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Bridging the skills gaps in Namibia

Ohorongo Cement (Pty) Ltd. – A cement producer successfully addresses skills gaps for a greenfield investment

This case study is part of a larger study on skills gaps: *"Bridging the skills gaps in developing countries – A practical guide for private-sector companies"*. For more information, please refer to DEG's website: www.deginvest.de under the header "what is our impact".

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This report is a result of DEG's evaluation work regarding development effectiveness. DEG's monitoring and evaluating team checks at regular intervals whether the transactions it co-finances help to achieve sustainable development successes and points to ways of making further improvements for DEG and its customers. To ensure the independence of evaluation results, external consultants support the work of the team.

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We sincerely thank Ohorongo Cement (Pty.) Ltd. for the great cooperation while conducting this study.

Photos: Ohorongo Cement (Pty.) Ltd.

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DEG – Deutsche Investitions- und Entwicklungsgesellschaft mbH
Kämmergasse 22
50676 Cologne
Phone 0221 4986-0
Fax 0221 4986-1290
evaluation@deginvest.de
www.deginvest.de

Ohorongo Cement (Pty) Ltd.

A cement producer successfully addresses skills gaps for a greenfield project in Namibia

Executive summary

Ohorongo Cement (Pty) Ltd. (hereafter Ohorongo) is Namibia's first and only cement-producing company, located in the resource-rich but economically weak Otjozondjupa province in the north of the country. When setting up production in 2010, Ohorongo's German mother company Schwenk faced the challenge that cement-specific skills were not available on the Namibian labor market. In particular, the company is reliant on qualified control-room operators (CROs) and foremen to manage the production process of its modern plant. In addition to the lack of cement-specific control-room skills, the Namibian labor market is generally very short on higher qualifications, and very few candidates combine an adequate qualification with skills in leadership, effective communication and problem-solving. Accordingly, Schwenk and Ohorongo invest a lot in the skills development of the workforce.

Well before production started, Namibian CROs and foremen were recruited and sent to Germany for an intensive five-month initial training course, combining theory-based and simulation sessions with practical experience in Schwenk's plants, to enable them to manage the global process and run the plant in Namibia. Given the lack of experienced supervisory and management candidates, Ohorongo also develops these skills internally, through a comprehensive employee training program for workers and management – including courses in both soft and hard skills – based on a systematic assessment of training needs for the different positions.

In a very tight labor market, with fierce competition from manufacturing and mining companies for trained and experienced production staff, Ohorongo strives to retain key employees, in whose training it has invested a great deal. Its retention strategy comprises various short-to-medium-term measures: one key element is the payment of a retention bonus to key personnel who commit to staying three years with Ohorongo. In order to ensure a sufficient supply and adequate training of CROs in the future, the company is building a CRO training center to train current staff and new hires as well as employees from other manufacturing and mining companies. The business case for the initiative appears to be negative if the center trains only Ohorongo's new hires, but it could become positive if the training capacities are fully utilized and the running costs are shared with other companies.

Ohorongo's skills-development initiatives enabled the smooth ramp-up of production and the production of high-quality cement, allowing it to quickly take over the Namibian market. In the face of stiff competition, the initiatives ensure a sufficient supply of qualified personnel for its production now and in the future. Ohorongo's employees benefit from the initiatives through higher skill levels, allowing them to move up the career ladder and earn a higher salary. By training CROs in excess of its own demand, Ohorongo also contributes to the skills development in the country; and by addressing the serious under-supply of qualified CROs in this way, the company reduces the risk that qualified personnel will be enticed away to other companies.

There are a number of good practices that other companies could copy, if applicable to their situations: collaborate with competitors in training to address the skills shortage in the industry (good practice 4.3 in the good-practice framework for workforce development described in Chapter 2.1), assess training needs in a timely way (1.1) and provide systematic internal training (4.4), and set up a mentoring system for personnel in key positions (4.5 and 5.5). In sum, the case of Ohorongo underscores the importance and benefits of early skills development, especially for greenfield projects in remote regions and with generally low skill levels.

1. Company background

Ohorongo Cement (Pty) Ltd. is a cement-producing company located near the small town of Otavi in the resource-rich but economically weak Otjozondjupa region in northern Namibia.[1] The company is owned by the German Schwenk Zement KG (hereafter Schwenk) and a group of development finance institutions – namely, the South African Industrial Development Corporation and the Development Banks of Namibia and South Africa. The company sources all raw materials required for production locally, and completes the entire production process in Namibia. Production began in 2010, in what is the most modern cement plant in Africa. The company today has 312 permanent employees in the plant and at its headquarters in Windhoek, of whom about 98% are Namibians.[2]

All notes at the end of this chapter (Page 14)

Ohorongo cement plant in Otavi

2. Namibia's skills gaps: The lack of higher-qualified workers

Namibia has gone a long way in improving literacy and primary schooling over recent years, but access to secondary and tertiary education is still limited.[3] In the Otjozondjupa region where Ohorongo is located, about 40% of the population have completed primary education, but only 19% and 4% have gone on to complete secondary and tertiary education respectively.[4] Only 3% of any school-age cohort enroll in technical vocational education and training (TVET) or higher education: 2,800 TVET and 4,000 university students every year out of a population of 2.3 million Namibians. The curricula often do not match industry needs, and there is also a shortage of experienced instructors and researchers.[5]

Owing to the low numbers and the limited employability of graduates, Namibian businesses across all sectors face skills gaps. In a 2010 survey of more than 100 Namibian companies, 96% of respondents felt that the country is experiencing a skills shortage, 45% assessed the situation as very severe, and the majority expected the situation to worsen over the next five years. In particular, specialist positions for managers, professionals and technicians remain vacant.[6] The skills gaps are particularly wide in the mining and building sectors, with a joint shortage of over 15,000 skilled workers from 2012 to 2016, increasing to about 25,000 for the period 2022-2025. For Ohorongo specifically, the projected demand for stationary plant operators will exceed projected supply by about 300-400 workers over the period 2012-2025. Despite this gap, unemployment is at a staggering 30% – 36.8% in Otjozondjupa[7] – with youth unemployment exceeding 56%.[8] Unsurprisingly, therefore, a majority of companies that face skills gaps have a strategic skills-development plan in place, but 53% of those feel that their initiatives are only partially effective.[9]

3. Ohorongo's skills gaps: The lack of qualified production staff with cement-specific skills

Given the limited availability of skilled workers in Namibia, it is generally very difficult to hire suitable employees; and the higher the required qualification and the greater the responsibility of the position, the more difficult it becomes. Several types of positions in administration and production are very hard to fill, as can be seen in Ohorongo's skills-gap assessment in Figure 1. In addition to a general skills gap and tight labor market, Ohorongo faces a very particular challenge in production: namely, the unavailability of cement-specific skills in Namibia. However, these skills gaps so far have not yet impacted negatively on Ohorongo, thanks to the support of its mother company Schwenk in Germany, which is able to step in if there is a shortage.

