

CHAPTER EIGHT

CORE SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

8.1 INTRODUCTION

Chapter One provided the introduction to the research and explained the purpose of and need for the study. Chapters Two to Four reviewed the literature and provided the theoretical background to the study. Chapters Five, Six and Seven presented the empirical findings of the research against the theoretical (chapters Two and Four) and policy/legislative (Chapter Three) background. The quantitative results and qualitative findings were presented in an integrated way according to relevant thematic issues. This chapter concludes the study and unfolds in the following way. Firstly, the conclusions on the research methodology employed are presented; secondly, conclusions and recommendations against the objectives of the study are provided; thirdly, the conceptual framework for gender issues in the mining sector is presented; and finally, the summary of the research study is provided.

8.2 RESEARCH PROBLEM, OBJECTIVES, CONCLUSIONS AND RECOMMENDATIONS

The Mineral and Petroleum Resources Development Act (28 of 2002) (MPRDA) and the accompanied Broad-based Socio-economic Empowerment Charter aimed to rectify previous inequalities and disadvantages in the mining sector and specifically provide for the inclusion of women in core mining activities. According to the Act and the Charter, the mining industry was supposed to reach a quota of 10% women in core mining activities by 2009. The amendment of the Broad-based Socio-economic Empowerment Charter for the South African Mining and Minerals Industry (launched in 2010) set further requirements in terms of employment equity targets; the Charter requires a 40% historically disadvantaged South African (HDSA) representation in core and critical skills by 2015. Although well intended, the establishment of gender equality in the male-dominant mining sector remains one of the biggest equity challenges in the country and numerous problems accompany the deployment of women in core mining activities, as confirmed by the literature review as well as the empirical findings of this study.

Against this background, the main objective of the study was to critically analyse gender issues in the mining sector and to subsequently develop a conceptual framework that will enable the mining sector to contribute to and ensure the sustainable employment of women in the mining sector. The objectives, conclusions and recommendations of the research study are presented in the following sections.

8.2.1 Research methodology

The research methodology (the literature review and empirical study) employed in the study was appropriate, as substantiated by the following conclusions:

Conclusion 1:

The literature study provided the theoretical framework for the study. Furthermore, it created an in-depth understanding of the problem and contributes to creating an understanding of variables that have an impact on women in the world of work in general and in the mining sector specifically.

Conclusion 2:

The literature study provided the basis from which the research tools (the questionnaire and interview schedule) were developed. It also provided an indication of which indicator statements needed to be included in the questionnaire and interview schedule. Therefore, it is concluded that a thorough literature study is critical in the construction and development of the mentioned research tools.

Conclusion 3:

The validity and reliability of the research study were enhanced by means of triangulation. Triangulation took place by means of the following:

- A literature study as well as an empirical review was conducted.
- Quantitative (questionnaire) as well as qualitative (semi-structured interviews, focus group discussions and observation) research paradigms were employed.
- Three different target groups (male and female employees in management positions as well as male and female employees working in the core business of mining) were involved in the research to obtain different views and perspectives regarding issues that have an impact on women working in the core business of mining.

Conclusion 4:

The statistical analysis of the quantitative data revealed that the identified constructs (company policies, workplace opportunities, infrastructure facilities, physical ability, health and safety and workplace relations) could be validated; this exercise took place through deductive reasoning. The reliability (Cronbach's alpha coefficient), suitability for multivariate analysis (Barlett's test of sphericity) and sampling adequacy (Kaiser-Meyer-Olkin measure of sampling adequacy) calculated for each construct confirmed that the questionnaire provided a valid data-collection instrument (see chapters Five to Seven). The quantitative data obtained through the questionnaire were analysed with the support and assistance of the Statistic Consultation Service from the North-West University and ensured the statistical accuracy of the quantitative results. The statistical software program SPSS 21.0 for Windows was used to analyse the data.

Conclusion 5:

The qualitative research paradigm (semi-structured interviews, focus group discussions and observation) provided an in-depth understanding of the research problem and of the variables that have an impact on women working in the core business of mining; this exercise took place through inductive reasoning.

8.2.2 Research Objective 1

The first objective was to analyse applicable theories and perspectives on gender and gender inequality-related issues in order to obtain a better understanding of the background and social structure regarding women in mining. The following conclusions are made in this regard:

Conclusion 1:

Feminist theories are successful in explaining and providing some answers for the persistent inequalities in society and the workplace. Furthermore, feminist theories contributed enormously to addressing gender inequalities in society and the workplace by advocating for the eradication of sexism, stereotypical views of women and men and discrimination such as unequal pay scales for women and men (see Chapter Two).

Conclusion 2:

From the literature review (see Chapter Two) it is clear that a single theory cannot be used to explain gender inequalities in the workplace. Functionalism and human capital theory, dual labour market theory, Catherine Hakim's preference theory as well as different feminist's debates provide some explanations for women's subordination in the workplace.

Conclusion 3:

The literature review (see Chapter Two) confirmed that women are subjected to various constraints in the workplace. They face the following challenges, among others: difficulties in balancing work and family life, discrimination, unequal earnings, barriers in development and advancement in the workplace and sexual harassment.

