



INSTITUTE
for
AGRICULTURE
and
TRADE POLICY

Update: Bovine TB and the U.S.- Mexican Cattle Industry in a Macroeconomic Context

**Steven Suppan
Policy Analyst**

March 1994

*Published by
Institute for Agriculture and Trade Policy*

1313 Fifth Street S.E. • Suite 303 • Minneapolis, Minnesota 55414-1546 • 612-379-5980
Fax 612-379-5982 • (E Mail) iatp@igc.apc.org

*Printed on 100% Recycled Paper
15% Post-consumer*

Update: Bovine TB and the U.S.-Mexican Cattle Industry in A Macroeconomic Context

Steven Suppan
Institute for Agriculture and Trade Policy

Introduction: A macroeconomic context of bovine TB eradication

In October 1993, the Institute published "NAFTA, Bovine TB and U.S. Importation of Mexican Feeder Cattle". Subsequently, the Institute has received more information from both U.S. and Mexican sources that underscores the financial and technical challenges posed by bovine TB for the Mexican and U.S. cattle industries. This update on the October report outlines some of the measures proposed and actions taken since then on both sides of the border to reduce the incidence of bovine tuberculosis (TB). The report also takes into account technical and funding problems in post-mortem surveillance for bovine TB, and places these surveillance problems in the wider context of the controversy over Food Safety and Inspection Service (FSIS) meat inspection.

Because data on bovine TB in the U.S. are available from many U.S. sources, much of this report focuses on the Mexican Bovine Tuberculosis Eradication Campaign and the Mexican cattle industry. Bovine to human TB transmission as a public health threat in Mexico and possibly in the U.S. is analyzed.

Although the efforts to control bovine TB in U.S. herds have largely been successful (apart from cases noted in this report), these efforts serve, however indirectly, macroeconomic policies whose degree of success is a matter of great controversy. This report outlines the significance of bovine TB eradication in a perhaps somewhat novel context. Bovine TB eradication not only protects public health and the health of the beef industry, but is a guarantor of Mexico's policy to increase its export earnings from agriculture. Bovine TB eradication further enables the transformation of Mexican agriculture away from the early 1980s goal of food self-sufficiency, and towards dependence on importing basic grains, largely from the U.S., and exporting livestock, fruits and vegetables, mostly to the U.S.

Towards understanding the macroeconomic significance of bovine TB eradication, it is helpful first to appreciate some of the microeconomic reasons that have led to the increased importation of Mexican cattle. As will be detailed in the second section of this report, these increased imports bought with them, until Fiscal Year (October 1, 1992 - September 30, 1993) 1993, an increased incidence of bovine TB.

Professor Steven Sanderson has explained part of the motivation for U.S. importation of Mexican feeder cattle: "U.S. feedlots and order buyers contract for Mexican feeder cattle purchases in order to achieve a greater vertical coordination among phases of the industry and to avoid the painful possibilities in the more volatile aspects of cattle production: stock raising".¹

¹ Steven E. Sanderson, *The Transformation of Mexican Agriculture: International Structure and the Politics of Rural Change* (Princeton, NJ: Princeton UP, 1986), 168.

Mexican ranchers assume risks during the birth and the weaning of calves, and usually also earn the smallest profits of the various phases of beef production.²

A further benefit for U.S. feedlot owners and meat packing plants is that cattle imports from Mexico and Canada depressed U.S. feeder cattle prices by \$35-40 per head in 1992. According to the trade journal *Beef Today*, "while exports, including by-products, may have contributed \$2 billion to the [U.S.] cattle economy, imports may have sapped over \$1.2 billion". The National Cattleman's Association (NCA), an enthusiastic supporter of the North American Free Trade Agreement (NAFTA), admits that it calculated only the positive contribution of exports, and not the growing negative impact of imports, on U.S. cattle producers.³

Whereas in 1985 Mexico exported 188,000 head of cattle to the U.S., in 1992 about 1.2 million were exported. Increases in the production costs of U.S. feeder cattle, combined with successive devaluations of the Mexican peso, have made Mexican feeder cattle very attractive to U.S. feedlots and transnational agribusiness corporations.⁴ These devaluations in relation to the dollar are one of the principal conditions for restructuring interest payments on Mexico's foreign debt, as will be outlined in this report. "In September 1976, the exchange rate rate was 12 Pesos/\$, 132 Pesos/\$ in 1982 and 2,288 Pesos/\$ by 1988".⁵ When the rate surpassed 3000 Pesos/\$ in 1992, new Mexican denominations were issued.

Beef cattle are "the most important specie/product of all Mexican livestock, because of the natural resources that are engaged in its exploitation, because of the direct and indirect investments that it receives . . . because of its contribution to foreign exchange earnings and because of the political power of the entrepreneurs organized in this industry".⁶ Mexican cattle producers have generated the ninth largest source of export earnings, according to Dr. Francisco Gurría Treviño, the director of the Mexican Bovine TB Eradication Campaign.⁷ The total value of beef cattle exports to the U.S. in 1992 was about \$450 million.⁸

However, according to an authority on the Mexican cattle industry, "these foreign exchange earnings are usually not reinvested in the cattle industry nor in other productive economic sectors".⁹ A great portion of Mexican export earnings, as will be outlined here later, goes

² Juan de la Fuente et al., "La ganadería nacional, nueva encrucijada en su desarrollo: crisis, modernización y TLC", in *La disputa por los mercados: TLC y sector agropecuario*, ed. Alejandro Encinas, Juan de la Fuente y Horacio MacKinlay, Mexico City: Mexican Chamber of Deputies/ Ed. Diana, 1992), 243. All translations from Spanish are mine.

³ Steve Suther, "Imports Impact Prices", *Beef Today* (May, 1993), 9.

⁴ De la Fuente et al., "La ganadería nacional, nueva encrucijada en su desarrollo: crisis, modernización y TLC", 241-242. For the 1.2 million import figure, see Drs. Joseph S. VanTiem and Mitchell A. Essey, "Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993" (manuscript), 6.

⁵ C. Parr Rosson III, B. Kris Schulthies, and DuBoise White, "The U.S.-Mexico Trade Agreement: Issues and Implications for the U.S. and Texas Livestock and Meat Industry", Texas Agricultural Market Research Center Report (College Station, TX: Texas A & M University, April, 1991), 8.

⁶ De la Fuente et al., "La ganadería nacional, nueva encrucijada en su desarrollo: crisis, modernización y TLC", 241.

⁷ Dr. Francisco Gurría Treviño, phone interview on Nov. 16, 1993.

⁸ Jorge Alfonso Ifiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis* en ganado de origen mexicano detectados por el United States Department of Agriculture (USDA), Masters Thesis at the Universidad Autónoma Metropolitana --- Unidad Xochimilco (June, 1992), 7 and 9.

⁹ De la Fuente et al., "La ganadería nacional, nueva encrucijada en su desarrollo: crisis, modernización y TLC", 247.

towards paying the interest on Mexico's foreign debt, three-quarters of which was owed to U.S. banks in 1992.¹⁰

On January 9, 1994, *El Financiero* reported that Mexico's foreign debt, according to official government figures, had increased to \$131.9 billion dollars, up from \$110 billion in 1993. The increase was primarily due to a sharp rise in private sector debt to \$41.9 billion. Private sector debt in Mexico rose 698% from 1988 to 1993. One official characterized the rate of increase in debt as "unsustainable", given the present dire conditions of the Mexican economy.¹¹ According to Kristin Lindow, an analyst with Moody's Financial Service, the 2.8% increase in the real value of exports in 1993 is not sufficient to improve Mexico's capacity to pay interest on its debt.¹²

Professor Sanderson has written that the foreign debt load "is clearly the principal reason for the tremendous turnaround in Latin American policy circles concerning the virtue of trade".¹³ There are other important reasons for the conversion of the Mexican political and business elite to the "free" trade ideology. These reasons include increased intra-firm and intra-industry trade by transnational firms that benefit by the reduction of tariff and non-tariff barriers; the economic collapse of industry interest groups previously opposed to "free" trade; the insulation of Mexico's mostly U.S.-trained bureaucrats from lobbying groups; and the unavailability of NAFTA-sensitive trade information to all but the highest level of ruling party and business elites.¹⁴

(This analysis does not take into account the government debt owed to Mexico's wealthiest individuals, on which it pays a high rate of interest in order to discourage capital flight. A Mexican official at the InterAmerican Development Bank estimated "capital flight from Mexico between 1979 and 1983 alone at \$90 billion -- an amount greater than the entire Mexican debt at that time". U.S. banks are often the happy recipients of this fugitive capital, which, even if borrowed from those banks, remains on the books as an interest-earning loan.¹⁵)

This article focuses on Mexico's external debt as a chief macroeconomic context of cattle industry trade, because Mexico's agricultural policy has been often determined by conditions required by international lending agencies for restructuring payments of interest on the debt. These conditions for restructuring include an export-oriented agricultural policy and an overall reduction in public spending. During the first five years of President Carlos Salinas de Gortari's administration, the requirement to reduce government spending in turn reduced government veterinary services and the rural development credit. Since livestock trade between the U.S. and Mexico will continue to grow, the very promising projects and substantial achievements of the U.S. and Mexican bovine TB eradication programs should be assessed in the macroeconomic contexts in which livestock production, and animal health and inspection programs function.

¹⁰ Susan George, *The Debt Boomerang: How Third World Debt Harms Us All* (London: Pluto Press/ The Transnational Institute, 1992), 26.

¹¹ G. Lomelín *et al*, "En Aumento, la Deuda Externa: Excesivo el Crédito a Particulares; Creció 698% en Este Régimen" *El Financiero* (Jan. 9, 1994), 1.

¹² G. Lomelín *et al*, "Insostenible: el Acelerado Endeudamiento Externo de la IP: Crecerá 698% en el Sexenio", *El Financiero* (Jan. 10, 1994), 6.

¹³ Steven Sanderson, *The Politics of Trade in Latin American Development* (Stanford, CA: Stanford UP, 1992), 63.

¹⁴ These reasons are summarized from Manuel Pastor, Jr. and Carol Wise, "The Origins and Sustainability of Mexico's Free Trade Policy", forthcoming in *International Organization*. This incisive and far-ranging analysis of non-debt related reasons for Mexico's conversion to "free" trade complements studies that have treated Mexico's external debt as the principal reason for the Mexican government's conversion to "free" trade ideology.

¹⁵ George, *A Fate Worse Than Debt*, 20.

One of the most important of these macroeconomic contexts is the "structural adjustment programs" (SAPs) designed by international lending agencies. Debtor nations comply with SAPs in order to be able to borrow from foreign banks and to obtain favorable terms for restructuring interest payments on their foreign debt.¹⁶ The *World Bank Annual Report* for 1992 states that "[t]hese programs invariably emphasize greater macroeconomic stability through reductions in public-sector deficits; reforms for public-sector institutions so as to make progress in public finances sustainable; a realignment of prices, exchange rates, and interest rates to reflect market conditions; reductions in import restrictions and tariffs; the privatization of public-sector enterprises; and the encouragement of private-sector involvement in the operation of infrastructure, public utilities and financial institutions".¹⁷

John Judis writes of this invariable recipe for "reform" that countries such as Mexico "were supposed to adapt their economies to the theoretical ideals of the most conservative American economists".¹⁸ The World Bank touts Mexico as one of its most successful SAPs. The Bank notes that since the debt crisis of 1982, when Mexico threatened to halt interest payments on the debt owed to international lending institutions, "Mexico has merged, liquidated, transferred, or sold more than 900 out of a total of 1,155 state-owned enterprises".¹⁹

Contrary to the impression created by the U.S. government, "free" trade academics, and the mass media, privatization is not an economic strategy adopted because of a demonstrated success in reinvigorating a national economy. Rather because privatization is an IMF and World Bank requirement for obtaining credit, "their leverage over countries that have no real choice in the matter helps to create the mistaken impression that privatisation is the only possible path -- and the proof is that 'everybody is doing it'".²⁰

According to the Bank, through currency devaluations, reducing public spending, and the selling off of public enterprises built with tax dollars, among other means, the Mexican economy has been "stabilized". Following "stabilization", Mexico and other countries with reputedly successful SAPs, such as those prescribed for Chile and Argentina, could become part of the NAFTA and other trading blocs. In the Bank's idiom, "the establishment of stable economies with low tariffs has laid the basis for renewed discussions on regional integration".²¹ According to neo-liberal economic theory, once economies such as Mexico's are sufficiently "stable" in SAP terms, their integration into "free" trade regimes, such as NAFTA's, will produce sufficient hard currency earnings from exports to pay interest on debt to foreign creditors.

Insofar as the primary goal of these SAPs is to increase export earnings, they have determined much of Mexico's economic planning and export-oriented agricultural policy. Indeed, government agricultural planning has borrowed directly from the language of SAPs and has expanded the application of SAP terminology from structuring monetary policies to structuring the very use of the land itself. For example, Dr. Luis Tellez Kuenzler, Undersecretary of Planning in the

¹⁶ For a good introduction to the post-World War II history of international lending, see *The Poverty of Nations: A Guide to the Debt Crisis from Argentina to Zaire*, ed. by Elmar Altvater et al, tr. Terry Bond (London: Zed Books, 1991), 1-38.

¹⁷ *The World Bank Annual Report 1992* (Washington, DC, 1992), 143.

¹⁸ John Judis, "World Bank: Japanese Officials think Western austerity measures are the wrong medicine for Eastern Europe", *In These Times* (Dec. 13, 1993), 14.

¹⁹ *The World Bank Annual Report 1992*, 147.

²⁰ George, *The Debt Boomerang: How Third World Debt Harms Us All*, 108.

²¹ *The World Bank Annual Report 1993* (Washington, DC, 1993), 133.

Secretariat of Agriculture, wrote that "[t]he [1992] reform to Article 27 of the Mexican Constitution represents the most important structural adjustment to land tenure regulations and property rights in twentieth century Mexican history".²² As a result of this constitutional change, Mexican land previously owned by the federal government and farmed by small producers (*ejidos*) was privatized. This "structural adjustment" of the land is a great victory for the champions of privatization, who have sought to reverse the achievements of Mexican agrarian populism since the revolution of 1917.²³

Mexican farm organizations have vigorously protested against the structural adjustment of the land and the unavailability of agricultural credit to help make the *ejidos* profitable. During one such protest last November, in the central plaza of Mexico City, José Dolores López, the head of the Independent Union of Agricultural Workers and Peasants, said that Mexico's agricultural crisis has been caused by falling prices for crops and livestock, not because of the common ownership of the *ejido*. According to Dolores López, the privatization of the *ejidos* opens the door to foreign and commercial ownership of land and the destruction of traditional Mexican agriculture.²⁴

Falling prices, and lack of government technical, legal and financial support for small producers will likely lead to the foreclosure of the structurally adjusted land and its purchase by large producers and corporations with easier access to technical inputs and credit. Indigenous farmers in the state of Chiapas, where cattle raising is the second most important economic activity, have called for a repeal of the legislation that has privatized the *ejidos*.²⁵

On Jan. 6, 1993 "President Carlos Salinas de Gortari announced the Ejido Rights Certification and Urban Lots Title Program to map nearly 30,000 *ejidos* governing more than half of Mexico. *Procede*, as the program was dubbed, was supposed to provide property papers for nearly 3.6 million *ejido* members. But by Dec. 1, only 22 such documents had been issued".²⁶ These farmers, who now have been declared by law to own property without having a title to it, will have to compete with large national and transnational agribusiness firms for financial credit and technological assistance. Anyone who has attempted to obtain a loan to improve one's property without having title to that property will readily appreciate the difficulty of farmers in obtaining credit in the recently privatized Mexican countryside.