Administration: Gaps in respect of finance managers and IT specialists

In administration, Ohorongo struggles to find qualified personnel for management and specialist positions in finance, IT and marketing: it takes a long time to fill positions, and often involves paying a substantial premium to attract the right recruits. The few candidates who are very well-qualified tend to capitalize on their skills and will often change companies.

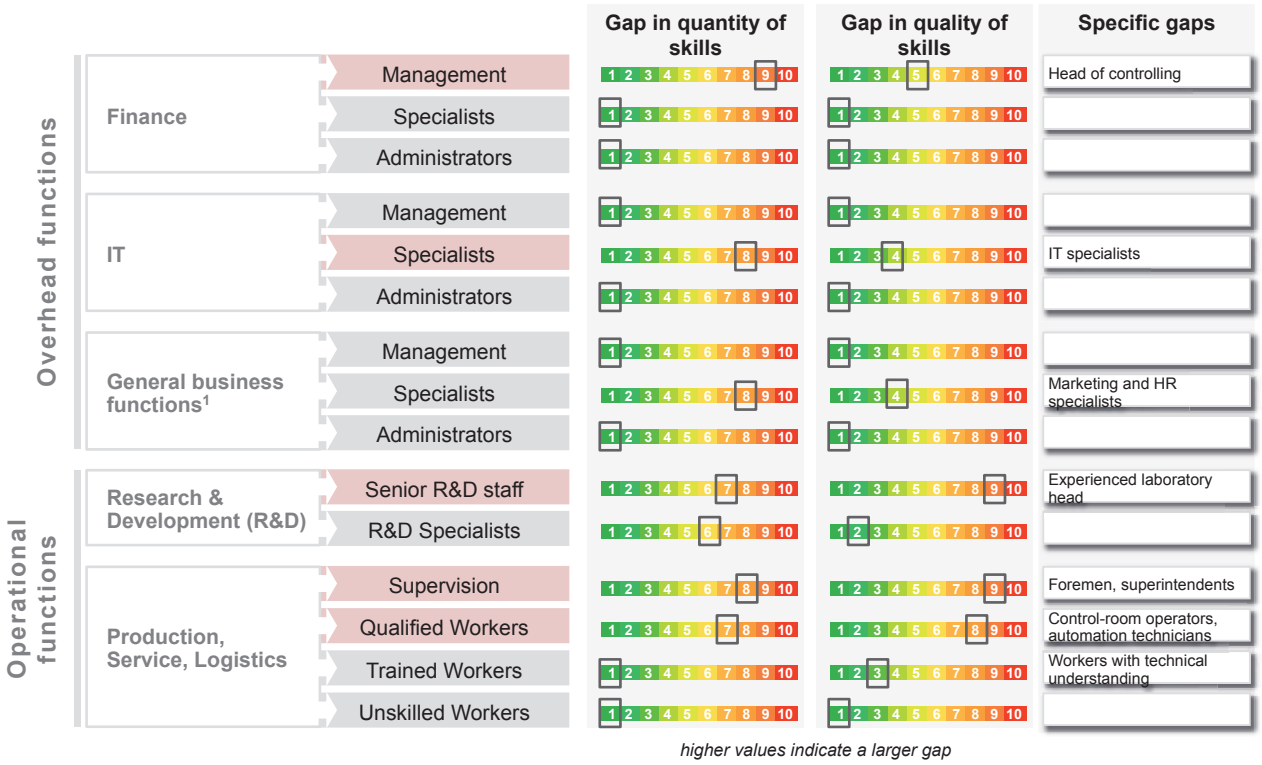
Production: Finding and retaining experienced staff – a constant challenge

In production, Ohorongo has serious difficulties in finding adequately trained CROs – the personnel that oversee the complex production process, control the plant's cutting-edge technology, and ensure the company's renowned quality. To fully master the requirements, the CROs need 2-3 years of on-the-job training and practical experience. As cement-specific skills are lacking in Namibia, workers would have to be recruited from South Africa or internationally.

Regarding the supervisory level – foremen and superintendents, the next operational levels from CROs – the skills gap is even wider, since these positions require a cement-specific technical understanding of the entire production process, as well as certain administrative and leadership skills. The needed skill set includes the ability to take responsibility, as well as to communicate feedback and instructions effectively to subordinates. At the moment, the superintendent position remains vacant, and foremen are taking over these positions as surrogates with limited authority.

Finally, there are laboratory heads and quality-control specialists – the people who perform the essential analysis of raw materials and the final product to ensure high quality standards. All mining companies in Namibia are facing the challenge of filling these

Figure 1: Assessment of Ohorongo's skills gaps



1. Human Resources, Marketing and Sales, Communications etc.

positions; all the more so for Ohorongo, given its demand for cement-specific skills that are not available on the local market. Accordingly, Ohorongo had to recruit an Indian laboratory head – not an easy undertaking, since Namibian national legislation requires companies to give preference to Namibians in hiring, and allows the recruitment of foreigners only if the position cannot be filled nationally. To receive a work permit for foreign workers, the law prescribes the training of a Namibian understudy, to work alongside the foreign expert with the aim of bridging the skills gap in the long run.

Retention: Competing with mines for trained staff

Even if the vacant positions can be filled, Ohorongo faces an additional challenge: retaining qualified and trained workers. This challenge arises mainly for two reasons. First, despite decreasing commodity prices, mining companies are still generating higher margins and are thereby creating upward pressure on wages. Despite a non-poaching agreement, there is fierce competition for qualified and experienced production staff, with nearby uranium- and gold-mining companies and a copper smelter offering attractive salaries and benefits such as housing. Second, employees' loyalty to a specific company is often weak, and workers are generally amenable to moving to other parts of the country for the sake of a slightly higher income.

4. Addressing Ohorongo's skills gaps, and those of the country

Ohorongo has implemented a number of initiatives to address its skills gaps, mainly at the workforce level rather than at the supplier and community levels. Its workforce-development initiatives target both its current and prospective workforce (see Figure 2).

The company has no systematic supplier-development program, but as an all-Namibian producer, the company sources all raw materials for its production from Namibian suppliers, and has built up a local supplier network in the Otavi region – for instance, for protective gear, pallets, and transportation. While Ohorongo has engaged in knowledge transfer to its resource-suppliers, most other suppliers do not relate to its core business and require different kinds of expertise. For this reason, Ohorongo has supported their development mainly financially through long-term contracts. Regarding closing skills gaps in the broader community, finally, Ohorongo actively supports the local community, business communities and government authorities by means of projects in infrastructure, health and education, managed by the Ohorongo Community Trust. To date, however, the Trust has not launched any specific skills-development program for the local community.

