

Leopoldina
Nationale Akademie
der Wissenschaften

Zimbabwean Scientists in the Diaspora Meeting

Lucretia Room
Emperor's Palace Convention Centre
Johannesburg

14 September 2016

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1. Opening and Welcome

Professor Roseanne Diab, Executive Officer, Academy of Science of South Africa (ASSAf)

Professor Christopher Mutambirwa, President, Zimbabwe Academy of Sciences (ZAS)

Dr Dexter Tagwireyi, Zimbabwe Young Academy of Sciences (ZIMYAS)

Moderator: Mr Stanley Maphosa, International Liaison Manager, ASSAf

Professor Diab welcomed the participants including the guest of honour, Mr Trevor Ncube, members of the ZAS and ZIMYAS and representatives of institutions across South Africa.

Professor Mutambirwa thanked the staff of ASSAf, for convening the event and the German National Academy of Sciences, Leopoldina for vital sponsorship of the meeting. Such support, he said, is critical to enabling the Academy to grow.

Dr Tagwireyi added his thanks and welcome. It was a most important occasion, he said, noting the presence of all three academies as well as the sponsors and supporters mentioned by Professor Diab.

2. Purpose of the Meeting

Professor Voster Muchenje, Co-Chair: South African Young Academy of Science

Moderator: Mr Stanley Maphosa

The purpose of the event, said Professor Muchenje, was to explore how Zimbabwean academics based in South Africa can contribute to the development of the Zimbabwean academies and the Zimbabwean science system. Professor Muchenje particularly urged reflection on the role of national academies in terms of providing evidence-based science for policy. Especially in the developing world, policy-making lacks evidence-based scientific input. ASSAf is an example of a leading provider of science advice to government.

The issue of secretariat support for such structures is critical, said Professor Muchenje.

3. Keynote Address

Mr Trevor Ncube, Executive Deputy Chairman of Mail & Guardian Media Ltd

Moderator: Mr Stanley Maphosa

Mr Ncube began his presentation with an account of how, when he was growing up in Bulawayo, Zimbabwe, bottles of milk were delivered to the door of his home, and money left out to pay for them, to remain undisturbed overnight. That this could not happen today, he said, was a reflection on values that have been lost. "How did we get here as a people", he asked, and "what responsibility do individuals, communities and the government have for this?"

That the meeting was being held in South Africa and not in Zimbabwe was a reflection of the situation there, he said, where the tragedy of the past 36 years had been the shattering of dreams and the loss of potential and resources to make those dreams a reality. University life in Zimbabwe for his generation, Mr Ncube said, involved good food, as well as well-equipped facilities. How many students today can dream of this? The destruction is not the result of sanctions but of what Zimbabweans have done.

What could scientists have done to prevent this? A view that "We're scientists" may have led them to disclaim political responsibilities; the reality of the diaspora has removed them from the country as well as from their families; and science cannot easily be done, and its

findings may not be acceptable, in a corrupt and corroded political environment in Zimbabwe. Those with a different view of the country's potential trajectory were not sufficiently passionate about defending the freedom to write, research and speak which has been heavily curtailed in Zimbabwe.

The most successful societies are where there is contestation of ideas, Mr Ncube said. There is no such market place of ideas in Zimbabwe, and fear of the consequences of self-expression is real.

A country with at least three million of its people living outside its borders is an occasion for mourning. However, it may be approaching the point where so much has been lost that change must come. Some feel guilty about not having done more. Younger people are not burdened by colonialism, and many want to change the country for the better. The older generation, which went to war, meant well but with proximity to power and resources, corruption set in.

The middle generation – his own – had been useless, Mr Ncube said because they were educated for free, had not given back to their country and they ran away. But those who are 40 and below are reclaiming freedoms and asserting that Zimbabwe, its emblems, institutions and assets belong to all.

The greatest damage has been to people's minds and attitudes. What kind of value system legitimises stealing farms and factories? What role models are these for children? The deterioration in Zimbabwe has not only been in its roads and bridges but in the love and care that its people should show for each other. Humanity has been destroyed, and the experience of abuse has made it easy to abuse others.

