

Greed For Gold: The Challenge For Human Ecologists

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Human ecology is concerned with the relationships between people, and the relationships between people and their surrounding environment. Harmony may be defined as optimum conditions in these relationships, or on the other hand, as merely the absence of dysfunction. But in numerous situations, for example, our neighborhoods, communities, and nation states, dysfunction is clearly evident. All too often, these problems are chronic, intense, and extremely harmful to both environments and people.

The application of social scientific knowledge from academic fields such as public health, social work, anthropology, psychology, and others can rectify or at least ameliorate some harmful conditions among people and in the transactions of people with their physical environments. However, many of the dysfunctional relationships we have emerge from deep-seated political and economic issues, particularly the inequitable distribution of wealth and resources. Human beings have not addressed, and have not solved fundamental problems of rights and responsibilities, equity and relationships, and good and evil.

Gold stands as something with perpetual enduring value, unlike fiat money, and still serves much of the world as a fundamental measure for financial and economic purposes. No amount of cajoling by the Reserve Banks or the proverbial powers that be can persuade many human beings that the pieces of paper, plastic cards or pot metal coins, almost constantly losing value, will ever serve the same purpose. Gold has many adherents, who in history, have robbed, murdered, and destroyed environments just to obtain this precious metal. Times may have changed, but gold continues to entrance, so much so that people are willing, even eager, to destroy communities and the environment, simply to obtain more and more.

THE MICROCOSM

Waihi is situated at the base of the Coromandel peninsula on the East Coast of the North Island of New Zealand. It is a rural township, contained within the Waikato regional area, but more associated with the gold mining history of the

Coromandel. The town is distinctive as it has a fully operational open-cast gold mine at its center, with a conveyor belt that transports waste tailings through a portion of the town to a tailings dump situated on farmland adjacent to the town. Waihi ward consists of Waihi township and the outlying settlements of Waikino, Waimata and Whiritoa. Waihi Beach is a ten minute drive from the township, and falls under the Bay of Plenty regional area.

The total population of Waihi in 2001 was 4,524. This is a drop of over 4.6% since 1996. Only 13.8% of the population reported an annual income of over \$30 000 NZ, compared to a national average of 30.7%, showing that this area is one of low income and declining population. There are 1,458 wage earners, 435 self employed, and 639 residents that derive income from investments. Government benefits are paid out to 1,884 beneficiaries in an area described as having a low employment rate. Maori make up 17.9% of the total population, an increase from 1991 and 3 percent higher than the national average. 1996 figures put the median age of residents at 35 years and in 2001, 19.3% of residents are over 65, just over 5 percent higher than the national average. The major areas of employment are manufacturing (234) and retail (249), with 96 residents listing mining as their occupation in 1996 (New Zealand Government, 2002).

Waihi falls under the Hauraki District council, which is centred in Paeroa, and encompasses Waihi, Paeroa and the Ngatea Plains. The current mayor and council is made up of elected representatives from each of the three 'wards'. The leader of the New Zealand Green Party, a conservation conscious political party, is the local Member of Parliament.

Gold was first discovered in Waihi in 1878 and the first battery, used to process gold, was in operation by 1882. The township grew up around the gold workings and rapidly reached a population of over 6000. Mine ownership was multinational and most of the profits were sent overseas. The town's 'Martha' mine was considered among the most important gold and silver mines

operating in the world and continued producing until its closure in 1952.

Described as a 'company town', another industry grew up in Waihi during the mine years. Akrad Radio was founded in 1932 and employed a staff of 50 by the 1940's. The founder secured Government contracts to produce communication equipment during the war and diversified production to maintain a growing staff. The company associated with Pye, Ltd. in England and oversaw the first outside television transmission in New Zealand in 1954. During this growth, two large factories were built to accommodate machinery and an increasing workforce, which reached 400 employees at its peak. The Dutch company 'Philips' bought out Pye in 1980, and gradual restructuring saw the factory cease production in 1986. The remaining workforce of 170 employees was laid off. A cheese factory was also operational on the outskirts of town from 1953 until 1981.