Figure 2: Overview of Ohorongo's initiatives to bridge its skills gaps

	Type of initiative	Initiative	Main purpose
A	*Workforce development*	A.1 Initial training program for production ramp-up (2010)	**Train technical and administrative staff, supervisors and managers**
		A.2 Employee training for workers and management (ongoing)	**Develop internal skills (particularly soft skills) to aid career development and enable trainees to be competent in their new positions**
		A.3 Retention strategy for key employees (ongoing)	**Identify and retain positions/position-holders that are crucial for Ohorongo's success**
		A.4 Training center for control-room operators (2015)	**Train control-room operators for Ohorongo and the mining industry**
B	*Value-chain development*	*Ohorongo provides comprehensive financial support to most suppliers, and selective skills-transfer to resource-suppliers, but no systematic skills-development program targeting suppliers overall. Most suppliers (e.g. of protective gear, pallets, transportation) do not directly relate to the core business, and require different kinds of expertise*	
C	*Community development*	*Ohorongo Community Trust supports business communities, the Otavi community, and government authorities in infrastructure, education and healthcare, via donations in cash and in kind, but it provides no specific skills-development program*	

A properly trained and qualified workforce was and is essential for the successful ramp-up of Ohorongo's production, and for guaranteeing the production of high-quality cement in Namibia. For this reason, the company introduced four initiatives to foster the skills development of its current and prospective workforce.

Initial training for production ramp-up: Allowing a smooth and successful start to production

Being a classic greenfield investment, Ohorongo had to start from scratch in Namibia, with the recruitment of personnel to initiate production. Given the limited availability of qualified operations specialists, especially CROs, in the Namibian labor market, the mother company Schwenk and Ohorongo worked together with a headhunting company to recruit key personnel well in advance of the start of production. Many employees were recruited from mining companies, but they naturally lacked cement-specific knowledge, so Ohorongo sent a total of 60 new hires for an intensive initial training program to the mother company in Germany. Those with corporate functions received 2-3 weeks of training to introduce them to their counterparts and to the company-wide systems; in contrast, the 26 CROs, automation technicians and foremen underwent 3-5 months of intensive training: for the sake of back-up, enough CROs for five shifts were trained, even though the plant is run in four shifts. In keeping with a rigorously prepared training curriculum, the trainees first received a general introduction to the cement industry, laying the foundation for the subsequent advanced training courses. This two-week introduction combined theoretical and practical elements, and was conducted in collaboration with the German Cement Industry Association (VDZ) to ensure that state-of-the-art knowledge was conveyed. After a specific control-room simulation training course, the trainees were allocated to different Schwenk plants to receive further applied training and to experience daily operations at first hand. At the end of their stay in Germany, having acquired a thorough understanding of the general processes, all operations personnel underwent plant-specific training from the plant supplier. The training was documented in comprehensive training manuals and in experience reports compiled by the participants themselves: these documents would subsequently be available for consultation during daily operations in Namibia.

Employee training for workers and management: Improving their skills for higher positions

Against the backdrop of a general shortage of qualified personnel, it is necessary to arrange in-house development of employees' skills, particularly for the supervisory level. Every year, about half of the company's employees receive training via internal or external trainers.

Ohorongo has set up a systematic training and development plan that defines the training requirements for each position; there are, for example, training courses on leadership, project management or disciplinary hearings for senior positions. In addition, Ohorongo collaborates with the Namibian Institute of Mining Technology (NIMT) in offering skills-upgrading to its artisan workers, by means of a vocational training course that combines theory-based lessons at NIMT with practical sessions at Ohorongo. Currently, 13 employees participate in the program; and while they are studying at NIMT, apprentices from NIMT work at Ohorongo to fill the capacity gaps, thereby also contributing to skills development in Namibia. Moreover, the company offers a study scheme that grants financial support to employees who need to acquire additional skills for their new positions. Currently 20 employees in total are benefiting from the scheme. Ohorongo's financial support for training measures is conditional on the retention of employees, and grants have to be repaid if employees leave the company within two years. Ohorongo also cooperates with Namibian universities, and offers internships to students. It has also introduced a

student scholarship scheme that currently supports two women – one studying in South Africa, one in Namibia – who will join the company upon graduation.

In addition, a mentoring system has been introduced, and four Ohorongo staff in senior positions are currently being mentored by experienced professionals from Schwenk; for instance, the Namibian quarry manager is being mentored by the German quarry manager. The mentoring involves regular knowledge exchange about new trends, concerns, or ideas for improvement, as well as visits at the respective production facilities in Germany and Namibia. The scheme is due to be rolled out further in future.

Retention strategy:
Retaining key employees in a very tight labor market

Given the complexity of the production process and Ohorongo's high quality standards, CROs need up to five years before they can effectively manage the different production steps and machines. It takes even more time for the development of foremen and superintendents who need to acquire additional leadership skills. To this end, Ohorongo invests a great deal in the training of its employees, and that makes them very attractive to other companies, which are always looking for qualified personnel. So Ohorongo has developed a dedicated retention strategy to create the conditions for long-term skills development within the company and to retain key personnel. Critical positions (notably, senior CROs and superintendents) and position holders were systematically identified through an analysis of the labor market, performance evaluations, and Ohorongo's organizational structure. After analyzing the causes of exit of former employees, the company implemented a broad range of measures: short-term (such as vouchers for corporate clothing, after-hours events, and shaded parking); medium-term (such as development plans or performance recognition) and long-term (notably, a retention agreement). The retention agreement is a key element of the strategy: a bonus offered to key employees is paid in installments, producing an immediate cash-flow benefit for the signatories. However, disbursement of the full payment is conditional on completion of three years with Ohorongo. If employees leave the company within the three years, they have to repay the bonus pro rata. To date, 12 employees have signed a retention agreement and have received the payments.

Training center for CROs: Fostering development of control-room skills at Ohorongo and in the Namibian labor market

The training of cement CROs and supervisors is crucial to the production process, but remains a challenge for Ohorongo. The company therefore decided to set up a control-room simulation training course to train new hires as well as existing staff on site. The state-of-the-art training simulator allows the trainees to study the dynamic behavior of a cement plant in real time. Ohorongo has the capacity to train eight candidates simultaneously; in the first year, it will train its existing CROs as well as selected craftsmen, in order to improve their technical understanding. The training should then be extended to CROs of other mining and manufacturing companies. An external trainer will supervise the first training sessions, and will train local trainers to conduct the training in the future. Ohorongo is currently assessing opportunities to collaborate with NIMT on theory-based training courses.

Control room of the cement production

5. The role of DFIs: Incentivizing Ohorongo to think beyond its own interests in training

DEG, together with other DFIs, provides long-term financing to Ohorongo, but it does more than that: it also supports Ohorongo's workforce development through a technical-assistance project, financing 50% of the training center for CROs. DEG provided no dedicated technical or administrative support for Ohorongo to plan the initiative, but DEG's involvement did encourage Ohorongo to plan and structure the project thoroughly. In addition – as intended – it achieved a wider impact by incentivizing Ohorongo to open up the training center to other companies too, particularly from the mining industry, thereby fostering the development of control-room skills in Namibia.

