PARLIAMENT
OF THE REPUBLIC OF SOUTH AFRICA

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Analysis of Basic Education Report on the ICT Rollout

1. Background

The South African Government undertook a State Visit to Malaysia, and was introduced to the 'Big Fast Results Methodology' through which the Malaysian Government achieved significant Government and Economic transformation within a very short space of time. The use of the approach, in Malaysia, addressed national key priority areas such as poverty, crime and unemployment.

The 'Big Fast Results Approach' was adapted to the South African context. To highlight the urgency of delivery, the approach was renamed Operation Phakisa[1] ("Phakisa" meaning "hurry up" in Sesotho).

1.1 About Operation Phakisa

Operation Phakisa is a results-driven approach, involving setting clear plans & targets, ongoing monitoring of progress, and making these results public. The methodology consists of eight sequential steps. It focusses on bringing key stakeholders from the public and private sectors, academia as well as civil society organisations together, to collaborate in[2]:
- detailed problem analysis;
- priority setting;
- intervention planning; and
- delivery

The collaboration sessions are regarded as laboratories (labs). The results emanating from the labs are detailed plans with ambitious targets as well as public commitment on the implementation of the plans by all stakeholders[3].
The implementation of the plans is rigorously monitored and reported on regularly. Implementation challenges are actively managed against effective and efficient resolution.

Operation Phakisa was initially implemented in two sectors, the Ocean Economy and Health. It was due to its ability to expedite progress in policy implementation, that Basic Education Sector then adopted the model in the provision of ICT.

The brief seeks to provide an analysis on the DBE provision of ICT using Operation Phakisa with the aim of creating opportunities for engagements between PC Members and the related Entities.

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[1] DBE (2014) Operation Phakisa – Concept Document
[2] *Ibid*
[3] *Ibid*

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2. Initiatives taken by the DBE over the years on e-Education and ICT

The DBE took initiatives in line with promoting e-Education as guided by the National Development Plan and the Medium Term Strategic Framework. The initiatives reported on by the Department included amongst others:[4]

2.1 Publication of White Paper on e-Education in Sep 2004[5]

The White Paper on e-Education was published in 2004; its purpose is to guide the Department of Education's approach to e-education and the integration of information and communication technologies (ICT) into teaching and learning. Furthermore, ICT is expected to be used to promote and create greater access to learning opportunities, redress inequalities, improve the quality of teaching and learning, and provide personalised learning experiences.

2.2 Development of Guideline in 2007: *Teacher Training and Professional Development in ICT*[6]

Recognising that all teachers require knowledge, skills, values and attitudes, as well as the necessary support, to integrate ICT into teaching and learning, and to support them in their various roles as mediators of learning, interpreters and designers of learning programmes, leaders, administrators, scholars, assessors and subject specialists, the DBE developed the guideline that sets out the ICT knowledge, skills, values and attitudes needed by teachers to implement the National Curriculum Statement effectively.

2.3 Conducting Feasibility Study in 2009[7]

KPMG undertook a study on behalf of the DBE, to determine whether the e-Education initiative was in the best interest of schools. The approach and methodology of the stages in the study (needs analysis, option analysis, due diligence, value assessment, economic valuation, and procurement plan) were described. The study confirmed a need and maintained that implementation of e-Education is feasible.

2.4 Developing a Guide for School Principals: Managing ICTs in South African Schools[8]

The DBE, realising the importance of the School Management Team in managing the processes towards the implementation of ICT by schools, developed a guide for School Principals. The purpose of the guide is to give principals and senior school management information on using and managing ICT resources so that they can provide the necessary

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[4] DBE (2014)
[5] Ibid
[6] Ibid
[7] Ibid
[8] DBE (2014)

leadership. The guide also considers some implications on the use of the computer and related resources for teaching and learning.

