

THE TRAINING AND ACCREDITATION OF ROAD BUILDERS AND ARTISANS IN NAMIBIA

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ABSTRACT

The question is not what the cost is of having road builders appropriately qualified, but rather what are the costs of not having them trained. The aim of this project is therefore to qualify road builders in accordance with an accredited training programme to more effectively build and maintain safe roads as well as to empower the people that are trained. The training programme was initiated in Namibia by the Roads Authority with the assistance of the German development organisation, InWent. The training programme covers Levels 1 to 4 of the Namibian National Qualifications Framework. The scope of this paper is to share the experience of the Roads Authority on the road they have walked to obtain the support of the Ministry and stakeholders as well as to set up a working relationship with the Namibian Qualifications Authority (NQA) and industry at large. As the outcomes of the first operations of the project are evaluated by the stakeholders, the Roads Authority and InWent have decided to appoint permanent staff to move the project through its next implementation stage.

1. INTRODUCTION

- 1.1 The Department of Transport (DOT) since the early 1990's identified the need to recognise and formalise the training of its own staff and other persons, in inter alia the operator, foreman, and works supervisor categories, in the road maintenance and construction industry. The DOT and InWent (previously called Carl Duisberg Gesellschaft) decided to work together on this matter. Progress was however slow in formalising the process, but very commendable training work was done by the "MWTC2000 Project" to appropriately prepare the DOT staff for the transfer to two state-owned entities (SOEs), the Roads Authority (RA) and Road Construction Company (RCC). A third parastatal organization, the Road Fund Administration was established to collect and distribute monies to support the building and maintenance of roads in Namibia.
- 1.2 During the review of the Engineering Professions Act in April 2002 the Minister noted that no qualifications were being considered for road builders at artisan levels of the profession and requested that this issue be addressed.
- 1.3 The Roads Authority with the support of InWent agreed to a focussed project for the development of a cadre of qualified road construction and maintenance artisans (hereinafter called road builders).
- 1.4 The Roads Authority and InWent decided to establish a Shadow Team to take preliminary training ideas to the stakeholders. These ideas included the