The closure of the Martha Mine caused an initial drop in population and the town turned to manufacturing and light industry for employment, while continuing to be a service town for the surrounding rural community. It was a quiet, picturesque, rural area that attracted many older people to retire during the 1950's and 60's. This added to the population and contributed to the high proportion of elderly people in the area (Grey Power, an association promoting the interests of older people, has an active group in this area).

During the 1970's, Waihi became widely known for its artistic and alternative flavor, highlighted by the Nambassa music festivals held during that time. Young families, encouraged by low property prices and the promise of an alternative lifestyle arrived and helped revitalise social groups, schools and small business. This could help explain why the electorate voted a 'Green' party member into government. In more recent times, Auckland residents have been attracted to the rural lifestyle in Waihi, along with low property prices. Other new-comers have moved to Waihi because of family ties to the area. The town's icon is an old Cornish pump-house that was in use by the original mine and is located on the eastern side of the Martha mine.

When the Pye/Philips factory closed, several of the employees got together and bought the

older Pye premises on Haszard Street, starting the 'Industrial Technology Group'. Several independent businesses operate within the premises, including communications, engineering and speaker production. Today these businesses have grown and diversified, creating employment for the local market.

In 1987, Mineral Resources Ltd., operating as Waihi Gold Mining Company (W.G.M., or Waihi Gold) applied for, and were granted a mining license to open-cast mine the old Martha workings right in the centre of the town. The license specified that mining operations would be wound down by 2001 and the area would be rehabilitated into a recreational area for the towns use. The initial construction phase gave jobs to numerous local people, as well as many people from outside the town. These figures dropped back as the work progressed into the production stage. In 2000, W.G.M. successfully applied for an extension to the license, which increased the area of the workings and extended the time frame to 2007. Recently, Waihi Gold has been prospecting east and adjacent to houses in the East end of Waihi, and executives have stated that they will be mining underground there. Although they will not say when they will start the consent process, it is thought this will be within the next 6-12 months. Ownership has transferred again to Newmont Mining, one of the richest mining companies in the world.

The Gold Company makes monetary contributions to local schools and societies. Waihi has one kindergarten, three primary schools and one secondary school, which provides for students from year seven through to year 13 level. Waihi College's roll is the largest ever in 2002, totalling 840 pupils. It is ranked as 'decile 3' school on the socio-economic scale, indicating that a lower than average overall level of achievement is expected from the students, although this has not been reflected in national exam results, which have been very good. The Deputy Principal (Interview, 2002) says the school offers a strong careers education and finds that those children who go on to University have a low failure rate in their first year compared to many from higher decile schools. She credits this to matching interests to the right career choices. The biggest problem identified by the school is the transient

nature of parts of Waihi's population, resulting in students changing schools, and often returning after several months away. Year 13 students tend to leave Waihi to attend Tertiary and Polytechnic institutes in other cities, or to find work. The Salvation Army runs training schemes for the unemployed and usually has a waiting list for its courses. Three day-care centers have been established during the last 15 years.

The 'Waihi Leader' is the local newspaper. Privately owned and operated, it is an uncensored publication that covers events in Waihi, Katikati and Whangamata. It is the main source of information concerning local happenings for many residents. Waihi has two supermarkets and most residents shop locally, although they often travel to neighboring cities for larger and more expensive items. Both Tauranga and Hamilton are within a one hour drive. Buses are available to most destinations, although there is no local service.

The Resource Center provides a wide array of services including; a youth center, Friday night cafe, holiday programs and organised activities for students on stand-down from the college. The center is seen as a major strength within the area and also helps with counselling services, budget advisory and other referral services. It is funded by the Lotteries Board and other grants, and receives no financial support from the district council or rebates such as rates relief.

There appears to be a current increase in youth offending, which a local Social Worker (Gilmore, 2002) thinks may be due to a population 'bulge', resulting in higher numbers of 18-19 year olds at present. "A lot of offending tends to be alcohol based," she claims. Marijuana is widely used in Waihi and is found within a wide range of age groups. It is a big part of the youth culture and many teens grow their own.

