

National Disaster Management Centre

Department of Cooperative Governance and Traditional Affairs



Work Stream 1: Research Management and Quality Control

Compiled by



The National Disaster Management Centre

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Note to Readers on Confidentiality of Findings:

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Work Stream 1: Research Management and Quality Control

- 1 Report Positioning** Work Stream 1, Research Management and Quality Control, was positioned as that part of the project that worked across all other work streams. As such, this report will also contain comments on the research related aspects of each of the other work streams.
- 2 Project Background** The Department of Provincial and Local Government (“**dplg**”) is entrusted with the responsibility to oversee the implementation of the Disaster Management Act, 2002 (Act 57 of 2002) and the National Disaster Management Framework 2005: *Government Notice 654 of April 2005* throughout the country with the objective of *inter alia*: preventing or reducing the risk of disasters, emergency preparedness, rapid and effective response to disasters and post disaster recovery. Pursuant to the above-stated objective, the purpose of this project was to appoint a service provider to conduct a scientific disaster risk management National Education, Training and Research Needs and Resources Analysis (NETaRNRA) for South Africa.

2.1 Purpose Education, training and skills development are key elements of the Government’s Accelerated and Shared Growth Initiative for South Africa (ASGISA), whose interventions are designed to help halve unemployment and poverty by 2014. In their Joint Policy Statement on enhancing the efficacy of the National Qualifications Framework (NQF), the Ministers of Education and Labour stated that while the Joint Initiative for Priority Skills Acquisition (JIPSA) will help accelerate processes to address priority skills, ASGISA’s other interventions will focus on improving the quality of education, inter-departmental initiatives in adult basic education, training and skills development and investment in artisan and high level skills production. This framework is of relevance to disaster risk management capacity building for enhanced prevention, preparedness and mitigation.

The Government’s commitment to national skills development is embodied in the second National Skills Development Strategy (NSDS 2005 – 2010), which is a comprehensive framework to develop skills for both employed and unemployed citizens through projects funded by Sector Education and Training Authority (SETA) and the National Skills Fund (NSF). The new strategy broadens SETA’s support of learnerships, apprenticeships, internships, bursaries, workplace experiential learning, and unit standards based skills programmes.

The White Paper on Disaster Management, published on 19 January 1999, underscores the importance of preventing human, economic and property losses and avoiding environmental degradation. These objectives are given effect in the Disaster Management Act, 2002 (Act 57 of 2002) which outlines, in sections 15 and 20 (2), a need for the promotion of education and training, the encouragement of a broad-based culture of risk avoidance, and the promotion of research into all aspects of disaster risk management. The development of education and training for disaster risk management and associated professions as well as the inclusion of disaster risk management and risk avoidance programmes in school curricula is addressed in Enabler 2 of the National Disaster Management Framework. It also outlines the mechanisms for awareness creation and the development of a national disaster risk research agenda.

The objective of the above-mentioned requirement is to ensure that there is a promotion of a culture of risk avoidance among stakeholders by capacitating role-players through multi-hazard processes of education, training and public awareness supported by scientific research.

2.2 Overall Project Parameters

Sections 6.1 and 6.2 of the National Disaster Management Framework (2005) focuses on the development of a national education, training and research needs and resources analysis (hereinafter referred to as “the Analysis”) and the requirement for the development and implementation of an integrated national disaster risk management education and training framework respectively.

The analysis must be conducted to determine the disaster risk management education, training and research needs of those involved in disaster risk management across sectors, levels and disciplines. In order to achieve this, the analysis must include an audit of existing resources and its design must be based on scientifically acceptable research principles and methods and not on perceived needs.

Accordingly, the results of the analysis should:

- Inform the development of an integrated National Education and Training Framework (NETF) for disaster risk management.
- Inform the development of appropriate disaster risk management education and training programmes (NETPs) that will form part of the

formal education system which conforms to the requirements of the South African Qualifications Authority (SAQA) and the National Qualifications Framework (NQF) and built on existing strengths, and are responsive to Southern Africa's changing disaster risk management needs.

- Be the main input for the development of the National Disaster Risk Management Skills Development Plan or Work Place Skills Plans (WSPs) that will inform skills education and training for effective disaster risk management informed by scientific research.

