

## D. CONCLUSIONS AND RECOMMENDATIONS

Based on the outcomes of focus group discussions, key informant interviews and technical assessment of FFM scientists, the following major conclusions were drawn:

- 1. The integrity and safety of the TP3 structure is questionable.** Engineer Virgilio Aniceto noted that the Tailings Pond 3 was commissioned in 1992. With a lifespan of 18-20 years, it should have been decommissioned as early as 2010, especially because the dam crest went beyond the permitted elevation of 600 meters above sea level.
- 2. The Philex Mining area of operation is also criss-crossed by fault lines.** The most notable of the fault lines are the Albion and Sta. Fe faults. Thus, it is not surprising for Philex gold and/or copper production to be associated with geo-hazard risks vis-à-vis volcanic or earthquake activity. This already occurred during the Philex mining accident in 1992, when the foundation of the TP2 collapsed and reportedly discharged 80,000 metric tons of mine wastes, affecting large tracts of prime agricultural lands in Pangasinan. This led to the payment of damages to the provincial treasury of Pangasinan and the consequent construction of TP3. **The 2012 Philex Mine Tailings Spill is Massive.** Dr. Esteban C. Godilano, CCCP resident scientist declared that the Philex Mines Tailing spillage is massive. The MGB estimate was 20.6M metric tons, which is 1,300% higher than the Marcopper accident in Boac, Marinduque of 1.6M metric tons. After 10 years of the accident, the Boac River is still dead. Recent studies showed that coastal sediments near the river outflow contains high amount of copper, manganese, lead and zinc.
- 3. Claim of Biodegradable Mine tailings is questioned.** In a six-page report dated August 8, Reynold Yabes, Philex Mill Division chief, stressed that the chemicals used in processing of ore were biodegradable, saying that the amount of the reagents carried with the tailings during actual operations were “extremely small or negligible.” Yabes also noted in his report that Philex uses a collector or sodium isobutyl xanthate (SIBX) at concentration of 0.002 percent weight, dowfroth and/or nasfroth frothers at 0.000535 percent wt., and the natural chemical lime at 0.0682 percent wt. as regulators of pH, which tells of the acidity level in water, in its flotation process.<sup>1</sup>

Negligible? The question is, “How much kg of the reagents are used for every ton of ore they are processing?” Thus this is very critical. Philex reported tonnage mined in 2011 totalled 9.49 million tonnes, and 9.36

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<sup>1</sup> <http://www.manilatimes.net/index.php/business/top-business-news/30487-philex-assures-tailings-spillage-not-toxic>

million tonnes in 2012.<sup>2</sup>With the DENR estimate of 163 M metric tonnes of tailings in TP3, this figure can be multiplied to the amount of reagents to get the approximate reagents loadings in TP3, the resulting figure will not anymore be negligible.

Aside from the reagents used, Philex or DENR need to disclose the associated heavy metals in the Padcal production. This is very important. If they do not, it is assumed the other heavy metal effluents include lead, arsenic, cadmium, mercury, sulphur, etc.

Engineer Aniceto and Dr. Godilano raised the issue of toxicity and hazards posed by the Philex mine tailings. The question is reinforced in the Material Safety Data Sheet of Sodium isobutyl Xanthate solution that follows:<sup>3</sup>

**Hazards identification.** Classified as Hazardous, according to ASCC Criteria Risk Phrases. Contact with acids liberates toxic gas. It is harmful, there is danger of serious damage to health by prolonged exposure through inhalation.

**Toxicological Information.** Health Hazard Toxic - irritant. This product has the potential to cause adverse health effects.

**Ecological Information.** Environment-Xanthates hydrolyse (react with water) readily. If discharged to waterways, xanthates may persist for several days, slowly in the neutral environment. Bioaccumulation is unlikely. Highly toxic to aquatic life. May form complexes with heavy metals, increasing their uptake, i.e. fish may accumulate heavy metals more readily.

**Disposal Considerations.** Waste Disposal for small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. For larger amounts, contact the manufacturer for additional information. Prevent contamination of drains or waterways as aquatic life may be threatened and environmental damage may result.