Conclusion 4:

The literature review (see Chapter Two) showed that the South African democratic regime is committed to addressing inequalities in the country by endorsing key international and national protocols, adopting significant legislative reforms and developing policies and programmes that seek to promote and protect women's rights in society (the home and the community) as well as the workplace.

Conclusion 5:

It is evident from the literature review (see Chapter Two) that although there has been a marked increase of women as a percentage of the economically active population (EAP) in South Africa (women constitute 45.4% of the EAP), women remain underrepresented in high-risk sectors, which include mining, construction and manufacturing as well as in top and senior management positions, and are mainly concentrated in the lower echelons of the labour force.

Recommendation:

A sound literature review should be employed to provide an in-depth understanding of the origins of gender inequalities in society and the workplace as well as the various challenges faced by women in the workplace. Furthermore, feminist theory could be partially utilised to understand why women suffer oppression and subordination in society and the workplace.

8.2.3 Research Objective 2

The second objective was to critically discuss and interpret the impact of transformation and recent legislation on gender issues in South Africa in general and in the mining sector specifically.

Conclusion 1:

It is clear from the legislated framework (the Constitution, labour legislation and mining legislation) discussed in Chapter Three that the democratic government of South Africa is serious about eradicating previous gender inequalities in the total labour force of South Africa, including the mining sector. The democratic government of South Africa introduced several anti-discriminatory and gender-sensitive legislation, policies and frameworks to redress injustices from the past and promote the deployment of women in the labour environment, including the mining sector.

Conclusion 2:

Mining legislation, such as the MPRDA, the Broad-based Socio-economic Empowerment Charter and the Amendment of the Broad-based Socio-economic Empowerment Charter for the South African Mining and Minerals Industry, enforces the participation of women in the core business of the mining industry by setting specific targets. Mining companies run the risk of losing their mining licences to operate if they do not adhere to the requirements of such legislation.

Conclusion 3:

It is evident from the literature review provided in Chapter Three that progress in terms of employment equity in the mining industry is relatively slow and that mining companies struggle to achieve the target of 10% female participation in mining. In light of this, it is concluded that the further requirement of 40% HDSA representation in core and critical skills by 2015, set by the amended Charter, will also not be easily attained.

Recommendation:

A thorough analysis of relevant labour and mining legislation should be included in any study investigating gender issues in the mining industry to provide an understanding of the gender and equity implications for the industry.

8.2.4 Research Objective 3

The third objective was to determine and analyse global and national trends and perspectives on women in mining.

Conclusion 1:

From the literature review in Chapter Four it is clear that globally, women are involved in various activities of the mining sector, formally as well as informally. However, they are not equally represented in the sector and the numbers of women in the sector remain extremely low. It is extremely rare worldwide to find any extractive industry companies with higher than 10% female employment, with many being less than 5%.

Conclusion 2:

It is evident from the literature review (see Chapter Four) that despite social and cultural differences, as well as different mining activities conducted in the various countries and continents, women across the globe experience more or less the same challenges in the sector. These include the following:

- There is a poor perception of the mining industry.
- Mining is still regarded as a masculine workplace that favours men.
- Mine work is physically draining
- Women often feel undermined by their male co-workers.
- Women continuously struggle to find a balance between their 'paid' work at the mine and 'unpaid' work at home.
- Shift work remains a challenge mainly due to women's family responsibilities and their inability to cope with the demands of shift work.
- Issues of discrimination and sexual harassment persist.
- Insufficient professional and career development is offered, including poor mentoring systems and career paths.

Conclusion 3:

The literature review showed that, although the numbers of women had risen in the South African mining industry, there is still a long way to go to successfully and sustainably ensure women's participation in the industry. Women are still mainly employed in 'soft' positions and only a limited number are employed in core and management positions.

Conclusion 4:

The deployment of women in core positions is accompanied by various challenges and a special commitment and devotedness from the different role players (management, male co-workers, women employed in core mining positions as well as the relevant state departments) are needed in order to ensure the successful and sustainable participation of women in the mining industry.

Recommendation:

A thorough literature review on the deployment of women in the mining industry, globally and nationally, contributes to creating an in-depth understanding of the challenges and implications for the industry. This is also critical in the construction and development of the research tools (questionnaire and interview guide).

8.2.5 Research Objective 4 and 5

The fourth objective relates to the empirical findings and analyses and aimed at determining and investigating relevant gender-related issues in the mining sector.

Research Objective 5 aimed at making recommendations based on the literature review (gender theories, gender legislative policies and global and national perspectives) and analysis of the data (see chapters Five to Seven) in order to ensure the sustainable employment and involvement of women in the mining sector.

The conclusions and recommendations in terms of objectives 4 and 5 are presented below.

