



**WE DEMAND A LAW THAT BANS
METALLIC MINING IN EL SALVADOR**

San Salvador, March 5, 2012

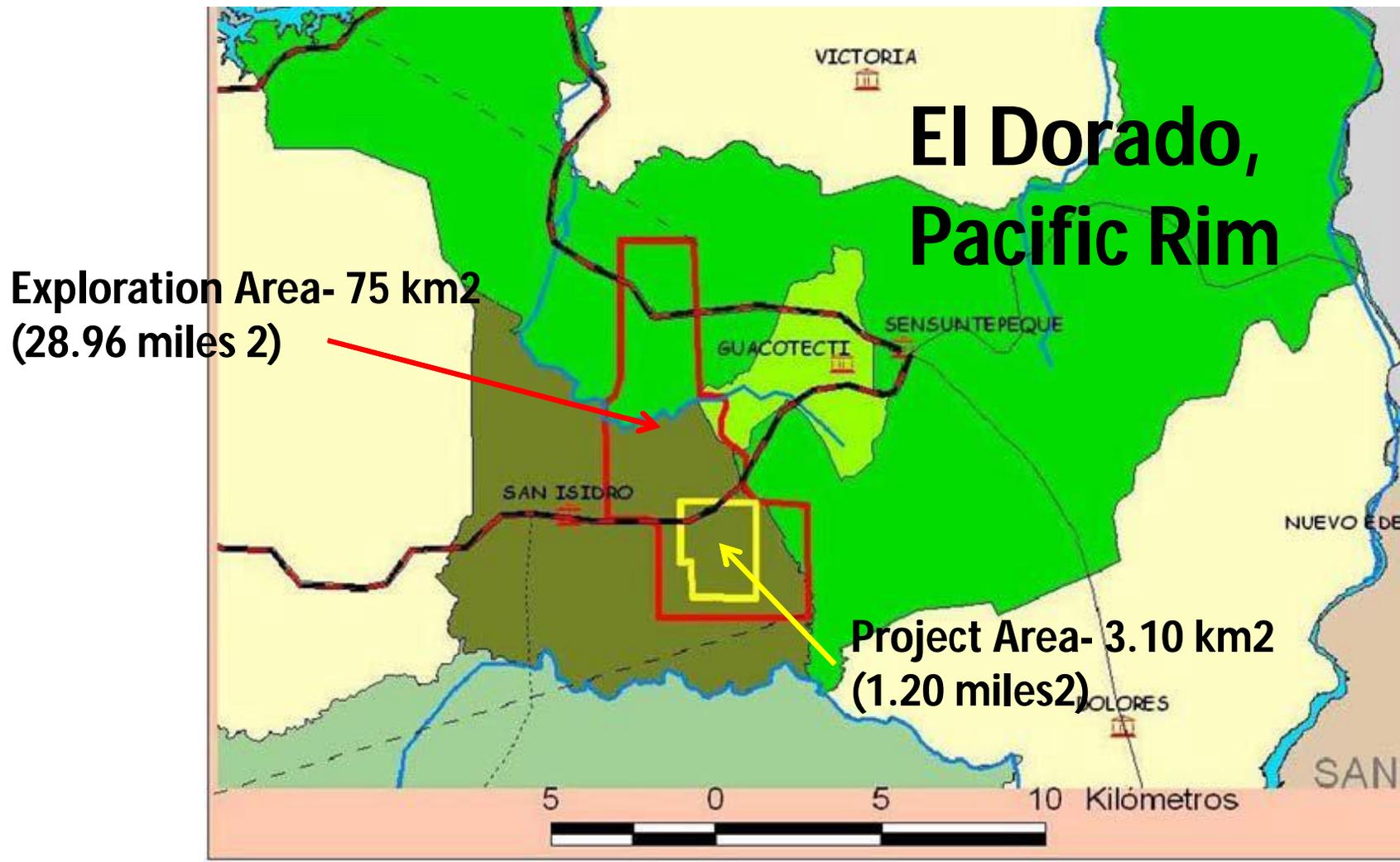
Mining Precedents

Metallic mining is the most aggressive industry in terms of the environment, and one of the industries that has the largest affect on human health.