6. The costs and benefits of Ohorongo's engagement

The costs of Ohorongo's initiatives to develop its workforce can be easily obtained from accounting data. The benefits are harder to quantify, as they accrue on various levels – namely, the company, its employees, and the local community, as shown in Figure 3. The costs and benefits of the initiatives on different levels are analyzed below in this section.

Figure 3: Overview of the costs and benefits of Ohorongo's engagement

Type of initiative		Initiative	Costs ('000 USD)	Beneficiaries: Ohorongo	Employees	Suppliers	Community
A	*Workforce development*	A.1 Initial training program for production ramp-up (2010)	One-off: 1,194 Running: N/A	+++	+++		+
		A.2 Employee training for workers and management (ongoing)	One-off: N/A Running: 162 p.a.	++	++		+
		A.3 Retention strategy for key employees (ongoing)	One-off: N/A Running: ~40 p.a.	++	++		
		A.4 Training center for control-room operators (2015)	One-off: 403 Running: 48 p.a.	+++	+		+

+ Small benefits ++ Medium benefits +++ Large benefits

6.1 Costs and benefits of Ohorongo's workforce development

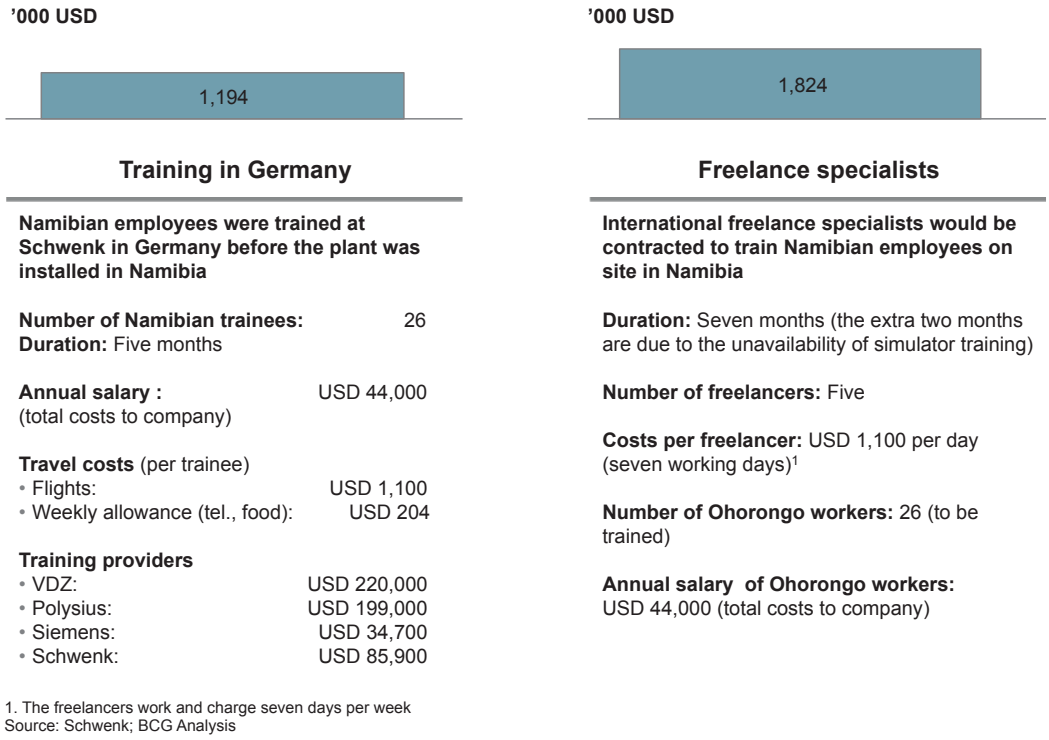
Company benefits: Ensuring a sufficient number of qualified CROs and production specialists for Ohorongo

The initial training of CROs was crucial to the start of operations at Ohorongo, as there were no cement-specific CROs available in the Namibian labor market. Even though the approval of the plant could still have taken place via Schwenk employees or international freelance experts, these outside personnel could hardly run the daily operations: that would be too costly, and the project would have been financially unviable. So the question was not whether to conduct initial training, but which form of training to opt for. A business-case analysis needs to focus only on the cost aspect of the two different options – the benefit is the same in all cases: namely, being able to operate the plant

Figure 4 compares the costs that two options would incur in achieving the common benefit (i.e. a trained team of CROs, foremen and technicians that can run the plant). The two options are these: simulator training of the Namibian CROs in Germany; vs. training them on-the-job directly at the running plant in Namibia through international freelance experts.[10] Besides the pure cost aspects, each option has its own advantages and disadvantages. The first option, simulator training in Germany, is relatively fast, as different critical situations can be simulated in a short time – certainly it is much faster than the on-the-job option. The simulator training in Germany also helps to acquaint the new employees with the company culture and quality standards and with their working counterparts at Schwenk. In addition, it leverages the latest knowledge available from and about the industry association and German suppliers. On the downside, the language barrier between the Namibian and the German employees limits the effectiveness of the training. As for the second option, the on-the-job training in Namibia, it has one major advantage – the "home advantage": the trainees do not have to adapt to the unknown environment in Germany, and the training takes place in the actual plant where the trainees will finally work. The drawbacks, however, are that the external trainers lack the company-specific knowledge, and the training at the new plant hampers the production ramp-up, as training occurs simultaneously with the start of production. Regarding costs, finally: as Figure 4 shows, the cheaper option turns out to be the first option – the initial training in Germany costs just two thirds the amount that the training via freelance specialists in Namibia would cost. So overall, the preferable option is to provide the training in Germany, and that is the option that was chosen by Schwenk.

Thanks to the initial training in Germany, the newly trained team of Namibian CROs were able to be involved in the entire production ramp-up process, from approval of the plant in Namibia to the daily operations. In addition, the training in Germany ensured that Namibian production standards now conform to Schwenk's own high quality standards, and Ohorongo has duly become the preferred cement supplier not only for all Namibian construction projects but also for high-profile infrastructure projects throughout sub-Saharan Africa. Moreover, thanks to the initial training in Germany of employees with corporate functions, Ohorongo could be integrated very rapidly into the reporting systems of the mother company Schwenk, and the plant was certified very shortly after its opening. Unfortunately, about 40% of the trained employees have now left the company, in order to realize their higher market value or to live closer to their families. But before they quit, they served as knowledge-disseminators, passing on their know-how to those who were not trained in Germany and were recruited later.

Figure 4: Cost comparison of options for the initial training of CROs



1. The freelancers work and charge seven days per week
Source: Schwenk; BCG Analysis

With costs of about USD 162,000 per year, the training for workers and management is relatively expensive, but it reflects Ohorongo's need and commitment to develop skills internally.[11] In return, the company benefits from a better-qualified workforce – both in hard skills and in soft skills – that can produce at high quality and maintain the modern production facility.