How, Mr Ncube asked, is the new Zimbabwe, with the values he knew in his childhood, going to be rebuilt? Those around the planning table must be young, and not in their 70s or 90s. Scientists are needed to drive the new nation without fear or favour. Zimbabweans are proud people; they must reclaim the spirit which has been beaten up for the past 36 years.

Closing the session and thanking Mr Ncube, the Moderator noted that the meeting is about how Zimbabwean scientists can contribute to rebuilding the country.

4. Presentation by ZAS - Overview and Challenges

Professor Christopher Mutambirwa, ZAS

Moderator: Mr Stanley Maphosa

Professor Mutambirwa's presentation first described ZAS and then went on to note the challenges that the organisation faces. ZAS' purpose, structure and activities were presented as follows:

- Objectives
- Vision and Mission
- Membership
- Principal organs
- Colleges: Life Sciences, Physical Sciences, Social Sciences
- Fellows
- Composition and functions of the Executive Committee
- Finances and expenses
- Selected ZAS activities including publications; guest lectures by eminent speakers; collaboration with organisations such as the Research Council of Zimbabwe and the

Ministry of Higher and Tertiary Education, Science and Technology; and the establishment of Zimbabwe Young Academy of Sciences (ZIMYAS).

- ZAS and national affairs
- ZAS' international affiliations and relationships with organisations including the Network of African Science Academies (NASAC); other academies and cognate bodies in countries including the United Kingdom, Germany, Mauritius and Madagascar; and International Human Rights for Scientists.
- ZAS' collaboration with ASSAf, including its assistance to ZAS with grant applications, publications and some secretariat support.

The challenges facing ZAS were presented as follows:

- **Finance:** many, if not most, of ZAS' activities, including research and development, depend on adequate funding. Many members and potential members do not have the resources to support the organisation or pay membership fees.
- **The slow pace at which ZAS' accreditation is being processed by government:** there have been many meetings, with officials showing apparent enthusiasm, but so far little progress.
- **The need for a full-time administrator:** at present, much of the work is done by Professor Mutambirwa. This is not sustainable in terms of time or resources; is not efficient and does not create the best foundation for the organisation. An endowment fund, of the type common in countries where philanthropy supports academic endeavours for the public good, would make a major difference.
- **The need for more permanent office space:** the organisation is grateful for the space currently made available by the Vice-Chancellor of the University of Zimbabwe. However, longer-term, suitably-resourced premises are needed.

Professor Mutambirwa closed with the hope that the day's discussions would propose solutions to some of these challenges.

Please refer to **Appendix 1** for the ZAS presentation

5. Presentation by ZIMYAS: Overview and Challenges

Dr Dexter Tagwireyi, ZIMYAS

Moderator: Mr Stanley Maphosa

Dr Dexter Tagwireyi gave a presentation to introduce the Zimbabwe Young Academy of Sciences (ZIMYAS) and give a brief overview:

- **Formation and conceptualisation of a 'Young Academy':** a four-person Executive, elected at the founding meeting, has been taking the lead on what the purposes and activities should be. Although there initially was no model from which to work, there was some useful exposure to ideas by attending a Global Young Academy (GYA) General Assembly and Conference meeting as well as other young academy related meetings elsewhere. In fact, the ZIMYAS constitution was modelled around the GYA blue print for young academies (with other ideas coming from the ZAS constitution).
- **Aims and Objectives:** to give a voice to, and encourage involvement by, young scientists.
- **Goals:** these include promoting science as a career; collaboration within Zimbabwe and throughout the diaspora; and taking maximum advantage of young people's creativity.