The protests of Mexican farmers against the Mexican agricultural SAP should be understood in the context of deteriorating conditions for Mexican family farmers. During the 1980s, Mexican government subsidies for agriculture decreased and the cost of inputs increased sharply. The credit available to small producers from the national banking system decreased by approximately 60 percent between 1980 and 1988.²⁷ A 1990 Banco de México report calculated in a national index of costs of production in Mexico that from a base index of 100 in 1980, the costs of beef

²² Luis Tellez Kuenzler, "Foreign Investment Opportunities in the Mexican Agriculture Sector: New Policies Eliminate Obstacles", *Business Mexico*, special edition, 1992, 44.

²³ For an account of the *ejido*'s from the revolution up through the late 1970s, see Steven E. Sanderson, *Agrarian Populism and the Mexican State: The Struggle for Land in Sonora* (Berkeley, CA: University of California Press, 1981).

²⁴ Rosa Rojas y Matilde Pérez, "Llama La COA a exigir más recursos para el agro del país: Piden preservar y fortalecer la propiedad social de la tierra", *La Jornada* (Nov. 21, 1993), 19.

²⁵ "Llamam a organizaciones indígenas a presentar propuestas a candidatos", *La Jornada* (Jan. 24, 1994), 9.

²⁶ Tali Nauman, "Down and Out: In a Sluggish Economy, Farmers, Communal Land Owners Had a Difficult Year", *El Financiero International Edition* (Dec. 27, - Jan. 2, 1994), 10.

²⁷ Cynthia Hewitt de Alcántara, "Economic Restructuring and Rural Subsistence in Mexico: Maize and the Crisis of the 1980s" United Nations Research Institute for Social Development (Jan., 1992), 11.

and dairy production had risen to 10237.2 by 1988, while agricultural costs in general had risen from a base of 100 in 1980 to 18409.9 in 1990.²⁸ Researchers at a 1993 University of Chapingo seminar in Mexico City concluded that "Mexico's countryside has undergone a process of "demodernization" during the Salinas Administration [1988-1994]".²⁹ The Mexican SAP resulted in a decline of government assistance for agriculture and 24.3 percent decrease in agricultural earnings after factoring in inflation, despite a 1.7 percent increase in production.³⁰

The problem of credit for Mexican farmers is crucial: "Unless interest rates are lowered and more money is invested in the countryside, Mexico's farmers will suffer badly", said Alejo Bay Rogel, president of the Sonoran Agriculture Association" after the U.S. House of Representatives approved the North American Free Trade Agreement (NAFTA).³¹ Leon Lazaroff writes that "efforts to modernize farms have been choked by high interest rates, which have hovered around 30 percent for much of the early 1990s".³²

(Some credit may become available, at least for the large producers who can afford it, through the NAFTA's opening Mexico to foreign banks. Finance Secretary Pedro Aspe Armella announced in late November that "the Finance Secretariat would authorize as many as 20 to 25 foreign banks to begin operations in Mexico in January 1994 and also authorize the creation of another five or six Mexican commercial banks".³³ Direct loans from international lending agencies for developing the cattle industry and the growing participation of transnational corporate capital in the Mexican cattle industry is outlined later in this report.)

A tractor cavalcade protest against government agricultural and credit policies, "involving an estimated 15,000 growers from 16 states scheduled to arrive in Mexico City's central square Nov. 29, was headed off by arrest of leaders of the movement".³⁴ The march continued, despite the government's confiscation of farm machinery and the rearrest of the leaders after they had paid their bail. The tactics of the Mexican police and courts indicate that the government will be resolute in defending the structural adjustment of Mexican agriculture.³⁵

Faced with numerous protests and an agricultural crisis, the government has apparently sought to buy time to refinance agricultural loans and avert further protests. On December 8th, the head of the Mexican Banking Association said that "commercial banks will grant a two month extension on a moratorium on farm foreclosures". Farmers were to have until mid-February to "restructure thousands of overdue agriculture loans that account for 50 percent of Mexico's

²⁸ These figures are taken from James H. McDonald, "The Emergence of Inequality Among Capitalizing Family Farmers in Mexico", Unpublished Ph.D. Dissertation (Arizona State University; Dec., 1991), Table A6, p. 301.

²⁹ Miguel Badillo, "Research Shows Grain Production Lacks Support", *El Financiero International Edition* (Dec. 13-19, 1993), 4.

³⁰ Badillo, "Research Shows Grain Production Lacks Support", 4.

³¹ Leon Lazaroff, "Monterrey Hails Vote as 'Terrific Stimulus': Despite Economic Boost of Confidence, Agriculture, Textil, Petrochemical Sectors May Suffer", *El Financiero* (International Edition) Nov. 22-28, 1993, 16.

³² Leon Lazaroff, "Bright Light, Small City: Colosio Brings Hope to Childhood Home in Sonora", *El Financiero International Edition* (Dec. 6-12, 1993), 15.

³³ "Aspe Beats Hasty Retreat on Budget: Finance Secretary's Policies Take a Pounding When Protesters Burst In", *El Financiero International Edition* (Nov. 29 - Dec. 5, 1993), 3.

³⁴ Talli Nauman, "Down and Out: In a Sluggish Economy, Farmers, Communal Land Owners Had a Difficult Year", *El Financiero International Edition* (Dec. 27- Jan. 2, 1994), 10.

³⁵ Rubén Martín et al "Sin tractores, El Barzón sigue la marcha", *La jornada* (Nov. 27, 1993), 1 and 8.

staggering bad-debt loan".³⁶ The Mexican rural development bank, Banrural, announced on February 1 that the February 15 deadline would remain in force despite the uprising of the Zapatista National Liberation Army (EZLN) in the state of Chiapas, a revolt timed to coincide with the first official day of trade under NAFTA.³⁷ On February 12, the leaders of Barzón, a 200,000 member organization against farm foreclosures, went to Chiapas to submit their demands to the Bishop Samuel Ruiz, a mediator between the government and the EZLN. The Barzón leaders have tried unsuccessfully to meet with President Salinas de Gortari.³⁸

During the last week of February, about 30,000 members of Barzón engaged in two days of protests that resulted in the temporary closing of bank branch offices. According to Barzón's national secretary, "there's a real insurgency of agricultural producers. If they don't pay attention to us, the actions we plan will be more and more intense".³⁹

The long term attitude of the Mexican government towards the agricultural credit crisis is likely that presented in President Salinas de Gortari's fifth State of the Nation address (*Quinto Informe*) in November. There he argued that what the Mexican countryside needed was not agricultural credit for farmers, but capital investment. He is presumably referring to the sort of investment facilitated by NAFTA to allow national and transnational corporations to own and develop, with World Bank assistance, the land that had been previously owned communally by Mexico prior to the privatization of the *ejidos*.⁴⁰

Given, the economic and political crisis that Mexico has endured since at least 1982, particularly in the agricultural sector, what are the prospects for its cattle ranchers? All producers are under great political and financial pressure to modernize their production practices for exporting cattle, yet the financial and technological support for them to do so favors only large producers. A 1991 study predicted that "it appears that Mexican livestock policies will attempt to help the small producers by offering them token assistance but the real beneficiaries will be the large producers. Eventually as the livestock industry grows more competitive, more and more small producers will be forced out of the business".⁴¹

The efficacy of U.S. and Mexican measures to reduce bovine TB depends, in part, on the cooperation of often financially strapped Mexican cattlemen. The cost of complying with an animal health regulation may mean for some ranchers the difference between profit and loss. As is detailed later in this report, some of these cattle producers appear to have reacted negatively to U.S. Animal Health Association resolutions for bovine TB eradication as recently as September 13, 1993.⁴²

³⁶ Talli Nauman, "Farmers Get Reprieve on Loan Payment", *El Financiero International Edition* (Dec. 13-19, 1993), 4.

³⁷ "Manifestación de Apoyo al EZLN en Chihuahua; Banrural Continuará Embargando a Campesinos Insolventes: La Mora" *La Jornada* (Feb. 1, 1994).

³⁸ Talli Nauman, "Movement Strikes Financial Heart of Mexico", *El Financiero International Edition* (Feb. 28 - March 6, 1994), 13.

³⁹ Nauman, "Movement Strikes Financial Heart of Mexico", 13.

⁴⁰ "Salinas de Gortari: al campo no le falta crédito, sino capital", *La jornada* (Nov. 2, 1993), 23.

⁴¹ C. Parr Rosson III, B. Kris Schulthies, and DuBoise White, "The U.S.-Mexico Trade Agreement: Issues and Implications for the U.S. and Texas Livestock and Meat Industry", 7.

⁴² John Rice, "SARH Officials React to New U.S. Threat to Mexican Cattle Imports", *Mexico City News* (Sept. 13, 1993).

The amount of financial credit available to these larger volume cattle owners for the animal husbandry practices and veterinary services that mitigate bovine TB indirectly depends, in part, on how the Mexican government complies with the conditions on loan programs of international lending agencies. Towards understanding how SAPs requirements to privatize communal land, increase exports and decrease public spending impact the cattle industry and animal health, first a brief introduction to the general effects of SAPs on Mexico's macroeconomic situation is in order.

One reason that it is difficult to assess the effects of a specific SAP on a country is the inaccessibility of SAP agreements to public review, even though, for example, in the case of the 1982 Mexican SAP, American tax payers provided "40 percent of the total package, compared with the banks' contribution of 60 percent. Between 75 and 80 percent of Mexico's debt is, however, owed to banks, which collect a proportionate amount of the interest".⁴³ Despite the World Bank's August 26, 1993 announcement of a new information disclosure policy, it "is unlikely to allow the release of information that would shed more light on structural adjustment loan agreements".⁴⁴ On February 10, "leaders of nine U.S. and international environmental groups . . . charged the World Bank with excessive secrecy in the selection of a new audit panel that will investigate alleged violations of the Bank's own policies".⁴⁵

Because of very limited access to official information about Mexico's SAPs, only general trends in Mexico's external debt situation can be noted here. However, it is worth remarking that international lending agencies not only have been criticized by analysts in countries that have been on the receiving end of the austerity measures in SAPs, but that criticism of the SAPs has been leaked from within the agencies themselves.

Latin American economists who have studied the inability of International Monetary Fund loan programs to meet their stated goals have concluded that the "criteria of conditionality of this organism [the IMF] do not work".⁴⁶ Equipo Pueblo, a Mexican non-governmental organization, concluded that 12 years of SAPs had failed, principally because of a "policy-induced deterioration in wages and in the distribution of income. Out of a population of 86 million, only an elite of 10 to 12 million Mexicans can be called true consumers, while some 17 million people (about 20% of the population) subsist below the extreme poverty line of US\$350 per year".⁴⁷ The Equipo Pueblo study determined that the SAP policies had accentuated the unequal distribution of income in Mexico: "In 1983, the richest 20% of Mexicans received 63% of the wealth. In 1990, they received 72% of the wealth, while the poorest 30% saw their share fall from 8% to 5% during this period".⁴⁸

43 Susan George, *A Fate Worse Than Debt* (New York City: Grove Weidenfield, 1990), 49. For an analysis of how European and American taxpayers have made up the losses incurred by banks for their reckless loan policies in the 70s and 80s, see George et al, "The Third Boomerang: how Northern Taxpayers are Bailing out the Banks", *The Debt Boomerang: How Third World Debt Harms Us All*, 63-92.

44 Juliette Majot, "Unclear on Disclosure", *Bank Check* (Sept., 1993), 4.

45 "Finance: World Bank accused of too much secrecy on audit panel", Inter-Press Service, Feb. 10, 1994.

46 Edmar Lisboa Bacha and Miguel Rodríguez Mendoza, "El FMI y el Banco Mundial: Un memorandum latinoamericano" in *El FMI, el Banco Mundial y la crisis latinoamericana*, ed. by Sistema Económico Latinoamericano (Mexico City: Siglo XXI, 1986), 26.

47 "Structural Adjustment in Mexico hits the poor", *Third World Economics*: 81-82 (Jan. 16 - Feb. 15, 1994), 16.

48 "Structural Adjustment in Mexico hits the poor", 17.

An internal report of the World Bank "found that more than one-third of Bank projects were essentially failing".⁴⁹ The frequent failure of SAPs to bring about the results projected by their designers provides one context in which to interpret a decade of increases in Mexico's foreign debt, despite its extensive compliance with a series of SAPs.

According to the Banco de México and *World Debt Tables* data analyzed by Professors Manuel Pastor and Carol Wise, in 1982, when the current round of SAPs began in response to Mexico's inability to pay interest on its debt, Mexico's total external debt stood at \$86,019 million. In 1992, Mexico's total external debt stood at \$110,000 million. From 1982 to 1990 Mexico paid \$114,063 million in interest payments (statistics on interest payments for 1991 and 1992 were not available). Whereas total external debt was 38.9% of Gross Domestic Product (GDP) in 1982, in 1992 total external debt was 38.6% of the GDP. Debt interest payments as a percentage of the value of exports of goods and services have declined from 44.7% in 1982 to 22.7% in 1990 (figures for 1991 and 1992 were not available).⁵⁰ (It should be noted that among specialists who study Mexico's macroeconomy there appear to be some differences of data and/or interpretation of data. For instance, whereas Professors Pastor and Wise have determined that interest payments absorbed 51.1% of the value of Mexico's exports in 1986,⁵¹ according to a Mexican study, interest payments absorbed 73.9% of that value in 1986.⁵²)

One measure of Mexico's "stability", in SAP terms, is the decline in debt interest payments as a percentage of the value of exports of goods and services. Mexican interest payments decreased from \$12,080 million in 1989 to \$9,426 million in 1990 (interest payment figures for 1991 and 1992 were not available), thus nearly returning to the 1980 level of \$9,340 million for the first time in a decade.⁵³ Once inflation is factored in, this return to the 1980 level of interest payments can be reckoned a SAP success, but only if the environmental costs and the social costs of SAP austerity measures are calculated as the "externalities" of neo-liberal economics.

Such "externalities" include the public health and animal health costs that result from increases in animal diseases when Mexican federal veterinarians are fired in order to help the federal government meet SAP mandated reductions in government spending. Because such "externalities" are excluded from SAP calculations, neo-liberal economists can often reckon that SAPs have performed successfully. Nonetheless, because such "externalities" are part of the cost of doing business, an attempt will be made later in the report to calculate some of them.

The total value of Mexican agricultural exports has been increasing, and with it the importance of those exports for debt interest payments. According to Professors Federico Novelo Urdanivia and José Flores Salgado, the value of agricultural exports for 1986 reached a high of 13.1 percent the total value about \$1.4 billion of \$16 billion, excluding *maquiladora* [assembly plants of foreign parts] activity.⁵⁴ In 1991, agricultural exports accounted for 8.7% of Mexico's total exports

49 Bruce Rich, "World Bank/ IMF: 50 Years Is Enough", *Bank Check* (Sept., 1993), 1.

50 Professors Manuel Pastor of Occidental College and Carole Wise, at the Claremont Graduate School kindly supplied me this data from tables from an unpublished study that will be published in a shorter version as "The Origins and Sustainability of Mexico's Free Trade Policy" in *International Organization*.

51 Tables from Professors Pastor and Wise.

52 Federico Novelo Urdanivia and José Flores Salgado, *El TLC de Norteamérica y la persistente incertidumbre* (Mexico City: Universidad Autónoma Metropolitana, 1993), 30.