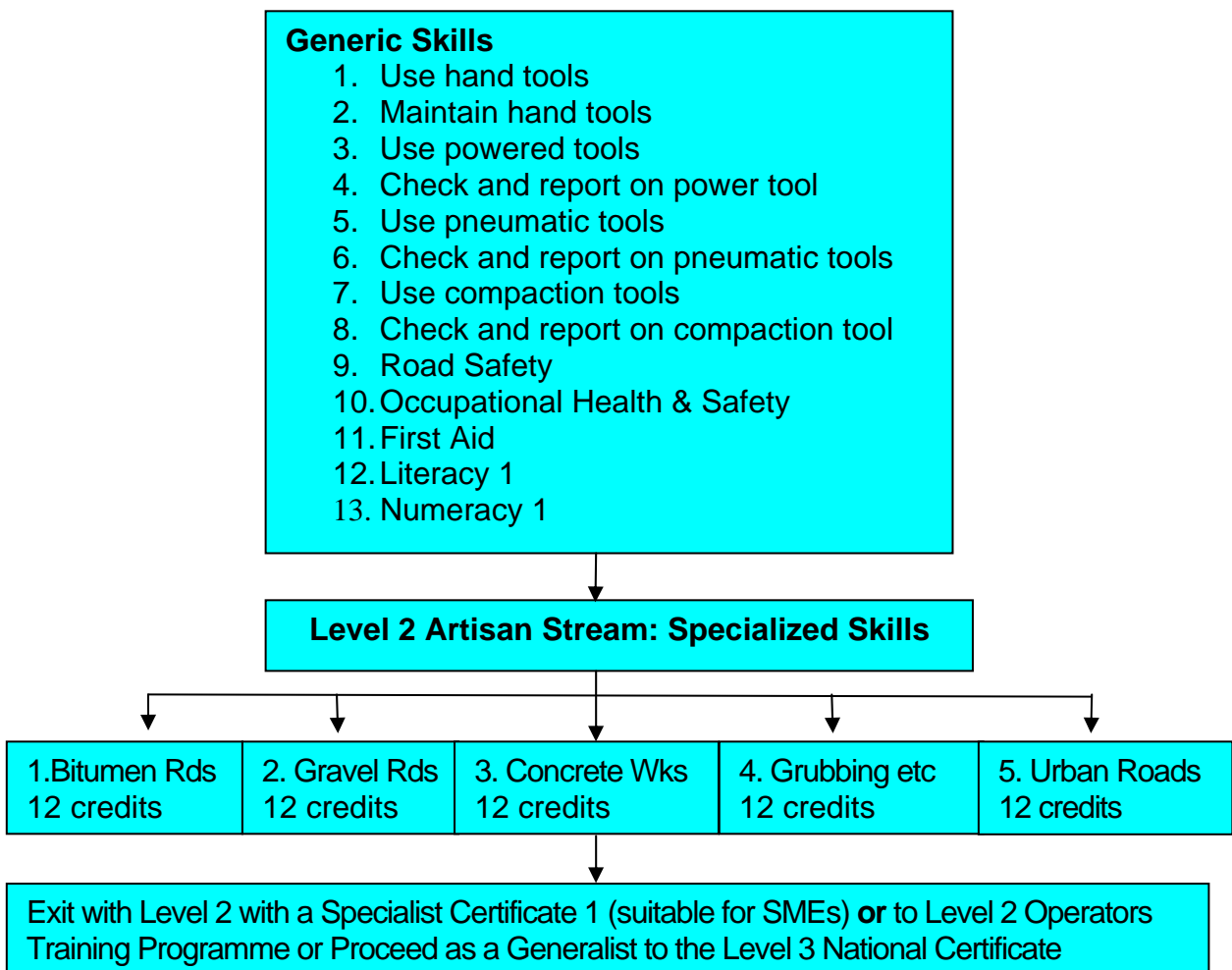
recommendation that road builder qualifications should be accredited with the Namibia Qualifications Authority (NQA). It was noted that to be compliant with NQA specifications, road builder qualifications had to be part of a coherent career structure and composed of unit standards that could be registered on the National Qualifications Framework (NQF).

- 1.5 The Minister then caused meetings of stakeholders (e.g. representatives from contractors, consultants, NQA, Vocational Training, RA, RFA, RCC) to be convened to identify the level of support for such a training programme.

2. ESTABLISHING ROAD BUILDER TRAINING WITH STAKEHOLDERS

- 2.1 Stakeholders Workshops were held in Windhoek on 06 August 2002, 23 September 2002 and 18 March 2003.
- 2.2 The workshops of stakeholders noted that existing training programmes were found to be company-specific, about particular problems and were not formally recognised. Such courses were not recommended as the way forward.
- 2.3 Stakeholders agreed to draw up a list of the operational competencies required by road builders. The following structure of competencies and credit levels were agreed upon.

Level 1: Road Builder Certificate



Level 2: Operator Stream

Operators may achieve different levels of competence depending upon the license held and the competency certificate achieved as indicated below.

Operator Class	Machine	Competency Certificate (Industry requirement)
2A	Car, LDV	Road Builder Driver Certificate
2B	Heavy Truck Water Truck Tip truck Flatbed Truck	Road Builder Truck Driver Certificate
2C	Tractor Bulldozer Loader	Tractor Operator Certificate Bulldozer Operator Certificate Loader Operator Certificate
2D	Grader	Maintenance Grader
2E	Special Equipment	Lowbed Operator Certificate Excavator Operator Certificate Paver Operator Certificate Bitumen Distributor Certificate
2F	Grader	Final Level Grader Operator

Level 2 Operators may be Journeymen or Team Leaders. Journeymen require the licenses and certificates listed above. Team Leaders and Operator Trainers and Assessors require an Advanced Certificate consisting of additional competencies as listed below.

