ANNEX 1

CORIDUP Submission to the UPR on Bolivia
March 15, 2014

Details of violations of the right to water

1. The Government Audit found that the Kori Kollo plant used 90 cubic meters of river water per hour, and operated 365 days per year, 24 hours per day.[1] This suggests that over the ten years of deep pit mining at Kori Kollo, it used roughly 8 million cubic meters of scarce river water. The filling of the Kori Kollo pit used another 45 million cubic meters of water.[2] This likely contributed to the falling water levels at Lakes Uru Uru and Poopó.
2. The Government Audit also found that aquifer contamination due to Kori Kollo is severe and probably irreversible,[3] and ground water as far as 25 kilometers from the mine is evidently contaminated with Kori Kollo mine wastes.[4] The evaporation ponds and tailings dump caused water contamination with cadmium, iron, copper, lithium, strontium and zinc.[5] The tailings dump caused water contamination with sulfates, total nitrogen, total cyanide, magnesium and cobalt, [6] with levels of cyanide, cadmium, zinc and copper above national limits.[7]
3. The Independent Audit found that all of the downstream water tested in the study was unfit for human or animal consumption or crop irrigation.[8] Arsenic, lead, cadmium, iron and zinc were above levels allowed under Bolivian Law 1333. The well of Toma Toma, used for drinking water, had particularly high levels of arsenic, exceeding nationally permitted levels. Sodium and chloride levels in the Kori Kollo pit lake also exceeded national permitted limits. Areas upstream from the mine were significantly less polluted than downstream areas, and all downstream areas were contaminated. Some downstream areas had the same level of contamination as the pit lake (1 km wide, 256 meters deep), which had the highest levels of contamination.[9] With a single exception, contaminated downstream waters do not support aquatic macroinvertebrates, while upstream waters do.[10] Waters in the pit lake and other waste ponds showed no sign of aquatic life.
4. The course of the Desaguadero River was permanently changed by the mine, with massive downstream sedimentation of the riverbed, and a new branch of the river forming directly downstream.[11]
5. Local communities have no choice but to continue to use this polluted water for drinking, cooking, bathing, fishing, and livestock watering.

Details of violations of the right to food, means of subsistence, and livelihood

1. The Government Audit showed that soil salinity adjacent to the evaporation ponds was up to 25 times greater than the national limit, and 100 times greater than the control area upstream from the mine.[12]
2. The Independent Audit also found that the Kori Kollo mine greatly accelerated salinization of soils in the region during its 29 years of operation, especially since beginning the mining of deeper sulfur ores in 1993, and the opening of the 256 meter deep pit.
3. As ground water is only several meters from the surface in the region, the pit filled with water continuously. This saline water was pumped to evaporation/infiltration ponds that encompassed over 10km^2, storing over 12 million cubic meters of water. Overflows of water

from these ponds occurred on several occasions from 1998 to 2003, and contaminated downstream soils, including those of the community of Toma Toma.[13]

4. Satellite image analyses also indicate that areas of soils without salinization in the study region decreased considerably between 2005 and 2010, particularly downstream of the mine and the new branch of the Desaguadero River.[14]
5. The Government Audit showed soil arsenic levels at one downstream location to be nearly double that of the control area.[15] Soil arsenic levels at the mine were nearly double that of the control (upstream) area, and exceed US EPA limits. (Bolivian law has no standard for arsenic.)[16]
6. The Independent Audit also found heavy metals in soils including arsenic, cadmium and zinc, which frequently exceeded permissible limits of Holland, the US EPA, and the European Union.[17] Soils downstream from the mine are no longer fit for cultivation of food plants, both for reasons of toxicity as well as extremely poor yields.[18]
7. From the Government Audit, all five species of plants tested at the mine site had toxic levels of heavy metals.[19]
8. The Independent Audit found that vegetation cover near and downstream from the mine also declined dramatically in the past 30 years, as salinized and metal-laden soils caused a loss of plant diversity and favored salt-tolerant, rapid growth, short-life cycle or colonizing species.
9. In the downstream towns of Toma Toma and Choro Choro, soils now support only one type of plant (toxic to livestock), and almost no other plant life, probably due to the concentrations of heavy metals. Directly upstream from the mine, which is geologically similar to the downstream areas, plant life is far more diverse.[20]
10. The Independent Audit also found that heavy metals have accumulated in local plants used for fodder as well as human food and medicine, sometimes to levels hundreds of times greater than contaminated water samples.
11. In the Government Audit, 34 percent of sheep in the control/upstream area were anemic, as compared to 80 percent of sheep in the mine-affected area.[21] Fifty percent of control area sheep had hypoproteinemia, as compared to 100 percent of sheep in the mine-affected area. The report concluded the sheep had “hypoproteinemia due apparently to a poor diet, malabsorption, damage to liver and kidney and other [organs], probably attributable to the heavy metals.”[22]
12. Most of the tested animals presented congenital defects: blindness, polydactyly (extra toes), small ears and malformations of the neck.[23] Blindness, miscarriages, and gastrointestinal problems were observed in livestock due to heavy metal and salts in the water, soils, and forage.[24]
13. The Government Audit concluded that agriculture, fishing and livestock suffered “radical transformations, practically disappearing as methods of survival in the strict sense of the term”.[25]
14. Local communities have no choice but to continue to produce, eat and sell food from these contaminated plants and animals.

1 Newmont Mining Corp.- Bolivia, Plant Description, Inti Raymi S.A. (Kori Kollo), (last accessed Oct. 14, 2013), http://surplus.newmont.com/korikollo/plantdescription.pdf at 2, 17.

2 PCA at 7-3.

3 PCA at 5-89, 5-101, 5-180, 6-22, 6-43 and p. 4 of Legal Report.

4 PCA at 6-43.

5 PCA at 5-101.

6 PCA at 5-101 and 6-22.

7 PCA Informe Legal at 4.

8 Montoya et al. at 212.

9 Montoya et el. at 209.

10 Montoya et al. at 210.

11 Montoya et al. at 208.

12 PCA (2012) Matrix de Hallazgos p. 9, at end of Chapter 6. "No. 1., Edafologia: Suelo conductividad electrica 9 (microS/cm). The control area sample was 434; national limit is 2000, results from mine area were 49,000, 48,000 and 19,898)."

13 Montoya et al. at 206.

14 Montoya et al. at 208.

15 PCA 2012 ch. 6 Matrix of Impacts p. 9: No. 2, Edafologia

16 PCA 2012 ch. 6 Matrix of Impacts p. 9. The audit buried evidence of harms deep within the final report, which is 676 pages long and had many critical details found only in annexes that have never been made public. Nevertheless, the audit does present a litany of harms in six-point font, buried within a 23-page long table with no page numbers, starting after page 58 of Chapter 6.

17 Montoya et al. at 211.

18 Montoya et al. at 212.

19 PCA Matrix at 16-18.

20 Montoya et al. at 208-209.

21 PCA Matrix at 20.

22 PCA Matrix at 20. "Hipoproteinemia devido aparentamente a una deficiente alimentacion, mala absorción, daños hepáticos, renales y otros [sic] provablente atribuible a los metales pesados."

23 PCA at 5-826.

24 PCA, Chapter 6, 6-45

25 PCA, Chapter 6 Matrix at 21 "La agricultural, pesca y ganaderia sufren transformaciones de carácter radical… prácticamente desaparecen como medios de sobrevivencia en el stricto sentido del término."