53 Tables from Professors Pastor and Wise.

54 Novelo Urdanivia and Flores Salgado, *El TLC de Norteamérica y la persistente incertidumbre*, 63.

(about \$2.4 billion out of \$27.1 billion).⁵⁵ In 1993, the Finance Secretariat reported a 18.6 percent increase, to \$2.51 billion, in agricultural export earnings over 1992.⁵⁶ However, about two-thirds of Mexico's foreign trade is with the U.S., which makes Mexico particularly vulnerable to policy changes in Washington and on Wall Street.⁵⁷

Mexico's extensive compliance with SAPs to increase exports and cut public spending, including financial credit and technical services for small producer livestock, have not enabled it to decrease its external debt. Mexican export agriculture has generated increasing amounts of dollars to make interest payments on this debt. Yet the reduction in public spending demanded by Mexico's creditors, largely U.S. banks, squeezes nearly all but the largest Mexican farmers and ranchers in a vise of trying to produce more with less technological and financial support. In such a dire state, the temptation, particularly for small producers, to transgress environmental and labor laws is likely to be strong.

The measures proposed by the Mexican TB Eradication Program, as will be detailed in the third section of this report, are a response to a crisis that arose, in part, from a decade of decreasing public spending for Mexican family farms and ranches. Because many of these eradication measures had their origin in U.S. animal health programs, the next section attempts to review the largely successful U.S. Bovine TB Eradication Program, a program whose success must be replicated in Mexico's northern cattle-exporting states, if the Mexican cattle industry is to continue to make an important contribution to paying the interest on Mexico's foreign debt.

Problems and Proposed Solutions in the U.S. TB Eradication Program

According to an annual Animal and Plant Health Inspection Service (APHIS) report, bovine TB in the United States "is projected to be eradicated by the end of the 1998 fiscal year. . . . Four issues could affect this objective: 1) tuberculosis in imported Mexican steers, 2) inadequate slaughter surveillance, 3) persistent tuberculosis infection in large dairies, and 4) tuberculosis in captive Cervidae herds".⁵⁸ In this report, only the first three issues are considered, since the fourth issue, while important, does not concern the U.S.-Mexico cattle industry. Another important issue, which will be only briefly analyzed here, is the role of the Food Safety and Inspection Service (FSIS) in reporting on carcasses with lesions suggestive of bovine TB.

Although the USDA forbids the importation of diseased livestock, about 83% of TB-infected cattle (436 of 535 cases) detected at slaughter inspection were traced by the Animal and Plant Health Inspection Service (APHIS) to Mexico in Fiscal Year (FY [Oct. 1, 1991 to Sept. 30, 1992])1992.⁵⁹ Confirmed cases of bovine TB "averaged 0.6 per 100,000 cattle slaughtered for FY 1985 through 1991, while in the first half of FY1992 the confirmed case rate was 2.0 per

55 Novelo Urdanivia and Flores Salgado, *El TLC de Norteamérica y la persistente incertidumbre*, 61-63.

56 "Trade Deficit Falls 15.1%", *El Financiero International Edition* (Feb. 28 - March 6, 1994), 4.

57 Rojas, "Mexico: Five Years of Debt Crisis", 179.

58 VanTiem and Essey, "Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993", 1.

59 Drs. Mitchell Essey and Robert Meyer, "Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1992", *Proceedings of the Ninety-Sixth Annual Meeting of the United States Animal Health Association* (Oct. 31- Nov. 6, 1992), 536.

100,000".⁶⁰ In FY 1993, although the number of cattle diagnosed with TB decreased from 535 to 388, 84% of these 388 cattle were still of Mexican origin.

Dr. Ronald Stenseng, Senior Staff Veterinarian at APHIS, explained the decrease in bovine TB incidence from FY 1992 by noting that the Mexican state of Chihuahua voluntarily stopped exporting Holsteins in January 1991, so that "they are by now out of the feeding cycle". He said that the Holstein breed accounted for the majority of TB-diseased Mexican cattle imported into the United States.⁶¹ In FY 1993 three new herds were discovered to be infected, one in Oklahoma and two in Texas.⁶²

According to Dr. Mitchell Essey, Senior Staff Veterinarian at APHIS, the discovery of three herds represented a downward trend in the incidence of bovine TB, since six new infected herds were discovered in FY 1992.⁶³ Furthermore, in an October 18, 1993 letter to the American Veterinary Medicine Association, Dr. Rick Willer, State Veterinarian of Arizona, wrote that "[w]hen it was determined that the highest incidence of TB in Mexican imports was in dairy steers, the Cattlemen's Union of Sonora (and Chihuahua) voluntarily prohibited the export of dairy livestock beginning early in 1991. This may have been the single most important step in reducing the incidence of TB found at slaughter in U.S. packing plants. . . On October 1, 1993, the Federal government of Mexico followed Sonora's and Chihuahua's lead and banned the export of all dairy stock".

The voluntary Mexican export restrictions and other initiatives undertaken by the U.S. and Mexican bovine TB eradication programs suggest a greater degree of cattle industry and government proactivism in response to the increase of bovine TB than was suggested in our October report, the research for which was completed before the October 1 ban on Holstein exports from Mexico to the U.S.

On December 22, 1993, APHIS's proposal to prohibit "imports of Holsteins and Holstein crossbred steers and spayed heifers from Mexico into the U.S." was published in the *Federal Register*.⁶⁴ Dr. Mitchell Essey said that the October 1, 1993 Mexican export prohibition on Holsteins should eliminate about 70% of the recent increase in bovine TB incidence in U.S. herds. He further added that "I firmly believe that new developments in the Mexican bovine TB eradication program will put a big dent in the remaining 30%" of the increase.⁶⁵ These developments will be outlined in the next section of this report.

(On January 5, officials at the Texas Animal Health Commission (TAHC) announced that a beef cattle herd in Uvalde County had been confirmed to be infected with TB in late December 1993. Dr. Dan Baca, a veterinarian and tuberculosis epidemiologist with TAHC, characterized the infected herd as "extremely unusual" because "we considered tuberculosis to be a problem relegated to closely confined dairy operations. That's because this slowly-developing bacterial disease is usually spread when infected cattle are close enough to cough, sneeze or breathe on

⁶⁰ "Overview of the Assessment of Risk Factors for *Mycobacterium bovis* in the United States", *Animal Health Insight* (Summer, 1993), 13.

⁶¹ Dr. Ronald Stenseng, phone interview on Nov. 12, 1993.

⁶² VanTiem and Essey, "Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993", Figure 2.

⁶³ Dr. Mitchell Essey, phone interview on Dec. 14, 1993.

⁶⁴ "APHIS wants to prohibit imports of Mexican Holsteins", *Feedstuffs* (Jan. 3, 1994), 4.

⁶⁵ Dr. Mitchell Essey, phone interview on Nov. 16, 1993.

other animals. Typically, this doesn't happen in open pastures or on grazing land". Dr. Baca said that the herd, consisting of about 200 breeding stock and 180 calves, would be slaughtered and evaluated by late January".⁶⁶⁾

The decrease in the absolute number of TB-infected cattle detections in U.S. herds, while most welcome, should not be a cause for a premature celebration of victory over bovine TB. The principle reasons for refraining from such jubilation consist in 1) the extent of bovine TB in Mexico, particularly in dairy herds and in non-border states, (to be explained in the third section of the report) and 2) in problems, indicated in APHIS's annual report on bovine TB, in determining what constitutes adequate TB surveillance information from post-mortem inspections of cattle by federal meat inspection personnel of the Food Safety and Inspection Service (FSIS).

Such post-mortem surveillance information is the most powerful single tool for eradicating bovine TB. Post-mortem test results provide the means for tracing to the infected herd origin of the diseased animal, and, subsequently, for the TB testing of other herds associated with the infected herd. According to Dr. Phil Pickerell of APHIS, "during the past decade, 114 of 119 infected herds found in the country were detected through epidemiological, or scientific testing, while only five were found through routine herd testing".⁶⁷ Dr. Ron Stenseng said that APHIS discontinued routine herd testing in 1965 because slaughter surveillance was more cost effective. (Some states still practice routine herd testing, but of dairy herds only).⁶⁸⁾

In FY 1992, FSIS inspectors submitted a record high 35 percent of what APHIS had determined in 1970 was an optimal submission rate of post-mortem tissue samples for TB detection. This optimal submission rate is one sample per 2,500 animals slaughtered or one sample per 2,000 adult animals slaughtered. Of 48 meat packing facilities that slaughtered 40,000 or more animals in FY 1992, "27 (56 percent) submitted less than 25 percent of the optimal submission rate".⁶⁹

Dr. Mitchell Essey said that "FSIS has worked quite well" in submitting the tissue samples and said that he was not sure if APHIS laboratories, with its present staffing, could analyze all the samples if FSIS were to turn in enough of them to achieve the optimal surveillance submission rate. Only recently has the percentage of the samples submitted by FSIS that resulted in TB-positive detection exceeded five percent. During the past few years, the TB-positive detection rate from slaughter surveillance submissions has increased to about 15% , mostly from Holstein cattle.⁷⁰

Drs. Joseph VanTiem and Mitchell Essey, the authors of APHIS's annual report on bovine TB, recommended that "meat inspection personnel must be encouraged to submit more granulomas [granulated tissue samples, taken from the thorax, lungs and pleura that usually become ulcerated] for surveillance purposes. The goal of one sample per 2,500 animals slaughtered is now believed too general to be an accurate measure of slaughter surveillance. These figures must be reevaluated to establish equitable rates throughout every region of the United States,

66 "Depopulation Planned for Beef Herd Infected by Cattle Tuberculosis", Texas Animal Health Commission News Release (January 5, 1994).

67 "Report on the Governor's Symposium on Bovine Tuberculosis", June 28, 1993 (Austin, Texas), 2.

68 Dr. Ronald Stenseng, phone interview on Nov. 12, 1993.

69 VanTiem and Essey, "Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993", 7.

70 Dr. Mitchell Essey, phone interview on Nov. 16, 1993.

and for every type of slaughter operation".⁷¹ APHIS, with the aid of biometricians, will do some preliminary investigation in determining whether and how to recalculate the optimal surveillance submission rate for bovine TB.⁷²

Dr. Bob Hillman, State Veterinarian for Idaho, and Chair of the U.S. Animal Health Association Committee on Bovine TB, explained that "an optimal submission surveillance rate should be based on the prevalence of the disease and the number, age, class and source of cattle slaughtered. It is difficult to establish an optimal surveillance submission rate nationally because of the great variability in the above factors from area to area. Facilities that slaughter predominantly heifers and steers between the ages of eighteen months and two years should have a different submission rate than facilities that slaughter predominantly cows and bulls that are five to ten years old".⁷³ Johnny Vera, a FSIS meat inspector stationed at a Friona, Texas meat packing plant owned by Cargill, said that the Cargill plant slaughters about 275 heifers and steers an hour, whereas a plant that processes predominantly bulls and cows slaughters about 40 per hour, in order to allow meat inspectors more time to inspect the carcasses.⁷⁴

Because currently bovine TB is located, for the most part, in states bordering Mexico, Dr. Bob Hillman suggested that the present optimal submission rate may be set too high for some other states. "If FSIS is submitting everything seen [all tissues with TB-suggestive lesions], and the submission rate for the state is still not being met, then this would suggest that the present [optimal] submission rate for that state is too high", said Dr. Hillman.⁷⁵

Another problem for the bovine TB eradication program is to make sure that the samples submitted are identified in such a way as to make epidemiological tracing of TB-positive possible. FSIS inspectors provided individual animal identification for about 25% of 4,040 samples submitted for tuberculosis surveillance in fiscal year 1993. Of the 327 tuberculosis investigations conducted on feedlot animals of Mexican origin, 100 (31 percent) had Mexican eartags submitted with the slaughter samples".⁷⁶ Without such identification, it is difficult, if not impossible, to trace the origin of the TB-diseased animal and thus take steps towards determining which herds need to be depopulated or quarantined.

Without eartag identification, TB-infected cattle can be identified as Mexican by an "M" that is branded on steers, but no further tracing to the herd of origin is possible. This problem of identification has been compounded by the practice of some Mexican cattlemen of not attaching or switching cattle identification eartags, so that cattle transshipped from Mexican states with weak bovine TB surveillance programs will appear to originate from states with stronger programs.⁷⁷ Measures that have been proposed by the Joint Mexican-U.S. Bovine TB Eradication Program would make such false or non-identification much more difficult. New eartags on Mexican cattle will indicate the herd of origin. On December 6th, the USDA "proposed

⁷¹ VanTiem and Essey, " Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993", 3.

⁷² Dr. Mitchell Essey, phone interview on Nov. 16, 1993.

⁷³ Dr. Bob Hillman, phone interview on Dec. 13, 1993.

⁷⁴ Johnny Vera, phone interview on Nov. 14, 1993.

⁷⁵ Dr. Bob Hillman, phone interview on Nov. 12, 1993.

⁷⁶ VanTiem and Essey, " Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993", 3-4.

⁷⁷ Iñiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis*", 33.

that all Mexican cattle imported into the United States [not just steers] be branded and officially identified before being moved into interstate commerce".⁷⁸

Finally, although Mexican dairy cattle are no longer imported into the United States, bovine TB remains a problem in herds in the El Paso, Texas milk shed. The chief difficulty in eradicating bovine TB in U.S. dairy herds is financial. Dairy herds are too large for the USDA to be able to afford indemnification payments to owners whose cattle would be totally depopulated, "the most effective method for eliminating the disease".⁷⁹ Furthermore, owners usually regard indemnification payments as too small a compensation for the loss of their investment and future income from dairy cattle.

Barring total depopulation of dairy herds with infected cattle, bovine TB, though monitored during quarantine, seems bound to continue in U.S. dairy cattle, though at a very low level. Drs. Essey and VanTiem wrote that "[t]he re-appearance of tuberculosis in herds previously released from quarantine by testing has long been recognized as a deterrent to eradication. The rate of reinfection in such herds is estimated at 33 percent and appears to increase as herd size increases".⁸⁰

A lack of adequate funding for indemnification payments and the eradication program prompted an October 8, 1993 letter to state veterinarians from Dr. Arthur V. Tennyson, a staff consultant to the American Veterinary Medical Association. Dr. Tennyson stated in the letter that "the El Paso infection problem involves several herds totalling several thousand dairy cattle. Federal and state authorities have been unwilling or unable to apply the usual control methods. They now propose to allow the situation to continue to exist with minimal intervention, despite the danger of spreading the disease to other herds and humans".

Dr. Tennyson then explained in an October 15th letter that his October 8th letter "did not mean to criticize the present animal health officials who are doing the best job they can to manage a difficult situation in the El Paso area with limited resources and constrained budgets". Rather his organization intended to criticize "higher authorities in the administrative and legislative branches of state and federal government who have not provided the necessary resources to complete the eradication of bovine tuberculosis in this country". Dr. Tennyson's apology for his initial criticism notwithstanding, the October letters manifest a frustration with the funding available for the eradication program. In Mexico, given the higher incidence of bovine TB, the availability of adequate indemnification funds and a budget for technical resources is even more crucial to the success of its bovine TB eradication campaign.

Problems and Proposed Solutions in the Mexican Bovine TB Eradication Campaign

There are some inconsistencies in the data available to the Institute about the incidence of bovine TB in Mexico, even in the exporting border states with the greatest number of TB-free certified herds. Dr. Francisco Gurría Treviño, director of the Mexican Bovine TB Eradication Campaign,

⁷⁸ "USDA Proposes to Require Branding and Interstate Identification of AI Imported Mexican Cattle", USDA Office of Public Affairs, Release No. 10D4, 93 (December 6, 1993).

⁷⁹ VanTiem and Essey, "Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993", 4.