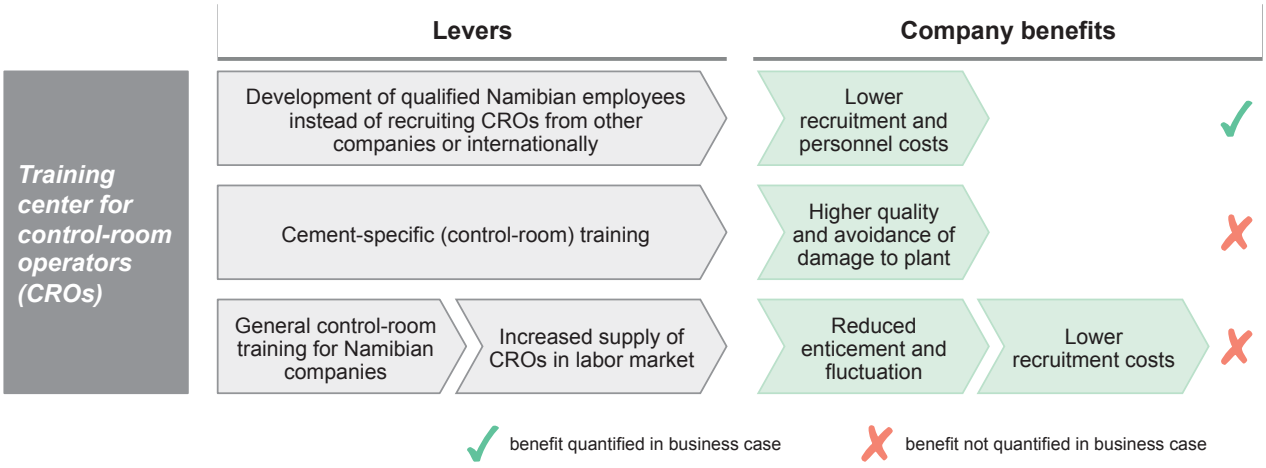
The training program could not resolve all the challenges, however: superintendent positions remain difficult to fill permanently and the company now has to offer step-up assignments, with limited authority, to foremen to work as superintendents. The mentoring program for key personnel has proved a success, though, as one Namibian logistics manager from the Namibian site transferred to the mother company Schwenk in Germany.

As the retention strategy is still being rolled out, the costs and benefits cannot yet be fully assessed. But the retention bonus has registered at least one visible success: a technical service manager who had planned to start his own business opted against leaving and was successfully retained. The bonuses are relatively expensive, but they also have important benefits: if successful, they avert the costly recruitment, on-boarding and on-the-job training of new hires. In addition, retaining employees helps to ensure Ohorongo's high-quality production, which depends on staff with several years of cement-specific experience and training. The other components of the retention strategy are less costly but arguably less effective, as Namibian employees tend to base their choice of employer primarily on salary offers. Still, the focus on monetary incentives is problematic: it addresses the retention problem only in the short-to-medium term, and it can lead to a cycle of ever-increasing wage demands after the three-year period has elapsed.

The training center for CROs is expected to create substantial benefits for Ohorongo. By developing skills in-house, it ensures the availability of adequately trained CROs, foremen and supervisors. Without it, CROs would have to be recruited from mining companies, and that would involve paying a salary premium of at least 10%. Figure 5 shows the different levers and benefits of the training center.

Control-room operator

Figure 5: Benefits of the training center for CROs



From the projected costs and benefits, it is possible to calculate a simple ex-ante business case for the training center. The key inputs are summarized in Figure 6. It is assumed that five new hires are trained every year in one batch, and that the company's overall attrition rate (including retirement) is 15%.[12] (This represents a very cautious estimate, as Ohorongo's current attrition rate is actually below that 15% figure.) The main quantifiable benefit of the training center for Ohorongo is the avoidance of the 10% premium on salaries (50% in the first year) for newly hired CROs or for internally promoted CROs.[13] The saving per trainee is about USD 3,000 annually. The one-off costs for setting up the training center plus the first two years of operation (including an external trainer to train the internal trainer) add up to about USD 400,000. About 50% of that is covered by a DEG technical assistance project. After the first two years, the salary for the internal trainer amounts to about USD 8,000 for each two-month intake. Other running costs include the costs for renewing the simulation software license every three years (USD 44,000) and the salary of the trainees that is paid during the training, amounting to USD 4,600 per trainee.

Using an inflation rate of 6% and a discount rate of 5% shows that the ten-year NPV of the training center is negative (about USD -293,000) if the running costs are not shared with other companies (see Figure 7).

Figure 6: Main inputs and assumptions for the business-case calculation for Ohorongo's CRO training center

Benefit assumptions

Hirings per year to replace leaving staff and internally promoted CROs	5
Attrition rate of newly trained and existing staff (incl. retirement)	15%
Annual savings in salary per trainee, avoiding the 10% recruitment premium on salaries for CROs recruited from other companies	USD 2,740
Cost-sharing with others: course fee for each external participant (covers the running costs – assuming a capacity utilization of 20 participants per year)	USD 3,160

Investment costs

One-off costs for set-up of training center and first two years of operations (e.g. training of internal trainers); 50% financed through DEG technical-assistance project	USD 201,500

Running costs

Internal trainer (per batch)	USD 8,070
Salary of trainee (per batch)	USD 4,560
Renewal of Simulex Training Software License (every three years)	USD 44,050