2.5   Developing Guidelines for Schools in 2012: ICT Hardware Specifications[9]

It was becoming obvious that all teachers require the knowledge, skills, values and attitudes, as well as the necessary support, to integrate ICT into teaching and learning. The initiative was conceptualised with the view to assist teachers in their various roles as mediators of learning, interpreters and designers of learning programmes, leaders, administrators, scholars, assessors and subject specialists. The document sets out the ICT knowledge, skills, values and attitudes needed by teachers to implement the National Curriculum Statement effectively.

3. Progress Report during the engagements of the DBE with the Portfolio Committee in 2016

The following progress was reported:

- Revised Integrated Approach to School Connectivity, including the school connectivity value chain, was drafted and agreed upon[10].

Suggested questions:
   o   What is the status of the document in terms of its implementation?
   o   Has the document been mediated so that all affected are aware of their roles and responsibilities?
   o   To what extent has, the document affected the school connectivity.

- Management structures such as Deputy Ministers' e-Connectivity Forum, School Connectivity Steering Committee, DBE – DTPS task team, and Monthly Provincial School Connectivity Steering Committee, were strengthened[11].

Suggested questions:
   o   What was the impact of these structures in facilitating ICT connectivity?
   o   How many meetings have been held to date?
   o   What was the impact of these meetings in ensuring connectivity of schools?

- ICASA has strengthened monitoring of the compliance of Government Gazette No 37718 of June 4, 2014 by developing[12]:
   o   Guidelines and specifications: Hardware & software, connectivity (bandwidth) and Training

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[9] Ibid
[10] DBE (2016) Status of e-education, particularly school connectivity
[11] Ibid
[12] DBE (2016) Status of e-education, particularly school connectivity

- Guidelines with regard to stakeholders' responsibility in terms of training, maintenance and payment of connectivity recurring cost.

Suggested questions:
- How were these documents mediated?
- Are all other entities aware about these documents and their implications?

- Officials from DBE, DTPS, Network operators, and respective Provincial officials are permanent members of all Provincial Monthly Steering Committees[13].

Suggested questions:
- Who is feeding the bill on the costs emanating from activities of the forum?
- Who is the host? Where are these meetings normally held? Is there some form of rotation?
- At what level of accountability are Officials nominated to serve on the steering committee?

- On Monthly basis, each Provincial USAO Steering Committee does the following[14]:
- Plans the Provincial Monthly rollout;
- Monitors the implementation;
- Scrutinizes the monthly report by the service providers.
- Identifies challenges and devise mitigation plan;
- Conduct random visits to schools to ascertain to the appropriateness of the rollout against the specifications.

Suggested questions:
- Is there evidence or indicators that could be used to substantiate what was reported?
- What is the progress to date on connectivity countrywide?

- A 'mobile system' requiring minimum security and the used of strong room has been adopted[15].

Suggested questions:
- How effective are these options? What have other alternative means could be used?
- Has the Department conducted a study tour to establish some good practices on the ICT?
- How are communities in those countries mobilised to develop ownership and protect the initiative?

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[13] Ibid
[14] Ibid
[15] DBE (2016) Status of e-education, particularly school connectivity

- Provinces assist with the vetting process of all nominated schools. This includes checking whether the school (a) has access to electricity, (b) has at least a strong room to secure the mobile trolley[16].

Suggested questions:
- o Has this vetting process not contributed to the exclusion of the majority of needy schools? How was the discrimination or bias based on social background avoided?
- o To what extent are schools assisted to ensure that they have those listed amenities?

- Government Gazette No 37718 of June 4, 2014 obliges Network Operators to provide support and maintenance for a period of three months after installation[17].

Suggested questions:
- o How was support provided? Was some form of training done?
- o What is the maintenance strategy of the Department on ICT equipment?
- o Does the maintenance consider the Asset Life Cycle?
- o To what extent are schools assisted to ensure that their choice of technology has reasonable warranty?

- Post 3-month period, USAASA takes responsibility. All equipment carries a 3-year OEM warranty[18].