All capacity building measures flowing from the NETaRNRA, the NCBF and the NETPs will be implemented in terms of *inter alia*: the provisions of the generic National Capacity Building Framework adopted by the department with a view to define the impact that must be made on capacity in municipalities by 2011 through organizations and formal institutions such as LOGOLA, SAMDI, LG SETA, Academic Institutions and other relevant parties. This will also take into account the outcomes of the National Skills Audit for local government being undertaken by the department.

2.3 Work Stream 1 Parameters

This work stream revolved around the principle that the total project must be based on scientific research processes, methodologies and expertise that need to be verified and certified. A Principal Consultant was deployed with the necessary support staff to oversee the design, development and deployment of all the processes, methodology, sampling, questionnaire design, surveys, interviews, focus groups and research data analysis.

It directed the different work streams from a research point of view and conducted quality assurance activities ensuring the implementation of all the processes in accordance with sign-off standards.

The responsibility to perform quality control and verification exercises throughout the total process rested with this work stream. This ensured that all activities were checked and signed-off at each mile-stone before the team could proceed with the next activities.

3 Project Execution

In this section of the report the approach and methodologies adopted to execute Work Stream 1 will be described.

3.1 Workflow for Work Stream 1

The process for covering all the elements in this work stream covered the design, development and deployment of all the ***processes, methodology, sampling, surveys*** (questionnaire design, interviews, focus group)s and

research *data analysis*.

Processes All research processes were workshopped with the entire project team across all work streams. Research methodology followed can be described as “action research”.

Action research is a term which refers to a practical way of reviewing one’s own work, that being, the work of the disaster management fraternity in context of their training needs. Because action research is done by the practitioner, it is often referred to as practitioner based research and because it involves you thinking about and reflecting on your work, it can also be called a form of self-reflective practice.

The idea of self reflection is central. In traditional forms of research – empirical research – researchers do research on other people. In action research, researchers do research on themselves. In this case research was done by DMS (Disaster Management Solutions) in the disaster management fraternity. Empirical researchers enquire into other people’s lives. Action researchers enquire into their own lives. Action research is an enquiry conducted by the self into the self. As a practitioner, think about your own life and work. This involves you asking yourself why you do the things that you do, and why you are the way that you are. When you produce your research report, it shows how you have carried out a systematic investigation into your own behaviour, and the reasons for that behaviour. The report shows the process gone through in order to achieve a better understanding of the disaster management fraternity, so that you can continue developing understanding and implementation of the Disaster Management Act of 2004 and disaster risk management practices in South Africa.

Action research methodology followed by DMS did not begin with a fixed hypothesis, however, it begun with the request to identify in the realm of disaster risk management, the National Education, Training and Research Needs and Resources Analysis. The research process is the developmental process of following through the idea, seeing how it goes, and continually checking whether it is in line with what you wish to happen. Seen in this way, action research is a form of self evaluation. It is used widely in professional contexts such as appraisal, mentoring and self assessment.

A useful way to think about action research is that it is a strategy to help the fraternity to achieve the spirit of the Disaster Management Act. It helps you

live out the things you believe in, and it enables you to give good reasons every step of the way.

Two processes of action research followed systematic actions as DMS worked their way through these steps and their learning from their results. DMS's actions embody their learning's, and their learning's informed their reflections on their actions, namely fine adjustments of their approach. Therefore, when DMS wrote their report they had documented research actions, but also their learning involved and this has enhanced the research.

DMS research followed a non-linear process with work streams running in parallel and culminating to address the problem statement.

The action research cycle could now turn into new action research cycles, as new areas of investigation emerge. It is possible to imagine a series of cycles to show the processes of developing practice. The processes can be shown as a spiral of cycles, where one issue forms the basis of another and, as one question is addressed, the answer to it generates new questions.

Remember that things do not often proceed in a neat, linear fashion as illustrated through work streams one to five. We would like to reiterate the above that these research reports could communicate a seeming incoherence of the process in a coherent way.

