

# Resilience Development in the New Generation of Production Mining Employees

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This paper proposes that at least as much effort as is placed on technical development of youth, should be placed on values development. In the context of the minerals industry in the developing world and particularly in Africa, the importance of values development is grossly under emphasised. With commodity prices falling and extraction costs soaring it is vital that meaningful and practical effort is made to counter the despondency that accompanies such challenges. As a contribution to such resilience building, the University of Johannesburg Mining Department introduced the “Stairs Project.” This project is a practical way not only of developing physical fitness but also developing personal values of resilience, dedication, commitment, integrity, and many more. Such values are essential if sustainability is to be achieved in the minerals industry during the challenging times currently being experienced. The authors propose that without strong focus on development of resilience of the individual; the resilience and survival of the industry and the economy itself, will be severely threatened. The appropriate time to start such developmental intervention is “yesterday” and in “infancy” but the best we can do is to do it “now” with the “stock of youth” that we have entering the industry.

## INTRODUCTION

Much emphasis is placed on orienting the new generation of engineers in technical aspects. Whilst this is clearly necessary to meet the real challenges of mechanization it is the authors belief that the challenges being faced in the new world of sustainable mining are only partly covered by this approach. What is also required is a realistic assessment of the personal characteristics of the new generation entering the mining industry, especially in the area of production mining. It is well established that managers at mines spend much of their time on human resources issues – labor unrest, negotiations, and general democratic processes.

Current mid and senior managers have developed experience in handling issues both inside and outside of the technical domain, but the new generation of potential mining production officials need more than technical knowledge in their development. The pressures in the industry are extreme and there seems to be little chance of relief. The new generation must “sink or swim”. But what is the background of these individuals? Many come from disadvantaged schools in rural areas where facilities are very poor. Can it reasonably be expected that they have the resilience to meet the challenges of the industry? Action steps must be taken to instill values, including “resilience”, in whatever context is possible in order to assist, particularly the youth to adapt to and thrive in, the challenging world of work within a challenging industry career.

## **A DEFINITION OF RESILIENCE**

Masten AS (2007) defines resilience as follows: The capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability or development.

The concept has to do with adaptability to relatively unexpected, severe adverse conditions.

The word resilience comes from the Latin “resilire” (to rebound, recoil, or spring back).

The Chartered Institute of Personnel and Development (CIPD) identifies two major areas of resilience development viz. personal and organisational. There can be no doubt that many companies focus their attention and resources on the organisational development. However, of much greater value would be the development of individuals in a capacity that serves the organisation.

Like so many other value development strategies, research on individual positive resilience abilities confirms that such positive individual characteristics have roots in early childhood development within environments that are positive and supportive. Such wisdom gleaned from research may be entirely true but are not relevant to the African context where the bulk of the population are brought up in environments of poverty and it therefore becomes essential for one to perform “damage control” wherever it is possible in the development of our future generations. The fact is that “We have got what we have got”, and we must therefore provide opportunities and structures both in education facilities and in the industrial work place that supports resilience development for receptive individuals at more mature ages.

It appears as if the term “resilience” has grown in use in the last few decades. The term may have had a common understanding some years ago (materials engineering) but these days its interpretation is according to circumstance and in some cases being abused for purpose of obtaining project funding.

For the purpose of this paper the most appropriate definition is the USAID definition which is “the ability of individuals to mitigate, adapt and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth” (USAID 2012)

Sen suggested that the expansion of resilience capabilities lies at the core of the concept of development. Hence it is suggested that during the educational phase (albeit tertiary education level) interventions can be put in place which hopes to impact positively on the resilience of youth as they enter the world of employment, in a hazardous environment of, in this case, mining production.

## **HISTORICAL PERSPECTIVE**

South Africa’s history has created a generation of resilient people – unfortunately that resilience has now been replaced with entitlement at worst, and at best with the sense of being a victim of circumstance. Many of the youth today are under the illusion that it is their fundamental right to get educated, to get a job etc. Realistically, however, the current economic climate just simply cannot support these perceived rights. This leads in turn to a feeling of negativity, feelings of further entitlement and anger. It is our duty as educators to ensure that the new generation of young people that are coming through the system realise that they need to learn skills to cope with the situation, and that they are given the tools that have the potential to change things for the better. However, at this stage, there is no formalised learning opportunity that is given that will ensure that they are able to do this.

So whose responsibility is it to teach these skills? One would hope that resilience as a psychological state would start in early childhood, with the parents and caregivers. However, this is simply not true. Due to the socio-economic climate, many parents are working long hours, or are simply not available to their children. In addition, many parents lack the skills needed to successfully raise resilient children. The prevalence of single parent homes, the influence of drugs and alcohol as well as the potential for violence in a country where, according to Statistics SA report done between 2006 and 2011, at least 23 million people in South Africa are living in poverty, while a further 10,2 million are living in extreme poverty. One cannot expect that the priority of parents living in these circumstances is to teach their children to be good people. It is the view of the authors that abject poverty creates disillusionment and perpetuates the cycle of violence and victim mentality. Of further concern, and a reality in many African countries is the prevalence of HIV / AIDS. The scourge of the disease currently affects many South Africans, with a recorded deaths statistic of 5,1% of all deaths in 2013. It is named as being the third leading cause of death in South Africa. (STATS SA). Further it is noted that 10,8% of all deaths within the age groups of 15 - 44 were caused by HIV / AIDS. The result of this horrendous statistic is that many children are being raised in child-headed households, where older siblings are having to rely on outside support and or crime to ensure that they are able to survive.