A privately owned hospital offers various services. Hetherington House, a home for the elderly is located next door to the hospital and a retirement village is being developed adjacent to it. The Medical centre is owned by three local General Practitioners (G.P.s). They work on call in the evenings and weekends, alternatively with the Waihi Beach G.P. For some years now, the doctors have been trying to attract G.P.s from outside the area to help with a very large

workload, but have been unable to do so. Local doctors often work up to 80 hours in one shift, which includes on-call evening and weekend work.

Tourism is a growing business in an area that features many relics of its mining heritage, including the old 'School of Mines' museum. Numerous bush walks are accessible through Department of Conservation land. The towns proximity to major tourist beaches on the Coromandel make it a popular place to stay over the summer months, when the population swells as hundreds of holiday makers arrive. This is a bonus to retailers, who depend on the summer influx to make up for slow winter returns. 'Go Waihi', is made up of local business people and describes itself as the 'marketing arm for tourism in the Waihi area'. It aims to promote Waihi as an attractive place to visit and live. It employs one full-time co-ordinator who is funded by the Hauraki District Council.

Local Maori come from mixed tribal backgrounds and have been recognised as 'Ngati Waihi'. The community has built an extensive marae complex, which is used by many local groups. Some Maori work at the mine, but those who reside in the east end where mining is scheduled, may become more involved in environmental issues.

Waihi boasts a large number of community groups, including; service groups, youth groups, community help, health and welfare, sporting, social, church, and specialist education. Recreational activities for local youth include cheap golf, free tennis, church events that are open to all teens, organised sport and beaches close by for swimming and surfing. Most activities are within walking distance. Essentially, this small town is close to an ideal community, with strong ties between the people, and their environment.

However, the issue's surrounding an open-cast gold mine operating in the midst of a residential area are many and varied, and prompt extensive argument and disagreement among the townspeople. When Mineral Resources Ltd. applied for the first mining license, concerned residents made objections to the Environment Court. Their reasons included the effect mining would have on the environment, and the possible negative effects to their properties and lifestyle. Jane

Symmons' (not her real name) family home was situated adjacent to the license area and she, together with her husband, were among the original objectors. She likened the process to 'the little guys taking on the huge corporations' and that it was "just too big for us." The Symmons persisted in owning their home while the company brought other houses along their road:

It really changed the feel of the neighborhood, with most properties becoming rentals. We approached the mine manager at that time, who assured us that they had no plans for extension. We kept on asking right up to the point when they made the application. Afterwards, the noise, the dust and the blasting increased, and a mineral dump was situated at the back of our property. We didn't want to stay after that (Symmons, personal interview).

A recent survey of 50 townspeople collated by Waihi Advocacy Services found that residents in the East end were most affected by the mining activity:

One ... (questionnaire) ... from Brickfield Road, filled in before the evacuation, identifies house movement and cracks in concrete paving. Almost all (49) cite noise nuisance with dust and blasting vibrations a predominant concern. This has prompted worries about property devaluation and house sale-ability. Three people have been told by real estate agents that it is their proximity to the mine that is deterring buyers... 38 have a problem with dust... 34 residents want to see blasting levels reduced so their homes aren't shaken on a regular basis... 27 have health concerns with breathing difficulties, coughs, stress and sore eyes.... 21 have reported cracking... in some areas the noise is reported as being constant, intolerable and intrusive, especially within the operational hours, six days a week, 12 hours per day. (Noise annoys, Waihi Leader, 2002).

In total, Waihi Gold has purchased over 178 private properties from families within Waihi. Most are now rented, and those within the expansion area have been moved or demolished. These sales are not used on collating statistics at Valuation New Zealand, as they are considered 'forced sales'.

Major land subsidence has occurred three

times in the last three years, in areas of old mine workings. The first, in 1999, claimed part of a public park at the upper end of Seddon Street. The following year the road subsided, and was closed to traffic (Hintridge, 1999). This was a main thoroughfare from outlying areas that ran past the business district and through to the Coromandel beaches. With traffic diverted to surrounding streets, lessened traffic flow through the retail center had a negative effect on trading. Council relocated six pensioner flats from this vicinity for safety reasons.