EMPLOYEE BENEFITS

Conclusion 1:

From the empirical results in Chapter Five under 5.3.1 it is evident that although mining companies do provide benefits to employees, not all women employed in core positions are fully aware of the benefits provided. Furthermore, the qualitative findings revealed that women employed in core positions have specific needs in terms of benefits provided. These include educational benefits (training opportunities, study leave and bursaries), day shift work for women with newborn babies, PPE designed for women, transport allowance, shift allowance, 24-hour crèche facilities and light duty for pregnant women (also see Chapter Five under 5.3.1.2.2).

Recommendation 1 (a):

Mining companies should educate and develop their personnel, as required by the Mining Charter (see Chapter Three under 3.2.3.6.4 (a)). Furthermore, mining companies should provide for a bursary and internship plan (providing the targets, timeframes and budgets) to develop employees, as stipulated by Social and Labour Plan (SLP) requirements (RSA, 2010a:13).

Recommendation 1 (b):

Mining companies should provide, as far as possible, PPE that is women-friendly. As indicated in the literature review (see Chapter Four under 4.4.3), ill-fitting PPE can affect the way women are protected as well as the way in which they are able to perform their jobs. Furthermore, it could expose women to environmental hazards associated with mining.

Recommendation 1 (c):

Mining companies should investigate job arrangements, such as childcare facilities, day shift work for women with newborn babies and a shift and transport allowance that could enable male and female employees to balance their economic (work) and parenthood (caretaking) responsibilities, as suggested by Jacobs and Gerson (2004:73).

Recommendation 1 (d):

It is recommended that mining companies seriously take note of these specific needs in order to create a conducive environment for women working in core mining activities and thereby contribute to the sustainable deployment of women in the industry.

COMPANY POLICIES

Conclusion 2:

The quantitative responses positively indicated that the various policies, across all three mines, are in place, with the exception of the mine closure policy.

Recommendation 2:

Mining companies should adhere to the requirements of the SLP and should develop and implement processes to save jobs and manage downscaling and/or closure (RSA, 2010b:4). The content of the SLP should be communicated to employees (RSA, 2010b:25).

SUFFICIENT KNOWLEDGE OF POLICIES

Conclusion 3:

The quantitative results (see Chapter Five under 5.3.2.2.2) indicated that there is a perception that women working in the core business of mining have more knowledge of policies related to the *Expressive policies* factor (Factor 2) than that related to the *Instrumental policies* factor (Factor 1). Policies related to the *Expressive policies* factor are pregnancy, HIV/Aids, sexual harassment and health and safety. Policies related to the *Instrumental policies* factor are skills development, employment equity, recruitment and retrenchment, remuneration and mine closure. It can therefore be deducted that mining companies are more successful in communicating the content of policies related to the *Expressive policy* factor to employees than policies related to the *Instrumental policies* factor. Furthermore, the qualitative findings revealed a need for transparency and regular training and workshops on company policies.

Recommendation 3:

As indicated in Chapter Four under 4.4.6.1 and in Chapter Five under 5.3.2.2.2, policies should be in writing and should be communicated to all employees to be maximally

effective. Policies can be communicated to employees by using downward or/and upward communication methods. Downward communication methods include orientation sessions, bulletin boards, newsletters and employee handbooks. Upward communication methods usually include suggestion programmes, complaint procedures, electronic mail, attitude surveys and open-door meetings (Grobler *et al.*, 2006:14).

SUFFICIENCY OF COMPANY POLICIES

Conclusion 4:

According to the quantitative results (see Chapter Five under 5.3.2.3.2), the perception exists that policies related to the *Expressive policies* factor (Factor 2) are more effectively implemented than policies related to the *Instrumental policies* factor (Factor 1). It was also evident from the quantitative results that only a limited number of participants of the copper and platinum mines thought that the skills development and employment equity policies are functioning well. In addition, the qualitative findings indicated that there are still gaps between policies and policy implementation and that the slow progress made in terms of achieving targets set by government leaves the impression with employees that policies do not comply with government guidelines. Furthermore, racism and nepotism were pointed out as persisting problems in the workplace.

Recommendation 4 (a):

Mining companies should have a business plan in place to facilitate the implementation of policies. It could be necessary to draft specific employment relations procedures and to devise specific employment relations systems (including developing timelines for the implementation and allocation of responsibilities and budgets) to operationalise policies (Nel *et al.*, 2012:277).

Recommendation 4 (b):

The effective implementation of the employment equity and skills development policies is important not only to comply with legislation requirements, but also to ensure an equitable and skilled mining workforce. Employment equity and training and development in the mining sector are enforced and regulated by the Employment Equity Act (55 of 1998) (EEA), the Skills Development Act (97 of 1998) (SDA) (see Chapter Three under 3.2.2.3 and 3.2.2.4) as well as the revised Mining Charter (see Chapter Three under 3.2.3.6.4 (a)).

Recommendation 4 (c):

Mining companies should adhere to the requirements of affirmative legislation, as indicated in Chapter Three, and should aim to foster a work environment free from discrimination (such as racism and nepotism).