- Leading a team
- Literacy 2
- Managing and assessing operator training
- Training personnel on correct machine utilization
- Overhead management of mechanical maintenance
- Resolving or referring industrial relations issues
- Numeracy 2
- Ordering and managing safekeeping of stock
- Understanding basic soil mechanics

Level 3: National Road Builders Certificate

Technical Skills

1. Read and interpret construction drawings
2. Produce freehand sketches
3. Calculate and order construction quantities
4. Set structures, curves and excavations
5. Install and transfer levels for construction work
6. Plan and implement traffic management at roadwork sites
7. Use appropriate computer applications
8. Literacy 3
9. Numeracy 3

Supervisory Skills

10. Report on work progress
11. Identify and communicate work targets, effectively implement company work methods
12. Resolve or refer employee problems
13. Resolve or refer industrial relations problems
14. Deploy individual skills efficiently
15. Supervise work programmes
16. Manage training

Supervision of Specialized Skills

18. Bitumen Rds 12 credits	19. Gravel Rds 12 credits	20. Concrete Wks 12 credits	21. Grubbing etc 12 credits	22. Urban Roads 12 credits
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Exit with National Road Builders Certificate
or Small Contractors Certificate 2
Proceed to Master Artisan Diploma

Level 4: Master Artisan Road Builder

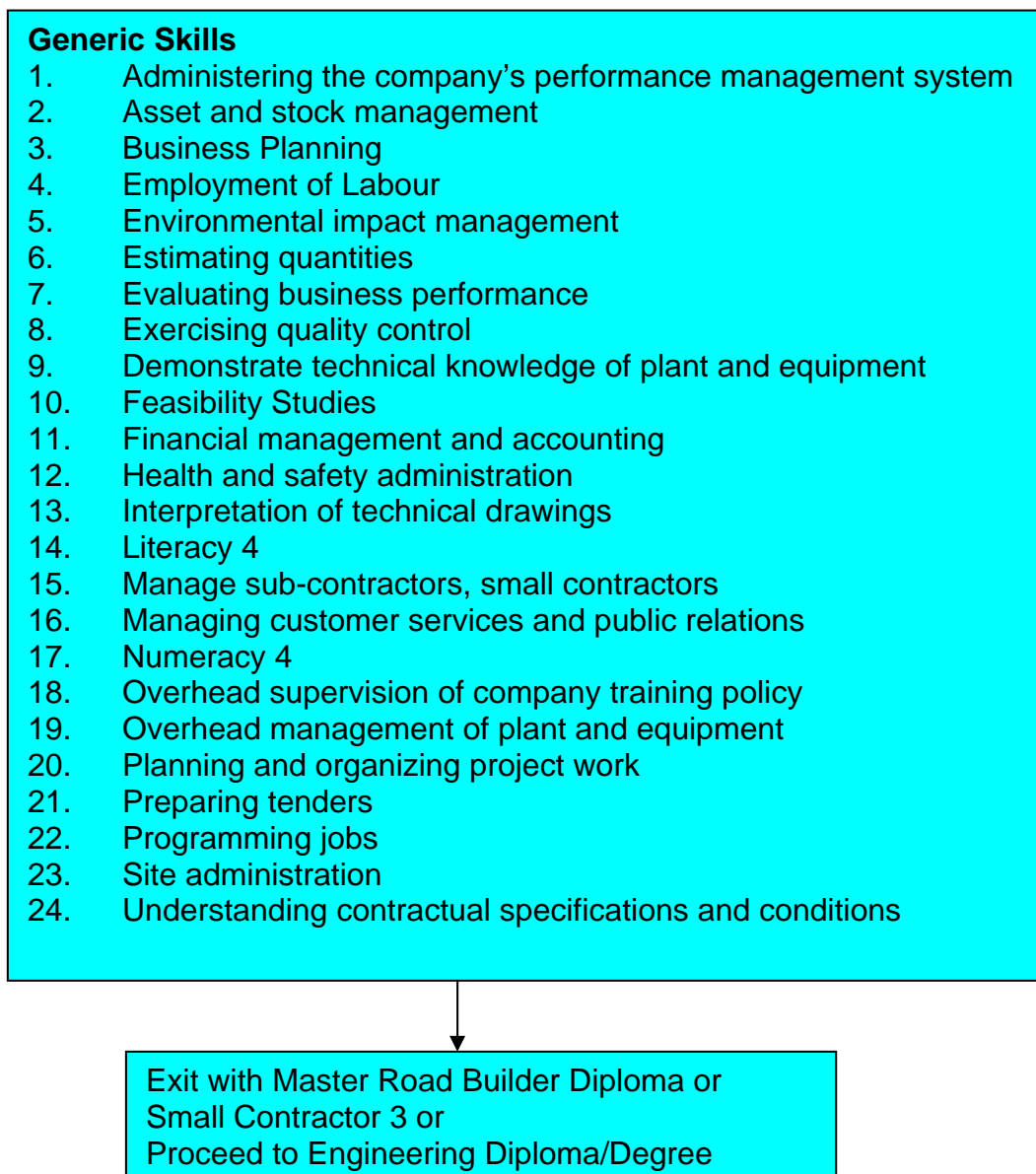


Figure 1: Road Builder Competencies and NQF Levels

These operational competencies were then to be written up as unit standards, compiled into qualifications that could be nationally accredited.

- 2.4 The workshop estimated that in the order of 1400 road builders would require training at different levels and agreed with expert opinion that the training programme should be planned over a five year period. The training programme was to begin with RA training priorities. Training for laboratory assistants for materials testing were to be included in the training scheme.
- 2.5 Stakeholders requested that the training programme minimise the time away from work required by trainees and recommended that the training provider use the Production Method. This training strategy uses accredited instructors to provide on-the-job training in a way that combines the content of unit standards with the work necessary to meet contractual specifications. A pilot study of this method was trialled successfully with a municipal project in Havana, Katutura.