The most recent disaster was in December, 2001, further along the road, when an occupied home dropped 15 meters into a hole that opened up over old mine workings. Another 26 residents were evacuated from their homes, which were then cordoned off, the owners not allowed to return. The press reported several generous packages had been offered to the home-owners, including \$100,000 from the Earthquake Commission with Waihi Gold paying for any shortfall, in return for an indemnity clause, and ownership of the land. Waihi Gold was reported as having made the offer, 'not admitting liability'. The family whose home disappeared into the hole, were told, when the Prime Minister visited Waihi in early January, that the E.Q.C. money was the only offer at this time, and that it was recommended they take it. The money was not received until the end of February before which, the owners had been required to sign the title of their property over to Waihi Gold.

As a result of the most recent collapse, Brickfield Road and more of Seddon Street/Barry Road was blocked off, including the site of the Cornish pump-house, now inaccessible. Initially, access to the mine was diverted via Slevin Street. One resident of this street reported '66 vehicles between 5.50 and 6.50 am on a week day morning, with 57 going into the mine, seven coming away and two vehicles not related to the mine.' She said that she had to go to her daughter's house to get some sleep. (Traffic calming, Waihi Leader, 2002). A new access road has been constructed in 2002 that bypasses Slevin Street.

Residents suffer high anxiety due to the possibility of more subsidence, particularly those who have confirmed that their homes are situated

over old mine workings. Home owners are concerned about falling property values around the town and the fact that it is very hard to sell homes situated in the east end. The majority of people spoken to at public meetings want to know who is accountable for the land subsidence. Council has stated that it is not their responsibility to compensate out-of-pocket home-owners and the current mine admits no liability. Home buyers in Waihi are told that the Government retains the mineral rights to the ground under privately owned residences, and it is these rights that are leased when issuing mining licenses.

Many locals believe that the de-watering of the old underground workings and constant blasting has caused the cave-ins. In a press release on 13th December 2002, following the latest subsidence, the local member of Parliament, Jeanette Fitzsimons (Anonymous, 2001) said:

Although much of Waihi sits above the old mine tunnels, I note that this is the third subsidence in the area of town immediately adjacent to the existing mine... The existing mine continues to pump thousands of cubic metres of water a day out of the ground, while blasting can be felt all the way across town. An engineering consultant's report after the last subsidence found no connection between the collapse and the activities of the existing mine. However, this 'coincidence' is getting harder to believe with every subsequent collapse. We must have an independent inquiry into the causes of the last three collapses, with contestable evidence offered from geologists and engineers. The community needs to know.

This uncertainty has a negative effect on some residents. Environmental stress, health concerns and the devaluation of most peoples largest asset (their home) is putting pressure on individuals and social groups. Differing views as to who is responsible, and what should be done to rectify the situation adds to the general unease within the community.

People feel that the operators of the mine are using "psychology" on them to take attention away from what is happening to the area and also, the symbolic pump house. Public opposition would make demolishing the pump house difficult for W.G.C., but if it happened to fall, they could then mine the land it stands on. They have already

had all the houses directly across the road (evacuated after the most recent slump) transferred into their ownership.

Residents are upset at this loss of the Cornish Pump house - the visual brand/logo for Waihi. This historic building was a tourist feature that sported an impressive autumnal vine and feature lighting after dark. It has always been the visual representation of the town in promotional brochures, also featuring on the flags that were introduced as part of 'Streetscape', an overhaul of the main street. Following the subsidence in 2000, the main road past the pump house was blocked off just east of the business district. A replica Poppet head, a wooden structure housing a pulley used in the old mine, was erected on the town side of the detour, complete with lighting. Access to the pump house was still possible at this stage from the western side of the detour, but following the subsidence in December, the road was completely blocked and the pump house was no longer accessible. Due to the length of the road closure, it is not visible from the eastern limit of the road, and due to vegetation, it is no longer visible from the west limit of the road. Residents have commented on the fact that the pump house has developed an observable lean, and that the Poppet head appears to be replacing pictures of the pump house on flags and various advertising associated with the township.