One then turns to the school system in the hope that they would encourage this resilience. However, many factors hinder this. Teachers are unable to cope with growing numbers in already overcrowded classrooms, where there is enormous lack of resources. While many teachers start out enthusiastic and wanting to make a difference in the classroom, this is diminished by an unrealistic curriculum, massive time constraints, overwhelming administrative activities and a lack of respect for the profession. This leads to negative teachers who are simply trying to get through the curriculum. The introduction of the Annual National Assessments has forced teachers to shift the focus of their work from developing the whole child, to simply being output oriented in terms of getting marks. Further aggravating this, many learners have no parental support are often ill disciplined, and have no intrinsic motivation to succeed. As mentioned above, victim mentality, leads to learners expecting that they will receive special treatment due to their circumstances and this leads to a further sense of entitlement. The current education system rewards academic achievement only - there is little focus on development of the self within society. It is also a common perception that academic success (achieving good marks) leads to success in life. This may be true in part, but learners need to develop skills which are not currently being taught. These skills are things like study skills, social skills, and most particularly resilience.

The focus now becomes tertiary education. Many learners who qualify at university exemption level are able to do so because they have the "marks" to justify it. However, these young people are simply not ready to cope in a world where they are not monitored and controlled by rules and regulations. The perception is that university will ensure their readiness to enter the world of work and become productive members of society. However, once again, the problem is that university prepares them with technical knowledge (information). While this is clearly an essential component, we are sending these young people out into the world and expecting them to make decisions, and contribute to our country simply based on facts that they have learnt.

It is clear from the above that at no stage do we attempt to develop conscience guided thinking and choices. We expect that these skills will happen incidentally. The reality is that unless young people are influenced and taught and experience practical ways to cope with the varying demands placed on them, they are simply parrots of knowledge with little or no understanding of the effect that their choices could potentially have. They will grow older and more knowledgeable but many will still not be ready for the world of work or success in life on completion of tertiary education.

### **SITUATIONAL OPPORTUNITY**

It is believed that few of the developing countries have situations different to South Africa relating to the bulk of the households being under resourced. Parents have little opportunity to secure the ideal supportive environment to nurture resilience or other such positive values. This makes westernised ideals rather irrelevant. Most households are in dire poverty as a result of the economic situation and of unemployment. Parents strive to survive and provide basic necessities at best by both parents in menial employment, and at worst with no employment and no hope of securing a better life style resulting in alcoholism and drugs being a way out for parenting. Many households are child headed households with younger siblings being raised by teenagers or foster parents with biological parents having succumbed to the effects of ill health and HIV/AIDS. Many parents simply have not grown up in an environment in which they have been given the tools necessary to raise resilient children, and the effects of this are simply that the cycle perpetuates itself.

The dependence of a supportive family life with caring parents cannot be relied on to develop internationally or culturally accepted norms of attitude and behaviour.

The Hidden curriculum identified by Sai Vayrynen in his "Observations from SA Classrooms: Some Inclusive Strategies" (2002) relating to attitude and behaviour development have little chance of being achieved let alone covered in a meaningful way in the crowded classroom in underprivileged locations. Even quality private schools with every facility gain reputation through academic results rather than the achievement of the proper development of attitude and behaviour which are left to coincidence to develop.

Schools (both primary and senior levels) cannot be relied on to develop positive values, including that of resilience.

Scholars often progress to tertiary education and once again the emphasis is on technical development with little focused effort in instilling accepted values, including resilience. In the case of engineering and science much emphasis is placed on orienting the new generation of engineers in technical aspects. Whilst this is clearly necessary to meet the real challenges of mechanization and technology the authors believe that the challenges being faced in the new world of sustainable mining are only partly covered by this approach. What is also required is a realistic assessment of the personal characteristics of the new generation entering the mining industry especially in the area of production mining. It is well established that managers at mines spend much of their time on human resources issues – labour unrest, negotiations, and general democratic processes. They are expected to be faultless in the execution of their duties and role models in the area of behaviour, attitude ethics and integrity.

Current mid and senior managers have developed experience in handling issues both inside and outside the technical domain but the new generation of potential mining production officials need more than technical knowledge in their development. The pressures in the industry are extreme and there seems to be little chance of relief. The new generation must "sink or swim". But what is the back ground of these individuals – many come from

disadvantaged schools in rural areas where facilities are very poor. It cannot be reasonably expected that they have the resilience to meet the challenges of the industry.