⁸⁰ VanTiem and Essey, "Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993", 4.

wrote that in 1992 "cattle being raised for meat in the northern states had a 0.05% rate of incidence"⁸¹, compared to the 0.015% rate of incidence in the U.S. in Fiscal Year 1990.⁸² In 1992, the Central Office of Animal Health (Dirección General de Salud Animal -- DGSA) calculated the national rate of TB infection at 6.8% for dairy cattle and 0.1% for meat producing cattle.⁸³

However, a recent study in the State of Chihuahua, which borders Texas, an importer of about 700,000 Mexican feeder cattle in 1992, reported that in one lot 20% (659 of 3,262) of animals tested positive for bovine TB. That study did not distinguish between the generally higher incidence of infection in dairy cattle and the usually lower rate in beef cattle.⁸⁴ A report published at a 1991 international meeting concerning the eradication of bovine TB in North America and Latin America stated that of approximately 28 million head of Mexican cattle, 2.1% of about five and a half million dairy cattle and less than .1% of the rest were TB-infected.⁸⁵

A study by Dr. Jorge Hernández de Anda, of the Universidad Autónoma de Baja California, explains at least part of the reason for the disparity in reported incidence: "in the post-mortem inspection [of slaughtered cattle] it is not infrequent that the presence of lesions suggestive of tuberculosis is overlooked and the case [of bovine TB] is not reported". Hence, Dr. Hernández de Anda concludes that there is a tendency "to underestimate the magnitude of the problem of tuberculosis in our country".⁸⁶ Furthermore, the *Houston Chronicle* reported on October 4, 1993 that some Mexican veterinarians "sold counterfeit health certificates to Mexican ranchers".⁸⁷

The Mexican Bovine TB Eradication Campaign has focused its efforts on the northern six states that border the U.S. and provide the great majority of feeder cattle -- last year a record 1.2 million cattle⁸⁸ -- for U.S. feed lots and, eventually, meat packing plants. The great majority -- 1432 of 1601 -- of herds that have been tested and certified as TB-free as of 1992 are located in the cattle-exporting border states (the 1601 herds comprised 480,993 animals out of approximately 28 million Mexican cattle).⁸⁹

One reason that TB-infected cattle have been exported to the U.S., even from herds certified as TB-free, is that whereas in theory the recertification of TB-free Mexican herds follows a successful random examination of 10% of a herd, in practice the rancher often selects the cattle

81 Gurría Treviño, "Campaña nacional contra la tuberculosis bovina y la brucelosis en México," 109.

82 "Overview of the Assessment of Risk Factors for *Mycobacterium bovis* in the United States", *Animal Health Insight*, (Summer, 1993), 10.

83 Iñiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis*", 18.

84 Dr. Jorge Hernández de Anda, "Sistema de Vigilancia Epidemiológica para las Campañas de Tuberculosis y Brucelosis" (Anteproyecto), published by the Secretaría de Agricultura y Recursos Hidráulicos [SARH], Subsecretaría de Ganadería" (April, 1993), 2.

85 Iñiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis*", 5.

86 Hernández de Anda, "Sistema de Vigilancia Epidemiológica para las Campañas de Tuberculosis y Brucelosis", 9.

87 "Bovine disease crosses border", *Houston Chronicle*, Oct. 4, 1993.

88 VanTiem and Essey, "Status of the State-Federal Bovine Tuberculosis Eradication Program: Fiscal Year 1993", 6.

89 Dr. Francisco Gurría Treviño, "Campaña nacional contra la tuberculosis bovina y la brucelosis en México," *Anuario de la Reunión de Salud Animal* (Mexico City: SARH, Nov. 1992), 108. Estimates of Mexico's total herd vary. One 1991 study notes that "while official statistics of the U.S. Department of Agriculture place the Mexican herd at 31.7 million head, unofficial Mexican sources have indicated that herd size is near 22-24 million, with some estimate placing herd size below 20 million". Rosson III, Schulthies, and White, "The U.S.-Mexico Trade Agreement: Issues and Implications for the U.S. and Texas Livestock and Meat Industry", 2.

to be examined.⁹⁰ According to Dr. Billy Johnson, co-chair of the Joint Mexican-American Committee on Bovine TB Eradication, new resolutions adopted at the October 23-29, 1993 United States Animal Health Association (USAHA) meeting and agreed to by the Mexican Bovine TB Campaign will help to counter animal husbandry and inspection practices that have fostered increased incidence of bovine TB. For example, Mexican herds will now be recertified as TB free only after TB-negative testing of all animals 24 months or older in a herd.⁹¹ Bovine TB symptoms are more readily apparent in older animals. These animal health resolutions will be put into practice by most Mexican and U.S. ranchers. Nevertheless, at least one past USAHA recommendation for bovine TB eradication has not met with universal approval by Mexican ranchers nor by the Mexican government.

At a November 1992 meeting of USAHA, in response to the increase in bovine TB traced to Mexican feeder cattle, it was resolved that beginning about October 10, 1993, APHIS should quarantine all Mexican cattle imports for sixty days to examine each animal twice.⁹² If an animal in a lot were TB-positive, it would be slaughtered and the remainder of the lot would be put in a quarantined feedlot or pasture.⁹³

It is likely that this recommendation caused Mexican Undersecretary for Livestock Gustavo A. Reta Petterson to state on September 13, 1993 that U.S. import restrictions on Mexican feeder cattle would ruin Mexico's \$500 million cattle export industry. Undersecretary Reta Petterson also suggested that Mexican cattle owners might force their government to respond to this USAHA resolution with import restrictions against U.S. sheep and cattle.⁹⁴ As one Texas A & M University agricultural economist acknowledged recently, "as tariff and nontariff barriers are lowered [under NAFTA], it is increasingly likely that both countries may increasingly use SPS [sanitary and phytosanitary provisions] to restrict trade".⁹⁵

One of the SPS provisions that will likely generate disputes concerns the determination of "equivalency" of production and inspection practices and procedures that do not meet U.S. standards but are determined by relevant governmental officials to be "equivalent to" or "compatible with" U.S. standards. The NAFTA implementing legislation leaves to federal administrative agencies the determination of the "equivalency" and "compatibility" of inspection and production practices and standards of Contracting Parties to the NAFTA. For example, the legislation amends the Federal Meat Inspection Act so that the Secretary of Agriculture "may treat as equivalent to a United States requirement a requirement described in subparagraph (A) if the exporting country provides the Secretary with scientific evidence or other information, in accordance with risk assessment methodologies agreed to by the Secretary and the exporting country, to demonstrate that the requirement or standard of the exporting country achieves the level of protection that the Secretary considers appropriate".⁹⁶

90 Iñiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis* en ganado de origen mexicano", 32.

91 Dr. Billy Johnson, phone interview on Nov. 1, 1993.

92 Iñiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis*", 33-34.

93 United States Animal Health Association Resolution 15 (Oct. 31- Nov. 6, 1992).

94 John Rice, "SARH Officials React to New U.S. Threat to Mexican Cattle Imports", *Mexico City News* (Sept. 13, 1993).

95 C. Parr Rosson III, "The North American Free Trade Agreement: Prospects for U.S.-Mexican Cattle and Beef Trade", *The Cattleman* (December, 1992), 258.

96 NAFTA Implementing Legislation, Subtitle E, Chapter 3, part 2, , Section 361, Paragraph B, p. 65.

A November 1993 review by Public Citizen of the NAFTA implementing legislation submitted by the Clinton Administration to Congress states that "NAFTA does not itself prescribe any procedures to be followed by agencies in making equivalency determinations. NAFTA's implementing legislation authorizes the U.S. Department of Agriculture to permit live animal, meat, and poultry imports from Canada and Mexico that do not comply with U.S. standards but meet "equivalent" standards. Neither NAFTA nor the legislation constrains the agency's discretion. Nor are procedures established to assure the public a role in determining whether Mexican or Canadian standards or procedures are truly equivalent".⁹⁷

The determination of "equivalency" or "compatibility" by a federal agency could, for example, allow importation of livestock raised with the aid of animal drugs either proscribed in the U.S. or of animal drugs whose dosage has not been determined to comply with U.S. standards. Although the Food and Drug Administration has a list of animal drugs used in Mexico, including drugs not allowed for use in the U.S., it does not know how all these drugs are used.⁹⁸ If a U.S. company or a public interest group were to object to a Mexican meat import on the grounds of an SPS provision, the Secretary of Agriculture might have to make an "equivalency" determination in order to determine whether Mexican meat production practices met U.S. sanitary standards. If a non-governmental organization wanted to intervene in the determination of equivalent standards and practices for a NAFTA Contracting Party, there is no guarantee that it would be able to do so.

The Mexican government has modified its policy in defense of Mexican cattle producers since its September 13th threat of retaliation against U.S. sheep and beef imports. On October 29th, the Secretariat of Agriculture and Hydrological Resources (SARH) told the American embassy agricultural attache that as of October 25th Mexico would not ship male Holstein cattle to the U.S. for six months "to reduce the risk of infection to U.S. cattle."⁹⁹

Dr. Billy Johnson explained that APHIS recommended the suspension of Holstein steer and spayed heifer imports, because 65% of TB-lesioned animals traced back to Mexico in 1992 were Holsteins. He said that by prohibiting entry of Holsteins during the cattle export season of November to February, there would be a significant reduction in the incidence of bovine TB in U.S. herds, although it would take a year for this reduction to show up in APHIS statistics.

Furthermore, USAHA modified its November 1992 resolution concerning import restrictions on cattle in response to Mexican ranchers' complaints that inspection facilities at the border are not set up to hold cattle for the 72 hours needed for bovine TB testing. The USAHA "recommended that cattle be examined at designated testing pens in states that have entered the official Mexican eradication program" (Mexican states have the option of not entering the program), with animal health examinations monitored by federal veterinarians of the U.S. and Mexico.¹⁰⁰ Dr. Johnson said that if the Mexican government cannot adequately staff the monitoring of TB exams, then the import restrictions recommended in the 1992 USAHA resolutions would apply to

⁹⁷ Public Citizen Litigation Group, "Primer on NAFTA Standards Provisions" (November, 1993), 3. For a more comprehensive review of NAFTA, see Patti Goldman, "Public Citizen's Recommendations for NAFTA Procedures" Public Citizen Litigation Group (Jan. 12, 1994).

⁹⁸ Phone interview with Dr. Sharon Thompson, Center for Veterinary Medicine of the Food and Drug Administration, September 20, 1994.

⁹⁹ "Mexico Halts Feeder Cattle Exports to U.S." Washington, Oct. 29, 1993 (Reuter).

¹⁰⁰ Dr. Billy Johnson, phone interview on Dec. 9, 1993.

cattle coming from states that had not entered Mexico's official bovine TB eradication program.¹⁰¹

One major problem in the Mexican Bovine TB Eradication Campaign has been a lack of personnel and supporting infrastructure to monitor private veterinarians who do most of the TB testing. Federal personnel monitor the testing practices of private veterinarians, conduct epidemiological studies and administer the Campaign. Until October 1993, the national coordinating office for the Campaign consisted of three persons.¹⁰²

However, the Secretariat of Agriculture and Hydrological Resources (SARH) and the national livestock association, the CNG (Confederación Nacional Ganadera), have proposed a budget of 297 million new pesos (about \$92 million) for the TB and brucellosis eradication program for the next five years "by means of which it is foreseen that Mexico will be free of those diseases in a maximum of five years".¹⁰³ (Brucellosis, a disease most common in swine, has had little impact on Mexican feeder cattle exports.) According to Dr. Jorge Saltijeral, Head of the Department of Agricultural and Animal Production at the Universidad Autónoma Metropolitana in Mexico City, many Mexican veterinarians doubt that bovine TB can be eradicated in Mexico in so short a time frame.¹⁰⁴

Dr. Francisco Gurría Treviño said that the first year of the \$92 million five-year budget has been approved by the Chamber of Deputies, and that the first-year investment in the Campaign will be greater than in succeeding years. The Campaign funds will be managed by a commission composed of representatives from SARH, the CNG, pharmaceutical companies that produce animal drugs, the national veterinary association and the veterinary division of the national pharmaceutical association.

Dr. Gurría Treviño emphasized that not since a World Bank loan of 20 years ago to finance a tick eradication program has there been such an integrated program focused on a single animal disease in Mexico. Although the Campaign will first focus on northern border states that market cattle to the U.S. and market considerations are important to the Campaign, he said that the threat posed by bovine TB to public health was the Mexican government's paramount concern.¹⁰⁵ This public health threat will be outlined below.

To structure the Campaign nationally, about 150 new veterinarians will be hired and about another 200 will be reassigned from other animal disease eradication programs that have completed their mission. Two to three of these new or reassigned veterinarians will work with already existing and funded state veterinarian committees of between 80 to 90 professionals in order to assure that animal health field data is compiled and forwarded to the national Campaign office. State veterinarians will receive a small increase in their salaries as an incentive to cooperate with the Campaign. Furthermore, Campaign funds will be used, with the assistance of FSIS, to train post-mortem inspectors of cattle in municipal slaughterhouses. Cooperation with

101 Dr. Billy Johnson, phone interview on Dec. 9, 1993.

102 Iñiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis*", 34.

103 "Campaña para erradicar la tuberculosis bovina y la brucelosis en todo el país", *Uno Mas Uno* (Sept., 7, 1993).

104 Dr. Jorge Saltijeral, phone interview on Nov. 4, 1993.

105 Dr. Francisco Gurría Treviño, phone interview on Nov. 16, 1993.

the U.S.D.A. will allow federal veterinarians to use funds more efficiently to develop training courses and develop computer software for the Campaign.¹⁰⁶

Dr. Jorge Saltijeral said that the government's initiatives against bovine TB should be put in a historical context. He said that the hiring of 150 new federal veterinarians for the Campaign will be done by the same government that has fired between 3,500 and 4,000 veterinarians, as well as 6,000 agronomists, between 1988 and 1993.¹⁰⁷ According to Dr. Gurría Treviño, the 3,500-4,000 fired federal and state agricultural employees included agronomists and forestry specialists, as well as veterinarians. Dr. Gurría Treviño explained that they were fired because the government did not have funds for technical equipment or transportation, and hence, the personnel could not be used effectively.¹⁰⁸

Whatever the exact number of fired staff, it seems legitimate to ask whether the funding cutbacks for Mexican family farm and animal health programs is a byproduct of demands by international lending institutions for a reduction in public spending as part of a program for renegotiating Mexico's foreign debt interest payments. The Institute has been unable to obtain Mexican government budget data that would help to answer this question directly, nor would it be an easy matter to interpret the data accurately were they available.

On the basis of recent, if not up-to-date data, it appears that reductions in public spending tend to undermine not only individual welfare, but also the ability of agriculture to help Mexico fulfill the "free" traders' belief that Mexico can export its way out of debt. As a result of the August 1982 crisis of interest payments, Mexico's Immediate Program for Economic Reordering responded to IMF and World Bank loan restructuring conditions by cutting public spending and sharply reducing the availability of federal credit for most economic sectors, including agriculture.¹⁰⁹

By the end of the Program in 1988, the InterAmerican Development Bank concluded that "after six years of adjustment [to the Mexican economy], the structural changes have been accompanied by substantial erosion of real wages and slides in investment, employment and per capita GNP".¹¹⁰ Interest payments on the debt and the accompanying austerity measures entailed by the SAPs will be renegotiated in 1994. One analyst of the debt crisis has written that "[t]he process of permanently restructuring Mexico's debts has merely disguised the country's actual inability to pay those debts".¹¹¹

Does a macroeconomic ideology that conditions restructuring of foreign debt interest payments on demands for an aggregate reduction of national public spending result in firing personnel available for such programs as that of bovine TB eradication?¹¹² (To ask such a question does not, of course, take into account other reasons for reducing public spending, nor does it take into account

¹⁰⁶ Dr. Francisco Gurría Treviño, phone interview on Nov. 16, 1993.

¹⁰⁷ Dr. Jorge Saltijeral, phone interview on Nov. 4, 1993.

