



casme

CENTRE FOR THE ADVANCEMENT OF SCIENCE AND MATHEMATICS EDUCATION

Annual Report

2010



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Trust Registration No: T623/85

Non-Profit Organisation No: 54-244 NPO

A Section 18A Public Benefit Organisation No: 930023209

1. OVERVIEW OF THE ORGANISATION

The Centre for the Advancement of Science and Mathematics Education (CASME) is a non-profit education development agency that strives to improve the quality of mathematics and science education. It achieves this through the professional development of educators and the provision of educational resources to historically disadvantaged communities.

Founded in 1985 the aim of the organisation from the start was to address systemic imbalances in mathematics and science education.

The organisation possesses a wealth of experience and expertise in teacher professional development and implements a range of interventions in partnership with government, corporate social investment programmes, universities and national development initiatives, amongst others.

CASME's key focus is on the advancement of mathematics and science teachers' subject competence and teaching skills in South African schools. From its inception, the organisation has provided in-service training to maths and science teachers mainly from poorly resourced and rural schools, while learners receive educational support through a number of tailored programmes.

Our Vision: *"To be the leading Centre for Advancing the teaching and learning of Mathematics, Science and Technology in South Africa."*

How we achieve this vision is articulated in our Mission: *"To research, develop, evaluate and provide access to quality educational resources, continuing teacher professional development opportunities and school-based support to advance the teaching and learning of mathematics, science and technology education in disadvantaged, under-resourced and rural schools in South Africa."*

2. DIRECTOR AND DEPUTY DIRECTOR'S REPORT

One measure of a Public Benefit Organisation's impact is the extent to which it is able to drive resources (financial, human and otherwise) to beneficiaries. It is also important to reflect on how the organisation does this over time.

In this regard, CASME managed income of R7,7 million in 2010. In 2009 this figure stood at R6,7 million having risen from less than R3 million in 2007.

The KwaZulu-Natal Provincial Department of Education (PDOE), largely through its Mathematics, Science and Technology Directorate, contributed R1 million in 2009 through contracts awarded to CASME to undertake training and support of teachers in the province.

However, in 2010 the contribution by the PDOE receded to R70,000. This reflects the uncertainty of government work for teacher development with units in the Department responsible for driving these activities often failing to plan cohesive training and development programmes and in some cases being constrained by bureaucratic procurement processes. The effect is that organisations are still

largely dependent on corporate and foundation support which in itself is under growing pressure due to broader economic uncertainties.

The above context emphasises the need for non-profits to develop third stream income. In 2009 CASME's Board of Trustees approved the implementation of a pilot income generation project. The project involved the development of teacher and learner guides. An initial print run of 1000 science learner books for Grades 10 to 12 was made. In 2010 the project turned over approximately R150,000 in sales. Although this represents only 1.9% of total funding for 2010 it is indicative of a potential alternative revenue stream for the organisation which is being factored into our medium and long term planning, although the fact that the publishing sector is under increasing pressure from Open Content sectors and electronic publishing technologies will need to be considered.

Despite the contraction of the sector and global financial pressure, CASME grew its staffing in 2010 to 18 of which 8 were full-time academic programme staff. The Head Office administrative core comprised 4 members of staff, two at a junior management level. This ratio supports the drive by CASME to ensure that human resources are channelled to programme delivery and that administration is kept to an efficient minimum. Growing the human resource capacity of CASME was necessary to support an increasing number of projects across a wider geographical area outside CASME's historical stronghold in KwaZulu-Natal.

In 2010 CASME implemented 16 projects across 3 provinces, namely KwaZulu-Natal, Western Cape and Gauteng.

In summary CASME's reach was as follows:

Educators	1256
Learners – Direct	2064
Learners – Indirect	75 000
Schools	498

Taking into account CASME's geographical bias to KwaZulu-Natal and secondary schools the above impact represents approximately 25% of all secondary schools in the province.

When viewed against the financial input this is an annual cost per school of around R15,500 and R6,200 per teacher.

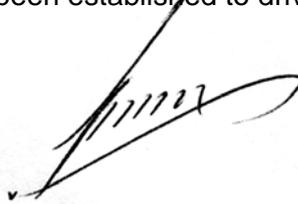
2011 Outlook

In 2011 CASME is expected to increase funds managed and is targeting R10 million. Academic staffing will increase marginally with the addition of one staff member. It is expected that 18 projects will be implemented across 5 provinces.

In 2011 CASME will celebrate its 25th Anniversary. CASME plans a number of events to mark this important milestone. It will be hosting an Education Development Conference in October bringing various stakeholders including teachers, learners, academics and government together to reflect on the work and challenges facing mathematics and science education in KwaZulu-Natal and in South Africa. It is also proposed that a series of seminars be held bringing influential speakers and experts in the field to present to local teachers. The proceedings of the seminars will be published in a special anniversary publication. CASME also plans to run competitions for learners and educators in mathematics and science. A working group has been established to drive the anniversary programme.