## **A PRACTICAL APPROACH TO DEVELOPING IMPROVED RESILIENCE, CITIZENSHIP AS WELL AS ASSOCIATED ATTITUDES AND BEHAVIOUR – THE “STAIRS PROJECT”**

The Mining Department have introduced a resilience development initiative that has been running for close to 5 years. This is known as the “Stairs Project”. It was originally developed to promote physical fitness for the purpose of ensuring satisfactory result for heat tolerance assessment which is necessary to secure the required practical training/work integrated learning associated with the Mining Engineering course at University of Johannesburg. It was soon established that the “Stairs Project” was effective not only in the fitness aspect, but also very strongly influencing the social development of the student and even contributing to academic learning and success.

The “Stairs Project “is a voluntary participation process in which the following values development has been noted:

- peer supported self-discipline
- time keeping,
- public communication,
- commitment,
- persistence,
- sacrifice,
- mutual motivation,
- ability to meet challenge,
- tolerance,
- honesty,
- trust,
- truthfulness,
- ethics,
- integrity,
- consciousness.

In developing such traits, the authors believe that a solid contribution is being made to develop resilience in the future mining production team. Further it supports the academic project of *knowledge competence with personal justified confidence and conscience* (The three Cs ). Although the process has been directed at mining students at University of Johannesburg there are many students who have joined the movement from other engineering disciplines as well as more as remote a discipline as somatology. The process is not discipline specific.

The motto of the project is “Walking your way up in life – Step by Step”.

Supporting individuals commit to themselves and their peers to the following:

- Always use the stairs in preference to the elevator, leaving the elevator for the sick and infirm
- Meet every day at or before 07:30 ready to climb to the 7<sup>th</sup> floor (or several times as a self-challenge)
- To greet peers on the steps up in life with “well done” in many languages including Venda, isiZulu, Tshonga, Afrikaans etc. or even French.
- To present or at least listen to inspirational words of encouragement or advice from peers, after completing the challenge, until 07:50 after which students disperse to classes
- To wear with pride, the project’s “PPE” badge, hat and on Fridays the T Shirt issued to committed and dedicated individuals.

The objective of the commitment is to instill consistent and sustained habits of reliability, consistency, team work and mutual support, respect, communication and public speaking, pride in belonging to a team for no material gain and having a chance to influence the peer group in a positive way in order to create a higher level citizenship. To this end, students out of their own volition have started and maintained an active Facebook page which is joined by participants. This proves that students have bought into the project and actively want to participate in it.

The stairs are viewed as a metaphor for any challenge e.g. a career. There is no quick way to career success. It requires slow methodical steps to build a rewarding and successful life. That every moment of life is valuable, must be respected and be used meaningfully towards a life goal. That it is the journey of life that must be valued and not just the end result – as one approaches the summit one looks for other self-imposed challenges and goals.

In the process of all the foregoing, the participants develop, through self-commitment and action, the critical value of resilience – the practiced ability to bounce back or withstand challenges that are inevitable in life as well as the academic and work environment. After encountering challenges to withstand or recover from significant challenges that threaten individual or environmental stability, viability or development.

Religion and political opinions are avoided but where appropriate are openly discussed in the context of the stair project philosophy. No material rewards are offered or expected. The stairs project promotes a self-development centred control. The upward movement in life is promoted as the difficult route achieved by a step by step up approach, practicing the hard route in preparation for the inevitable challenges where it is believed that the individual, with the support of peers and associates, will have the resilience to move through the difficult times and to further grow by such experience. Amazingly the view from the top of the mountain is different if one has paid for an elevator ride to the top against finding the most difficult route in arduous conditions!

As an alternative to the slow, methodical difficult steps upward in life there is the easy fast and rapid downward slid to disaster. “The road to hell is paved with good intentions”. Individuals have the right to choose their destiny but it remains the duty of parents and educators at all levels to provide opportunity and encouragement to become resilient and have practiced accepted values.

## CONCLUSION

Resilience is an attribute of value and sought by individuals, household, communities, countries and indeed the world. Challenges are inevitable in this life ranging from personal or family trauma to national disasters. Whilst it appears that to some extent resilience is innate and inborn, parents and educators, religious leaders, managers and employers have a duty to the future of the world to make a contribution to individual and organisational resilience as well as other such values development. Text book understanding is very different to practice. The UJ Mining Department’s Stairs Project is a meaningful intervention embraced by some as the answer to values development and scorned by others as irrelevant and ineffectual. The answer to the sceptics question of “why should I do it?” is “why should you not do it”. In the spirit of the Stairs Project the stairs project will continue to be an opportunity to individuals at the Doornfontein Campus of UJ to subject themselves to practicing the art of resilience – as practicing participants of the Stairs Project the authors have no doubt as to the positive outcome in terms of resilience, better citizenship and improving levels of consciousness and personal freedom. We “do not doubt that a small group of dedicated and committed individuals can change the world – indeed it is the only way the world has ever changed”.

As a concluding proof of change in participants one of the changes of 100% of the participants. At the start of the project say at the beginning of a year having climbed the stairs virtually all individuals leaned against the railings on the 7<sup>th</sup> floor. Within 1 months of start the 100% instilled habit of standing

up straight (not only at the stairs event but in all circumstances) has been successful. Is this important and does it contribute to resilience?

The world will be changed for the better, step by step upward!

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