Other assumptions

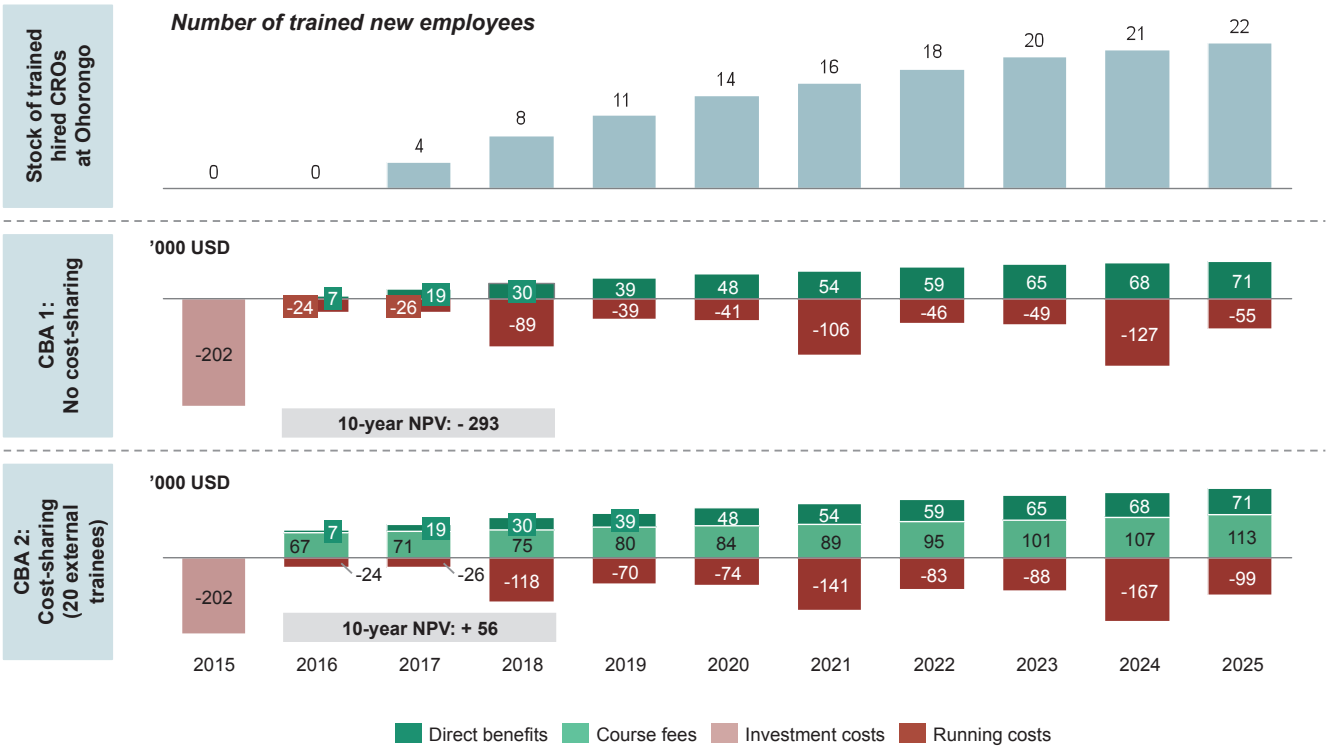
Inflation rate	6%	Discount rate	11%

However, if the center also trains 20 employees from other companies every year, and they pay a course fee of USD 3,150 each, the business case now has a positive NPV, amounting to about USD 56,000.[14] The center has a capacity for 48 CROs, in six batches of eight per year. The NPV increases further if the capacity is better utilized – adding up to about USD 255,000 for 30 external trainees. The assumed course fee is still very attractive for other companies, as they benefit from trained CROs every year, and also avoid having to pay the 10% recruitment bonus. So, by sharing the costs with other companies and by increasing capacity utilization, the training center does have a positive business case. In addition to the quantified benefits, training ensures high-quality output at the plant, and decreases the risk of damage there. Furthermore, by training CROs to levels beyond Ohorongo's own needs and those of other companies, the training center increases the availability of those skills in the Namibian labor market, and thus helps to meet the demand for CROs in the market and to reduce the war for talent and the enticement-escalation between companies. This long-term approach to reducing attrition is expected to bring down recruitment costs for CROs, thereby reinforcing the business case further. Overall, taking into account the non-monetized benefits, there clearly is a positive business case for the training center.

Employee benefits: Increased skills and salary

Ohorongo's workforce development is very beneficial for its employees: it improves their skills, thereby allowing them to climb the career ladder within Ohorongo and to earn a higher salary. The intensive initial training in Germany in particular made it possible for the trainees to become foremen and control-room supervisors (see the box for a brief case example). The notable increase in their market value is evidenced by the fact that a significant number of trainees left the company for better-paid positions in other firms. The systematic skills development offered at Ohorongo gives employees a long-term opportunity to develop their careers, as the company plans to operate the scheme for many years to come. As it happens, the supply of raw materials is secured for the next 300 years – many times longer than the typical mining company could hope for, with a mere ten years of extraction potential. Ohorongo's commitment to building lasting relationships with its employees can also be seen in the various employee benefits on offer, such as housing allowances.

Figure 7: Business-case calculation for Ohorongo's CRO training center



Story of a beneficiary
One of the participants of the initial training course in Germany was Leston Heyn, a 34-year-old Namibian who joined Ohorongo from the control room of a zinc-mining company that closed. Two days after passing the job interview, Leston was sent to Germany for six months to learn the specifics about the control-room operation of a cement plant – the first trip outside Namibia in his life. At Ohorongo, he first got promoted to senior CRO and then to a clinker- and cement-production shift foreman, in which role he is now leading 14 workers. The training has helped him enormously to excel at his new tasks: "After the training I quickly got promoted to control room supervisor and only recently to production foreman. I still have my training manual and my experience reports, and consult them when I am not sure how to handle a new situation. I have also invested myself in leadership courses because I would like to work in a management position."

Community benefits: Strengthening the local economy and fostering Namibia's skills development

Through its workforce-development initiatives, Ohorongo has made it possible for this remote and economically weak region to engage in productive economic activity in the first place. The company secures good jobs for its 312 employees – 98% of whom are Namibian. By training NIMT apprentices at its production site and by training (in line with current plans) CROs from other companies, Ohorongo is fostering skills development more broadly in Namibia and supporting national economic development.

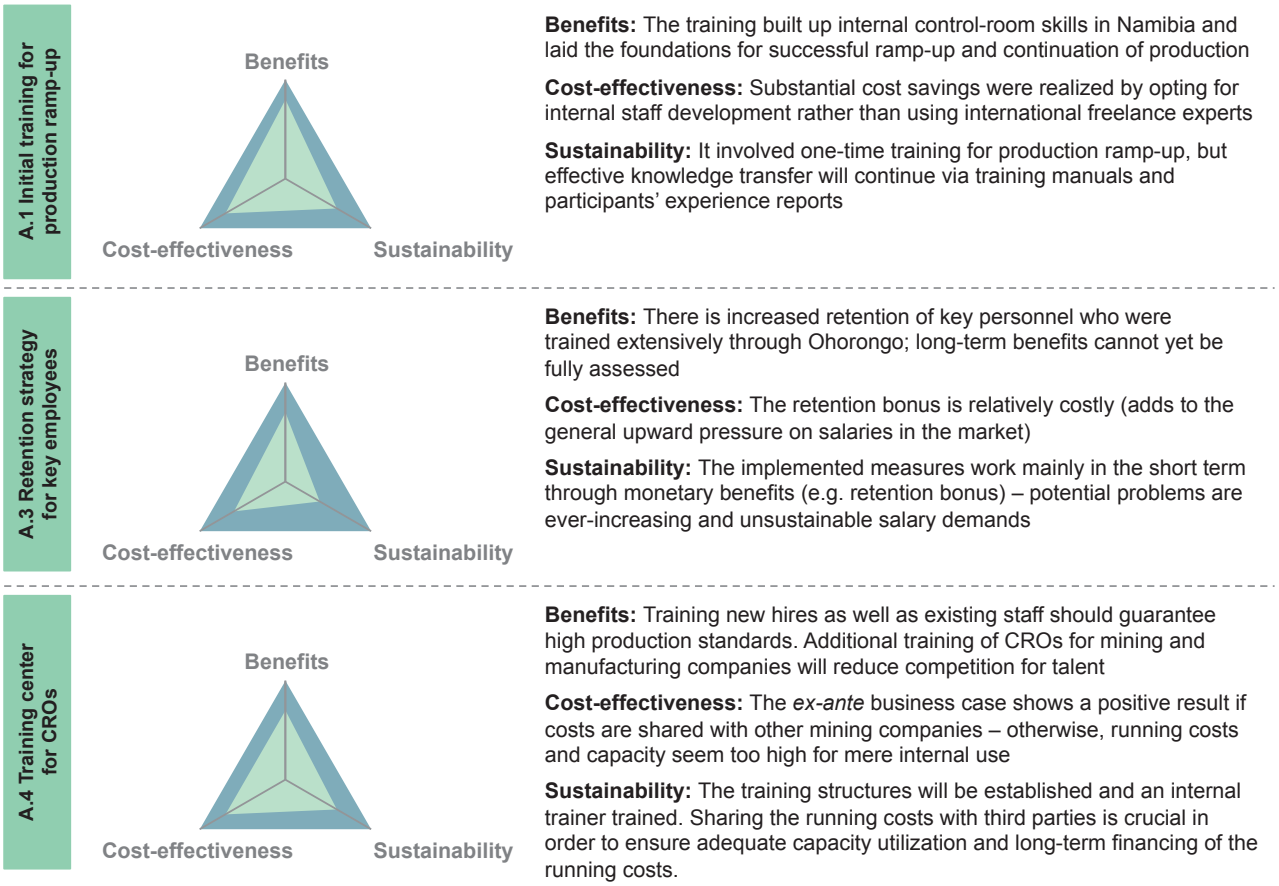
6.2 Overall assessment of costs and benefits