- 2.6 As required by the stakeholders, the “Shadow Unit” first sought to find road builder unit standards on the international market, as this is a cheaper option than writing ones own. New Zealand, Australia and South Africa had unit standards but the South African unit standards most closely matched Namibia’s needs. Under an agreement between the South African Qualifications Authority and the Namibian Qualifications Authority, Namibia could use their unit standards free of charge. In addition, the South African Unit Standards could be Namibianized and accredited in Namibia. Members of the industry accepted these arrangements.

3. FORMALIZATION OF THE PROJECT

- 3.1 The Roads Authority and InWent collaborated on various developments aimed at formalising the project:
- 3.2 The development of a project document outlining the aims, principles, the scope of the training and estimated costs, the roles of the stakeholders, pitfalls to be avoided and the way forward including the establishment of a “Unit” to manage the project.
- 3.3 The presentation of the project document to the Roads Authority Board for its consideration/comment/amendment/approval.
- 3.4 After the Roads Authority’s approval of the project document, it was also presented to the Road Fund Administration, which is now supporting the funding of the project and is looking forward to subsequent developments.
- 3.5 A presentation was also made to the Namibia Qualifications Authority (NQA) which lead to a Memorandum of Understanding being signed between the Roads Authority and NQA that would allow the Roads Authority to recommend on the accreditation of unit standards and training providers.
- 3.6 A consultant was appointed to develop a tender document for the procurement of training services.
- 3.7 Currently the RA is managing the project through a “Shadow Unit” until such time that a proper Unit can be set up and full time dedicated personnel can be recruited.
- 3.8 The Ministry also, in principle, allocated a building to the Unit at a nominal rent. This offer still needs to be taken up fully.