Contrary to corporate propaganda, mining in Latin America has never created de development nor benefited local communities; it continues to be part of the plundering inherited from colonial times.

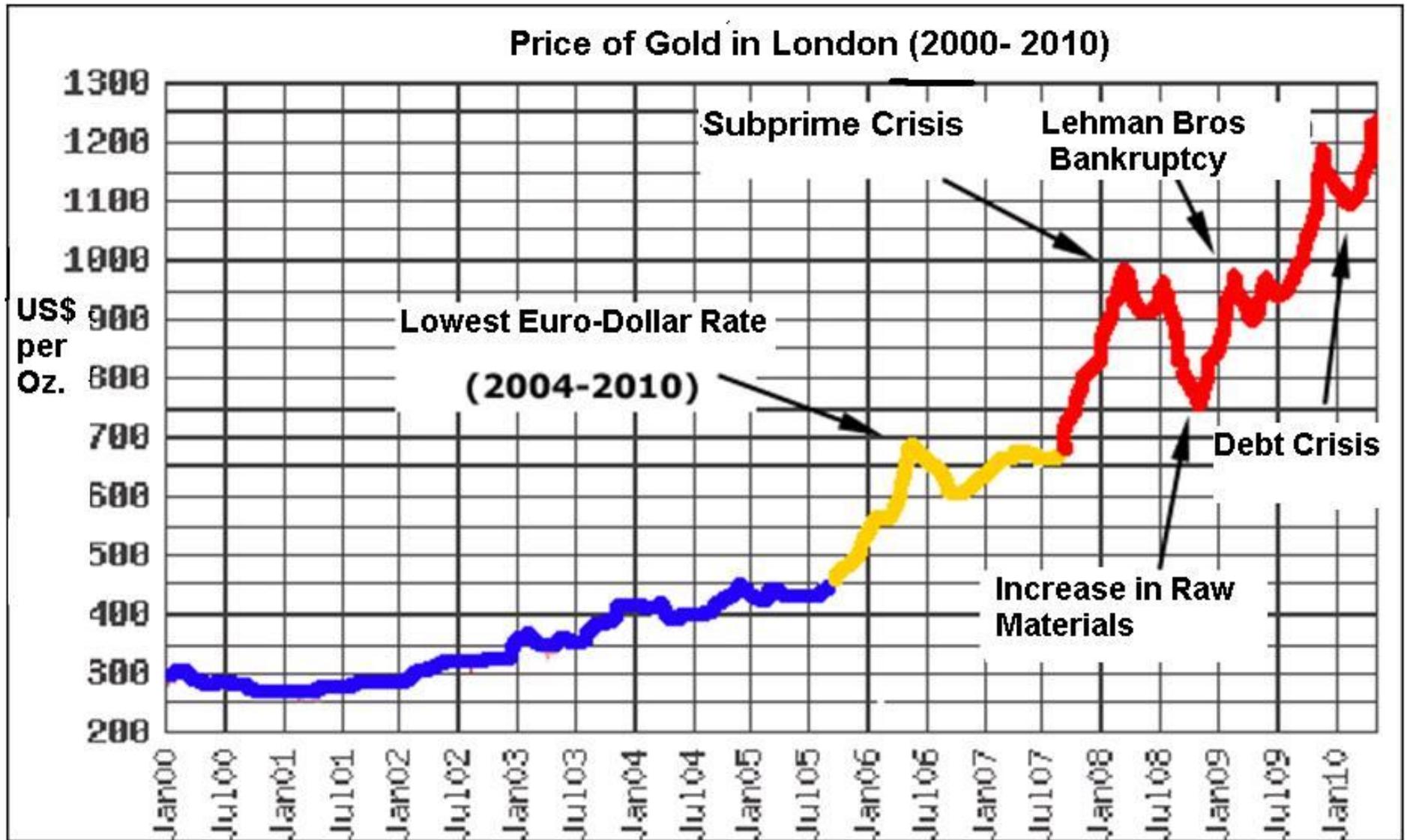
In El Salvador, even though mining hasn't been a significant industry, there are still the old remnants of extractive gold projects which continue polluting and the surrounding communities are still poor.