Themba Mthethwa
DIRECTOR



Henre Benson
DEPUTY DIRECTOR

3. BOARD OF TRUSTEES AND STAFF

Board of Trustees

Prof John Volmink (Chairman) – CEO: National Education Evaluation and Development Unit (NEEDU)

Prof Renuka Vithal – Deputy Vice Chancellor: Teaching and Learning – University of KwaZulu-Natal

Dr Sharma Bhikha – Deputy Director – Public Administration Leadership and Management Academy (PALAMA)

Mr Magnate Ntombela – Regional Director: University of South Africa

Mr Sifiso Mncube – BEE and Supplier Development Manager: Foskor

Staff: Academic

Mr Themba Mthethwa (Director)

Mr Sandile Hlongwane

Mr Themba Leslie Ndaba

Mr Mavukuthu Shembe

Mrs Nokuthula Xulu

Mr Mfundo Madolo

Mr Mokhulu Matshika

Mrs Thami Mahlobo

Mr Bongani Dlamini

Staff: Head Office Support

Mr Henre Benson – Deputy Director

Ms Fynall van Rooy – Office Manager

Mr Sizwe Khumalo – Project Administrator and Resource Centre Manager

Staff: Resource Centres

Mr Zamokuhle Nxumalo - PMB Resource Centre

Miss Bongwiwe Buthelezi - Msinga Resource Centre

Mrs Linda Memela - Phungashe Resource Centre

Miss Sinenhlanhla Xulu - Richardsbay Resource Centre

Mr Dumisani Sihlangu – Ndwedwe Resource Centre

Miss Thandiwe Nzimande – Edgewood Resource Centre

4. EDUCATION DEVELOPMENT IN CONTEXT

It has become customary in our annual review for CASME to reflect on key events and developments that help to shape the environment in which the organisation operates. The year 2010, when looked at macroscopically was a year for consolidation, reorganisation and new beginnings.

FIFA World Cup



It is not possible to talk of 2010 in South Africa without mentioning the Soccer World Cup. And in the field of education this momentous occasion also impacted the teaching and learning in our schools. The school calendar was adjusted with schools throughout the country closing for 10 weeks during July.

However some schools took the opportunity to use this time constructively and engaged learners in holiday classes. The long break and some subsequent labour related disruptions also galvanised many schools and communities into action with a national drive to ensure that learners, particularly the Grade 12s, completed the curriculum and prepared for their final exams.

CAPS

Following recommendations of the 2009 Ministerial Review Report on the implementation of the National Curriculum Statement (NCS) the Department of Basic Education began a process of finalising the development of “*single, comprehensive, and concise policy documents to replace the current Subject and Learning Area Statements, Learning Programme Guidelines and Subject Assessment Guidelines for all subjects listed in the National Curriculum Statement Grades R – 12*”. CASME in collaboration with the Shuttleworth Foundation promoted the participation of practising teachers in the review using an online collaborative platform and submitted a combined response to the call for comments.

ANA

Following international trends towards standardised testing the Department of Basic Education also extended Annual National Assessment (ANA) as a pilot programme with a sample of schools to Grade 9 learners. The ANAs focus on language and mathematics and are an attempt to gauge the state of education in the General Education and Training (GET) band in South African schools. The ANAs, whilst imperfect, do focus attention on the learning of mathematics and language at the earlier stages of schooling, a significant and important development.

NEEDU



On 1 July 2010 CASME Chairperson Prof John Volmink was appointed as the CEO of the National Education Evaluation and Development Unit. NEEDU was created to strengthen accountability systems in education. It is responsible for monitoring service delivery at all levels of the system including national, provincial and district offices, but will also be responsible for monitoring what happens in schools.

SCHOOLING 2025

Government released its strategic education blueprint *Schooling 2025* and the associated *Action Plan to 2014: Towards the Realisation of Schooling 2025*. Schooling 2025 is a long term plan for the basic education sector which will allow for the monitoring of progress against a set of measurable indicators covering all aspects of basic education including amongst others, enrolments and retention of learners, teachers, infrastructure, school funding, learner well-being and school safety, mass literacy and educational quality.

5. PROJECTS

CASME has adopted key implementation models and these are often integrated when we work with specific communities. CASME operates resource centres that provide educational resources to teachers. They are usually coupled with a professional development programme that addresses content knowledge and the effective use of equipment through workshops and classroom support. Our learner schools model involves bringing learners together on weekends or school holidays where problematic topics are addressed in collaboration with teachers. In addition, we implement the vacation school model which involves bringing large groups of teachers to a central venue during their vacation. Topics are dealt with in detail to ensure a better understanding of the content and new approaches to teaching and diagnosing learner problems.