Figure 8 provides a summary assessment of three selected initiatives along three dimensions – benefits, cost-effectiveness and sustainability.[15] The size of the green triangle indicates the performance of an initiative along these dimensions: the larger the green triangle is, the better is the overall performance of the initiative.

- **The initial training initiative** scores high in terms of benefits and cost-effectiveness, as the program successfully built up internal skills, and the German-location option had much lower costs than the rival freelance-expert option. In terms of sustainability, the initiative scores somewhat lower, as it was a one-time training course, and although the knowledge was transferred on to other Ohorongo employees, about 40% of the original trainees have left Ohorongo in the meantime.
- **The retention strategy** for key employees cannot yet be fully assessed for its benefits, as it is just being rolled out, but it is expected to increase retention. In terms of cost-effectiveness and sustainability, the initiative scores slightly lower, since the focus on monetary benefits – notably, the saving of the 10% annual salary premium – works mainly in the short term, and it creates the potential for ever-increasing salary demands once the retention agreement comes to an end.
- **The planned training center for CROs** cannot yet be fully assessed, as it is just being implemented, but the expected benefits and the ex-ante business case are very positive – provided that the center is also used to train CROs from other mining and manufacturing companies, as is envisioned by Ohorongo. The training itself is certainly sustainable, thanks to the plans for training internal trainers and to the compilation of training manuals; and long-term financing could be secured if other companies contribute to the running costs.

By weighting the initiatives' overall costs and benefits, the following appraisal emerges: Ohorongo invests heavily in workforce development, with one-off costs of USD 1.6 million (initial training program plus training center for CROs) and annual running costs of about USD 250,000. The largest proportion of these costs was spent on the initial training of CROs, supervisors and administrative staff in Germany – a program that was indispensable for ramp-up of production, and one with much lower costs than would have been incurred by a comparable training course conducted in Namibia by international freelance experts. Only by undertaking this internal skills-development initiative could the company ramp up production so smoothly and produce a consistently high-quality cement. One ongoing challenge is that of retaining trained personnel in a tight and highly competitive labor market, but through its internal training center and its retention strategy, Ohorongo seems well-prepared to improve retention both in the long term and in the short term. The business-case calculation has shown a positive return, provided that some of the costs are shared with other companies. For employees, the training courses improve their career prospects and salary, or their market value if they change companies. The local community, and Namibia as a whole, benefit through the creation of jobs in a structurally weak region, and through the development of cement-specific skills as well as control-room skills, which are otherwise lacking in the country. In sum, the overall benefit of the measures seems to outweigh the costs – particularly in the long run.

Figure 8: Summary assessment of three selected initiatives



7. Conclusion

Ohorongo has successfully developed cement-specific skills among its employees, as well as control-room skills, leadership skills and artisanal skills. It has thereby addressed its skills gaps, and it will contribute to further skills development in the economy through the CRO training center. The benefits of the initiatives – establishing high-quality cement production in Namibia, and internally developing and retaining critical skills that are not available in the market – will pay off the costs many times during the company's life.

Good practices from Ohorongo that can help companies to close their skills gaps

From a study of Ohorongo's four initiatives to develop its workforce, it is possible to identify a number of widely applicable good practices, related to topics ranging from planning to retaining employees. The good practices are presented in Figure 9.

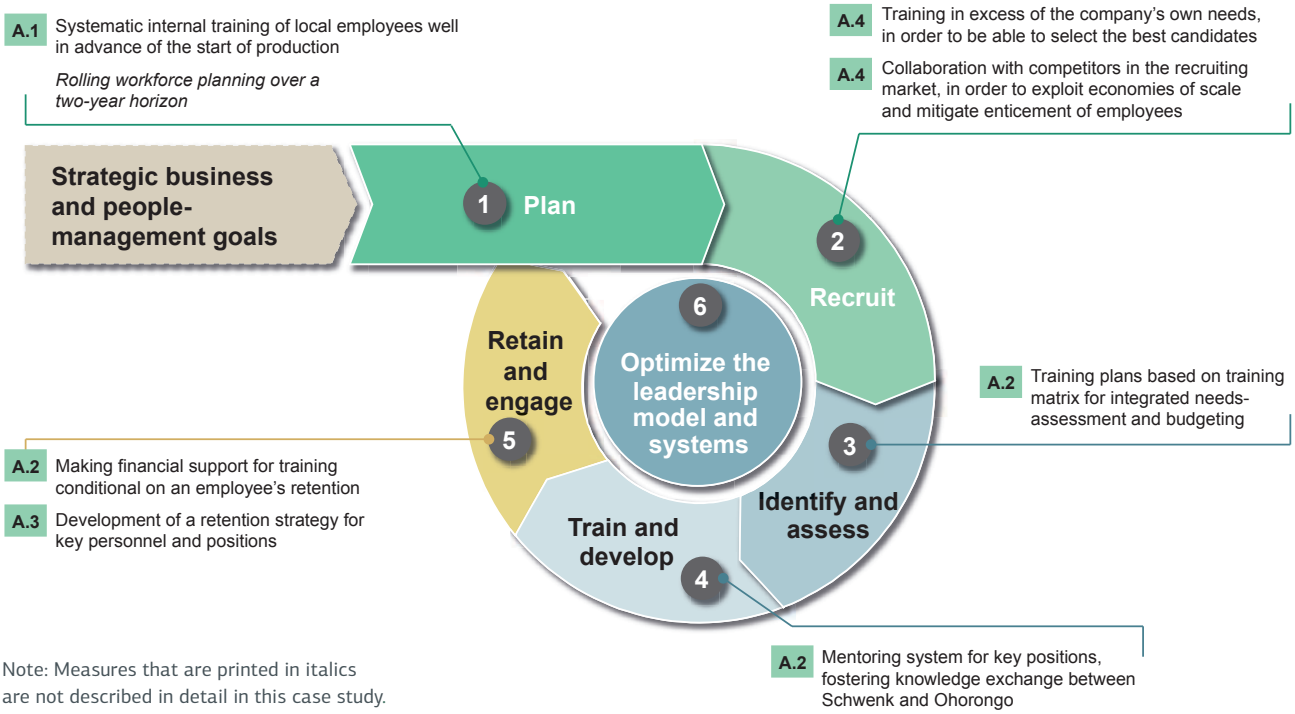
Among these good practices, it is worth highlighting three elements, as they provide valuable guidance for other companies facing similar challenges:

1. **Collaboration with competitors in the recruiting market (A.4)** – specifically, collaborating on training for scarce skills. Such collaboration enables economies of scale in training provision, reduces the risk of employees' being enticed away, and lowers recruitment costs for all companies (good practice 4.3 in the good-practice framework for workforce development described in Chapter 2.1).

2. **Timely assessment of training needs and systematic internal training (A.1)** of local employees well in advance of the start of production. Such prompt measures allow a smooth ramp-up of production, and ensure high-quality output from the very beginning (good practices 1.1 and 4.4).

3. **A mentoring system for personnel in key positions (A.2).** Such a system tends to foster international knowledge exchange between the mother company and local subsidiaries. It enables managers to share good practices, and to experience first-hand during visits the daily work in their counterpart departments (good practices 4.5 and 5.5).

Figure 9: Overview of good practices from Ohorongo's workforce development



Note: Measures that are printed in italics are not described in detail in this case study.

Key factors for improving the business case for Ohorongo's CRO training center

The business-case analysis of Ohorongo's planned CRO training center shows that the benefits cannot fully cover the running costs or make up for the investment costs unless Ohorongo involves other companies or third parties in its financing. Two specific measures for improving the business case are worth considering:

1. **Reduce the running costs of the CRO training center.** Share the running costs with other manufacturing and mining companies that can train their CROs in Ohorongo's facility – for instance, by introducing a course fee for external participants or a lump-sum annual fee per company. The increase in capacity utilization will also lead to a per-capita reduction of costs and a positive NPV in the business-case calculation.

2. **Increase the benefits of the training center.** Establish a partnership with NIMT for a theory-based training program for process-control specialists. Such a program would contribute to financing the costs of the training center, and would give Ohorongo access to well-qualified CROs as potential recruits.

Lessons learned from Ohorongo

From analyzing Ohorongo's initiatives and skills gaps, it is possible to derive some lessons that might help other companies to address skills gaps more successfully:

- **Low-to-medium-skilled workers need to be integrated into development plans.** To help low-skilled workers move up the career ladder, and to protect their employment from any move to outsource non-critical jobs, it is crucial to integrate them into development plans and career paths by offering them specific training courses (good practice 4.1 in the good-practice framework for workforce development described in Chapter 2.1).
- **An effective retention strategy combines financial and non-financial benefits.** The analysis of Ohorongo's retention agreement shows that the retention bonus creates the danger of ever-increasing wage demands. To achieve a longer-term increase in retention, it is crucial to create in employees an emotional bond with the company and the location – for example, by helping them to acquire property, find jobs for their spouses, and obtain high-quality education for their children – especially in small and remote communities (5.1 and 5.4).
- **An effective retention strategy takes into account the individual preferences of employees.** Ohorongo's experience shows that employees have different preferences

regarding financial and non-financial benefits. To increase employee satisfaction and thereby increase retention, it is worth introducing a cafeteria system for benefits – i.e. offering employees a variety of benefits from which they can select according to their individual preferences (5.1 and 5.4).

- **Leveraging internal expertise is key to strengthening the impact of CSR activities.** By developing a CSR strategy that leverages the core expertise of company and staff, a company can enhance the benefits not just for the community and wider society but for the company and staff themselves. For instance, by involving employees in a community welfare or education project, you tend to increase their job satisfaction and their pride in the company (good practices 1.1 and 2.3 in the good-practice framework for closing skills gaps in the broader community described in Chapter 2.3).

Notes

[1] The region has an unemployment rate of about 33%, which is well above the Namibian average of 28%. Namibia Statistics Agency (2015), The Namibia Labour Force Survey 2014 Report.
[2] Information provided by Ohorongo. If no specific reference is given, information in this case study is based on information provided by Ohorongo/Schwenk or based on expert (phone) interviews in June 2015.
[3] Republic of Namibia (2012), National Human Resource Plan (2010-2025).
[4] Namibia Statistics Agency (2011), Otjozondjupa Census Regional Profile 2011.
[5] Republic of Namibia (2012), National Human Resource Plan (2010-2025).
[6] Namibian Employers Federation (2010), Namibia's Skills Deficits: Cross-Sectoral Perceptions and Experiences.
[7] Namibia Statistics Agency (2011), Otjozondjupa Census Regional Profile 2011.
[8] International Labour Organization (2015), Country Profiles Namibia. ILOSTAT Database.
[9] Namibian Employers Federation (2010), Namibia's Skills Deficits: Cross-Sectoral Perceptions and Experiences.
[10] In theory, there is a third option: the training in Namibia would be conducted by Schwenk employees. That option would have the lowest costs of all, but it was considered too disruptive to pursue. It would mean sending five senior CROs to Namibia for seven months, and also assigning Schwenk employees to provide comprehensive on-the-ground support (in addition to the support being provided anyway by 6-7 Schwenk employees during the first year); such large-scale diversion of staff would obviously have a serious negative impact on Schwenk's production capacity in Germany.
[11] The following exchange rates are used: NAD (Namibian Dollar) 1 = USD 0.0804; USD 1 = EUR 0.91.
[12] Given an attrition rate of 15%, the training of five new hires per year leads to a steady-state stock of 26 trained new hires in year 14. This is the required number to maintain the production level.
[13] In the first year, it is assumed that the training is conducted in such a way that the trained CROs work on average for half a year for Ohorongo.
[14] The course fee is calculated so as to cover the running costs of the center (trainer salary plus license renewal), assuming an average capacity utilization of 20 trainees.
[15] The employee training program for workers and management is not analyzed in detail here, as it is a combination of several components that are described qualitatively in the text above.