WORKPLACE OPPORTUNITIES

Conclusion 5:

The quantitative results (see Chapter Five under 5.4.1 and 5.4.2) indicated that only a limited number of female participants working in core mining activities of the copper and platinum mine positively agreed with the *Workplace opportunities* factor and its statements, thereby indicating a perception that female employees are not provided with adequate workplace opportunities. This view was not supported by the majority of the male and management participants of the copper mine. The d-value of the female versus male ($d=0.93$) and female versus management ($d=0.73$) target groups of the copper mine shows that the difference between the means of these target groups has a large effect (see Chapter Five under 5.4.2.2). The results also showed that the majority of the female participants working in core mining activities of the phosphate mine are generally satisfied with the workplace opportunities provided. Although a large effect is evident from the d-value ($d=1.06$) of the female versus management target group of the phosphate mine, both means calculated well above 2.5, indicating that compliance with the statements contained in the factor is satisfactory (see Chapter Five under 5.4.2.2). The qualitative findings revealed a need for recognition, more training opportunities, an effective mentoring system, proper career guidance, financial support and a development programme for internal employees (see Chapter Five under 5.4.3).

Recommendation 5 (a):

Mining companies should adhere to the requirements of the EEA, the SDA as well as the revised Mining Charter. Mining companies should provide a detailed skills development plan, career development matrices of each discipline, individual development plans for employees, mentorship plans for employees as well as a bursary and internship plans in their SLPs. The implementation and operationalisation of the above-mentioned plans are vital.

Recommendation 5 (b):

An effective training and development programme could enhance productivity, personal satisfaction and job enrichment (Nel *et al.*, 2012:380). Furthermore, employees will be empowered to complete their jobs successfully and it will also increase employees' self-efficacy (Robbins *et al.*, 2009: 467).

Recommendation 5 (c):

Practices, such as career counselling, assisting with childcare, creating a healthy work environment and access to supportive and challenging mentors, as suggested by Stead and Watson (2010:120), could also contribute to removing career development barriers for women in the mining workplace (see Chapter Two under 2.4.3.4.4).

INFRASTRUCTURE FACILITIES

Conclusion 6:

It was evident from the quantitative results that only a slight majority of the participants positively agreed with the *Infrastructure facilities* factor and its statements – the factor mean calculated at 2.69, just above the required 2.5 (see Chapter Six under 6.2.2.1). Negative responses were obtained from the majority of the female participants of the copper and platinum mines for almost all the indicators (see Chapter Six under 6.2.1). A large effect is evident from the female versus male and female versus management target groups of the copper mine, as the d-value calculated at 0.78 and 0.98 respectively, indicating that on average, the participants of the male and management target groups of the copper mine are more in agreement with *Infrastructure facilities* than the female target group themselves. Contradictory to the responses of the copper and platinum mines, positive responses were obtained from all three target groups of the phosphate mine on all the indicators (see Chapter Six under 6.2.1). It can therefore be concluded that although infrastructure facilities, such as ablution facilities, change houses, canteens and transport, are provided, limitations and deficiencies in this regard are still prevalent, especially at the platinum and copper mines. The quantitative results are reinforced by the findings obtained from the qualitative inquiry. Moreover, the qualitative inquiry revealed serious concerns with regard to change houses and ablution facilities, childcare facilities, transport facilities and housing (see Chapter Six under 6.2.3).

Recommendation 6 (a):

Although mining companies have built and upgraded ablution facilities and change houses to accommodate women in the core business of mining, they should continue to improve their facilities, as more and more women will be employed to meet the requirements of the revised Mining Charter (see Chapter Three under 3.2.3.6.4 (b)). As suggested by Badenhorst (2009:61), proper ablution facilities and change houses provided for women need to be created in order to ensure their privacy, protection and dignity. This includes the provision of decent toilets, underground and at the surface, that provide for the specific needs of women (which include sanitary bins for the disposal of sanitary towels). Furthermore, these facilities should comply with international standards and specifications (IFC-Lonmin, 2010:21).

Recommendation 6 (b):

The literature review (see Chapter Four under 4.4.2.2) revealed that although reasonable progress has been made in terms of the creation of decent housing and living conditions for mine workers, the upgrading and conversion of existing hostels into family units remain extremely low. Mining companies should strive to adhere to the requirements and targets set by the revised Mining Charter and should implement specific measures to improve the standard of housing and living conditions for mine workers (see Chapter Three under 3.2.3.6.4 (e)).

Recommendation 6 (c):

As already indicated in Recommendation 1 (c), mining companies should investigate job arrangements, such as childcare and transport facilities, that could enable male and female employees to balance their economic (work) and parenthood (caretaking) responsibilities (Jacobs & Gerson, 2004:73).

Recommendation 6 (d):

Women often feel isolated in the male-dominated mining workplace, as revealed by the empirical findings (see Chapter Seven under 7.2.3.7). Mining companies should therefore implement specific measures, such as the provision of canteens for women, to make the work environment more conducive for women.