WORKING TOWARD A SOLUTION

What is an acceptable and achievable solution? How can a reasonable ecologically balanced community be restored? What strategies can be introduced to relieve stress and improve conditions for Waihi East residents? It has already been ascertained that residents are suffering with their health due to silica dust, and elevated stress levels. Their peace is being constantly shattered and the value of their largest asset - their homes - has fallen drastically, if they are in fact, able to sell at all. Uncertainty is created by the threat of old mine shafts situated under their homes. This is compounded by the specter of a new underground mine adjacent to the east of homes already bounded by an open cast mine immediately to their west, effectively sandwiching them between the two ventures. Concerns with the upcoming application for a

continued mining license include increased noise and traffic, and also the possibility that one day the company might wish to buy their land from them, or perhaps worse, that they won't buy.

Interviews undertaken with residents in the affected area have almost conclusively resulted in the ideology that they are not anti-mining, and do not wish to see the mine shut down. What they do want is to see the conditions of the mining license revisited and revised to a point that will make living in the residential area comfortable again, and even desirable in regard to house sales. Accountability for disasters such as subsidence and less obvious, insidious problems including health concerns and loss of stability (i.e., real estate) continues to be a concern.

The power structure or hierarchical make-up of this community is typical. The Hauraki District Council and Environment Waikato sit at the pinnacle of power, they can amend the conditions of the current mining license, and decide whether or not to grant new ones, while remaining personally unaffected by the activities at the mines and surrounding community. Affected local residents make up the middle and lower parts of the community. The mining company, with its money based power, sits above and apart from the community. This absentee super class is out of reach, and divorced from the practicalities of every day existence that those who make up the major part of the town must contend with.

AMELIORATION

A number of strategies to ameliorate conditions are possible. The origin of interventions, whether from public health, applied anthropology, social change or social action, community psychology, or social policy work matter less than their ultimate goal, to attempt to recreate a community that is currently torn asunder by gold and greed. In addition to solving human problems, the efforts also need to promote a clean and green environment, and in the longer run, a more fair distribution of wealth and resources, decision-making power and rights and responsibilities. In brief, the goal is to restore healthy human and environmental relationships within an ecological framework.

Barbara Dohrenwend's (Levine and Perkins, 1997) conceptual map, with its emphasis on

situational stressors, as well as an individual's psychological ability to deal with them, can be used to plan interventions in this community. The environmental stressors within this community are obvious and interventions need to be instituted before and during the stress reactions - not only afterwards. The individual resistance of residents at risk needs to be addressed, and programs instituted to improve the environmental resources that are available. By improving their competence and coping skills, coupled with creating a social network, the prevalence of psycho-social stress can be reduced (Albee, 1980). Self-help groups are a valuable setting in which these skills can be taught.

Jason and Glenwick (1984) claim that social networks are a part of the aggregate inhabitant dimension, which characterize the inhabitants of a community, and that personal capabilities and social support networks influence individual coping abilities. Behavioral community interventions such as creating social support in the community are another good place to start. Many residents in the affected area are elderly, and do not have nearby family members. They feel isolated, and powerless. Meetings held by council representatives currently draw large attendance from within this affected group, who are seldom satisfied with the answers they can get from these meetings. Encouraging the attendees to join together and discuss their concerns could lead to the formation of a self-help group. These groups create a place for individuals (Levine and Perkins, 1996) and provide a network of people similarly affected that can help, advise or simply provide support. This is not otherwise readily available. They can promote a sense of community and reduce feelings of isolation often felt by those lacking a support network, as well as the sharing of skills and coping strategies used by others in the same situation.

Kelly (1990) suggests the recycling of resources, a part of an overall ecological approach. This community has a high proportion of elderly residents who potentially represent a wide variety of experience, not currently used by the community and that may be of use to an action group.

Enhancing the competence skills of affected residents could reduce stress (Albee, 1980). Self-help groups represent a valuable setting for these

skills to be taught. Residents of Waihi not disturbed by the mining may not fully understand the pressures faced by those who are. They will not be able to provide the level of support forthcoming from a group such as self-help groups. Also, by forming a support group, members will then be able clearly formulate their concerns and discuss what they can do together to try and improve the situation. Issues that need addressing include determining who is responsible for residents safety in relation to future land subsidence, who is accountable for the occurrence of this subsidence, who can advocate for residents, how can the terms of the licence consents be modified to a bearable level, and who is likely to make up the shortfall in house sale prices.