The Beginning of a New Gold Fever: The El Dorado Project



- Pacific Rim/El Dorado is the **most advanced** of the projects with exploration permits. It has asked for an exploitation permit. To date, the Ministry of the Environment and Natural Resources (MARN) has not authorized that permit.
- **President Funes publicly committed to not authorizing metallic mining in El Salvador.**
- There are two lawsuits filed by mining companies Commerce Group and Pacific Rim against El Salvador based in CAFTA which are awaiting resolutions from the ICSID in the near future.
- MARN and the Ministry of the Economy (MINEC) have not published the Strategic Environmental Assessment (SEA), and the Legislative Assembly has not begun a discussion of the Metallic Mining Ban.
- **The troy ounce of gold is worth \$1800, and increased based on financial speculation. We are back to a *essentially extractive development model*.**
- **El Salvador is a world leader in vulnerability, water scarcity, and climate risk.**

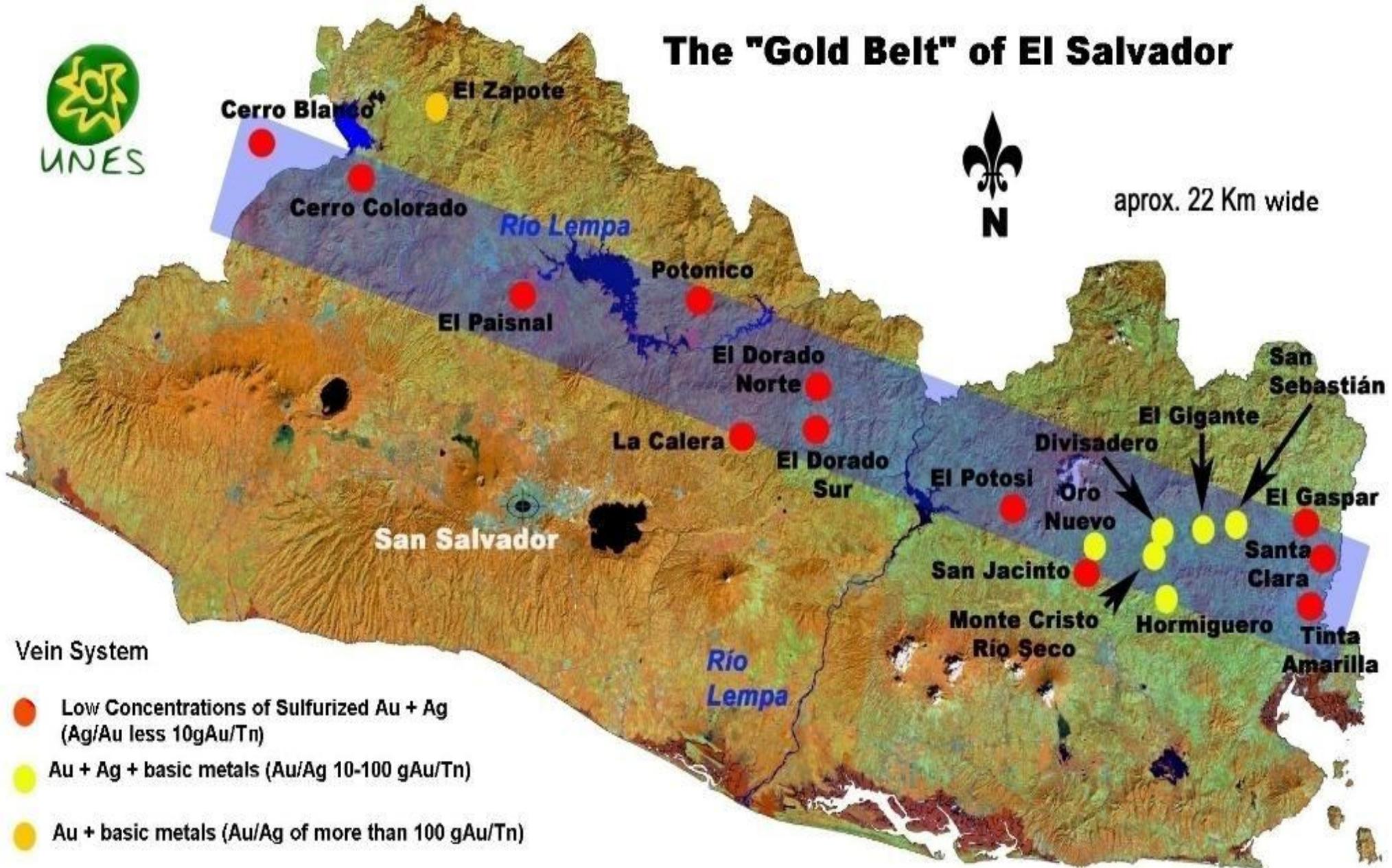
Price of Gold until 2010



Department	Mineral Rights	Company	Metals
Cabañas	La Calera	Minerales Morazán, S.A. de C.V	Gold and Silver
	Santa Rita	Pacific Rim El Salvador, S. A. de C.V	Gold and Silver
	Huecucuo	Dorado Exploraciones, S. A. de C.V	Gold and Silver
	Pueblos	Dorado Exploraciones, S. A. de C.V	Gold and Silver
	Guaco	Dorado Exploraciones, S. A. de C.V	Gold and Silver
San Salvador	El Paisnal	Berma El Salvador, S. A. de C.V	Gold, Silver and Copper