¹⁰⁸ Dr. Francisco Gurría Treviño, phone interview on Nov. 16, 1993.

¹⁰⁹ Novelo Urdanivia and Flores Salgado, *El TLC de Norteamérica y la persistente incertidumbre*, 33-34.

¹¹⁰ InterAmerican Development Bank, *Economic and Social Progress in Latin America: 1989 Report*, 384.

¹¹¹ Raúl Rojas, "Mexico: Five Years of Debt Crisis" in *The Poverty of Nations: A Guide to the Debt Crisis from Argentina to Zaire*, ed. by Elmar Altvater et al., tr. Terry Bond (London: Zed Books, 1991), 169.

¹¹² For a case study of how International Monetary Fund "conditionality" effected Mexican public spending during the crisis of 1982-1984, see José Córdoba, "El program mexicano de reordenación económica, 1983-1984" in *El FMI, el Banco Mundial y la crisis latinoamericana*, ed. by Sistema Económico Latinoamericano (Mexico City: Siglo XXI, 1986), 317-390.

how SAP and "free" trade ideology become internalized nationally independent from foreign debt restructuring.) Can one trace back the increase of bovine TB in Mexican cattle now in U.S. herds to the firings of Mexican veterinarians who were not available to administer and/or monitor bovine TB testing? One consequence of the Mexican government's rigorous execution of the latest SAP may have been the erosion of the federal budget for Mexican animal health programs, among other agricultural programs.

Bovine TB in Mexico and the U.S.: A Public Health Issue

In industrialized countries, transmission of bovine TB to humans is rare, but this was not always so.¹¹³ One medical historian has written that "bovine infection could be caused by consuming infected meat, but was more commonly caused by infected milk. Related primarily to non-pulmonary forms of the disease, bovine infection was associated in particular with children and infants. It was estimated in 1931 that over 1,000 children under the age of 15 died of tuberculosis of bovine origin in England and Wales each year".¹¹⁴ The pasteurization of milk, improvements in animal health research, animal husbandry practices and the detection and cure of TB have radically reduced bovine TB as a public health threat in industrialized countries. Such a thumbnail sketch cannot, of course, convey the intensity of the struggle to convince ranchers, farmers, butchers, meat industry officials, and, indeed, governments, that preventive measures against TB were necessary for the public good.¹¹⁵

However, bovine TB continues to be a public health threat in less industrialized countries, including Mexico. Bovine TB transmission to the U.S. became a possibility from the first day that NAFTA went into effect. As a result of illegal shipments of raw cream from Mexico, this theoretical possibility has turned into a state and federal public health investigation.

On February 10, North Dakota Commission of Agriculture Sarah Vogel revoked the license of a creamery for having illegally imported from Mexico 1.25 million pounds of raw cream in 26 shipments that began on January 1, 1994. The creamery operator refused to divulge how and from where in Mexico the cream had been imported. The operator's wife said that she had burned records pertaining to the cream. About 500,000 pounds of the cream were shipped to Chicago. According to a press release, "Vogel said that testing of the product to date by Illinois and FDA authorities has not revealed the presence of any dangerous substances, but that testing continues".¹¹⁶ Although FDA investigations of this shipment has shown no TB-infected cream to date, the high rate of TB-infected dairy cattle in Mexican states bordering the U.S. gives cause for concern. Furthermore, the possibility that other similarly illegal, perhaps TB-infected, shipments have crossed the border cannot be dismissed.

Bovine tuberculosis is a public health issue in Mexico. Dr. Francisco Gurría Treviño wrote in 1992 of the transmission of bovine TB to humans, principally caused by consumption of milk and soft

¹¹³ George Jasper Wherret, *The Miracle of the Empty Beds: A History of Tuberculosis in Canada* (Toronto: University of Toronto Press, 1977), 139-141.

¹¹⁴ Linda Bryder, *Below the Magic Mountain: A Social History of Tuberculosis in Twentieth-Century Britain* (Oxford: Clarendon Press, 1988), 3.

¹¹⁵ See Michael E. Teller, *The Tuberculosis Movement: A Public Health Campaign in the Progressive Era*, 'Contributions in Medical Studies', Number 22 (Westport, CT: Greenwood Press, 1988).

¹¹⁶ "Vogel revokes creamery license after probe finds illegal Mexican cream used", North Dakota Department of Agriculture press release (Feb. 10, 1994), 2.

cheese that were not adequately pasteurized: "during the last few years, a total of 15,210 cases of tuberculosis have been confirmed, of which it is calculated that between 5 and 8 percent have their origin in *M. bovis* "[the bovine TB bacillus], i.e. between 560 and 1216 cases of bovine to human TB transmission.¹¹⁷ The Office of International Epizootics' *Animal Health Year* for 1990 lists 138 cases of bovine to human TB transmission in Mexico (compared to 4,170 cases in Ecuador, and 1,758 cases in Paraguay).¹¹⁸ Although Dr. Terry Beals, Executive Director of the Texas Animal Commission, has stated that "[t]oday it would be extremely rare for a human to get cattle tuberculosis"¹¹⁹, this is not the case in Mexico, nor in other Latin American countries.

Because of the incidence of bovine to human transmission in Mexico, Dr. Vaclav Kouba, former Head of the Animal Health Service of United Nations Food and Agriculture Service, considered the addition of public health personnel to be vital to bovine TB eradication. In Dr. Kouba's review of the State of Chihuahua's 1993 Bovine TB Eradication Plan, he recommended that all of the State's bovine TB eradication working groups include public health personnel. These officials would help control the disease through inspections of slaughterhouse facilities and workers, as well as through the inspection of meat.¹²⁰ Such public health measures were apparently absent from the State's original plan.

The lack of provision for public health personnel in the Chihuahuan plan is alarming when one considers the worldwide resurgence of TB. The World Health Organization recently called TB "the world's most neglected epidemic" and said that the various kinds of TB "could be killing 4 million people a year within the decade unless Western countries come up with \$100 million to fight it Worse, the agency warned: Drug-resistant strains are increasing so rapidly that without fast action, a once easily cured disease is on the verge of becoming incurable".¹²¹

In the United States, the threat bovine TB poses to human health is a small one compared to that in Mexico. The pasteurization of all milk products, as well as the import prohibition on Mexican Holsteins, protects the U.S. public against bovine TB. However, it is worth investigating whether TB-infected migrant workers, many of whom are from Mexico, contracted TB through *M. bovis*. Since NAFTA will result in greater Mexican unemployment and consequently greater migration to the U.S., it is not alarmist to ask if bovine TB may be the origin of recent TB outbreak that infected some workers of Mexican origin.

An October 1993 outbreak of human TB in Finney County, Kansas, where large IBP and Monfort (Con Agra) meat packing plants are located, has raised the question of whether migrant packing plant workers or their family members were TB infected prior to working at the plants or at a non-work site, or whether they contracted TB by handling TB infected carcasses.¹²² According to Marilyn Peterson, Finney County Health Department administrator, of 22 children (2 white, 20 Hispanic) with "active TB", "14 have parents or other household contacts who work at a packing

117 Gurría Treviño, "Campaña nacional contra la tuberculosis bovina y la brucelosis en México," 109.

118 Iñiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis*," 6.

119 "Cattle Herd in Karnes County Causes Concern: Tuberculosis Infection Possible", Texas Animal Health Commission News Release (May 21, 1993).

120 Dr. Vaclav Kouba, "Sugerencias para la Campaña de Erradicación de Tuberculosis Bovina del Estado de Chihuahua" (May 11, 1993), 4.

121 "\$100 million badly needed to fight TB, agency says" (AP), *Minneapolis Star Tribune* (Nov. 16, 1993), 4A.

122 "33 being treated for TB in Finney County", *Hutchinson (KS) News* (Oct. 27, 1993), 3.

plant". Of 10 adults (1 White, 1 Asian and 8 Hispanic) "3 have been employed at a packing plant either just prior to diagnosis or have an ongoing employment".¹²³

A November 7th article in the *Kansas City Star* stated, "Medical authorities in Finney County expect the number of tuberculosis cases to climb far higher." Based on a report of Finney County public health workers, the article further specified that "the TB outbreak in western Kansas has been concentrated in a population long at higher risk of disease: immigrant workers . . . Many of those workers are from Mexico".¹²⁴ The paper reported that in the first week of November, "an average of seven persons a day in Garden City [Kansas] had positive skin tests for tuberculosis".¹²⁵

Dr. Patricia Thickstun, an epidemiologist with the San Antonio (Texas) State Chest Hospital said that in discussing TB, it is important to distinguish between those who are TB infected, i.e. those who respond positive to a skin test for TB, and those who are TB diseased, i.e. those who exhibit symptoms of TB, such as the spitting of blood and weight loss. Dr. Thickstun, who has traced two cases of bovine to human TB transmission in the El Paso, Texas area, said that about 10% of the TB-infected will develop the TB disease. However, those who are homeless and/or HIV positive have about a 30% chance of developing the TB disease.¹²⁶

Finney County and its meat-packing plants are the subject of a paper by Professor Don Stull, of the Department of Anthropology at the University of Kansas. In "Dances with Cows: Beefpacking's Impact on Garden City, Kansas and Lexington, Nebraska", Stull and two colleagues reported on the company culture of the towns, despite the refusal of IBP and Monfort to cooperate with their research.¹²⁷ According to a summary of this research, "the packing houses have transformed the town. The total minority population of Garden City is now 36 percent, double the 1980 figure. Not only that, most of the newcomers are young (median age in Garden City is 26 years old) and transient. The packers regularly sustain 6-8 percent monthly turnover, according to a 1988 report . . . The marginality of the wages and benefits, and the dangerous nature of packing-plant work, are direct causes of the transience of packinghouse workers".¹²⁸

The transience that results from low packing plant wages and dangerous working conditions would appear to make it difficult to treat the TB disease, much less to trace the origin of the TB. According to the *Kansas City Star* article on the Finney County TB outbreak, "among those who migrate across the country seeking steady work, the threat of a long-term sick leave turning into a permanent layoff has kept some from seeking treatment".¹²⁹

Dr. Kris Bisgard, a veterinarian and epidemiologist with the Kansas Department of Public Health, said that a follow-up study of the Finney County TB outbreak has revealed that the outbreak was less severe than first thought. She will present the results of her research in April at a Center for Disease Control conference.

123 Correspondence from Marilyn Peterson, Nov. 4, 1993.

124 Matthew Schofield, "Rise in TB cases alarms Garden City, Kan.: Increase in disease linked to immigrants from Mexico", *Kansas City Star* (Nov. 7, 1993), B1.

125 Schofield, "Rise in TB cases alarms Garden City, Kan.", B1.

126 Dr. Patricia Thickstun, phone interview on Nov. 8, 1993.

127 The conference at which Prof. Stull's paper was presented is summarized in an important three article series on the meat industry in rural America, "No Way Up?" by Steve Bjerklie, *Meat and Poultry* (Aug.-Oct., 1992).

128 Bjerklie, "No Way Up?" (part 1) *Meat and Poultry* (Aug., 1992), 39.

129 Schofield, "Rise in TB cases alarms Garden City, Kan.", B1.

Dr. Bisgard said that there is "no evidence that cattle were the source of the contagion" among 11 culture-confirmed cases of TB and 29 not culture-confirmed cases. Twelve of 36 cases had drunk unpasteurized milk (such a determination has not been made for the remaining four cases), the most common means of TB infection. Three of the 11 confirmed cases were born in Mexico, but had lived in the U.S. for a number of years. Sixteen of 29 of the suspected cases were born in Mexico. All of the patients will receive six months of therapy. Dr. Bisgard said that only one patient was associated with a meat-packing plant. While workers were willing to be tested for TB, she said that employers sometimes appeared to be reluctant to have them tested. She added that although there is a great deal of turnover in the meatpacking plants, workers tend to go from plant to plant in Kansas, rather than leave the area.¹³⁰

Although bovine TB did not figure in the Finney County outbreak, Dr. Bisgard said that she had spoken to an FSIS official in Finney County who said bovine TB had been detected in cattle of Mexican origin in Finney County meat packing plants.¹³¹ Dr. Bisgard declined to name the FSIS official and the Institute has been unable to identify the official.

Although bovine to human TB transmission appears to be rare in the U.S., the USDA has taken nearly four years to respond to a whistleblower case, concerning bovine TB-infected meat, filed by Dr. Wilfredo Rosario, an FSIS veterinarian, with the Office of Special Counsel (OSC). Dr. Rosario claimed in 1989 that he received verbal instructions from an FSIS supervisor to release a carcass with TB-suggestive lesions for human consumption, in contravention of FSIS inspection regulations and federal law. Only after the OSC determined that there was "substantial likelihood" that Dr. Rosario's claim had merit and ordered USDA Secretary Mike Espy to respond to Dr. Rosario's disclosures, did FSIS clarify, on October 5, 1993, the agency policy on condemning TB-suggestive carcasses (or passing for cooking the non-infected parts of such carcasses).¹³²

Kenneth Morrison, a lawyer representing Dr. Rosario for the Government Accountability Project, said that "there has been no attempt to track how much TB-infected meat was approved for consumption during the four years and how many TB-suggestive carcasses were released to the public. He adds that those responsible for the earlier policy have not been held accountable and that Rosario continues to be subjected to a hostile work environment".¹³³

Mr. Morrison said that he sent a September 28, 1993 letter to Eugene Branstool, Assistant USDA secretary for Marketing and Inspection Services, to request a meeting between Assistant Secretary Branstool and Dr. Rosario, because, at the time, there was no evidence that USDA had begun to investigate Dr. Rosario's charges. Mr. Morrison's letter asserts that "[a]fter almost four years and three formal referrals by the U.S. Office of Special Counsel, there still has been no effort by the USDA to meet with Dr. Rosario to detail, evaluate, and discuss his concerns".

Assistant Secretary Branstool replied on December 2nd that no meeting with Dr. Rosario would be necessary.¹³⁴ (On December 16th, Assistant Secretary Branstool "abruptly resigned,

¹³⁰ Phone interview with Dr. Krs Bisgard on Feb. 3, 1994.

¹³¹ Phone interview with Dr. Kris Bisgard on Feb. 3, 1994.

¹³² Phone interview with Kenneth Morrison on Nov. 15, 1993.

¹³³ Kit Roane, "USDA Toughens Infected Meat Policy: However, the Beef You Eat May Still Be Suspect", *The Los Angeles Reader* (Nov. 12, 1993).

¹³⁴ Phone interview with Kenneth Morrison on Dec. 17, 1993.

effective Dec. 31., after only one year in the post".¹³⁵ According to the trade journal *Feedstuffs*, "Branstool was being out-gunned in policy disputes by the FSIS bureaucracy".¹³⁶)

In addition to an initial 60-day period for investigation, Secretary Espy was granted two 60-day extensions to report to OSC on the investigation of Dr. Rosario's findings. On November 22nd the OSC received a letter signed by Secretary Espy that responded to OSC's request of April 16, 1993 for investigation of Dr. Rosario's allegations. Dr. Rosario and Mr. Morrison received a copy of Secretary Espy's letter on December 8th and were given 15 days to respond to it.¹³⁷ Since Dr. Rosario was attending a USDA professional seminar in Texas during December and, consequently, he and Mr. Morrison were not able to meet concerning Secretary Espy's letter, Mr. Morrison requested more time to review the letter before responding to it.

Mr. Morrison said a "total lack of detail" in Secretary Espy's report made it impossible to verify its assertions. The January 17th response to the report, filed by the Government Accountability Project (GAP) on behalf of Dr. Rosario, notes that "most fundamentally, the report failed to meet the requirement of 5 U.S.C. § 1213(d) (2) that it include 'a description of the conduct of the investigation'".