In fact, an FFM photo of TPI that was decommissioned in 1981 and declared a forested area reveals negligible vegetation and the area remaining to be unproductive and a wasteland.

1. **Loss of Fishing and Mining Grounds and the consequent loss of incomes and safe source of food and water.** Residents of barangay Pangbasan, Dalupirip reported damages caused by an overflow in TP3.

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<sup>2</sup> [http://philexmining.com.ph//index.php?option=com\\_content&task=view&id=23&Itemid=41](http://philexmining.com.ph//index.php?option=com_content&task=view&id=23&Itemid=41)

<sup>3</sup> <http://www.slideshare.net/guest9f85d0/msds-sodium-isobutyl-xanthate-sol>. As lifted from the Materials Safety Data Sheet prepared by Coogee Chemical, CNR of Patterson and Kwinana Beach Roads, WA Australia. Other MSDS on sodium isobutyl xanthate yields similar result.

The barangay council and the MDRRMC reported damages to property that includes fish traps, water pumps and panning equipment. Lost livestock includes goats while crop damage includes damaged trees and root crops.

The MGB declared that anything discharged through Agno River goes to San Roque Dam in San Manuel, Pangasinan. The Balog and Agno River are heavily polluted. Fishers and residents complain of lost fishing and mining grounds, of foregone earnings and the loss of safe food and water source.

There is also the concern over the safety of the fishcatch in the SRD. Only pelagic fishes such as the Tilapia and Carp were tested safe for human consumption during the first spill. No testing was done on other fish species in the dam. FFM members learned that different fish species caught in the SRD are being sold to nearby market and communities.

2. **Exposure to health and weather and toxic hazards of mine workers and community residents doing the clean-up operations.** Having to handle toxic chemicals and mine tailings during the rainy season, workers and community volunteers for the clean-up are exposed to health, weather and toxic hazards. Philex clean-up of the environment is premised on non-toxic contaminants.
3. **Non-payment of taxes to the LGU.**

Mayor Camantiles also repeatedly asked Philex Mining Corporation to pay accumulated business taxes balance since 2002<sup>4</sup>. For 2011 alone, Php148,134,354.82 in business tax balance including surcharge has been issued<sup>5</sup>, while Php158,138,210.44 is the estimated balance for mayor's permit fee on copper/ silver/ gold mining operation<sup>6</sup>. The company has refused to pay the municipality citing the settlement of boundary disputes between the municipalities of Itogon and Tuba as a requisite for payment of taxes.

Mayor Camantiles said the boundary disputes issue is not a substantive reason for Philex not to pay its taxes because the company's operation is not affected by the boundary dispute. He also cited a Memorandum of Agreement (MOA) with Tuba town agreeing to share equally on the taxes to be paid by Philex.

The Philex Mining Corporation proceeded with their constructions (e.g. are TP1, 2 and 3) after being issued with the ECC, without securing the necessary building and safety permits and the payment of accumulated taxes to the LGUs.

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<sup>4</sup>According to Sunstar<<http://www.sunstar.com.ph/baguio/local-news/2012/07/17/itogon-stops-philex-mine-s-constructions-232380>>, the municipality has accounted for P542,277,452.94 in payments due which Philex is likewise contesting pending a reassessment.

<sup>5</sup> Amended Notice of Local Business Tax for FY2011, dated 24 August 2012

<sup>6</sup> Unnumbered bill, 3 Jul 2012

4. **SRD becoming a TP4 for Philex Mine Tailings and threatening downstream farming and fishing communities.** According to Sec Paje, discoloration from Balog Creek leads to Agno River, then to San Roque Dam becomes less severe from the point of origin. This is due to the dam's dead storage. All the silts and mine tailings will go there.

The SRD virtually becomes a TP4 for Philex Mining Corporation. The heavy siltation will have its toll on the lifespan of the SRD and to its major functions.

Also, dams have the potential to create an environment within the impounded waters that may increase dissolved concentrations of chemicals known to be highly metal-laden. Mine effluents in the SRD released to the Agno River drains to Lingayen Gulf, Agno River is 290 kilometers from Mount Data in Benguet and Mountain Province down to the river delta in Lingayen, Pangasinan. One of its branches goes to Tarlac province. Pangasinan and Tarlac are major rice and fish producing provinces. The SRD will have to be dredged and cleaned to restore its capacities and environment safety.

