

SURVIVING THE NEXT EARTH CHANGING CATASTROPHE

The Psychology of Living Underground

By Dr. Nick Poulios, PhD

November 2009

VIVOS
“The Next Genesis”

The purpose of this paper is to present the current knowledge with respect to living underground, and in particular dealing with the human psychology, as well as social interaction and quality of life aspects of living underground; the objective is to explain how VIVOS offers not only a solution to a future natural catastrophe, but also a solution for the psycho-social issues of living underground, and beyond.

The Psychology of Living Underground

By Dr. Nick Poulios, PhD

Table of Contents

- 1. Living Underground**
- 2. Underground Psychology**
- 3. Community Social Interaction**
- 4. Quality of Life Balance**
- 5. “After the Storm”**
- 6. How VIVOS Addresses the Human Psychology of Living Underground**
- 7. Conclusion**

The Psychology of Living Underground

By Dr. Nick Poullos, PhD

Living Underground

Living underground is not a new concept. In fact, the generation and utilization of underground space has been one of humanity's drivers for a sustainable future. As early as 1931, human ingenuity imagined and designed plans for the "depth scraper", a 35-story building resembling a skyscraper of the type familiar in American large cities, which was to be constructed in a mammoth excavation beneath the ground. It was proposed as a residential engineering solution for surviving earthquakes in Japan.¹

We have numerous examples of underground projects, such as Rapid Transit Systems like the Tube, underground malls, and deep underground airport terminals, to name a few.

It is obvious that part of humanity's survival planning has to include utilization of underground space, the expansion of which has been under nano-speeds due to numerous technological challenges, as well as the huge socio-human factors which need to be explored. Any underground "undertaking" has to consider the psychology of living underground and how to best design accommodations that do not negatively impact the aboveground quality of life standards. Needless to say, safety planning and disaster prevention within the confines of limited underground space technology are challenging. The challenges are exacerbated when space becomes even more limited, as in a case of a survival bunker.

Underground Psychology

Many of the problems associated with living in underground habitats are not only technological ones, but rather are related to the degree of social acceptance of the concept and to the individual's perception of the underground space.

Just over 3 decades ago, in 1977, Birger Jansson et al reported in Planning of Subsurface Use (Swedish Council for Building Research) that:

"...there has hardly been any research carried out directly aimed at plotting the implications for human beings of spending time and working underground..."

...it can be stated that the physiological effect on the human organism of time spent underground has been investigated to a very incomplete extent."

¹ BLDG Blog, psychology at depth: <http://bldgblog.blogspot.com/2008/02/psychology-at-depth.html>

Research has been conducted in various specific areas of concern, such as issues of safety as well as the various physiological and psychological responses of humans working in windowless and/or underground sites. Yet a greater understanding of different human responses to frequent occupation of a subterranean space is still lacking.

Some of the issues facing humans above ground can be extrapolated and expected to have an impact, albeit to a higher degree of severity, while living underground. To name a few, claustrophobia, light sensitivity, general fatigue, eye fatigue, disturbance of circadian rhythms, insomnia, headaches, etc. These are just some of the potential ailments and stressors for which very little is known due to lack of experimental or real data.²

Given the above-mentioned social issues, and the lack of evidence-based data to address these issues, we are left with the necessity of applying existing knowledge from above ground experiences to resolve underground problems. Some of the tactics would seem trivial, such as showing compassion to each other's concerns, being forgiving to one's mistakes, helping each other as needed, and so on. Hence it would seem that an effort to educate and promote social interaction would produce good results and reinforce some areas of public concern while living underground.

Community Social Interaction

Successful social interaction can be achieved in any society that recognizes a plan is in place to address any issues that may arise during daily activities. In many instances, the perception that capable management has been put in place can go a long way in building a level of confidence that provides peace of mind.

It is this level of confidence that supports such successful social interaction, which level is promoted and supported by unquestionable evidence that someone has done the organizational thinking and put in place a strategy and tactical plans and can execute them methodically in times of need.

Any strategy for survival through social interaction should start with a management team, a team in control when someone calls a subterranean 911. One can envision a team made of the following first response members:

- Site Coordinator (Assistant Site Coordinator)
- Equipment Manager
- Signage Manager
- Notification Manager
- Field Manager (Assistant Managers)
- Social worker (overseer-psychologist)
- Health care provider

² For more information: <http://habitatunderground.blogspot.com/>

Important consideration should be given towards the fact that, when living underground in a space-limiting facility people interact in groups, hence they can very easily become “victims of group-thinking”. In such cases they follow the group’s mentality, which can be both beneficial and/or detrimental towards finding reasonable solutions to complex problems.

An important factor in addressing group-like issues is recognizing that every effort consumes energy, hence energy has to be channeled wisely in activities that benefit the mind and body. Issues including, but not limited to, general fatigue and insomnia may be successfully ‘treated’ with regularly programmed exercises and work-chores, to name a few. Video games, books, conferences, and talks can be additional activities to maintain one’s mental and physical stability.

Issues of mild-to-severe health conditions such as headaches, cardiac arrest, etc., need to be addressed by health care professionals or First Aid trained personnel, hence the need to provide both assurance and confidence by including the appropriate mix of expertise in every underground facility.