By failing to meet this and other requirements of the Whistleblower Protection Act, Mr. Morrison believes that the USDA was "not holding responsible officials accountable" for their actions.¹³⁸ For example, Secretary Espy's report states that "FSIS officials believe that the misinterpretation of laboratory findings and their use in diagnosis and disposition resulted from miscommunication between the local supervisor in Southern California (Dr. Teresita Rucio) and a Washington headquarters official."¹³⁹ However, according to GAP's January 17th letter, neither "a list of personnel who investigated Dr. Rosario's allegations" nor a list of witnesses is provided to document such "misinterpretation" and "miscommunication". Secretary Espy nonetheless concludes that "FSIS absolutely refutes the allegation of a secret illegal policy to permit TB carcasses to move unrestricted in commerce".¹⁴⁰

Furthermore, Secretary Espy's report confines its discussion of the disposition of carcasses with TB-suggestive lesions to Southern California in 1989. Mr. Morrison said that Secretary Espy offers no basis for determining if, when and where TB suggestive carcasses elsewhere were either condemned or released between May 1989, when Dr. Rosario first alleged the order to release all TB-suggestive carcasses was given, and October 1993, when FSIS clarified its policy on disposition of TB-suggestive carcasses. (According to the Code of Federal Regulations, vol. 9, 315.2, cited in Secretary Espy's letter, a carcass with TB lesions need not be condemned if the lesions are not too severe or numerous, but "must be cooked under USDA supervision to a 'temperature of not lower than 170 degrees for a period of not less than 30- minutes".¹⁴¹ This requirement is evidently more stringent than FSIS's "Quick Consumer Guide to Safe Food Handling". The guide advises food preparers to "cook red meat to 160 degrees F. . . . Use a meat thermometer to check that it's cooked all the way through".)

¹³⁵ "Espy Warns Employees About Lobbying", *Cattle Buyers Weekly* (Dec. 20, 1993), 4.

¹³⁶ Gordon S. Carlson, "USDA agency officials may be improperly lobbying Congress", *Feedstuffs* (Dec. 27, 1993), 2.

¹³⁷ Letter from Elicia L. Marsh, Investigator with the U.S. Office of Special Counsel, Dec. 6, 1993.

¹³⁸ Phone interview with Kenneth Morrison on Dec. 17, 1993.

¹³⁹ Letter from Secretary Mike Espy to Kathleen Day Koch, Office of Special Counsel (Nov. 18, 1993), 5.

¹⁴⁰ Letter from Secretary Mike Espy to Kathleen Day Koch, Office of Special Counsel (Nov. 18, 1993), 5.

¹⁴¹ Letter from Secretary Mike Espy to Kathleen Day Koch, Office of Special Counsel (Nov. 18, 1993), 5.

Although Secretary Espy's response is an improvement over the erroneous and misleading ones of his predecessors, Secretaries of Agriculture Clayton Yeutter and Edward Madigan, the extremely narrow range and the lack of specificity of the USDA's investigation into Dr. Rosario's charges will prompt Mr. Morrison to request the OSC to demand a further investigation.¹⁴² (Clayton Yeutter has been mentioned as a candidate for chief executive or "Beef Czar" of a mega-beef organization that would merge the National Cattleman's Association, the Beef Industry Council of the Meat Board, the U.S. Meat Export Federation and the Cattleman's Beef Board.¹⁴³)

The USDA's response to Dr. Rosario's charges comes near the end of the term on February 10, 1994, of chief FSIS Administrator, Dr. H. Russell Cross, a Bush Administration holdover, and a Texas A & M University professor on a leave of absence. Dr. Cross announced that his resignation will be effective on or before the end of the term.¹⁴⁴ The discussion concerning the appointment of Dr. Cross's successor will occur in the context of recent criticisms made of USDA food safety programs by a coalition of consumer, public health, whistleblower and labor organizations to a House of Representatives Government Operations Subcommittee.

Carol Tucker Foreman, coordinator for the Safe Food Coalition and a former Assistant Secretary of Agriculture, said that the Coalition believes that Secretary Espy "wants to improve meat and poultry safety and reduce the number of people who suffer from food poisoning . . . However, Secretary Espy has not been able to overcome the combined effects of inertia, ineptitude and industry influence that permeate the Food Safety and Inspection Service".¹⁴⁵ The Coalition has documented how nearly thirteen years of thwarted proposals have passed since the Carter Administration requested from Congress the authority to trace contaminated meat and poultry back to its source. Such tracing was endorsed by the National Academy of Sciences in July 1985.

Negotiation over the appointments of a new chief administrator of FSIS and the Assistant Secretary of Agriculture with responsibility over food safety will occur as the Food Safety Working Group of the National Performance Review project publishes a proposal for an single, independent food safety agency in the federal government. According to the *Food Institute Report*, the Working Group's report charges that "present food protection programs do not adequately meet the current regulations of the country".¹⁴⁶ *Feedstuffs* reported in early February that "a proposal to appoint a food safety commissioner who will concentrate on food safety and report directly to Agriculture Secretary Mike Espy is being considered by the Clinton Administration".¹⁴⁷ The food safety commissioner would work closely with the Centers for Disease Control to protect public health.

Vice President Gore's proposal to reform FSIS is being vigorously opposed by the meat industry. (Secretary Espy has told all USDA employees that they will "face criminal proceedings" if they lobby for or against USDA reorganization plans.¹⁴⁸) American Meat Institute president J. Patrick

142 Phone interview with Kenneth Morrison on Dec. 17, 1993.

143 "Simple as ABC", *Cattle Buyers Weekly* (Dec. 20, 1993), 3.

144 "Cross Resigns As Inspection Chief", *Cattle Buyers Weekly* (Jan. 3, 1994), 3.

145 *News from The Safe Food Coalition* (Nov. 4, 1993), 1.

146 *Food Institute Report* (Jan. 10, 1994), 11.

147 Robert Brown, "USDA may seek appointment of food-safety official", *Feedstuffs* (Feb. 7, 1994), 1.

148 "Espy Warns Employees About Lobbying", *Cattle Buyers Weekly* (Dec. 20, 1993), 4.

Boyle testified against the reorganization before a subcommittee of the House Committee on Government Operations on November 4th. According to *Feedstuffs*, "he told the committee that for too long, labor, consumer groups and industry have been deadlocked over issues that have nothing to do with public health. Reasonable food safety bills have been derailed over such things as "whistleblower" protection".¹⁴⁹

Meanwhile, in a Friona, Texas slaughterhouse owned by Cargill, the transnational agribusiness company, Johnny Vera, an FSIS inspector and the local president of the American Federation of Government Employees (#2771 of the Lubbock circuit), discovered that "it was not until he confronted management with the problem of TB-infected Mexican cattle that the [company] inspectors finally were notified when carcasses of Mexican origin were being inspected. And only then were [company] inspectors issued gloves and goggles to protect them from possible contamination".¹⁵⁰

Mr. Vera, who has worked for FSIS for 10 years and in the meat industry for another 20 years, said that Cargill management knew of the Mexican origin of the feeder cattle it slaughtered. However, he said that it was necessary to pressure FSIS management in order to inform Cargill line inspectors of the incidence of bovine TB in cattle of Mexican origin. Mr. Vera said that he has been subject to intimidation by Cargill because of his whistle-blowing activities, but that a month ago Secretary Espy sent FSIS compliance officer John Campbell to order Cargill to refrain from intimidation tactics. Mr. Vera, who has been a member of the regional safety committee of FSIS for two years, added that FSIS inspectors continue to receive verbal instructions on meat inspection from FSIS management that contradict written FSIS policy.¹⁵¹

Mr. Vera's allegations should be put in the wider context of a crisis in meat and poultry inspection. According to GAP attorney Elaine Dodge, "while government has permitted industry to increase production with new technologies, USDA has not required industry to devote the same care to increasing food safety technology to keep pace with production. In fact, since 1983, 150 whistleblowing meat and poultry inspection and 75 corporate employees have told us sanitation in plants has gotten worse".¹⁵² As a result of intensified meat production technology and government deregulation, "USDA inspectors report that they can condemn only 60 percent of the meat and poultry that they were able to condemn in the 1970s".¹⁵³

In the context of this diminished inspection capability, the exposure of meat inspectors, meat packing plant workers, feedlot workers and their families to bovine TB remains to be fully and publicly addressed by the USDA. It seems unlikely that the Hazard Analysis and Critical Control Point (HACCP) inspection system proposed by FSIS and endorsed by the American Meat Institute and the National Turkey Federation will restore diminished meat inspection capabilities unless meat and poultry inspection is reorganized in an independent agency less susceptible to industry pressure.¹⁵⁴

149 Robert H. Brown, "AMI testifies against FDA meat inspection", *Feedstuffs* (Nov. 22, 1993), 7.

150 Joanne Royce, "Where's the Beef Going?: NAFTA Could Bring Disease-Tainted Mexican Meat to U.S. Tables", *El Financiero International Edition* (Nov. 8-14, 1993), 7.

151 Phone interview with Johnny Vera on Nov. 14, 1993.

152 Cited in Fawn Gelff, "Meat Inspection -- Something to Beef About", *Public Citizen* (January/February, 1994), 14.

153 Gelff, "Meat Inspection -- Something to Beef About", 15.

154 Rod Smith, "FSIS announces forum on HACCP system", Robert Brown, "AMI says USDA must take action on HACCP", and Smith, "NTF approves HACCP with no exceptions", *Feedstuffs* (Jan. 24, 1994), 4 and 5.

One sign that the beef industry would rather lower consumer expectations for safe food than enhance meat inspection capabilities is industry opposition to the USDA's policy of not tolerating any meat contamination. *Cattle Buyers Weekly* reported that "USDA's zero tolerance policy was attacked by NCA [the National Cattleman's Association] when it gave evidence before a Senate committee hearing on Feb. 10. Zero tolerance, touted by USDA as a crackdown on industry to help combat physical and microbiological contamination, has only filled the consumer with false hopes, says NCA. . . NCA also criticized USDA's budgeted addition of 400 inspectors in 1994 and 1995".¹⁵⁵ The USDA is monitoring 275 packing plants that have safety and workplace problems requiring enhanced inspection and enforcement.¹⁵⁶

Economic Costs of Bovine TB Eradication and Bovine TB Transmission

Dr. Mitchell Essey said that bovine TB eradication is extremely cost effective, not even taking into consideration the public health problems and costs posed by bovine TB. From 1917 through 1990, \$545,220, 902 was spent on the eradication program, not taking into account inflation.¹⁵⁷ Between 1990 and 1993, he estimated that another \$30 million dollars had been spent. The total cost was incurred in nearly equal portions between the federal government and state governments.

Tuberculosis eradication activities peaked in 1935 with the detection of 376,000 TB-positive animals, when the U.S. eradication program spent \$11 million (not adjusted for inflation).¹⁵⁸ Dr. Essey believes that a study on the cost-effectiveness of bovine TB eradication, independent of public health considerations, would show that the money saved by removing infected cattle from herds between 1917 and 1935 has paid for all the costs incurred by the U.S. bovine TB eradication program since 1935. He further contends that the savings that would accrue by reducing bovine TB in Mexico during the early years of their program should pay for its eradication campaign in succeeding years.¹⁵⁹

When negotiators concluded their work on the sanitary and phytosanitary provisions of NAFTA on May 27, 1992, the Mexican government intended to budget funds for indemnifying cattle owners whose herds were destroyed as part of the Mexican Bovine TB Eradication Campaign. Dr. Francisco Gurría Treviño, the director of the Campaign, wrote that "a fundamental component of the program is the indemnification for animals sacrificed as a result of testing positive for TB."¹⁶⁰ According to Dr. Hernández de Anda and Dr. Jorge Saltijeral, Head of the Department of Agricultural and Animal Production at the Universidad Autónoma Metropolitana in Mexico City, no such funds had been budgeted as of September 1993.¹⁶¹ Dr. Essey said that no

¹⁵⁵ *Cattle Buyers Weekly* (Feb. 21, 1994), 3.

¹⁵⁶ "Many packing plants in trouble with USDA", *AgWeek* (Feb. 28, 1994), 43.

¹⁵⁷ *Cooperative State-Federal Tuberculosis Eradication Program: Statistical Tables for Fiscal Year 1990* (Washington, DC: Government Printing Office; Feb., 1992), 10.

¹⁵⁸ *Cooperative State-Federal Tuberculosis Eradication Program: Statistical Tables for Fiscal Year 1990*, 6 and 9.

¹⁵⁹ Phone interview with Dr. Mitchell Essey on Nov. 16, 1993.

¹⁶⁰ Gurría Treviño, "Campaña nacional contra la tuberculosis bovina y la brucelosis en México," 116.

¹⁶¹ Dr. Jorge Saltijeral, phone interview on Sept. 13, 1993. Hernández de Anda, "Sistema de Vigilancia Epidemiológica", 12.

bovine TB eradication program has ever been successful without indemnification funds or other compensation to owners for animals destroyed because of tuberculosis.¹⁶²

At the October 23-29, 1993 USAHA meeting, Dr. Gurría Treviño announced plans to institute a national "check off" system. In this system a yet to be determined portion of the export sale price per head of cattle will be used by the CNG for an indemnification program. The government will provide a yet to be determined amount of seed money for the indemnification fund, which would be used only to indemnify owners of dairy herds whose cattle were depopulated in the eradication program. The higher incidence of bovine TB among dairy cattle and the resultant public health threat posed by unpasteurized milk from TB-infected cows dictate this indemnification policy.

Dr. Gurría Treviño contended that incidence of bovine TB in feeder cattle was too low for indemnification incentives to be cost effective. He suggested that the national check-off system might follow the state of Chihuahua's program, which currently sets aside one dollar per exported animal for an indemnification fund.¹⁶³ To get a rough idea of the amount of a such an indemnification fund, considering that Mexico exported about 1.2 million head of cattle to the U.S. in FY 1992, about \$1.2 million would be available for indemnification payments.

To estimate how effective such a fund might be, further consider that to eradicate a bovine TB outbreak in North Dakota in 1988, \$1.5 million was paid out for the destruction of 4,500 cattle.¹⁶⁴ (Such a rough estimate, of course, does not allow for inflation, nor for possible further devaluations of the peso against the dollar.)

A microeconomic idea of the costs of indemnification and other economic losses can be gained from the example of a 238-head dairy herd that was depopulated in Karnes County, Texas in March 1993. The dairy herd owner believes that he "lost \$60,000 to \$70,000 in forfeited milk sales"¹⁶⁵ plus the loss on the sale of all his cattle. He received \$750 per head of indemnification payments for 86 infected cattle plus \$450 per head for the remaining TB-exposed cattle killed in the eradication program. In addition, meat salvaged from infected and exposed animals was sold at 28 cents a pound (rather than the normal \$1 a pound) and cooked in FSIS-approved facilities for used in dog food, itself a costly process. (According to FSIS, meat cooked at 160 degrees kills the TB bacilli.¹⁶⁶)

The cost of a bovine TB outbreak in human suffering, of course, cannot be calculated. The local junior high school in Karnes County demanded that the rancher's daughter "be taken out of school and tested for tuberculosis -- the whole family tested negative for the disease".¹⁶⁷

Further complicating the determination of the cost-effectiveness of present bovine TB eradication measures are the detection limitations of the tuberculin skin test for bovine TB. A draft report of the executive summary of the "USDA Bovine Tuberculosis Research Initiative"

¹⁶² Dr. Mitchell Essey, phone interview on Sept. 13, 1993.

¹⁶³ Dr. Francisco Gurría Treviño, phone interview on Nov. 16, 1993.

¹⁶⁴ Phone interview with Dr. Bill Rotenberger, Assistant State Veterinarian of North Dakota, on Sept. 14, 1993.