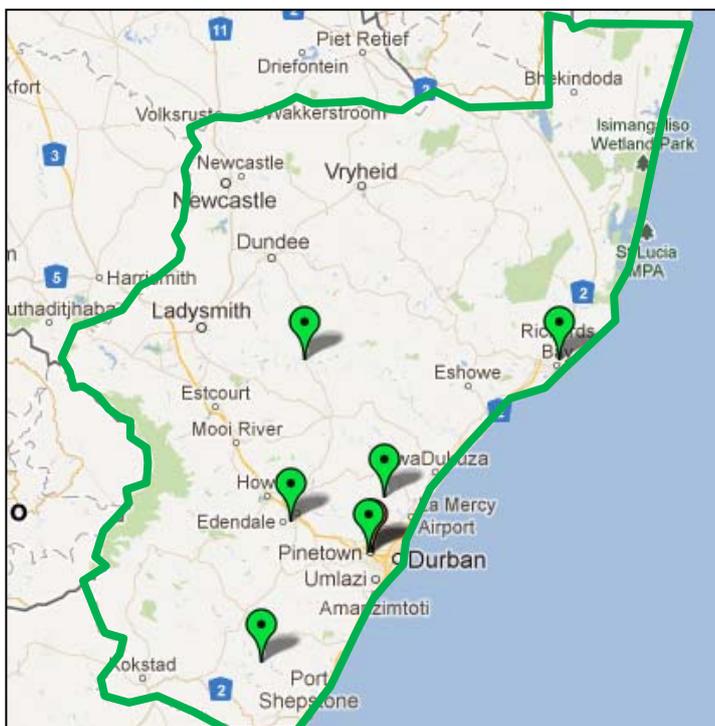
In addition to these models, CASME provides a range of individual education development services including workshops on specific topics, school based support, resource provision, materials development, evaluations of projects and educational research.

a. Resource Centres

In 2010 CASME operated six resource centres that provided videos, charts, experiment kits and other educational resources to teachers from affiliated schools on a loan basis. The purpose of providing the resources on loan is that they can be used by teachers to make mathematics and science learning more interesting and easier to understand. The resource centres are usually coupled with a professional development programme that addresses content knowledge and the effective use of equipment through workshops and classroom support. The intention of the workshops is that they enable teachers to learn different ways of using the resources in their teaching lessons.

The resources are of particular assistance to teachers and learners because many schools do not have laboratories where they can do practical work. This is critical in the current environment when practical work is examined and there is a much greater emphasis on it than previously.

In 2010 a total of 817 educators and 3 802 learners visited the resource centres. They were from the 113 schools that are affiliated to the centres. The number of learners that benefited from the resources borrowed from the centres in 2010 is estimated to be 21582.



CASME RESOURCE CENTRE USAGE - 2010							
ACTIVITIES	PINETOWN	MSINGA	NDWEDWE	PHUNGASHE	RICHARDS BAY	PIETERMARITZBURG	TOTAL
Schools affiliated	33	16	15	10	30	9	113
Equipment borrowed	420	200	39	66	393	164	1282
Educators visiting	133	202	16	87	280	99	817
Learners visiting		135	269	409	2671	318	3802
Learners benefited	6975	2636	1182	2823	4870	3096	21582

b. Science Practical Workshops

Linked to the resource centres' project CASME implemented a series of science practical workshops during 2010. The programme was initiated with the support Shell South Africa to address the skills needs of teachers and school affiliated to the centres. Workshops were conducted at 4 of CASME's six resource centres namely Edgewood, Phungashe, Ndwedwe and Richards Bay. 122 Science teachers attended the workshops which covered experiments in Chemistry and Physics from the Grade 12 school curriculum.



c. Teacher Training

CASME runs workshops to assist teachers to improve their conceptual understanding of mathematics and science. The workshops also aim to help teachers learn and understand the new developments in the curriculum and understand and perform practical work.



These workshops either take the form of local one-day cluster workshops, one-day seminars or longer 5 day residential programmes during school holidays. The package of training provided depends on the project design and available funding.

CASME conducted 172 training activities during 2010 reaching 1256 teachers of Mathematics and Science and in some instances Life Sciences and English.

d. School Based Support



In conjunction with the resource centres and workshops, CASME provides support for teachers in their classrooms. We believe that this is vital to assist educators to transfer what they have learned in workshops into the school setting.

Through CASME's partnership with its funders, 644 visits to 221 schools were conducted where direct assistance with lesson planning, lesson pacing, learner participation and conducting experiments was provided. Supplementary material was also given to teachers on an individual basis in

response to their particular requests or needs. During the last half of the year the focus shifted to preparation for examinations.

e. Learner Support



In addition to the above-mentioned type of projects, CASME is involved in providing learner support by bringing learners together on weekends or school holidays to address problematic topics, support them in their exam preparation and assist with study skills and career guidance.