5. **Weak technical capabilities and coordination** among LGUs and agencies to undertake effective monitoring of mining operations and to address mining accidents. Laboratory tests, technical personnel and budget support need to be increased.

#### **Major Recommendations:**

1. There is a need for an immediate and impartial investigation on the impacts of the spill to the watershed, the people and the impact communities:
  - a. Technical assessment on the structural safety of the TP3 given its terminal life span and vulnerabilities to climate change and geo-hazards. The status of TP1 and TP2 should also be reviewed for strong compliance to rehabilitation of its environment;
  - b. Regular and continuing laboratory testing for water, fish and environment quality and for heavy metals contamination of the **TP3, Balog River, Agno River and the SRD**. Bathymetric survey on the collapsed TP3 and the SRD needs to be immediately undertaken; and
  - c. Conduct impact studies on rice farms, irrigation system and the downstream communities where the mine tailings flow from San Roque Dam to Agno River and to the provinces of Pangasinan and Tarlac.
2. Provide immediate relief, livelihood assistance and compensation to affected families for damage to properties, crops, livestock, animals and foregone incomes. Ensure easy access, safety and coordination of

affected communities to the government and CSO. Organize fishers and affected communities to participate in assessment and planning for relief and rehabilitation work.

3. Need to further enhance capabilities of local communities, LGUs and local agencies to undertake monitoring and technical assessment of mining operations and to address mining accidents in the areas. There should be strong inter-agency and CSO coordination. There should also be capacity building on community disaster preparedness and management.
  
4. Need to ensure compliance with environment standards and to local government clearances and payment of due taxes to Itogon and Tuba municipalities.
  
5. Undertake clean up and rehabilitation of the entire impact and watershed area. Ensure massive information dissemination and safety measures for persons and volunteers who will engage in the clean-up, reforestation and rehabilitation of the areas.

## **FOR IMMEDIATE RELEASE**

October 2, 2012

CSOs release results of independent investigation on Philex's tailings spill

On September 16-17, 2012, a fact-finding mission team, lead by the National Secretariat for Social Action of the Catholic Bishops Conference of the Philippines (CBCP-NASSA) and the Climate Change Congress of the Philippines (CCCP) together with representatives from Philippine-Misereor Partnership and its Northern Luzon Cluster, Caritas Baguio, Cordillera People's Alliance, Peace Foundation, Pambansang Kaisahan ng mga Magbubukid ng Pilipinas, Katribu Indigenous Peoples' Partylist, and Community Volunteer Missioners, conducted an independent investigation on the reported mining tailings leakage of Philex's Padcal Mine in Benguet.

The first leakage incident happened on August 1, 2012, and was immediately followed by three succeeding leakages within the same month after the mining corporation's failed attempt to plug the hole in Tailings Pond Number 3 (the only operational tailings dam in the mining site) that had been causing the spills. On August 2, 2012, the Department of Environment and Natural Resources (DENR) through its Mines and Geosciences Bureau (MGB), had suspended the mining operations of Philex Mining Corp. at Brgy. Padcal in Tuba, Benguet until the safety of its dam has been assured. DENR Secretary Ramon J. P. Paje confirmed that the suspension order remains in effect as of today.

Although Philex, the country's largest mining corporation, is already facing penalty charges amounting to 1B Pesos for violating the Clean Water Act and its own Environmental Compliance Certificate (ECC) and losing 30M per day from its suspension, the direct impact of the mining tailings to its immediate surroundings had not been given significant media attention.

Philex Chief Operating Officer Engineer Eulao Austin Jr. assured during the first leak that "the water and sediments that have been discharged from the tailings pond are safe and non-toxic." However, the FFM team were able to interview Chairman Amuasen, a three-term elected barangay official in Benguet, a member of the Mine Rehabilitation Fund Committee (MRFC), and chairperson of the Barangay Disaster Risk Reduction Management Council (BDRRMC). Chairman Amuasen said that around 30 families in three sitios - Sitios Calaguian, Tayum and Pangbasan - are affected by the mining leak. He alleged that toxic wastes can be seen in the dried and poisoned plants, trees and branches where the discharges from the dam flowed. Mutant tilapias were also found in the pond. They looked different, with big heads and small bodies, which the workers eat. He said that mining wastes include sand and minerals.