- **Membership:** ZIMYAS' Constitution states that the maximum membership is 50 members. There are currently 25 members, with a new cohort to be inducted this year and the current executive stepping down.
- **Membership criteria:** these include scientific excellence (defined by ZIMYAS' Constitution); a genuine commitment to making a difference; and being below 40 years old when applying for membership.
- **Challenges** include:
 - **The lack of a dedicated secretariat:** it is difficult to make things happen without administrative support.
 - **Members' competing commitments and priorities:** having to 'find means and ways of surviving' distracts them from their core functions.
 - **The academic environment:** the university expects academics to publish, but it is not an environment where individuals always have close colleagues or potential collaborators.
 - **The lack of financial support and eroded purchasing power:** there has not been an Annual General Meeting for two years due to lack of finances.

Please refer to **Appendix 2** for the ZIMYAS presentation

6. Discussion

Q1¹. ZAS seems skewed towards the natural and technical sciences, including their role in development. How does ZAS see the role of the humanities and the arts?

A/Q1: The Social Science College of ZAS deals with the arts and humanities.

Q1: The point about the Academy's view of the social sciences and humanities has not exactly been answered. Have people from the humanities and arts not been involved? Or do Academies encourage a view that that the natural sciences are more important?

A/Q1: This may initially have been the case. Also, academics from the humanities and social science have the most options for extra teaching, consultancies and work such as proof-reading. They therefore have little time for involvement with the Academy. The Academy does not pay for academic work but sees it as a contribution to knowledge.

A/Q1: Those not within the natural sciences may exclude themselves. The Academies must demystify what they do, and there needs to be general recognition of the inter-relationship of disciplines: for example, dealing with Ebola required knowledge of social practices as well as of the disease itself. There needs to be a change in how science is seen.

A/Q1: ZAS is fully inclusive; the only proviso is that members must be appropriately qualified in order to keep up the standards and quality of the organisation.

Q2. A secretariat plays a key role, including in relation to fund-raising. This is therefore a critical issue to be reflected on.

A/Q2: Other Academies, such as ASSAf, are well endowed and have permanent secretariats, which make an enormous difference, enabling publications and other activities and ensuring continuity. Once ZAS has been through the Parliamentary process and is officially registered, government must provide it with a budget, however small.

1 Questions/comments by individuals are given as Q1, Q2 and so on. Where answers given were to particular questions/comments, these are as far as possible shown as A/Q1 etc. There were instances where a question/comment was not specifically responded to or when the answer responded to more than one question.

Q3: The search for strategic linkages is not necessarily money-related. Valuable strategies include being a research associate at a university. This can generate money that can be used for attending conferences. There are people at the meeting who have knowledge about such networking possibilities; there should be shared consultation about this.

A/Q3: Many challenges face young academics. Pay may not arrive on time and there are the pressures of raising and caring for children. People turn to multiple sources of income, including consultancies. Universities are having to raise an increasing percentage of their own funding, and teaching loads are growing, including on weekends. Young academics and their ability to conduct research are particularly affected. However, ways around this must be found, with Academies helping with developing new connections.

Q4: Why is membership of ZIMYAS limited to 50?

A/Q4: In deciding on the number of members of the Academy, ZIMYAS was guided by the Global Young Academy and other young academies. 50 seemed a good starting point, with the membership limited in order to maintain quality of members as well as in the view of society. It is not simply an association but has set its criteria high in order to attract high-quality applicants. It is committed to serving societal interests through science.

Q5: What are the implications for ZAS' activities, status, identity and future of the intention to formalise the organisation through Parliament? What will be the result if it is not thus formalised? Will it come to an end, not be legal? Such questions are relevant to matters such as fundraising.

A/Q5: The Academy is recognised but, like elsewhere in Africa, needs to be recognised by an Act of Parliament to receive government funding as does, for example, the Research Council of Zimbabwe. The situation is similar in Zambia, Kenya, Nigeria and elsewhere. Political leadership is often very enthusiastic, as was President Mugabe initially, and MPs have attended ZAS workshops. There is therefore some official recognition and awareness. There are, however, ironies in that at an Inquiry Based workshop, for example, some politicians wanted to know how much they would be paid for attending. Despite such issues, it is felt that the Act will be successfully passed.

Q6: What role can Zimbabwean scientists in the diaspora play in boosting the Academy?

Q7: Is it known how large this diaspora is?