Chalatenango	Ojo Blanco	Martinique Minerals, El Salvador, S. A. de C.V	Gold, Silver and Copper
	Cerro Petancol	Triada, S.A. de C.V	Gold, Silver and Copper
	Santa Catarina	Martinique Minerals, El Salvador, S. A. de C.V	Gold, Silver and Copper
	Arcatao	Martinique Minerals, El Salvador, S. A. de C.V	Gold, Silver and Copper
	Peñanalapa	Cerro Colorado, S. A. de C.V	Gold, Silver and Copper
La Unión	Nueva Esparta	Commerce Group Corp	Gold and Silver
	San Sebastian	Commerce Group Corp	Gold and Silver
	Cerro Bonito	Brett Resources El Salvador, S.A. de C.V.	Gold, Silver and Copper
	Jicaras Largas	Brett Resources El Salvador, S.A. de C.V.	Gold, Silver and Copper
Morazán	El Pescadito	Minerales Morazán, S.A. de C.V	Gold, Silver and Copper
	Carolina	Minerales Morazán, S.A. de C.V	Gold, Silver and Copper
	Cerro Pedernal	Monte y Selva, S.A.	Gold, Silver and Kaolin
	San Pedro	Triada, S.A. de C.V	Gold, Silver and Copper
	El Gigante	Minerales Morazán, S.A. de C.V	Gold, Silver and Copper
San Miguel	Cerro Guapinol	Triada, S.A. de C.V	Gold, Silver and Copper
	Olobart	Triada, S.A. de C.V	Gold, Silver and Copper
	El Hormiguero	Triada, S.A. de C.V	Gold, Silver and Copper
	El Potosí	Brett Resources El Salvador, S.A. de C.V.	Gold, Silver and Copper
Santa Ana	Cerro Colorado	Cerro Colorado, S. A. de C.V	Gold, Silver and Others
	Cerro Potrerillos	Cerro Colorado, S. A. de C.V	Gold, Silver and Others
	El Caliche	Minera Metapán, S.A. de C.V.	Gold, Silver and Zinc
	Agua Escondida	Cerro Colorado, S. A. de C.V	Gold, Silver and Others