PHYSICAL ABILITY

Conclusion 7:

It is evident from the quantitative results that the majority of the participants across all three mines agreed with the statements contained in the *Capability*, *Effectively* and *Differential* factors (see Chapter Six under 6.3.2). Therefore, on average, the perception is that women are physically less capable than men, some mining tasks can only be done by men, temperatures in the workplace are not regarded as a major problem for women (*Capability*), women have the physical ability to perform their daily tasks effectively, they do not have a problem with working in confined spaces (*Effectively*) and that women should not be treated differently than their male co-workers in the workplace (*Differential*). Furthermore, the effect sizes for the *Capability* factor show a medium and large effect, indicating that on average, the participants of the male and management target groups of the three mines are more in agreement with *Capability* than the female target group themselves. The effect sizes for the *Effectively* factor indicate that the participants of the female target group of the phosphate and copper mines are more in agreement with the *Effectively* factor than the participants of the male and management target groups of these mines (see Chapter Six under 6.3.2.5).

It was also clear from the quantitative results as well as reinforced by the qualitative findings that although women are employed in all sections at the three mines and no tools and equipment are banned from use by women, women experience difficulties in performing mine work that requires physical strength and stamina as well as operating the following heavy machinery: load-haul-dump loaders, rubber dozers, rock drills and winches (see Chapter Six under 6.3.1.2, 6.3.1.3 and 6.3.3). Furthermore, the male co-workers experience unique problems if women are appointed in positions that require physical strength and they are not able and capable of performing the work activities required from these positions (see Chapter Six under 6.3.3.2).

Although it was indicated by a large number of the participants (quantitative results as well as qualitative findings) that women should not be treated differently than their male co-workers in the workplace, the qualitative inquiry also revealed that the following aspects should be taken into consideration when appointing women in positions that require physical strength: the physical strength and stamina of women, appropriate and suitable language usage in the work environment, family responsibilities of female employees and physiological aspects related to the female body, such as menstruation, pregnancy and

birth. According to the participants, these aspects have a visible impact on the physical performance of women in the workplace.

Recommendation 7 (a):

Gender differences in terms of size and body build, physical work capacity (aerobic capacity), physical strength and heat tolerance should be considered when appointing women in positions that require physical strength and stamina (see Chapter Four under 4.4.4.1). An employee should not be appointed in a position or conduct tasks for which he or she is not medically fit or does not have the physical and functional capabilities. An employee should be appointed in a position if he or she meets the requirements for that specific job (Badenhorst, 2009:59). A programme outlining the minimum standards for fitness should be established to ensure that minimum medical requirements are met by employees. The following steps, suggested by Badenhorst (2009:70), should be included:

Step 1: Occupational health risk assessment

A clearly defined occupational health risk profile should be created for each occupation by identifying all relevant health hazards and the degree to which the various occupations are exposed to these hazards.

Step 2: Man-job specification

The risks for each and every occupation should be documented, which should cover both the inherent requirements of the jobs and the expected hazard exposure(s).

Step 3: Setting standards for medical surveillance

The medical practitioner should set medical standards for each of these occupations based on the risk profiles. This should include standards for physical and functional ability required to perform certain jobs safely. A test battery to conduct and measure these abilities should be established.

Recommendation 7 (b):

Regular diversity training and workshops focusing on aspects regarding the female miner, such as the physical strength and stamina of women, appropriate and suitable language usage in the work environment, family responsibilities of female employees and physiological aspects related to the female body, such as menstruation, pregnancy and

birth, should be presented to male and female employees in order to foster a work environment in which people's differences (in terms of gender) could be respected.

HEALTH AND SAFETY IN THE WORKPLACE

Conclusion 8:

The quantitative responses showed mainly positive results, as on average, the participants across all three mines agreed with the statements contained in the identified four factors: the *Work environment* factor, the *Motherhood* factor, the *HIV/Aids programme* factor and the *Personal protection* factor (see Chapter Six under 6.4.2). The effect sizes for the factors *Work environment*, *Motherhood* and *HIV/Aids programme* indicated that the difference between the means of the different target groups is not practically significant, with the exception of the female versus male target groups of the copper mine (*Motherhood* factor) and the female versus management target groups of the phosphate mine (*HIV/Aids programme*), which d-values indicate a medium effect. A large effect is evident from the female versus male target groups of the copper mine and the female versus management target groups of the phosphate mine for the *Personal protection* factor, indicating that on average, the participants of the male and management target groups of the copper mine as well as the management target group of the phosphate mine are more in agreement with *Personal protection* than the female target group themselves (see Chapter Six under 6.4.2.6).

Although the quantitative results presented generally positive results, the qualitative findings revealed some loopholes. Main concerns were raised on the following aspects: PPE provided, treatment during pregnancy, effects of dust and vibration and security during the night shift (see Chapter Six under 6.4.3).

Recommendation 8 (a):

It is important for mining companies to adhere to the requirements of the Mine Health and Safety Act (29 of 199) in order not to compromise the health and safety of women employed in the core business of mining (see Chapter Three under 3.2.3.2). Safety, health and wellness are the responsibility of managers; they should ensure that employees are not unnecessarily endangered and that workers are fully aware of and properly trained and prepared for unusual workplace risks (Nel *et al.*, 2011:283).