Involving the social services already available through the resource center may assist residents having trouble dealing with the situation by teaching them coping skills. Dohrenwend's conceptual model again suggests that by strengthening psychological mediators, individuals are more capable of facing complex social problems (Levine and Perkins, 1996). One strategy might have the council encouraged to employ a social worker or community psychologist to help.

By getting together and discussing concerns, there will be those among the group who are more able and willing to organize meetings, and others who have ideas or expertise in how to deal with them. From this, the community will be able to find spokespeople, or leaders to speak out and mobilize them to become involved in other avenues of related action (Levine and Perkins, 1996).

Giving residents a sense of personal control or social influence helps to empower them (Rappaport, 1987; Zimmerman, 2000). An action group grown out of a social support group will help people feel that they are taking control of their own affairs instead of having them controlled by other forces. A group such as this could then meet with council representatives, government representatives and environmental officers to discuss their concerns, while working from a position of strength with a support groups to back them.

Council staff monitor noise levels at present, as do staff employed by the gold company. Rather

than phoning staff during weekends or at night, and waiting, often until after the main nuisance has subsided until the testing equipment arrives, homeowners could be directly involved in monitoring to effect a more accurate reading and to give them some personal involvement in and control over this process. Strategies such as this help change role relationships between participants and the systems in their ecology (Linney, 1990).

Asking for proposals from the community is another form of prevention (Felner, Felner, and Silverman, 2000). Gathering agency heads and community leaders in one room to talk through problems and having them leave the meeting with specific actions to implement and a promise to meet again in 2-3 months, can precipitate more change than groups who work separately toward the same goal. The more community groups represented at meetings, the wider ranging the changes that can occur (Linney, 1990). Input at the regional planning level can create an opportunity to improve individual relationships with their habitat (Murrell, 1973).

Residents should be encouraged to access as much information as possible, either through the Internet, environmental agencies, government departments or private companies who may have done impact reports. Adding facts and figures and previous findings to submissions can be helpful. For example, the original mining company employed a social anthropologist to testify in the environmental court during the initial license application stage. Information sourced via the company may not always be totally neutral, it is still useful to have.

By lobbying government, local people can influence regulation of laws that will reduce psychological stress (Levine and Perkins, 1996). Constant pressure may be particularly advantageous in an election year and attempting to involve opposition parties in the cause may add impetus at this level. The government is the final resting place for financial accountability regarding land subsidence due to old mine workings.

At a public meeting on May 31st, 2002, Coromandel MP, Jeanette Fitzsimmons informed attendees that the Hauraki District Council controls the restrictions placed on mining licenses

and can amend those conditions under which the present Waihi Gold Company operates. Changes to existing consent conditions are possible if there is a clause in the original consent specifying this. Therefore, residents will need to be most focused at the time the mining company applies for a new licence for the underground mine, and convince the authorities that they should be representing the wants and needs of their people, rather than overlooking those issues in favor of the short term economic gain - they need to keep the pressure on (Alinsky, 1971).

It is interesting that the local Member of Parliament represents a party more concerned with conservation than mining and this is perhaps indicative of the general populations' feeling toward the industry. At Waihi level, the local body elections last year had a local candidate polling almost twice as many votes as the incumbent. The incumbent was a strong supporter of mining in Waihi and was thought by many to be of the opinion that if someone is anti-mine, they are then also anti-Waihi. Affected local people said that they would prefer not to deal with this incumbent. This necessitated finding someone on the council with whom they were comfortable dealing with, but who also had some authority to report back to the full council.

Jason and Glenwick (1984) maintain that influential members of organisations have a place in a systems-level intervention, one that works within community networks. This community has a good size branch of Grey Power, a New Zealand wide network of older people that has some political clout, due to the large voting population it represents (elderly and retired citizens). Serious consideration is given to an organized constituency with large voter numbers (Heller, 1989). Involving Grey Power in any political lobbying could create a strong voice in Waihi's favour.