Suggested questions:
- o Was there prescribed material that schools could order?
- o What informed the warranty period?
- USAASA has not started this function, as such; the Provincial steering committees decided that the Network Operators transfer knowledge to District IT Technicians who are currently assisting in this regard[19].

Suggested questions:
- o How was USASSA persuaded to start with the function as reported?
- o Regarding the District IT Technicians, What level of competency and expertise do they have, or should they require?

It must be noted that a Framework for ICT implementation in Education for the period, 2016 – 2020, has been developed[20]. The document is informed by the recommendations of Operation Phakisa ICT in education Lab held. Furthermore, the DBE has developed a School Connectivity Management Information System that captures all school connectivity initiatives.

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[16] Ibid
[17] Ibid
[18] Ibid
[19] DBE (2016) Status of e-education, particularly school connectivity
[20] DBE (2016)

3.1 Teachers Centres ICT connectivity - 2016 status Report

Table 1: Status of Connectivity in Teacher Centres[21]

Province	No of Centres	Centres with ICT Labs	Connectivity	Teacher Centres with Programmes	Access to Emails	Functional	Total Number of Districts
Eastern Cape	16	14	14	12	16	6	23 (Then)
Free State	5	6	6	4	5	4	5
Gauteng	21	11	11	17	21	1	15
KwaZulu-Natal	49	35	15	38	47	28	12
Limpopo	9	8	8	9	8	8	5
Mpumalanga	17	12	10	16	17	10	4
Northern Cape	5	5	5	5	5	5	5
North West	24	16	7	14	23	7	4
Western Cape	3	3	3	3	3	3	8
TOTAL	147	110	79	118	145	79	81

Sourced: DBE Report on Teacher Centres – modified

In terms of the table above, there seem to be no correlation between the number of districts and the number of connected Teacher Centres. The total number of Teacher Centres with ICT labs is in some instance less than the total number of districts in a province. The challenge is, which Districts are without Teacher Centres?

Suggested questions:
- o How is the distribution of the Teacher Centres in each of the province?
- o Does that mean that these Teacher Centres are equitably distributed per district?
- o What criteria was used to select these Teacher Centres?
- o What remain to be tested though is how Teachers are benefiting from these centres in terms of Teacher Development. To what extent is reporting done on the impact of these centres on the performance of leaners in the National Senior Certificate (NSC)?

- About 26percent of teachers, have Basic skills in ICT, while only 7 percent possess Intermediate skills in the use of ICT for teaching and learning[22].

Suggested questions:
- o How is the DBE planning to up skill the remaining number of teacher without ICT skills?

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[21] DBE (2016) Status of e-education, particularly school connectivity

[22] DBE (2016) Status of e-education, particularly school connectivity

- The percentage is very low compared to challenges posed by technological advances. How are these teachers assisting learners in facilitating ICT classroom programmes?
  - The DBE is expected to speed up the process of assisting these teachers. Does the DBE have a programme to deal with such a huge challenge (Eradicating ICT illiteracy amongst teachers)?

- The majority of teachers with ICT skills are in Western Cape, followed by Gauteng then Free State[23].

Suggested questions:
  - The statement suggest that schools in urban areas are more advantaged compared to those in rural areas. What is the plan of the DBE to attract teachers with ICT skills even in rural provinces?
  - The imbalances of the past cannot be left unabated. How is the Department allocating resources to address these imbalances?

- A plan to accelerate teachers ICT training and train all teachers by 2019 is contained in the ICT in education draft sector plan[24].

Suggested questions:
  - How realistic is the target set given the massiveness of the challenge?
  - Was the plan ever costed?