Recommendation 8 (b):

PPE should be designed and developed with women in mind to ensure a proper fit and not compromise the health and safety of female employees (see Chapter Four under 4.4.3). Continued research on PPE issues should be conducted to reveal limitations and deficiencies. Strategies should be employed to address PPE issues. See Chapter Six under 6.4.3.1 for PPE deficiencies and limitations identified across the three mines included in the study.

Recommendation 8 (c):

Mining companies should abide by the requirements of the BCEA in terms of the treatment of women before and after pregnancy. Section 26 (2) stipulates as follows (RSA, 1997:14):

During an employee's pregnancy, and for a period of six months after the birth of her child, her employer must offer her suitable, alternative employment on terms and conditions that are no less favourable than her ordinary terms and conditions of employment if:

- (a) the employee is required to perform night work or her work poses a danger to her health or safety or that of her child; and
- (b) it is practicable for the employer to do so.

In addition, mining companies should implement the principles of the Code of Good Practice on the Protection of Employees during Pregnancy and after the Birth of a Child to protect pregnant and post-pregnant employees (see Chapter Four under 4.4.4.2). Furthermore, the risk-assessment flow suggested by Badenhorst (2009:60) could be employed to ensure that pregnant and/or breastfeeding female employees are not exposed to significant risks in the workplace (see Chapter Four, Figure 4.1). Mining companies should also provide training and support to female employees on pregnancy-related issues, such as emphasising the need to disclose their pregnancies in order to not compromise the health and safety of the pregnant woman as well as her unborn baby.

Recommendation 8 (d):

Mining companies should enhance their security and safety measures in order to create a safe environment for women that are working the night shift.

Recommendation 8 (e):

Mining companies should provide training and support focusing on coping mechanisms for women working in the core business of the high-risk mining environment.

Recommendation 8 (f):

Mining companies should not appoint female employees in positions that could compromise their health and safety (also see Recommendation 7 (a)).

WORKPLACE RELATIONS**Conclusion 9:**

It is evident from the quantitative results that, on average, the majority of the participants across all three mines agreed with the indicator statements contained in the *Employment relations* factor, the *Complaints-handling procedures* factor and the *Sexual harassment and sexual favouritism* factor, indicating that compliance with the indicator statements is satisfactory (see Chapter Seven under 7.2.2). However, from the descriptive results it is evident that male and female employees of the platinum mine reported negative responses to the indicator statements contained in the *Complaints handling-procedures* factor and the *Sexual harassment and sexual favouritism* factor, indicating that compliance with these statements is not satisfactory (see Chapter Seven under 7.2.1). Furthermore, negative responses were obtained across all three mines for the *Language* factor, indicating that the majority of the participants thought that language is a communication barrier to the effective performance of daily tasks. The d-values calculated for the female versus management target groups of the copper mine showed a large effect for the *Complaints-handling procedures* factor and the *Sexual harassment and sexual favouritism* factor. A large effect is also evident from the female versus management target groups of the phosphate mine for the *Language* factor. This indicates that the participants of the management target groups are more in agreement with the indicator statements contained in the factors than the women themselves (see Chapter Seven under 7.2.2.6).

The qualitative findings revealed that although women feel reasonably accepted in the male-dominated mining workplace, they are still subjected to discrimination, still experience negative attitudes from male co-workers, women in leadership positions are often underestimated, women are not always treated with the necessary respect, they often feel isolated, sexual favouritism and sexual harassment occur in the workplace and women's concerns are not always effectively addressed (see Chapter Seven under 7.2.3).

Recommendation 9 (a):

Mining companies should adhere to the requirements of the Constitution of the Republic of South Africa, the Labour Relations Act and accompanied affirmative legislation to foster a work environment free from discrimination, including racism, unequal payment, unequal awarding of bonuses and promotions, unequal development opportunities and sexual favouritism (see Chapter Three).

Recommendation 9 (b):

The successful management of a diverse workforce requires a specific set of new skills. The skills suggested by Noe *et al.* (2012:39) could create an environment in which all employees, regardless of differences, could contribute to organisational goals and could be developed (see Chapter Four under 4.4.6.4).

Recommendation 9 (c):

Regular diversity training and workshops should be conducted to create awareness of men and women's workplace issues and to stimulate an environment in which people's differences can be respected (see Chapter Four under 4.4.6.4).

Recommendation 9 (d):

Mining companies should implement measures such as career counselling to support women in dealing with issues in the workplace. Career counselling could include the following: identifying women's strengths, assisting in confronting myths and stereotypes in the workplace, learning of negotiation skills, assisting in balancing home and work responsibilities, preparing women to handle sexual harassment in the workplace, setting up specific support groups for women, and so forth (Stead & Watson, 2010:120).

Recommendation 9 (e):

Women often feel isolated in the mining workplace. It is therefore recommended that management consider appointing more than one woman in a work team to make the work environment more conducive for women.

Recommendation 9 (f):

Sexual harassment should not be tolerated. It is recommended that the steps suggested by Noe *et al.* (2008:126) and Nel *et al.* (2011:272) be followed to ensure a workplace free from sexual harassment (see Chapter Two under 2.4.3.5).