The "Gold Belt" of El Salvador



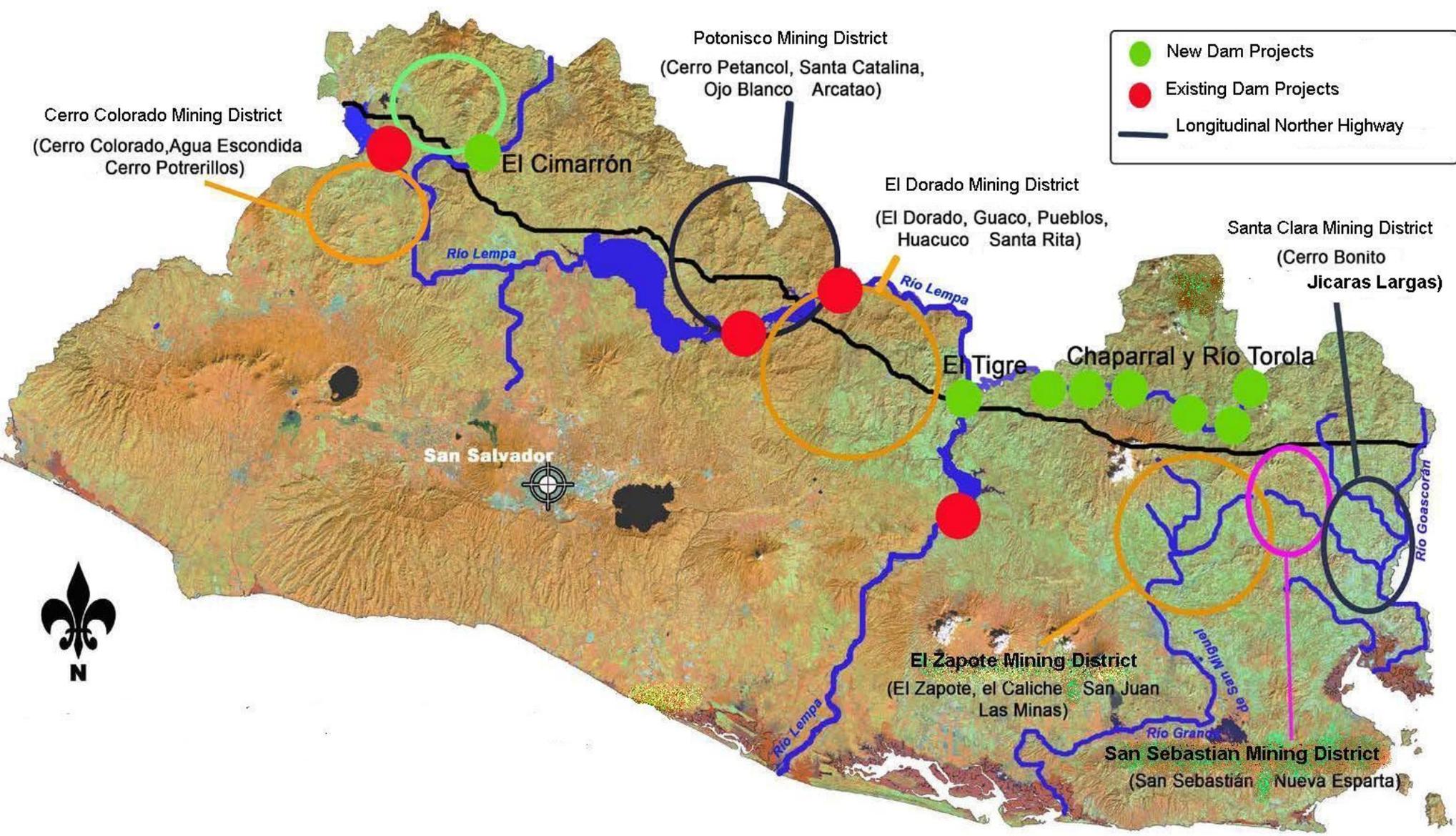
Vein System

- Low Concentrations of Sulfurized Au + Ag (Ag/Au less 10gAu/Tn)
- Au + Ag + basic metals (Au/Ag 10-100 gAu/Tn)
- Au + basic metals (Au/Ag of more than 100 gAu/Tn)

Extrapolation of technical data from the “El Dorado” Mine for the 25 proposed extractive projects in El Salvador