Quality of Life Balance

Quality of life scales have been widely developed and are currently used in the medical field to support the clinical benefit of medicines. In general, they are scales, or questionnaires, that measure physical and mental components of human interaction/response, where the response has been induced by a chemical input such as a drug.

In the case of living underground, the chemical precursor, or input, is the environment, itself: the limited space, the lack of sunlight, and all the things a human being is accustomed to during normal daily living in an above-ground environment.

There is no doubt that proper calorimetric energy intake is a necessary ingredient to achieve a healthy quality of life. Proper nutrition will supply and substitute the energy consumed during the above mentioned regularly scheduled exercises and other activities. The basic idea is to attempt to reproduce one’s activities above ground, underground, to the nearest possible level, and to do it safely within the given confined space.

A medical provider is expected to be present in every underground facility, and would be consulted in order to achieve the appropriate energy intake and consumption. At the same time, ‘quality of life’ scales can be utilized to ensure the proper physical and mental balance is maintained consistently throughout the stay.

“After the Storm”

Surviving in the underground is the primary concern for victims of a disaster. However, while they are underground, careful planning has to be done for when the time comes to emerge to

the surface. The nature of the disaster would most likely dictate the course of action throughout the whole ordeal.

If it is a nuclear fall-out or any similar radiation-induced catastrophe, one will be faced with the ultimate next genesis: lack of vegetation, polluted atmosphere, no rule of law, etc. If it is a chemical attack or terrorism, perhaps a somewhat different situation will take place.

While underground, the site manager, or an “after the storm” committee, would coordinate efforts to equip all underground occupants with the best possible training to face the new environment and the new life. Activities may include farming under extreme conditions, water purification, First Aid, and more. Again, the social interaction should create a team-like mentality whose main purpose is the survival of the species.

How VIVOS Addresses the Human Psychology of Living Underground

When activated, VIVOS is a mini-society where people would be forced to live underground, under necessity, and under extreme conditions, perhaps for an extensive period of time.

The philosophy of creating a mini-society precipitates the cultivation of an environment which mimics the normal way of living as practically as possible. To that extent, VIVOS is equipped to provide various facilities and programs that would offer its occupants solutions not only for the survival aspect, but also for preserving social interaction and personal engagement.

Resources and activities that would satisfy these tasks include the VIVOS library, which is full of books and DVDs, having resources to educate members in various ways, including but not limited to: classes that promote social interaction, classes that educate on how to show compassion to each other’s concerns, to be forgiving to one’s mistakes, and to help each other as needed.

Emergency drills done on regular basis will help to educate members on the various levels of support including: site management, medical expertise, equipment handling, and more. Classes for CPR and other emergencies will be held on a regular basis as well.

Quality of life is an important aspect for VIVOS communities. There will be classes on exercise and nutrition held on a regular basis to achieve maximum energy, nutrition, and health balance. To help develop individualized programs, data gathering on vitals for each member such as weight, blood pressure, etc., will be done on a regular basis. These data gatherings will be put into use by communicating and analyzing them for each member and comparing them to the shelter’s average.

Preparations for “After the Storm” will be put in place and classes will be held – utilizing library resources and personal experiences to educate members on how to achieve a new beginning when emerging above ground. Experts from the Vivos community of shelter inhabitants will

each share their knowledge with all others to train and prepare the group for what may be ahead and how best to handle it. Areas of interest will be established upon analyzing the nature of the disaster, including: hunting, farming, fishing, building a habitat, health and safety, astronomy, self-defense, security, First Aid, etc..

Based on the premise that comfort promotes civility, VIVOS' engineering and design has taken survival underground to a higher level; VIVOS is a living community where the prevailing thought is to design an environment as close to the natural above-ground one as possible. This is accomplished by equipping VIVOS with exercise equipment, such as elliptical trainers and treadmills, both of which would be placed in each spoke of the shelter to promote physical and mental health, thereby promoting greater civility within the confines of the VIVOS community. The above concepts are enhanced by incorporating areas for studies, relaxation, entertainment, games, meditation, prayer, computer work, group dining, a group lounge, a theater, therapy, and an assortment of engaging activities designed to facilitate the community oriented feel.

Conclusion

Natural disasters, acts of war, and terrorism have proven to bring the best compassion and unity out of people. In such circumstances, most people rise to the occasion and go beyond the simple call of duty. It is the instinctive nature of humans to ultimately do good, to create, and to survive. That need to survive brings people together as a community to help each other when it really matters. So far, disasters have proven to be temporary phenomena, not big enough to win over a permanent change in the mindset of humanity. We cannot sit passively and expect that nature will take care of humanity, ad infinitum. We need to plan, prepare, and take the necessary precautionary steps before the next major catastrophic disaster. Doing otherwise would be negligent on our part, especially when it is within the means of those that have a choice.

Hopefully, this guide makes for a small, but meaningful contribution towards the ultimate goal – the preservation of our species.

For more information visit:

VIVOS

“The Next Genesis”

<http://www.terravivos.com>