The local media is a powerful tool in the town and contributors are basically uncensored. It is already a vehicle for towns-people to air their concerns, and could be an effective tool in uniting the town, which is quite divided over the mining issue. Mine workers and associates believe that anyone who has a complaint against the mine is anti-mining and are not tolerant of their opinions. They insist that because the mine is operating within the terms of its licence, it has done all it

needs to (It is a fact that most mine officials do not live in the 'East End' of Waihi, but reside at Waihi Beach, or outlying areas and that mine workers who do live in the affected area, rent their homes from the company). Those with genuine problems are often hesitant to speak in public for fear of being 'shot down'. The newspaper is a good starting point to try and influence an attitudinal change. A type of network intervention, the newspaper can be used to increase the communities acknowledgement of individual residents concerns (Murrell, 1971b).

The subsidence in December, when a house disappeared down into a mine shaft, was featured on national and international television. The images were graphic, and focused widespread attention on Waihi. This interest is still evident in many conversations initiated about the town, both here and overseas, and should be taken advantage of. Keeping the media involved will help keep the town in the public eye, and make it harder for the politicians to ignore Waihi's concerns. Current event television programs such as Holmes, 60 Minutes, or 'Sunday' would be good to approach so that they might provide feature stories. Heller (1989) claims that a vocal and persistent minority can be more influential than expected in the political arena.

If and as interventions are conducted, systems of evaluation need to be put in place to monitor their effectiveness, and of course, ethical issues should be addressed (Gregory, 1999).

CONCLUSION

Part of the solution for torn relationships within a community setting is to create a situation in which affected residents can support and talk to each other about their situation and plan strategies for future action. This gives participants a social network to rely on and creates a sense of control. It also serves to identify those who will be spokespeople and who can participate in meetings with other agencies, or seek media involvement. Other action includes lobbying the government and other political parties with an aim to have the conditions of both mining licenses made reasonable to both residents and the mining company. Group members may seek influential organizations and try and gain their backing, in this instance, Grey Power is a strong and logical

possibility. They can also attempt to be more closely involved in monitoring mining processes in conjunction with council and mine staff.

In the end, the power of greed and gold can and do and probably will continue to tear local communities apart. Ameliorative efforts seek to rectify, but cannot overcome the divisive forces evident in historical and contemporary situations and based on that, the future may continue to see gold and greed as divisive. Around the world, greed overcomes harmonious human relationships and the law, as we have recently seen in the cases of Enron, Worldcom, Arthur Anderson, and Xerox. Today, as this article is being written, Bill Gates has a personal portfolio of about \$62,020,100,000.00 US dollars (<http://db.photo.net/WealthClock>). The richest 1 percent of the world's population has as much wealth as the bottom 57 percent or 2.7 billion people (<http://www.globalpolicy.org/socecon/inequal/2002/0118wider.htm>). Meanwhile, "all the gains in world income in the middle of the last decade went to the richest 20%, while the income of those in the bottom 50% actually declined" (<http://www.globalpolicy.org/socecon/inequal/2002/0618bbc.htm>). Until the global distribution of resources and wealth becomes more equal, gold mining in Waihi as explored here will continue to serve as a microcosm or symbol of what has been happening on a far larger scale around the globe. This leaves open many questions for human ecologists, for seeking harmony, or equity, justice, fair play, social responsibility, and peace, in the future will not be simple.

NOTES

February - July 2002. Various interviews were conducted by the senior author with local home-owners, business people and students who wish to remain anonymous.

KEY WORDS Gold. Mining. Human Ecology. Interventions. Community.

ABSTRACT Gold has lured prospectors, investors, and gold bugs, as well as outright thieves, for centuries. Mining for gold brings about distinct challenges for human ecologists, as the greed associated with precious metals may tear apart the social fabric of neighborhoods, communities, and even nations. Although various social science based interventions may ameliorate the human tragedies that unfold, no simple answers exist. Whether considered in the case example and microcosm of Waihi, New Zealand as presented, or in the global realm of international politics and finance, those

interested in human ecology must face up to this enormous challenge. How DO we wish to live on this planet, where some are extraordinarily rich, others seek wealth regardless as to consequences, and still, the majority are left far behind?

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