	The El Dorado Mine	The 25 Projects presented to MARN up to 2008
Gold Extracted	<p>Total: 490,758 ounces over 6 years</p> <p style="text-align: center;">81,793 onz./y = 2,544 kg/y = 227 onz./d = 7.1 kg/d</p>	<p>Total: 12,268,950 oz in 6 years</p> <p style="text-align: center;">2,044,825 onz./y = 63,594 kg/y = 5,680 onz./d = 170 kg/d</p>
Silver Extracted	<p>Total: 3138,016 oz over 6 years (a)24</p> <p style="text-align: center;">523,003 onz./y = 16,265 kg/y = 1,452 onz./d = 45.2 kg/d</p>	<p>Total: 78,450,400 oz over 6 yeras</p> <p style="text-align: center;">13,075,067 onz./y = 406,635 kg/y = 36,320 onz./d = 1,130 kg/d</p>
Raw Minerals Extracted	<p>Total: 1.38 million tons (to.) over 6 years</p> <p style="text-align: center;">230,000 ton/a = 639 ton/d</p>	<p>Total: 33 million tons over 6 years</p> <p style="text-align: center;">5,750,000 ton/y = 15,972 ton/d</p>
Water Used	<p><i>Water pumped out of the mine:</i> Dry Season: 52 – 53 L/sec. = 4,536,000 L/d Rainy Season: 92 – 108 L/sec. = 8,640,000 L/d Total: 2.4 · 10⁹ liters per year on average: 6'588'000 L/d = 29,399 L/oz or gold</p> <p><i>Water used in leaching:</i> Average: 10.4 L/sec = 898,560 L/d = 3,955 L/oz of gold Total: 324 · 10⁶ liters a year</p>	<p><i>Water Pumped out of the mine:</i> Dry Season: 1,313 L/sec = 113400,000 L/d Rainy Season: 2,500 L/sec = 216,000,000 L/d Total: 60 · 10⁹ liters per year on average: 164,700,000 L/d = 29,399 L/oz of gold</p> <p><i>Water used in leaching:</i> Average: 260 L/sec = 22,464,000 L/d = 3,955 L/ oz of gold Total: 8.1 · 10⁹ liters per year</p>

Cyanide Used	1 ton of sodium cyanide (NaCN) used for every 6 oz of gold 13,632 ton/y = 38 ton/d	1 ton of sodium cyanide (NaCN) used for every 6 oz of gold 340,804 ton/y = 947 ton/d
Land Affected	Land with mining potential= 75 km² Land occupied by the mine = 106,507 acres Area of the affected watershed = 1,104 km²	Land with mining potential= 1,875 km² Land occupied by the mines= 1,078 Total area of the affected watersheds= 14,008 km² = 63% of the national territory.
Earnings	From gold: 363 million US\$/6 years From silver: 31 million US\$/6 years Total: 395 million US\$ / 6 años Pacific Rim: 378 million US\$ over 6 yrs El Salvador: 3.9 million US\$ over 6 yrs Municipal Govts: 3.9 million US\$ over 6 yrs	From Gold: 19.1 billion US\$ / 6 yrs From Silver: 785 million US\$ / 6 yrs Total: 9,9 billion US\$ / 6 yrs Mining Companies: 9.7 billion US\$ / 6 yrs El Salvador: Central Govt: 198.6 million US\$ / 6 yrs Municipal Govts: 198.6 million US\$ / 6 yrs
Jobs and Population Affected	Direct Jobs= 237 people (148 locals) Indirect Jobs= 403 people (all local) Total local jobs= 551 people People affected by the San Francisco watershed= 214,150	Direct Jobs= 5,925 people(3,700 local) Indirect Jobs= 10,075 people (all local) Total Local Jobs= 13,775 people = 0.3% of production capacity Total number of people affected by the Lepma watershed= 3,990,608 = 56% of the total population



Cerro Colorado Mining District
(Cerro Colorado, Agua Escondida, Cerro Potrerillos)

Potonisco Mining District
(Cerro Petanco, Santa Catalina, Ojo Blanco, Arcatao)