Chairman Amuasen added that the mining leak had negatively affected the livelihood of the local communities who mainly depend on fishing and gold panning in the river. Fisher folks have stopped fishing since August 2, 2012 because they cannot catch anything at all, at the outlet of the Balog River. They also cannot opt to fish in farther areas because it is beyond their fishing boundary.

The barangay had already distributed relief goods to the Pangbasan residents, and they learned that Philex did the same, for a couple of times.

The FFM team went to Hon. Nestor D. Domenden, CESO V, Regional Director, BFAR Region 1 in San Fernando, La Union to inquire about the fish samples in San Roque Dam. According to Domenden, the first testing done on fish samples after the mine tailings leak was on August 6, 2012. Fish samples for Tilapia and Carp were taken from a depth of 50 meters in the 3 stations of San Roque Dam; Spillway, middle part, and headwaters. The tests

made were for presence five heavy metals: Lead, Arsenic, Copper, Cadmium and mercury. Results showed that traces of heavy metals were found in the fish samples, but “level of toxicity is not harmful for human consumption hence, is allowable.” The findings had lifted the fishing ban after it was implemented when the first report of leakage had surfaced. However, only pelagic fishes such as the Tilapia and Carp were tested. There was no testing done on other fish species in the dam such as gurami, catfish, dojo and shrimps. No sample was taken from the deepest part of the dam which is at 130 meters. San Roque Dam is 280 meters above sea .

When the FFM team asked if laboratory tests were made on the mutant tilapia existing in some ponds inside the Philex mining compound which indicates effect of longer exposure to chemicals from heavy metals, Domenden admitted being unaware of any report about it. They do not know that there are mutant tilapias inside the Philex Mines.

There are around 45 families living near the merging point of Balog and Agno River. The area is populated by Indigenous Peoples (IP) community in Sitio Pangbasan, part of Barangay Dalupirip in the Municipality of Itogon, Benguet. Alipio Lictag, head of the Pangbasan Goldpanners and Fisherfolks Livelihood Association served as representative of the community. According to Lictag, the IPs are not aware of the status of the tailings, its volume nor its impacts. The water level is still very high and the smell of the water is unusual, particularly during the leak.

The IP community relies on fishing as livelihood. The average fish catch is 25 kilos every 2 days for tilapia and 75 kilos /week for eel. Since the leak, fish catch decreased significantly. Tilapia catch is now down to 6 kilos every two days, while in areas near the mouth of Balog river, they cannot catch any fish anymore. This resulted in deprivation of livelihood opportunities particularly for this community near the mouth of creek where the tailing spill was concentrated.

Philex delivered relief goods to the community right after the incident. The local government of Itogon did the same. However, since their livelihood base is not yet rehabilitated, they are still unable to sustain the basic needs of their families. NASSA, as part Church ministry for emergency response, had arranged to supplement the delivery of relief goods for the affected families.

The community had already submitted a list of their damaged properties to Philex due to the tailings spill. The mining company’s representatives claimed that compensation to damages are being processed and will be ready to be granted to them in due time.

*For more information and detailed report on the Fact-Finding Mission, kindly refer to the paper entitled, THE PHILEX MINE TAILINGS LEAK OF 2012: AN INDEPENDENT FACT-FINDING MISSION REPORT by The Catholic Bishops Conference of the Philippines – National Secretariat for Social Action, Justice and Peace (CBCP-NASSA) \* Climate Change Congress of the Philippines (CCCC)\* Philippine Miserior Partnership Inc. (PMPI) and its Northern Luzon Cluster \* Peace Foundation, Inc, \* Pambansang Kaisahan ng mga Magbubukid ng Pilipinas (PKMP) \* Katribu Indigenous Peoples' Partylist \* Cordillera Peoples Alliance (CPA) \* Caritas Baguio and Community Volunteers Missioners (CVM).*