Criteria	WS1 Compliance	WS2 Compliance	WS3 Compliance	WS4 Compliance	WS5 Compliance
Accepted Scientific Research/Methodologies:					
• Clearly defined methodology	Yes	Yes	Yes	Yes	Yes
• Literature					
○ Recency of literature	Yes	Yes	Yes	Yes	Yes
○ Authorative literature	Yes	Yes	Yes	Yes	Yes
• Empirical research					
○ Survey process	N/A	Yes	Yes	Yes	Yes
○ Data collection	N/A	Yes	Yes	Yes	Yes
○ Data integrity/verification	N/A	Yes	Yes	Yes	Yes
• Analysis					

○ Appropriate techniques	Yes	Yes	Yes	Yes	Yes
○ Appropriate conclusions	Yes	Yes	Yes	Yes	Yes
Ethical Requirements					
• Protection of participant autonomy					
○ Participants not forced to participate	N/A	Yes	Yes	Yes	Yes
○ Individual response details not included in reports	N/A	Yes	Yes	Yes	Yes
○ Individual emails not distributed to mailing lists	N/A	Yes	Yes	Yes	Yes

4 Work Stream Review In order to qualify a work stream's methodology, an analysis of all aspects of the selected methodology was carried out. The analysis fell under two broad categories, each with its own sub sections.

- **Scientific Basis of Selected Methodology**

In order for a given methodology to be passed off as being scientifically valid, a detailed analysis of the supporting literature was conducted. This involved verification that the methodology had passed peer review processes and that it is recent and still considered up to date.

All work streams had to conduct surveys in order to obtain data to feed the needs analysis exercise. An examination was made of the data collection processes. These ranged from telephonic conversations to on-line electronic surveys. Evidence of these data collection methods was reviewed and verified from the work streams' reports. This evidence would be in the form of log books of telephone calls, or faxes sent, or email invitations.

The processing of this data into intelligent information was also examined by this work stream. Statistical methods and various analysis tools were verified before the results and subsequent conclusions could be signed off.

- **Ethical Considerations**

It was important that throughout the project, the participants retain anonymity and freedom of thought in their submissions to the work streams. Participation in the surveys and questionnaires was voluntary. No personal details were included in any of the reports. This prevented bias and ensured that only the combined inputs of all participants were considered in reaching the conclusions and the proposed recommendations.

As the project progressed, a large database of individuals and their contact

details was compiled. These details were not distributed to any mailing lists or third parties. This was done in order to preserve the participants' privacy and to comply with the undertaking made by the project team, during the data gathering stages, not to pass on personal details to any other parties.

In line with the stated purpose of Work stream 1, namely to ensure appropriate research methodology and exercise quality control across all other work streams, the following comments can be made per work stream.

4.1 Comments on Work Stream 2

Work Stream 2 focused on the assessment of the training needs through specifically tracing individuals and organizations' understanding of their roles, accountabilities and competencies. Work Stream 2 consisted of three components.

- Literature review (2.1)
- One-day workshops (2.2)
- Self Assessments (2.3)

Each component had its own unique methodology and thus required individual review.

Work Stream 2.1

Methodology *Desktop research methodology* was applied to identify and describe all possible activities involved in Disaster Management and used as a basis to draw up profiles for specific designated groups.

Research Framework The focus of Work Stream 2 was based on the so-called Hyogo Framework. The Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters was adopted by 168 countries present at the World Conference on Disaster Reduction which was held from 18 to 22 January 2005 in Kobe, Hyogo, Japan.

The three strategic goals of the Hyogo Framework for Action 2005-2015 are as follows:

1. The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.
2. The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can

systematically contribute to building resilience to hazards.

3. The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Validate Results *Desktop research methodology:* The literature review was comprehensive and cited both national and international references. We are satisfied that the document is of the calibre to support the research methodology.

Work Stream 2.2

Work Stream Focus A series of national and provincial workshops (one national and nine provincial) were held in February, March and April 2009 to introduce the NETaRNRA project as a whole and the training needs survey in particular. Participants to the workshops were engaged in the following process with the aim to introduce the training needs survey:

4. Create an awareness of the disaster risk management responsibilities and roles of the organisation.
5. Determine which individuals in the organisation have to be surveyed to identify training needs regarding disaster risk management.
6. Create an awareness of the responsibilities and tasks of the individual in the organisation to whom disaster risk management related duties are assigned to.

Research Methodology The training needs survey questionnaire, having been introduced in the workshops reported on above were completed either electronically or on paper, depending on the access to technology and/or the degree of comfort of respondents with such technology.

Sampling A total of 176 participants, representing various stakeholder groups, completed the questionnaire. Because of the questionnaire structure, not all respondents necessarily responded to all items though.

Data Procedures Most of the data analysis was performed using descriptive statistics such as means and percentages of responses.