113 days of learner activities were conducted reaching some 2000 learners over the course of 2010.

f. Other Activities

In addition the activities that form part of structured education development programmes, CASME has also engaged in one-off advocacy and support initiatives. These have included participation in National Science Week, ScienceUnlimited, Olympiads and Careers Expos.

Teachers and Learners are given the opportunity to experience learning outside of the classroom and gain exposure to presentation skills, study opportunities and explore science content in a fun and interactive way through these activities.



6. INDEPENDENT AUDITOR'S REPORT

To the trustees of The Shell Science and Mathematics Resource Centre Educational Trust

We have audited the financial statements of The Shell Science and Mathematics Resource Centre Educational Trust, which comprise the statement of financial position as at 31 December 2010, and the statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory notes, and the trustees' report.

Trustees' Responsibility for the Financial Statements

The trusts trustees' are responsible for the preparation and fair presentation of these financial statements in accordance with the International Financial Reporting Standards. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of The Shell Science and Mathematics Resource Centre Educational Trust as at 31 December 2010, and its financial performance its cash flows for the year then ended in accordance with the International Financial Reporting Standards.



Megan Iyer Incorporated
Registered Auditor

7. FINANCIAL STATEMENTS

Statement of Comprehensive Income

	2010	2009
Project Income	6,316,310	6,263,637
Other Income	1,420,333	859,418
Operating Expenses	(7,853,774)	(4,658,340)
Operating (deficit) surplus	(117,131)	2,464,715
Finance costs	(10,460)	(7,834)
(Deficit) surplus for the year	(127,591)	2,456,881
Other comprehensive income	-	-
Total comprehensive (loss) income for the year	(127,591)	2,458,881

Statement of Cash Flows

	2010	2009
<i>Cash flows from operating activities</i>		
Cash receipts	7,468,826	6,890,848
Cash paid to suppliers and employees	(7,391,402)	(4,667,858)
Cash generated from operations	77,424	2,212,990
Finance costs	(10,460)	(7,834)
Net cash from operating activities	66,964	2,205,156
<i>Cash flows from investing activities</i>		
Purchase of property, plant and equipment	(100,942)	(38,450)
Sale of property, plant and equipment	-	3,333
Movement in investment	8,641,956	-
Movement in reserves	(8,141,956)	-
Net cash from investing activities	399,058	(35,117)
<i>Cash flows from financing activities</i>		
Movement in finance lease	(27,113)	(31,003)
Total cash movement for the year	436,909	2,139,036
Cash at the beginning of the year	5,109,054	2,970,018
Total cash at the end of the year	5,547,963	5,109,054

Statement of Financial Performance

	2010	2009
Project Income	6,316,310	6,263,637
<i>Other Income</i>		
Cruising science book sales	138,249	
Grants received	1,000,000	600,000
Investment revenue	267,817	232,207
Other operating income	14,267	21,011
Profit/loss on sale of non-current asset	-	6,200
	1,420,333	859,418
<i>Operating expenses</i>		
Advertising	(6,691)	(20,205)
Auditors remuneration	(21,423)	(27,000)
Bank charges	(19,180)	(14,021)
Catering	(512,448)	(186,501)
Computer expenses	(4,455)	(874)
Consulting expense	(10,470)	(1,650)
Consulting fees	(436,955)	(665,493)
Depreciation, amortisation and impairments	(104,791)	(68,070)
Loss on investment	(500,000)	-
Employee costs	(4,049,534)	(2,470,421)
General expense	(15,510)	(16,011)
Hire	(17,014)	(8,104)
Incentives	(76,395)	(140,000)
Insurance	(39,175)	(35,512)
Legal expenses	(3,405)	(10,706)
Materials and equipment costs	(155,773)	(56,758)
Motor vehicle expenses	(25,383)	(14,736)
Postage	(3,069)	(1,744)
Printing and stationery	(255,869)	(97,192)
Reference materials and books	-	(597)
Resource centre costs	(99,772)	(14,263)
Royalties and license fees	(18,855)	-
Subscriptions	(5,926)	(6,514)
Telephone and fax	(65,352)	(73,019)
Travel and accommodation	(1,406,329)	(728,949)
	(7,853,774)	(4,658,340)
Operating (deficit) surplus	(117,131)	(2,464,715)
Finance costs	(10,460)	(7,834)
(Deficit) surplus for the year	(127,591)	2,456,881

8. FUNDERS AND PARTNERS

We wish to take this opportunity to express our appreciation to our funders and partners, those who have supported us in the past, those who continue to do so year after year, and new partners that have joined CASME in the past year. All have been central to helping CASME achieve its mission to improve the quality of mathematics and science teaching and learning since it was established in 1985.



Today, tomorrow, together.



SASOCIALINVESTMENTEXCHANGE



TOYOTA TEACH