¹⁶⁵ Steven H. Lee, "Unfortunate cattle call: Bovine tuberculosis jolts Texas ranchers", *Dallas Morning News* (Sept. 28, 1993), 10D.

¹⁶⁶ "A Quick Consumer Guide to Safe Food Handling", U.S.D.A. Home and Garden Bulletin No. 248.

¹⁶⁷ Lee, "Unfortunate cattle call: Bovine tuberculosis jolts Texas ranchers", 10D.

stated that "for every skin test positive animal with confirmed tuberculosis lesions at slaughter, 35-90 cattle were sent unnecessarily to slaughter, causing major economic hardships on producers. At the same time, some infected animals were not identified by the skin test, allowing tuberculosis to persist as well as spread in and beyond these herds".¹⁶⁸

It is difficult to estimate the historical and projected economic losses caused by bovine TB in Mexico, the technical costs of eradication, and the funds needed for indemnification of cattle owners whose herds are destroyed in the eradication program. Part of the difficulty is an archival one. In September 1985, a fire caused by an earthquake in Mexico City destroyed about ninety percent of the archives of the Animal Health Office.¹⁶⁹ Nonetheless, one study estimated Mexican economic losses caused by bovine TB in 1983 to be about \$35 million (exclusive of public health costs and lost personal income), compared to \$10 million for the U.S. in the same year.¹⁷⁰

Trading Away Mexican Food Self-Sufficiency to Pay Interest on the Foreign Debt : A Social and Macroeconomic Context of the Mexican Cattle Industry

The eradication of bovine TB and other livestock diseases is a vital part of the transformation of Mexican agriculture away from food self-sufficiency and towards dependency on importing basic grains and exporting fruits, vegetables and livestock. Animal health disease detection and control not only protect public health, and transnational corporate, national, and individual investments, but also the agricultural policies of Mexico, and the international lending agencies. A first step in thinking about the relation of animal health to the export orientation of SAPs is to consider the role of international lending in increasing Mexican livestock exports, increasing the crops grown for livestock consumption and, consequently, reducing basic foods grown for human consumption.

Professor David Barkin has written that "the modernization of Mexican agriculture since 1965 has been characterized by a phenomenal growth in the livestock sector" enabled by a change away from crops grown for human consumption to crops grown for animal consumption.¹⁷¹ In a country where, according to a 1975 survey, "33 percent of the rural population never eat meat; 32 percent never eat eggs; 37 percent never eat wheat bread and 59 percent never taste milk"¹⁷² "the proportion of grain fed to animals increased from 6 percent in 1960 to over 32 percent in 1980. . . The Mexican nutritionist Adolfo Chávez has likened this use of resources for meat production to the miracle that Christ performed with loaves and fishes -- but in reverse."¹⁷³

This miracle in reverse has required a sometimes violent structural readjustment of the land. Professor Sanderson writes that "the export orientation of the Mexican frontier cattle industry combined with the increased urban market for beef require that land previously dedicated to agricultural purposes be usurped by cattle enterprises".¹⁷⁴ The usurpations in question refer to

168 Draft of "USDA Bovine Tuberculosis Research Initiative (Executive Summary)", Jan. 10, 1994, 5-6.
 169 Dr. Jaime A. del Río, "Situación de la tuberculosis bovina en México", SARH (1987?), 3.
 170 Iñiguez Rodríguez, "Seguimiento de los casos positivos a *Mycobacterium bovis*", 7.
 171 David Barkin, *Distorted Development: Mexico in the World Economy* (Denver, CO: Westview Press, 1990), 19.
 172 Sanderson, *The Transformation of Mexican Agriculture*, 10.
 173 Barkin, *Distorted Development*, 27-28.
 174 Sanderson, *The Transformation of Mexican Agriculture*, 126.

various incidents in which land was taken from peasants by cattle ranchers by force of arms and with no attempt by the government to restore land to the peasants.

The resource reallocation towards livestock and feed crops was facilitated, in part, through international lending. From 1947 to 1980, about 40 percent of World Bank loans to Mexico were for commercial agricultural and irrigation projects. From 1961 to 1980, 53.4 percent of InterAmerican Development Bank loans to Mexico were for such projects.¹⁷⁵ Furthermore, "between 1971 and 1977 the World Bank and the Interamerican Development Bank granted loans of \$527.4 million versus national [i.e. Mexican] loan totals of \$639 million for cattle".¹⁷⁶

According to Professors Barkin and Blanca Suárez, "the influx of international credit to commercial agriculture accentuated and reinforced important sectoral changes, for example, the increase and diversification of agricultural production, the displacement of traditional crops and the recent channeling of credit towards livestock".¹⁷⁷ Since 1980, the Mexican "miracle" of resource reallocation has intensified, in part, in order to increase export earnings to pay interest on the growing foreign debt.

In a July 1993 address to the annual meeting of the National Livestock Federation (Confederación Nacional Ganadera -- CNG), President Carlos Salinas de Gortari gave as an example of the government's leading role in the cattle industry its support for the CNG's acquisition of cattle feed factories.¹⁷⁸ In his November 1993 State of the Nation address, President Salinas de Gortari announced that Mexico had obtained six loans from the World Bank and the Interamerican Development Bank for a total of \$371 million to enlarge the irrigation system for export crops. The Mexican federal government, state governments and financial institutions will contribute about \$400 million to the new irrigation projects.¹⁷⁹

Yet there is little support, other than welfare payments, for the family farmer and rancher. However, during the past decade, Mexican government subsidies for livestock industries have gradually diminished, to the point that only the chicken industry receives direct subsidies. By contrast, one analyst cites a 1989 Mexican government report, according to which U.S. beef producers receive subsidies equivalent to about 24% of costs, half direct subsidies and half indirect.¹⁸⁰ Partly because of the decrease in subsidies and price supports, Mexican livestock and livestock products generally sell at far below international market reference prices.¹⁸¹

At the same time that government support for agriculture was diminishing, changes in Mexican law invited greater participation of transnational corporations in agriculture. From 1989 to 1992, transnational capital in Mexican agriculture increased by 50%, and included investment from such

¹⁷⁵ David Barkin y Blanca Suárez, *El fin de la autosuficiencia alimentaria* (Mexico City: Centro de Ecodesarrollo, 1985), 115.

¹⁷⁶ Luciano Concheiro, "El Tratado de Libre Comercio de América del Norte y su probable impacto ambiental en el campo mexicano" in *La disputa por los mercados: TLC y sector agropecuario*, ed. Alejandro Encinas, Juan de la Fuente y Horacio MacKinlay, Mexico City: Mexican Chamber of Deputies/ Ed. Diana, 1992), 165.

¹⁷⁷ Barkin y Blanca Suárez, *El fin de la autosuficiencia alimentaria*, 116.

¹⁷⁸ "Discurso pronunciado por el C. Lic. Carlos Salinas de Gortari", *Mexico Ganadero: órgano oficial de la Confederación Nacional Ganadera* (July 1993), 36.

¹⁷⁹ "Salinas de Gortari: al campo no le falta crédito, sino capital", *La jornada* (Nov. 2, 1993), 23.

¹⁸⁰ De la Fuente et al., "La ganadería nacional, nueva encrucijada en su desarrollo: crisis, modernización y TLC" 246.

¹⁸¹ De la Fuente et al., "La ganadería nacional, nueva encrucijada en su desarrollo: crisis, modernización y TLC", in *La disputa por los mercados: TLC y sector agropecuario*, 224-225.

firms as Del Monte, Pepsi, Gerber, Kellogg, Kraft, Purina and McCormick. For example, in 1991 Nestlé-Carnation invested \$25 million in the livestock industry.¹⁸²

Changes in Mexico's Foreign Investment Law, proposed by President Salinas de Gortari to the Mexican Congress on November 24th, will allow foreign investors "to invest up to 100 million dollars in new projects without seeking government approval, except in major urban centers such as Mexico City, Guadalajara or Monterrey".¹⁸³

Government and bank policies that have relied on importing basic foods and have structurally adjusted land for feeding livestock, rather than people, have resulted in increasingly high levels of malnutrition. "Between 1983 and 1988 the per capita consumption of basic grains decreased by 32.3%. If the consumption of the grains most eaten by farmers and the urban poor is analyzed -- corn and beans -- the decrease goes up to 40%".¹⁸⁴

The international edition of *El Financiero* reports that "per capita consumption of basic foods, including corn, milk and meat, plummeted during the 1980s. Per capita consumption of meat fell 40 percent from 1984 to 1988, according to statistics accompanying Salinas' 1989 State of the Nation address. In the three years leading up to 1988, nutritional levels in Mexico dropped 20 percent, the United Nations Food and Agriculture Organization reported". As severe as malnutrition is in Mexico generally, "as much as 82 percent of rural residents who live in extreme poverty are underfed, according to government statistics. In rural Mexico, only one in four children register normal height and weight, according to the National Solidarity Program".¹⁸⁵

The ultimate consequences of years of increasing malnutrition are grim indeed: "Deaths from nutrition-linked illnesses have increased 8 percent per year since 1979, according to the statistic accompanying President Carlos Salinas de Gortari's State of the Nation address in November. The death toll from malnutrition-linked illnesses rose from 25,000 in 1979 to 46,177 in 1992".¹⁸⁶

The consequences of malnutrition in children register even more starkly: "More than half of the deaths of children under the age of four are related to malnutrition, according to the National Solidarity Program. The National Pediatrics Institute reported that more than 20 million children suffer some degree of malnutrition".¹⁸⁷

Chiapas, the state in which an indigenous army is currently battling federal troops, has the highest percentage of malnutrition, and the highest number of deaths due to malnutrition. During the last decade, deaths due to malnutrition increased by 641% in Chiapas. Thirty-three per cent

182 De la Fuente et al., "La ganadería nacional, nueva encrucijada en su desarrollo: crisis, modernización y TLC", 238.

183 John Watling, "Foreign Investment Law Liberalized", *El Financiero International Edition* (Nov. 29- Dec. 5, 1993), 1.

184 Concheiro, "El Tratado de Libre Comercio de América del Norte y su probable impacto ambiental en el campo mexicano", 158.

185 Tali Nauman, "Hunger Pangs: Malnutrition May Affect as Much as 66% of Mexican, Seriously Reducing Productivity Potential" *El Financiero International Edition* (Dec. 13-19, 1993), 14.

186 Nauman, "Hunger Pangs: Malnutrition May Affect as Much as 66% of Mexican, Seriously Reducing Productivity Potential", 14.

187 Nauman, "Hunger Pangs: Malnutrition May Affect as Much as 66% of Mexican, Seriously Reducing Productivity Potential", 15.

of Chiapans are severely malnourished and 77% of Chiapan children are extremely malnourished, according to government statistics.¹⁸⁸

According to a study prepared for *El Financiero* by the Nutrition and Development Research Center in Hermosillo, Sonora, "the situation [of malnutrition in Mexico] could become much worse with increased free trade", in part because "the foreign market determines local prices, sometimes pushing them out of local consumers' reach. Export trade also skims off the best quality produce, leaving local residents with inferior leftovers".¹⁸⁹ While the SAP-oriented policy change from food self-sufficiency towards emphasizing agriculture exports and basic food imports is not the sole cause of increased malnutrition, there is nothing to indicate that the priorities of this policy change will ameliorate malnutrition and the social and public health consequences of that malnutrition.

The international lending agencies that mandate austerity measures as a condition of restructuring interest payments on debt are scrupulous in disregarding those people who will suffer the burden of their programs. A managing director of the IMF declared in 1978, "The Fund avoids taking a view on the appropriate distribution of the burden of adjustment as between various sectors of society".¹⁹⁰

Despite the urgent need for basic grains, steadily falling prices have discouraged Mexican farmers from planting grain crops for human consumption. Grain prices in Mexico, when adjusted for inflation, are about 40% less than ten years ago.¹⁹¹ According to researchers at the University of Chapingo in Mexico City, "production of 10 basic grains showed an accumulated decline in real value of 21.3 billion dollars during the first five years of the Salinas Administration compared with the period between 1982 and 1986, despite a 1.7 percent increase in production . . . Between 1988 and 1993, the researchers said, agriculture has suffered a steady decline in government assistance".¹⁹² Without the support for developing the degree of food security in basic grains for which the USDA plans, Mexico uses its hard earned dollars to import basic foods.

Partly because of the structural adjustment of agricultural policy to grow feed for animals, rather than food for human consumption, Mexico has become dependent on imported grain, principally from U.S.-based grain traders. Such political independence as Mexico's support for democracy in Central America during the 1970s and the early 80s will be difficult to exercise when it depends on the U.S. for corn. As a result of the passage of the NAFTA, U.S. "corn exports to Mexico are forecast to jump because Mexico would allow 2.5 million metric tons of corn to enter duty free in the first year".¹⁹³

Dwayne Andreas, chairman and chief executive officer of Archer Daniels Midland, "says he expects industry wide exports of U.S. wheat and corn products to Mexico to triple over the next

¹⁸⁸ Evangelina Hernández, "Chiapas, primer lugar nacional en muertes por desnutrición: Igual en analfabetismo y regazo agrario" *La Jornada* (Jan. 7, 1994), 34.

¹⁸⁹ Nauman, "Hunger Pangs: Malnutrition May Affect as Much as 66% of Mexican, Seriously Reducing Productivity Potential", 15.

¹⁹⁰ Cited in George, *A Fate Worse Than Debt*, 53.

¹⁹¹ Concheiro, "El Tratado de Libre Comercio de América del Norte y su probable impacto ambiental en el campo mexicano", 158.

¹⁹² Miguel Badillo, "Research Shows Grain Production Lacks Support", *El Financiero International Edition* (Dec. 13-19, 1993), 4.

¹⁹³ "Business Expects Nafta Will Bring Host of Benefits" *The Wall Street Journal* (Nov. 19, 1993), A8.

several years".¹⁹⁴ Andreas has suggested that an international food stamp program be established to combat world-wide hunger: "An international program targeted to the poorest of the poor could be limited to basic staples for pennies a day".¹⁹⁵

Transnational agribusiness corporations have benefitted and will continue to benefit far more than American farmers as a result of the USDA's campaign to boost crop exports to countries such as Mexico.¹⁹⁶ Furthermore, as a result of the NAFTA, the National Cattleman's Association is expecting a bonanza in increased beef and cattle exports. According to *Cattle Buyers Weekly*, "Mexico is the U.S.'s fastest growing market, says NCA. It is expected to be a billion dollar market by the year 2000 if economic trends continue, says Clay Daulton, NCA foreign trade committee chairman. U.S. exports of live cattle and beef to Mexico are set to reach \$180 million in 1993 and \$250-300 million in 1994".¹⁹⁷

Against such economic forces, how many Mexican farmers and ranchers will remain in business, either to export or to supply the domestic market? One Mexican farm organization estimated in December that "the present terms of the NAFTA imply that 2.5 million corn producers will be forced off their land along with approximately 140 wheat growers and 270 sorghum producers in the regions of Sonora and San Luis Potosi" alone.¹⁹⁸ If this prognosis of 2.5 million unemployed farmers comes to pass, it is unlikely that an Iron Curtain -- such as the 1.5 mile steel anti-migrant wall between El Paso, Texas and Ciudad Juarez, Chihuahua, proposed by the U.S. Border Patrol in December¹⁹⁹ -- will keep many of them from migrating north.

With the increase in U.S. agricultural imports and the likelihood of enormous social costs that will result from the unemployment, migration and destruction of rural communities following NAFTA, the economic importance of Mexico's cattle exporting industry increases. Export restrictions that may result from application of U.S. sanitary standards to Mexican livestock imports would undermine the ability of the livestock export emphasis of Mexican agricultural policy to help make interest payments on Mexico's debt.