Interpretation of Results In addition to a high level report for Work Stream 2, full reports describing the multidimensional nature of the workshop process and an analysis of the responses to the questions is contained in two separate reports entitled: Appendix A: National Workshop Report and Appendix B: Provincial Workshops

Report. This work stream is also to be commended for the manner in which each section of results is contextualized through appropriate literature research. Interpretation of results is therefore not only substantiated through relevant data analysis, but also through theoretical foundations for conclusions and/or recommendations.

Methodology and Quality It is the considered view of Work Stream 1 that the research methodology, process, data analysis and reporting of Work Stream 2.2 meets with all the requirements of scientific and research practice and ethics.

Work Stream 2.3

Methodology *Self-Assessment:* With this approach, employees rated their own competencies by completing an electronic assessment instrument. The implicit assumption was that every employee possesses the knowledge, ability and integrity required to assess levels of workplace performance reliably.

Sampling *Self Assessment:* The respondents per province and department were identified based on their role in their organizational entity. A convenience sampling approach was then adopted, meaning that surveys were distributed to all incumbents, who were asked to submit names of peers and subordinates. All surveys completed and returned were then included in the analysis phase.

Survey *Self Assessment:* The questionnaires were compiled in electronic format so that they could be distributed via electronic mail.

Self Assessment: This decision was taken on the basis that the respondents selected for the completion of the questionnaires were geographically dispersed and this made it virtually impossible to utilise paper-based questionnaires.

Permission was requested from the selected participants telephonically before the questionnaires were distributed electronically.

In order to ensure the effective and efficient execution of the survey process, a number of assessment support processes were put in place.

These were:

- Call centre support on hardware and software;
- Facilitated session support;

- Comprehensive and practical guidelines;
- Invitations to be administrated ;and
- Management of attendance logistics.

Validate Results *Desktop research methodology:* The literature review was comprehensive and cited both national and international references. We are satisfied that the document is of the calibre to support the research methodology.

Self Assessment: This was done by asking employees their opinion about the reliability of the assessment shortly after the feedback sessions were completed and the individuals assessed had had an opportunity to talk to each other about the process. The survey was confidential, with no employees' responses identified by name.

Methodology and Quality It is the considered view of Work Stream 1 that the research methodology, process, data analysis and reporting of Work Stream 2.3 meets with all the requirements of scientific and research practice and ethics.

4.2 Comments on Work Stream 3 Work Stream 3 focused specifically on the identification of education needs.

Work Stream Focus The aim of conducting a school survey was fourfold:

- Develop an understanding of perceptions of disaster risk and preparedness.
- Determine if and how South African schools currently (i.e. as at June 2009) integrate disaster risk reduction in school curricula.
- Determine to what extent schools have participated in the 2006-2007 Disaster Risk Reduction Begins at School Campaign.
- Determine if awareness spills over into the community.

Research Questions Research questions to be addressed include the following:

- Are there curriculum statements around disaster risk management?
- Is coverage generic, i.e. merely basic knowledge of disasters?
- Is it built into curricula, or is it additional/ad hoc life skills education, or is participation confined to disaster prone areas?
- Is inclusion confined to one subject? Or incorporated into all learning areas?
- Is disaster risk management implementation monitoring and evaluation a Department of Education responsibility or e.g. Disaster Management

Centre responsibility?

- How and by whom was the implementation of the Act, Framework and DMISA resolutions promoted/ promulgated?
- How far are places of learning and especially places of higher education with the integration of disaster risk management into course materials across all subject matter and is this feasible at Universities?
- What other Disaster Risk Reduction Begins at School related programmes are being implemented in schools across the country?

Research Methodology The questionnaire consisted of 30 items or questions that were deemed relevant. The questionnaire was divided into five main sections which covered the following: 1) biographical data; 2) perception of risk; 3) preparedness; 4) curriculum implementation; and 5) community involvement. There was a bias toward the use of closed-ended questions because this facilitated the pre-coding of responses, thereby accelerating the data collection process by minimising the amount of writing during the course of administering the questionnaire. Check boxes were used to allow speedy recording of responses and computer data entry.

Sampling A total of 402 schools were interviewed during May–June 2009. This means that a return rate of 78,5 per cent of the planned sample of 512 schools was achieved.

Data Procedures The information collected was captured during the interview in Excel spreadsheets (one per school). The data was combined from individual spreadsheets into one database.

Interpretation of Results The results obtained through the above research process are reported on in detail in the relevant work stream report, and will thus not be repeated here.

Methodology and Quality It is the considered view of Work Stream 1 that the research methodology, process, data analysis and reporting of Work Stream 3 meets with all the requirements of scientific and research practice and ethics.