4. FINANCING ROAD BUILDER QUALIFICATIONS

- 4.1 In this phase of developing the project the Shadow Unit investigated ways of financing the project. As a result of these activities:
- 4.2 InWent agreed to assist the Roads Authority by funding the development phase of the project. As of December 2006 InWent has contributed N\$1,1 M.
- 4.3 The Roads Authority agreed that the training programme should be funded through contracts let to participating contractors. The Roads Authority contract documents should make provision for an amount, being part of the contract value, to be made available, via the contractors’ monthly payment certificates, for the training of road builders employed by the contractor. It is envisaged that in future contractors will be required to comply with the conditions of a Certificate of Good Standing in order to qualify for tendering on Roads Authority contracts.

- 4.4 The Road Fund Administration agreed it could contribute towards a Training Fund for road builders under Article 17(1)(n) of the Road Fund Administration Act, and with the approval of the Minister of Finance. Such training fund could be applied to a second group of potential road builders who are not presently employed on contracts but are likely to be employed on future road building contracts. The preliminaries necessary for the adoption of the Training Fund have been completed, but much still remains to be done to take this matter further.
- 4.5 The estimated cost of a training programme for road builders over a 5 year period is N\$25 million. This cost has been based upon similar training projects in South Africa. This amount represents less than 1% of the cost to maintain and construct roads over the next five years. Full particulars still need to be worked out when a proper Unit is eventually established.

5. INSTITUTIONALIZING THE TRAINING PROGRAMME

- 5.1 As a first step towards institutionalizing the training project a detailed Project Report was prepared and subsequently approved by the Roads Authority Board.
- 5.2 Using the Project Report and NQA support as a basis, pilot programmes in blading gravel roads, bitumen road routine maintenance and laboratory testing of road building materials were developed and implemented using the "Recognition of Prior Learning". The pilot schemes were widely seen as an encouragement for the training project to proceed as planned. Record of Assessment Certificates were issued to some 57 candidates.
- 5.3 The Road Contractor Company was, once again, generous in assisting the project by lending expert personnel for assisting the RA and a team of expert consultants in the development of unit standards, as well as providing equipment (e.g. graders) for the Record of Achievement programme.
- 5.4 A healthy working relationship developed between the Roads Authority and the NQA with each authority using his expert knowledge to assist the other.
- 5.5 The Development Bank of Namibia (DBN) has scrutinized the small contractor courses. It is envisaged that road builders applying for loans from the DBN will eventually require accreditation as a road builder and a Record of Achievement from the small contractor business management course to complete their application for a loan to establish a small contractor business.
- 5.6 In the interim and while the longer courses are being finalised, the Roads Authority through the "Shadow Unit" is preparing an introductory business management course dealing with "How to Apply for a Tender" and "Start Your Own Business". These courses will be available to small contractors in various centres across the country from the latter half of 2006.
- 5.7 The Roads Authority is also in the process of convincing small contractors about a need for an Association of Small Contractors, and currently runs a project to lay the foundation for such an association. The Association of Small Contractors is seen as playing a strong role in the areas of information for, and the training of, small contractors in road building.

6. NEXT STEPS

- 6.1 The future steps required for the implementation of the Road Builders Training Programme include the following:
 - 6.1.1 Appointment of the substantive technical team to take over duties from the Shadow Unit and to manage the implementation of the programme. Such appointments are necessary so that the roles of the various stakeholders can be coordinated, managed and developed within the recommended structure, as indicated in Figure 2 on overleaf.
 - 6.1.2 Register training providers through a process of Request for Proposals and start with selected training courses.
 - 6.1.3 The acquisition and fitting out of the building allocated by the MWTC at nominal rent should be finalised and adopted as the base for the "Unit".

7. CONCLUSIONS

- 7.1 Significant progress has been made in the development of a training programme for road builders and the steps ahead are clearly demarcated.
- 7.2 In many respects this project has been a training landmark for Namibia and will set the pattern for the development of other training programmes for previously disadvantaged persons.
- 7.3 There can be little doubt that the return in terms of empowering and qualifying individuals as well as constructing better and safer roads will by far outweigh the very reasonable cost of quality training.