As was mentioned before, the increase in agricultural export earnings has been generated in part through dependence on foreign credit and agricultural technology, particularly from the U.S. The present crisis of credit for Mexican farmers and ranchers is very much tied to this indebtedness.²⁰⁰ A problem that can only be posed here is how such an indebted and dependent country can be restructured for sustainable national development, rather than for growth in export earnings that largely return as interest payments to U.S. banks. One way to begin to approach the problem is to consider the role of cattle in the national economy from the macroeconomic and ecological perspective of resource costs and resource allocation.

194 "Business Expects Nafta Will Bring Host of Benefits" *The Wall Street Journal* (Nov. 19, 1993), A8.

195 "Andreas urges food priority for U.N.", *Milling and Baking News* (June 22, 1993), 41.

196 e.g. Dean Baquet, "U.S. Crop Export Drive Enriches Big Companies", *International Herald Tribune* (October 9-10, 1993), 1 and 10.

197 "NAFTA Means More Meat to Mexico", *Cattle Buyers Weekly* (Nov. 22, 1993), 4.

198 "Agrarian Organizations Call for Open Debate on NAFTA", *La Jornada*, Dec. 4., 1993.

199 "Consulate Blasts Texas Border Fence Proposal", *El Financiero International Edition* (Dec. 20 - 26, 1993),

2.

200 Dianne Solis, "Agricultural Crisis in Mexico Deepens as More Farmers Face Loan Delinquency", *Wall Street Journal* (Sept. 13, 1993), A12.

Many of these resource costs, such as those resulting from more intense grazing on northern Mexico's arid and ecologically fragile pasture land are only just now being calculated.²⁰¹ For example, "in one zone of intensive cattle production in Sonora, where cattle are fed alfalfa, for a kilogram [2.2 pounds] of meat 20,000 to 30,000 litres [5,200 to 7,800 gallons] of water and three to five litres of diesel fuel are used. . . . Over-exploited pasture land leads to soil compaction that impedes water filtration, inhibits reestablishment of vegetation and creates continuous erosion".²⁰²

Another resource cost of the livestock industry are the fish caught off Mexican shores. About a fourth of the annual catch is made into fish flour for the fattening of livestock.²⁰³ Such costs are not calculated in a SAP-oriented agricultural policy nor in the ideology that promotes export agriculture as a way to make interest payments on Mexico's debt . As one analyst of the Mexican livestock industry observed, "profit motivated economic rationality has done little for the preservation, management and "rational" exploitation of nature".²⁰⁴

Conclusion

On the basis of the Institute's research, it seems likely that bovine TB will be reduced, if not utterly eradicated, from Mexican feeder cattle in the northern border exporting states and, hence, from U.S. cattle herds. The incidence of bovine TB in Mexican dairy cattle and in cattle south of Mexico's northern border states is such that eradication is many years away.

Whether the eradication of bovine TB brings greater export earnings from northern Mexican feeder cattle ranchers is another matter. The prices obtainable for these cattle depend on acceptance of production contracts and technological input "packages" set and judged by U.S. feedlot operators and brokers.²⁰⁵ At present these prices are not favorable to Mexican producers. As the Undersecretary for Agricultural Planning stated on September 13th, "our problem is that international prices [for food products] are on the floor".²⁰⁶ While cattle exports are vital to Mexico, cattle imports from Mexico account for only about 3% of the approximately 33 million cattle slaughtered in 1993 in the U.S.²⁰⁷ Because transnational corporations may obtain their beef needs from many sources, there is little prospect that prices for Mexican cattle export will increase significantly any time soon.

Although SAPs and "free" trade ideology have benefited some large producers, the overall condition of Mexican agriculture after twelve years of SAP "stabilization" for NAFTA is unhealthy. In a report on the "virtual bankruptcy" of Banrural, Mexico's rural development bank, Marcos Chávez writes that "declining export prices, the elimination of guaranteed prices, reduced

201 Gonzalos Arroyo, *La pérdida de la autosuficiencia alimentaria y el auge de la ganadería en México* (Mexico City: Plaza y Valdés, 1989), 279-280.

202 Concheiro, "El Tratado de Libre Comercio de América del Norte y su probable impacto ambiental en el campo mexicano", 165.

203 Concheiro, "El Tratado de Libre Comercio de América del Norte y su probable impacto ambiental en el campo mexicano", 166.

204 De la Fuente et al., "La ganadería nacional, nueva encrucijada en su desarrollo: crisis, modernización y TLC", 281.

205 Sanderson, *The Transformation of Mexican Agriculture*, 52.

206 Cited in Solis, "Agricultural Crisis in Mexico Deepens as More Farmers Face Loan Delinquency", A12.

207 "Fed Cattle Prices to Strengthen, But Not Match 1993's", Livestock Marketing Information Center, February 1994.

farm subsidies and more expensive farm credit have contributed to making agriculture much less profitable and forcing more producers into insolvency".²⁰⁸

In the midst of the agricultural crisis brought about, in part, by policies oriented towards the promotion of "free" agricultural trade, in late November, Vice President Al Gore visited Mexico City. There he announced that "the United States will invite to a Western Hemisphere summit meeting the democratically elected heads of state of North American, Central America, South America and the Caribbean"²⁰⁹ for the purpose of initiating talks towards integrating all of Latin America into a "free" trade zone. The Clinton Administration wrote in a confidential report that Mexico wanted to conserve the benefits of "free" trade for itself and opposed further accession to the agreement. The Mexican government has categorically denied that it is opposed to further expanding NAFTA.²¹⁰

The present circumstances of Mexican ranchers and farmers under "free" trade suggest that the future of a "free" hemisphere could be that of a one-sided competition. Economic pressure on Mexican ranchers is such that an influx of cheaper U.S. beef imports, a drought, bovine TB or a different animal disease, a still more unfavorable change in credit policy, or any combination of these and other factors could foment a trade dispute and the possibility of trade retaliation against import restrictions, such as that made by the Undersecretary of Livestock on September 13th. The NAFTA will likely intensify the relations of economic, political and technological dependency that give rise to such threats of retaliation.

As Professor James McDonald has remarked, in a study of the likely effects of the NAFTA on Michigan and Mexican dairy farmers, "[d]ebt is a source of new relations of dependency between the U.S. and Mexico, and NAFTA is a further institutionalization of those relations".²¹¹ The increases in Mexican exports and productivity, as mandated by the SAPs, have not been able to reduce Mexico's increasing debt and agricultural credit crisis. Indeed, the structural adjustment of Mexican agriculture is requiring greater government borrowing, particularly for irrigation projects that serve export agriculture.

The international credit available to Mexican ranchers to improve feeding, animal health, and animal husbandry practices will depend, in part, on the government's ability to comply with future SAPs, and now also with the lending policies of the foreign banks that will soon operate in Mexico as a result of the November 24th NAFTA-oriented legislation. The Mexican Bank Association's extension until February 28th of a moratorium for farm foreclosures has apparently not brought about in the meantime fundamental agricultural credit policy changes. Despite the farmers' threats of widespread civil disobedience, Mexican Bank officials have rejected farm organization proposals for restructuring the debt to avoid foreclosures.²¹²

²⁰⁸ Marcos Chávez, "Banrural's Subsidy Problems Worsen", *El Financiero International Edition* (Dec. 6-12, 1993), 12.

²⁰⁹ Cited in Augusta Dwyer, "Gore Calls for Increase in Free Trade", *El Financiero International Edition* (Dec. 6-12, 1993), 1.

²¹⁰ Dolía Estévez, "Mexico Denies Opposition to Trade: U.S. Report Cites Government's Reluctance to Bring in More NAFTA Countries", *El Financiero International Edition* (Feb. 28 - March 6, 1994), 4.

²¹¹ Dr. James H. McDonald, "NAFTA and Basic Food Production: Dependency and Marginalization on Both Sides of the U.S./Mexican Border", forthcoming in *Research in Economic Anthropology*, vol. 15 (1994).

²¹² Talli Nauman, "Movement Strikes Financial Heart of Mexico", *El Financiero International Edition* (Feb. 28 - March 6, 1994), 13.

The extension of the moratorium on farm foreclosures may have only bought more time for the Mexican army and police to organize against future peasant protests. Such protests may be even more violent than the ongoing January 1st uprising in Chiapas that "was timed to coincide with NAFTA's commencement".²¹³ One editor at *El Financiero* wrote that "other states with political and economic problems similar to those in Chiapas contain potentially explosive situations that could equal, or even surpass, the violence that has occurred near Mexico's southern border".²¹⁴

For Chiapans, Mexican compliance with the SAPs, a World Bank precondition for the "regional integration" of NAFTA, represent a new phase in the impoverishment of their state. According to Duncan Earle, an anthropologist at Texas A & M University who began to work in Chiapas in 1979, privatization of the communal *ejidos* will further undermine the Chiapan economy. Mexican economist José Luis Calva stated that the privatization of the *ejidos*, the linchpin of the structural adjustment of the land for export agriculture, was "an enormous social detonator"²¹⁵ of the uprising, which Chiapan authorities expect to last for at least six months.²¹⁶ In effect, privatization of the present property regime would legitimate past usurpations of communal lands and enable further farm foreclosures.

Furthermore, the reduction of domestic grain prices following the expected influx of cheap U.S. corn imports under NAFTA will drive more farmers off the land. "We have been getting into a pre-revolt situation particularly since the economic crisis began in 1981", Earle said.²¹⁷ Anthropologist Jan Rus pointed out the bottom line for most Chiapans: "The effect of NAFTA on Chiapas is the destruction of the domestic corn market. The issue for the Indian is whether he eats or not".²¹⁸

A government report that summarized Chiapan petitions to the government made in response to President Salinas de Gortari's tours of the region from 1989 to 1993 showed that the first priority of Chiapans is obtaining government protection against usurpation of communal land by the big landowners who often also serve as local political bosses for the ruling party. The second priority is obtaining government financial and technical support for family farms in Chiapas.²¹⁹ The Salinas de Gortari administration has ignored both of these priorities.

In an effort to calm foreign investors, President Salinas de Gortari told the World Economic Forum in Davos, Switzerland that the uprising was "a local problem sparked by 'armed radicals'".²²⁰ According to the chief economist for Latin America at the World Bank, Sebastian

-
- 213 Tod Robertson, "Mexican Indians, army clash; up to 57 killed", *St. Paul Pioneer Press* (Jan. 3, 1994), 6A.
 214 Raymundo Riva Palacio, "In the Eye of the Hurricane", *El Financiero International Edition* (Jan. 24-30, 1994), 6.
 215 "Condenas y preocupación por la crisis chiapaneca: El origen es el excluyente neoliberalismo, señalan", *La Jornada* (Jan. 8, 1994), 35.
 216 Oscar Camacho Guzmán, "El conflicto puede durar 6 meses, según autoridades: Se prevén acciones propias de una 'guerra prolongada'", *La Jornada* (Jan. 8, 1994)10.
 217 Sallie Hughes, "The Roots of Rebellion: Indigenous in Chiapas Have Faced Centuries of Racism, Poverty", *El Financiero International Edition* (Jan. 10-16, 1994), 15.
 218 Jan Rus in an interview with Elliot Blair Smith, "The Road to Ruin", *El Financiero International Edition* (Jan. 24-30, 1994), 13.
 219 Emilio Lomas, "La tierra, demanda central de los indios chiapanecos", *La jornada* (Jan. 9, 1994), 20.
 220 "Salinas says Mexico revolt was a local problem" Reuters, Jan. 29, 1994.

Edwards, the uprising in Chiapas "has nothing to do with the Mexican economic model".²²¹ Arturo Valenzuela, the new chief of the Mexican Desk at the State Department, defended the Mexican SAP and stated that if there is a cause for the uprising, it was that "there have been greater investments in social services". He added that "we should not forget the fact that frequently economic reform leads to a situation of social injustice".²²² The Chiapans and the Zapatista National Liberation Army (Ejército Zapatista de Liberación Nacional - EZLN) have not forgotten.

Hope that the World Bank was reconsidering its position in Mexico, particularly concerning the privatization of land surfaced briefly in a recent *El Financiero* article. The article was based on a World Bank report that stated "low or non-existent agricultural productivity is due more to the lack of capital than to the land tenure system" of *ejidos*.²²³ Such a statement contradicts both Bank and Mexican government agricultural structural adjustment. However, both John MacIntire, an agricultural specialist at the World Bank and Dan Crisafulli, Mexican desk officer at the Bank, deny that the Bank had changed its position in Mexico. Furthermore, they said that they did not know of the existence of the report cited in *El Financiero*. They speculated that such a report would be the position of one Bank economist, rather than a position officially adopted by the Bank.²²⁴

Perhaps the most difficult negotiating problem in the weeks ahead for the EZLN and government negotiators will not be military, human rights or even political matters, but the denial of Mexican socio-economic realities by the designers and beneficiaries of the SAPs and "regional integration". Such denial will reduce the space for negotiation of fundamental economic and political reforms. The agreement in principle between the ruling party and seven other political parties to put an end to Mexican electoral fraud²²⁵ may do little to put democracy in practice, if the only officials who can be elected are those who carry out the SAPs.

If there is no democratic political and economic reform in Mexico, there are signs that Mexican business would like to see "market democracy" enforced at the point of a gun. In response to the Chiapas uprising, the president of the Mexican Confederation of Sales and Marketing, Aurelio Tamez García, said that "it is time to increased the efficiency of public security forces, since this has been one of the weak points of our country".²²⁶ The opposition party candidate for the Mexican presidency, Cuauhtémoc Cárdenas Solórzano, has warned of a militarization of Mexico as a consequence of the Chiapan uprising.²²⁷ One Mexican commentator wrote that "there is no doubt that the Mexican Armed Forces have found the perfect excuse to demand personnel and financial aid similar to that which their colleagues in other parts of the world receive".²²⁸

221 Dolia Estévez, "Escasa Inversión en el Rubro Social, Causa de la Rebelión: Banco Mundial", *El Financiero* (Jan. 9, 1994), 1.

222 Dolia Estévez, "Inocente el Modelo Neoliberal Salinista de los Estallidos de Inconformidad Social: BM", *El Financiero* (Jan. 9, 1994), 3

223 Talli Nauman, "Private Sector Fails to Bail Out Farmers", *El Financiero International Edition* (Jan. 31 - Feb. 6, 1994), 3.

224 Phone interviews with John MacIntire and Dan Crisafulli on Feb. 3, 1994.

225 Fernando Orgambides, "El Gobierno y ocho partidos mexicanos acuedan acabar con el fraude electoral", *El País Internacional* (Jan. 31, 1994), 2.

226 Leticia Rodríguez López, "Condena la IP el Atentado a un Centro Comercial", *El Financiero* (Jan. 9, 1994), 4.

227 Rodolfo Rojas-Zea, "Advierte Cárdenas de una Posible Militarización del País; Exige Solución Política Inmediata", *El Financiero* (Jan. 9, 1994)20.

228 Sergio Sarmiento, "Jaque mate: El fin de la Utopía Militar", *El Financiero* (Jan. 9, 1994), 5.

If the Chiapas uprising and other forms of protest in Mexico lead to neither democratic economic nor political reform, the government's response to the Chiapas uprising may be to "pacify" Chiapas through military means and welfare handouts. Preparation for low intensity conflict with the covert assistance of American military advisors and equipment is not out of the question. The Chilean model of an army and police force operating with impunity while U.S.-trained bureaucrats "stabilize" the economy for entry into NAFTA could likewise be adapted.

Notwithstanding recent improvements in animal health and increases in agricultural productivity, the most notorious result of the Mexican agricultural SAP and its institutionalization in NAFTA may be neither agricultural nor economic, but military, or at least paramilitary.