4. Analysis of the DBE 2018 ICT Report

Table 2: Main Connectivity Initiative 2014/15 to 2017[25]

Province	Total no schools	Baseline 2014/15	USAASA	USAO	Schools connected Dec 2017	Differences
Eastern Cape	5727	2421	537	769	3727	
Free State	1327	752		399	1151	
Gauteng	2183	2134		125	2259	76
KwaZulu Natal	5937	1460		1062	2522	
Limpopo	3924	965		281	1246	
Mpumalanga	1948	718		226	944	
Northern Cape	573	438	10	434	882	299

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[23] Ibid
[24] DBE (2016) Status of e-education, particularly school connectivity

[25] DBE (2018)

North West	1542	1029	8	383	1420	
Western Cape	1614	1611		340	1951	350
Total	**24775**	**11528**	**555**	**4019**	**16102**	**725**

Sourced from DBE and Modified

- The report concluded that 64,9 percent of schools (16102 out of 24775) have connectivity (ADSL or USAO) – combined calculation of overlap of NEIMS and DTPS data, with 4019 having only USAO;
- The report further attested that 56.9 percent of schools (14137 out of 24775) have low speed connectivity (non-broadband) for teaching and learning. (Source: EMIS); mostly 256 kbps ADSL; and
- 8 percent of schools (i.e. 1965 schools) have broadband connectivity which could further be expressed in provinces as follows:[26]
    - Western Cape: 1167;
    - Gauteng: 243;
    - Eastern Cape: 537;
    - Northern Cape: 10; and
    - North West: 8.

Suggested questions:
- How many schools were actually connected given that statistics reflected differ at some point with the real number of schools?
- The fact that some schools were repeated in their receiving ICT connectivity support, cannot be used as an excuse to double count the figures. What is the take of the Department?

Table 3: Breakdown – Status of School Connection

Province	MTN	Cell C	Vodacom	Liquid	Total per Province	Total schools in Province
Eastern Cape	204	201	364		769	5727
Free State	166		233		399	1327
Gauteng	72	53			125	2183
KwaZulu-Natal	358	218	300	186	1062	5937
Limpopo	205	26	50		281	3924
Mpumalanga	43	190	107		340	1614
North West	70	86	70		226	1948
Northern Cape	141	76	217		434	573
Western Cape	101	52	45	185	383	1542
Subtotal	**1360**	**902**	**1386**	**371**	**4019**	**24775**
TOTAL	**4019**					

Sourced from DBE and modified

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[26] Ibid

Suggested questions:

- o In terms of the vetting requirement of schools, it appears that most of the schools in KwaZulu-Natal will not meet the requirement due to rural nature and the fact that they may not have electricity. What is the plan to ensure that these schools are also included in the near future?
- o Considering the effectiveness of SA SAMS in the Free State, only 1 151 schools were connected? Why not all schools, when the province appears to be established in data management compared to other provinces?

5. Identified challenges

- Broadband is not available in many locations especially in rural schools;
- Efficiencies leading to budget cuts;
- Shortage of funds;
- Limited CSI funding;

TV Whitespace is an experimental technology without a settled standard. However, Gazette 40772 Draft Regulations is out for comment – Notice No. 282 of 2017.

The process involve costs as follows:

- o Costs involved in **developing course** content and assessment instruments
- o Costs involved in **surveying** existing courses in detail
- o Costs involved in re-training lecturers

Matters for consideration

- The PC to consider the report of the Departments while acknowledging that more still needs to be done in ensuring that all children in South Africa enjoy ICT benefits.
- The PC to further request the Department to outline in detail how the advancement of ICT has assisted on issues of Inclusive Education and Home Schooling.

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6. Reference

- Department of Basic Education, (2018). *Operation Phakisa – ICT Rollout in Basic Education.* Pretoria.
- Department of Basic Education, (2016). *Status of e-education, particularly school connectivity.* Pretoria
- Department of Basic Education, (2014). *Audit of e-Education Initiatives or Interventions in the Past 10 Years.* Pretoria.
- Department of Basic Education, (2014). *Operation Phakisa – Concept Document.* Pretoria