El Dorado Mining District
(El Dorado, Guaco, Pueblos, Huacuco, Santa Rita)

Santa Clara Mining District
(Cerro Bonito, Jicaras Largas)

El Zapote Mining District
(El Zapote, el Caliche, San Juan, Las Minas)

San Sebastián Mining District
(San Sebastián, Nueva Esparta)

●	New Dam Projects
●	Existing Dam Projects
	Longitudinal Northern Highway





GUATEMALA

HONDURAS

El Dorado Project
Gold Extraction

EL SALVADOR

 **CUENCA DEL RÍO LEMPA**

Environmental and Sanitation Impacts

The extensive use and contamination of water

The leaching water use would be 10 liters per second, which is equivalent to 900,000 liters a day for each mine

The pump to keep subterranean mines dry, which can be up to 450 meters deep, would use 55 to 110 liters per second, which is equivalent to 4.5 to 8.6 million liters of water per day per mine.

There will be reduced quality in superficial aquatic systems (the worst case scenario being that the water is undrinkable).

There will be a reduced quantity of superficial water.

There will be less water in the rivers that connect with subterranean aquifers, which will contribute to desertification of the natural environment.

Acid Mine Drainage- AMD

- **A mine like “El Dorado” extracts 640 tons of crude rock a day, which is very rich in sulphurous minerals. With oxidation (air and water) these minerals are transformed into sulfates that produce acid.**
- **The acid created dissolves heavy metals like lead, arsenic, mercury, cadmium, etc.**
- **The acceptable limits: potable water and irrigation water should have a pH limit between 6 and 9. PH limits below 6 are toxic and eco-toxic.**
- **AMD almost always has a pH around 3.**

Cyanide

- **Used for leaching minerals with low concentrations of gold.**
- **Is extremely toxic (1-2 mg/kg of weight is lethal)**
- **Can be absorbed by oral ingestion, inhalation or through the skin.**
- **Evaporates in atmospheric temperatures (78°F), then condenses and precipitates with rain.**
- **40 tons a day will be used in a single mine.**
- **Could cause widespread pollution over an area of 14,000 km² (60% of the national territory).**
- **Especially in the cases of accidents caused by natural disasters.**

Arsenic

- **Naturally occurring in sulfur minerals and metals like copper, lead, iron, etc.**
- **Extremely toxic (1.5-2.5 mg/kg of weight is lethal in a matter of hours).**
- **Is soluble in tailings water, river water, and subterranean water in acidic or basic conditions.**
- **Is bio-accumulative in different parts of the food chain.**
- **Concentrations of up to .75 mg/L are released from mining tailings.**
- **Would create the risk of continually intoxicating around 4 million Salvadoran who consume water from the Lempa River.**

Heavy Metals

- **Naturally present in all minerals with precious metals.**
- **The majority are toxic, carcinogenic, teratogenic (causing genetic mutations) and eco-toxic in high levels.**
- **Are soluble in acid tailings water and acid mine drainage in their highly toxic ionic form (Me^{2+}).**
- **Are bio-accumulators in different levels of the food chain.**
- **Cause aquatic ecosystem pollution for decades and up to centuries.**

Tailings

- **After the cyanide recycling and reduction process, the tailings, still with high concentrations of pollutants, are deposited in a huge lake (in the “El Dorado” mine: the total area would be 375,000 m² and 50 meters deep) in the open air.**
- **These lakes lead to significant water and cyanide evaporation especially in the dry season (which can be up to 100% for cyanide).**
- **The dikes are made impermeable on the bottom with a geomembrane of 1.5 m of polyethelene.**
- **During the storage process around 15,000 liters of this toxic water is lost per day, which filters into subterranean water.**

The new gold fever and the contradictions of the dominant neoliberal model

- **El Salvador, as a provider of regional logistics and infrastructure services (like Singapore)**
- **Plan Puebla Panama- Meso American Project**
- **Millennium Challenge Fund- Partnership for Growth**
- **Environmental Services and eco-tourism**
- **The creation of hydro-electric energy for a regional market.**