducing AIDS transmission and illegal border crossings. Indeed, the United States recently reversed its policy of restricting the entry of HIV positive individuals.

There is good news, however. HIV/AIDS prevention strategies that have been used along transportation corridors in Africa (North South Corridor Project) and India (Avahan/Gates Foundation) appear to be working. (For further details, see Condon & Sinha (2010b)). A similar prevention program would mitigate the risk along RICAM transportation routes. The Gates Foundation is funding part of the healthcare initiative in the Mesoamerican Project. Its experience in India demonstrates the benefit of investing in this type of project.

It is important to note that the prevention strategies used for HIV/AIDS are not likely to be suitable to prevent the transmission of other, non-sexually transmitted diseases along the transportation corridor, such as fast-moving and highly contagious diseases like influenza. The recent H1N1 influenza pandemic demonstrated this (Condon & Sinha 2010a, 2010c). Such fast moving diseases require different approaches. Another aspect of the project that remains unclear is the manner in which maximum sizes and weights for trucks will be enforced (Condon & Sinha 2010b). This is an important issue, since wear and tear on roads and bridges will occur more quickly if maximum sizes and weights are not adequately enforced. This in turn will reduce the life of the infrastructure and result in more accidents on the highways (Diaz de León Benard 2001).

It also is important to ensure that other policies complement Aid for Trade infrastructure projects. In the case of RICAM, this means resolving the Mexico-United States trucking dispute in order to ensure more efficient transportation of goods and people between Mesoamerica and the largest market in the region. Part of the logic of the RICAM project is to facilitate access to the NAFTA export market, in addition to expanding trade opportunities within the Mesoamerican market itself. One of the strategies involves harmonizing trucking

standards and speeding up cross-border transportation. However, trucking standards have not yet been harmonized in the NAFTA region itself (Prentice and Ojah 2001). Moreover, the ongoing Mexico-United States dispute over trucking services is an obstacle to further enhancing cross-border transportation efficiency between Mexico and the United States (Condon & Sinha 2003, 2010b). Without an effective resolution of the US-Mexico trucking dispute and harmonization of North American trucking standards, the RICAM project will not be as effective or efficient as it otherwise could be. For a more detailed discussion of these issues, see Condon & Sinha (2003, 2010b).

### FACTORS FOR SUCCESS / FAILURE

Our analysis indicates that the RICAM project needs to incorporate a plan to mitigate the risk that increased trade and improved transportation infrastructure will undermine development, poverty reduction and other development objectives of the Millennium Development Goals by facilitating the spread of HIV/AIDS in the region. While the RICAM project has made progress in improving the trade-related transportation infrastructure in the region, an effective HIV/AIDS strategy will be an important factor for the long-term success of this Aid for Trade project. This strategy needs to focus on at risk populations: truckers, prostitutes, men who have sex with men and illegal immigrants.

### RESULTS ACHIEVED

By the end of 2009, nearly eighty percent of the transport projects were either completed or under construction. It is hoped that the RICAM project will stimulate trade and economic growth in the Mesoamerican region. However, it is too early to predict the results, since the project is not yet completed.

### LESSONS LEARNED

Africa and India provide lessons for the RICAM project. Trade-related transportation projects need to be accompanied by complementary programs to mitigate unintended consequences that might undermine the development objectives of Aid for Trade: the spread of HIV/AIDS via trucking routes, prostitution and illegal immigration. At the planning stage, trade donors, HIV/AIDS donors and other relevant stakeholders should consult and share insights in order to develop coherent and complementary strategies. Aid for Trade and the other Millennium Development Goals can and should be mutually supportive.

### CONCLUSIONS

The program we are suggesting has applicability for infrastructure projects for other countries financed by international organizations. For example, if the World Bank wants to fund a highway project in a developing country, it should take into account the possible unintended effect of the project on infectious diseases like HIV that tend to propagate with the expansion of road transport.

## Appendix 1: RICAM Project Map

### HIGHWAY NETWORK MESOAMERICAN RICAM



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