Recommendation 9 (g):

Women in Mining forums should be more visible and promoted. Meetings should be scheduled to accommodate all female employees. Mechanisms should be in place to effectively handle and address issues that arise at such meetings (see Chapter Seven under 7.2.3.10 for specific needs of women).

Recommendation 9 (h):

Mining companies should implement an effective support system and complaints-handling procedure for women employed in the core business of mining (see Chapter Seven under 7.2.3.10 for specific needs of women).

PERSONAL ISSUES OF WOMEN EMPLOYED IN CORE MINING POSITIONS**Conclusion 10:**

From the qualitative findings it became clear that the majority of the women are affected by shift work – married women slightly more so than unmarried women. Every shift cycle (morning, afternoon and night) poses unique challenges to women employed in the core business of mining (see Chapter Seven under 7.3.1.2.1). The physical impact of mine work as well as the male-dominated workplace/culture also has an impact on women's family life (see Chapter Seven under 7.3.1.2.3 and 7.3.1.2.4). Furthermore, women experience numerous problems in the mining work environment, which have already been revealed above and are tabled in Chapter Seven, Table 7.5.

Recommendation 10 (a):

During the induction of new recruitments, mining companies should sensitise new recruits to aspects regarding the mining workplace such as the physical impact of mine work, shift work and the implications thereof and sexual harassment in order to create an understanding among new recruits of the requirements and difficulties of working in the mining environment.

Recommendation 10 (b):

Mining companies should investigate and implement work–life balance strategies such as assistance with the care of children (for example offering childcare facilities or a paid allowance) to make the work environment more conducive for women (Jacobs & Gerson 2004:85; Richardson & Robinson, 2008:181). Furthermore, mining companies should also provide training and support focusing on coping mechanisms for non-work-related demands such as parental training, role reorientation for couples and childcare facilities, as suggested by De Klerk and Mostert (2010:10).

ISSUES OF MALE CO-WORKERS WITH REGARD TO WOMEN EMPLOYED
IN CORE MINING POSITIONS

Conclusion 11:

The introduction of women in core mining positions does not only pose challenges to management and to the women themselves, but also to male co-workers. Some of the main challenges are related to the following. Due to women's smaller physical work capacity and physical strength, they cannot fully pull their weight in a work team, which has an impact on reaching production targets (see Chapter Six under 6.3.3.2.2). Male mine workers often have to assist their female colleagues if they lack physical strength and stamina, and this leads to frustration (see Chapter Six under 6.3.3.2.3). Male co-workers often experience problems with women's attitudes, as indicated in Chapter Seven under 7.3.2.2. It is also indicated that some women tend to misuse sexual harassment to manipulate men in the workplace (see Chapter Seven under 7.3.2.3).

Recommendation 11:

Mining companies should conduct diversity training and workshops on a regular basis to create a mutual understanding between both genders for each other's problems in the workplace (see Chapter Four under 4.4.6.4). Furthermore, mining companies should only

appoint an employee in a position if he or she meets the requirements for that specific job (Badenhorst, 2009:59). Recommendation 7 (a) has reference.

'ISSUES' OF MANAGEMENT WITH REGARD TO WOMEN EMPLOYED IN CORE MINING POSITIONS

Conclusion 12:

From the qualitative findings it is evident that the deployment of women in core mining positions is accompanied by various challenges. Furthermore, sustainably achieving the 10% women in mining target required by the Mining Charter on a yearly basis remains a key challenge. Although the research showed that mining companies are committed towards women in mining and have made considerable effort to accommodate women in the core business of mining, they are still struggling to overcome some of the issues, such as the integration of women into the stereotyped male-dominated workforce, pregnancy-related issues, the physical ability and capability of women, cultural issues and the attraction and retention of women for the industry.

Recommendation 12 (a):

To retain women in the industry, a special devotedness from management is needed. The strategies suggested by Dessler *et al.* (in Nel *et al.*, 2011:225) could be followed to retain women for the industry (see Chapter Four under 4.4.6.2).

Recommendation 12 (b):

To overcome some of the issues faced by management, the conceptual framework developed through this study could be employed to contribute to and ensure the sustainable deployment of women in the mining sector.

8.2.6 Research Objective 6

The sixth objective was to develop a conceptual framework regarding gender issues for the mining industry that can be implemented and used in order to ensure sustainability and equity in the mining sector.

Through the literature study and the empirical research it became clear that various factors need to be considered for the successful and sustainable deployment of women in the mining sector. A few studies have endeavoured to identify these factors and could offer some solutions to the mining sector. This study contributes to the contentious issue

and accompanying debates by creating an understanding of the variables that need to be considered for the successful and sustainable deployment of women in the mining sector. The literature study and the empirical results provided the basis from which this framework was developed. This conceptual framework (see Figure 8.1) could be implemented and used by various stakeholders in the mining sector to contribute to the successful and sustainable deployment of women in the mining sector.

The main pillars of the conceptual framework are the following:

- Company policies
- Workplace opportunities
- Infrastructure facilities
- Physical ability
- Health and safety
- Workplace relations.