4.3 Comments on Work Stream 4 Work Stream 4 was a desktop search exercise to identify and list Disaster Management related courses (modular or short); workshops; conferences/seminars; and mentorships/learnerships provided at Universities, through SETAs, by private providers, etc.

Research Problems Section 6.4.8 of the National Disaster Management Framework (NDMF) stipulates: “The NDMC must establish a service provider register to regulate

the quality and standards of training programmes. The NDMC must ensure that a register of facilitators, presenters, service providers and course materials is kept in accordance with the national disaster risk management education and training framework.”

There is however no such database.

Research Methodology Desk top research was conducted as follows:

- A list of training providers, that provides courses that are specific to or related to Disaster Risk Management – this does not have to be a complete list, but must be representative of what’s available and easily accessible.
- A list of registered short courses/unit standards/training programmes that are specific or related to Disaster Risk Management.
- A list of registered Learnerships that are DRM specific or related.
- A list of recent Workshops/Seminars/Conferences that are DRM specific or related.
- Classification of the above into various categories:
 - Registered or not (including body that they’re registered with)
 - DRM Continuum (different aspects of DRM as defined by the Act and NDMF)
 - KPAs and Enablers (as specified in the NDMF)
 - Hazard addressed

Data Procedures The information collected was captured during the interview in Excel spreadsheets.

Interpretation of Results The results obtained through the above research process are reported on in detail in the relevant work stream report, and will thus not be repeated here.

Methodology and Quality It is the considered view of Work Stream 1 that the research methodology, process, data analysis and reporting of Work Stream 4 meets with all the requirements of scientific and research practice and ethics.

4.4 Comments on Work Stream 5 Work Stream 5 focused specifically on the identification and prioritisation of research needs.

Work Stream Focus The policy-based problem that this work stream addresses is the statutory and policy compliance requirement to establish a national strategic research agenda that can be used to set up an organized research programme

consisting of those research-worthy disaster risk reduction and management issues, themes and topics.

The research problem statement: What research-worthy issues, topics and themes must be included in the research agenda to ensure that the critical priority knowledge and tools are provided from the research outputs that can contribute to the effectiveness of disaster risk reduction policy, planning and decision making?

Research Questions Addressing this research problem gave rise to the following research questions:

- What should be included in a research policy?
- What should the research-agenda process involve?
- How should the research-worthy issues, topics and themes be identified and prioritized?
- What issues, topics, themes should be prioritized as research-worthy for inclusion in this first national strategic research agenda?
- What research relevant to disaster risk reduction and management has been undertaken and is currently in progress that addresses the research needs of priority issues, themes, topics identified in the research-prioritisation process and what are the gaps in these research activities?

Research Methodology In addressing these research questions two approaches were initially considered: firstly, standard keyword searches through the internet on the available data bases and direct contact with the research facilities where these were not electronically accessible; and secondly, using a nominal group approach in a consultative workshop with specialists in disaster risk management. The main consultative workshop with the nominal group was to form the pivotal and moderating function which would effectively guide the outcome of the project.

The main intention of the workshop was to identify and prioritise research-worthy issues, themes and topics using synchronous collaborative focus group facilitation software. (ThinkTank: Group Systems) However, this pivotal and critical workshop could not be held due to a number of reasons.

This required an adjustment to the project plan and an on-line Delphi Technique survey methodology using the same software but in an asynchronous approach was then considered as an alternative. This approach

demanded much more project time than what was originally allocated for the workshop. Due to time constraints only two rounds of the Delphi survey were undertaken.

Sampling The nominal group that was selected for participation in both the consultative workshop and the survey consisted of the present Capacity Building Task Team of the National Disaster Management Advisory Forum.

Data Procedures The information from the keyword searches for relevant research output was captured in separate Excel spreadsheets and combined into one database. The information from the ThinkTank on-line survey was captured in the propriety ThinkTank software and reports developed and available in both Word and Excel. The ThinkTank software generated the various statistical data analysis.

Interpretation of Results The results obtained through both the word searches on the database and the survey is reported on in the work stream report. However, a more in-depth interpretation of the results requires that the intended consultative workshop still be held.

Methodology and Quality It is the considered view of Work Stream 1 that the research methodology, process, data analysis and reporting of Work Stream 5 meets with all the requirements of scientific and research practice and ethics.

5 References

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