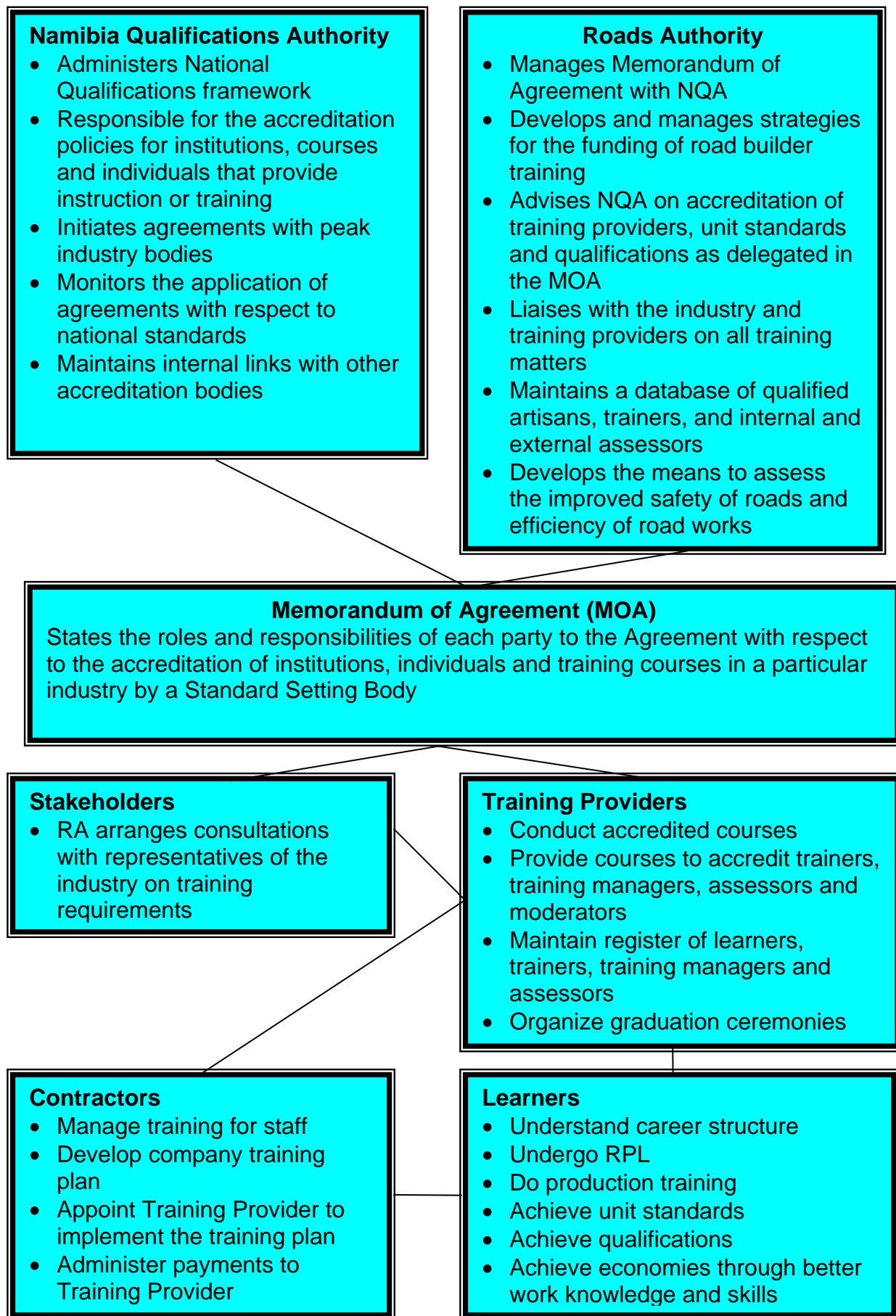


Figure 2: Stake holders and their roles in the administration of the Training Scheme