Company policies and procedures are the elements that provide direction and regulate the activities of an organisation and its members. They also set the course for achieving objectives and outlines the manner (game plan) in which the organisation will go about to achieve its objectives (Venter *et al.*, 2009:20). Policies and procedures further co-ordinate and regulate the labour relationship.

Adequate and transparent *Workplace opportunities*, which include training and skills development opportunities, career development opportunities (for example mentorships, career paths and career guidance) and financial assistance (for example bursaries) will not only contribute towards a skilled workforce, but will also empower women to do their work effectively and could enhance productivity, personal satisfaction and job enrichment (Nel *et al.*, 2012:380).

The inclusion of women in the core business of the mining industry requires the provision of adequate *Infrastructure facilities*, such as adequate ablution facilities and change houses, decent housing and living conditions, transport and childcare facilities.

Work in the mining sector is associated with difficult working conditions and mining, especially underground, is considered one of the most physically demanding occupations (Schutte, 2011:11). Due to the physical differences that exist between women and men, women often find it difficult to perform certain work activities and tasks. Women's *Physical*

ability needs to be considered when appointing them in positions that require physical strength and stamina in order not to compromise the health and safety of female employees as well as their co-workers.

Work in the mining sector is categorised as high-risk work and falls into the category of perceived hazardous occupations. The *Health and safety* of employees are the responsibility of managers. Therefore, managers should ensure that employees are not unnecessarily endangered and that workers are fully aware of and properly trained and prepared for unusual workplace risks. A safe and healthy work environment can have a positive impact on the physical and psychological wellbeing of employees as well as on the productivity of the company (Nel *et al.*, 2011:283).

The integration of women into the mining workforce is accompanied by various challenges, as revealed in the literature review as well as the empirical findings, and therefore all measures should be taken to create a work environment free from conflict and conducive to constructive and harmonious *Workplace relations*.

The above-mentioned six pillars should be considered and applied in conjunction with the conclusions and recommendations provided in 8.2.5.

Figure 8.1: A conceptual framework for gender issues in the mining sector

Source: Constructed by author (2013)

8.3 AREAS FOR FUTURE RESEARCH

The following future studies could be conducted to contribute to the sustainable deployment of women in the mining sector:

- Similar studies could be conducted with regard to other mining commodities (for example gold, diamonds and chrome) to explore the challenges that the various role players (women employed in core mining activities, male co-workers and management) experience with the deployment of women in core mining positions.
- Comparative studies could be conducted to assess whether different mining companies and different sectors in the industry experience the same challenges with regard to the deployment of women in core mining positions.
- Longitudinal studies could be conducted to assess whether conditions with regard to the deployment of women in core mining positions have improved.
- In-depth research could be conducted to explore specific health and safety issues for women employed in core mining positions.
- Research could be conducted to explore specific challenges of women employed in management positions (from supervisory roles to top management positions).
- Research could be conducted to investigate the performance of mining work teams, which include women.

8.4 SUMMARY OF RESEARCH STUDY

It is evident from the literature study that limited literature and research exist with regard to the deployment of women in the mining sector. Furthermore, it is clear that the deployment of women in the mining sector is accompanied with numerous challenges, not only for the women themselves, but also for male co-workers as well as for management and the relevant state departments. The primary research objective of this study was to develop and present a conceptual framework for gender issues in the mining sector. To support the primary objective, the six secondary objectives had to be accomplished. The primary and secondary objectives were achieved through the following eight chapters.

Chapter one provided the introduction to the research. The problem statement was outlined and the research questions and objectives were stated. Furthermore, the research methodology employed in the study was outlined and discussed and the limitations and contribution of the study were indicated.

Chapters Two to Four provided the theoretical background to the study. Chapter Two presented a theoretical framework of gender and gender inequality and discussed several feminist approaches to the origins of gender inequalities, as feminist sociologists have been mainly responsible for developing theories on gender inequality. The various issues that women experience in the workplace were reflected on. Furthermore, a contextualisation of 'gender inequality' and 'women and work' in South Africa was done. Chapter Three provided the legislative framework for the transformation of South Africa's labour force, with specific reference to the mining sector. Relevant labour and mining legislation aimed at redressing inequalities and discriminatory practices of the past were placed in context. Chapter Four presented an extensive review of the literature available on women in mining, globally as well as nationally. Gender issues experienced in the mining sector, globally, were revealed and discussed. The theoretical approaches and perspectives provided in these chapters contribute to creating an understanding of the variables that have an impact on women in the world of work in general and in the mining sector specifically.

Chapters Five, Six and Seven presented the empirical findings of the research against the theoretical (chapters Two and Four) and policy/legislative (Chapter Three) background. The qualitative and quantitative data were presented in an integrated way, according to relevant thematic issues.

This chapter (Chapter Eight) concluded the study and presented the main conclusions and recommendations against the research objectives stated in Chapter One. Furthermore, the conceptual framework for gender issues in the mining sector developed through this study was provided. This framework could be utilised by stakeholders in the mining sector to contribute to and ensure the sustainable deployment of women in the mining sector.