A/Q7: It is probable that 60% of potential ZAS members are in the diaspora, in countries including South Africa, UK, Canada and Australia. It is not clear, however, why they do not respond to encouragement to join the Academy.

Q8: Can ASSAf indicate what sources of money there are for such organisations?

A/Q8: ASSAf receives about 70% of its funding from government. This is not sufficient, and the organisation has to do additional fund-raising. However, it is a base from which to work. The approximately 460 members are expected to pay membership fees of R200 each annually, with about 80% doing so. As is the case with Zimbabwe, many members are outside the country and are not very responsive.

Q9: While maintaining high standards, there may be arguments for increasing the membership not least to include all relevant fields. However, this raises the question of being able to manage increased numbers.

Q10: What is the situation if more than 50 people qualify at a time, taking into account the size of the diaspora?

Q11: Given that government needs to fund these academy activities, where does the line lie between the roles of the Academy and the Research Council? Also, given the small and not highly active membership and the many activities, who exactly does that work?

Q12: Having recognised that there is a need for support from the diaspora, and the challenges, what is the basis for this meeting? Given the scale of the challenges, should the members of the diaspora provide finance? Should they assist with all the challenges? Or is there something else that this meeting of the diaspora is intended to achieve?

Q13: What is the intended relationship between the members of the diaspora and ZAS, given existing relationships with ASSAf for instance?

Q14: The efforts being made are commendable, particularly given the conditions. It would be ideal if Parliament approves the Bill, but the obligation to provide funding may not necessarily mean that this will happen. Is the money there? There is a need to explore other avenues in today's discussions. Could an indicative budget have been presented? The need for a secretariat is clear, but it would be necessary to see exactly what its contribution would be. Which activities could potentially generate the most funds for the Academy? While there are many social expectations of what scientists can do, science must work for itself.

Q15: (Reiterated that the efforts being made in Zimbabwe are commendable): could research be tailored and its calibre marketed? There is a unique research climate in Zimbabwe. How should collaboration take place so that it results in more integrated research/commercial opportunities?

Q16: How open should we be with each other? Zimbabweans don't like begging, but staying at home creates a certain thickness of skin. Scientists are looking for opportunities to make things better for the country and for the next generation. In a battle situation, you move into survival mode. The diaspora, whose situation is not quite the same as that within Zimbabwe, can provide new perspectives, and there are resources 'out there'. It would be ideal to be able to go back to the constituency within Zimbabwe with specific suggestions that come up during these discussions.

Q17: The same questions tend to keep going around; how to find ways past this? It has been seen what can happen in other African countries and, in the UK for example, with organisations such as the Royal Society. If the Zimbabwean government is serious, it should support science. The diaspora can for instance contribute money, for a secretariat or contributions can be in kind, with scientists from the diaspora visiting and giving guest lectures. This is already happening in the case, for example, of eye specialists.

Q16: Identifying what expertise is needed in Zimbabwe could have been one of the objectives of today's discussions, especially as not everyone is able to give money. How much, and what, expertise is needed? Which lecturers are particularly needed? Is that information available?

A: ZAS needs an increased profile in the country, which should be based on research. How can the diaspora collaborate with ASSAf and ZAS to produce a study so that when the time is right science can start contributing to change?

Closing the session, the moderator thanked all for their participation in the discussion. Break-away discussion groups were organised, with the moderator reminding the participants of the purpose of the event: what can be done to help the Zimbabwean science environment? The groups should therefore aim to propose solutions and to think as widely as possible while remaining within the bounds of what is realistic and working with what already exists.

7. Breakaway Session

Group discussions on possible interventions to assist ZAS and ZIMYAS.

8. Feedback to Plenary by Breakaway Groups

Moderator: Professor Voster Muchenje, Co-Chair, South African Young Academy of Science

Group 1

- Consider co-supervision by academics at Zimbabwean and South African institutions. Universities fund Zimbabwean students because they work hard, which is good for throughput rates.
- Publicise in own institutions that this meeting has taken place, and provide contact details.
- ZAS to circulate their Constitution. This would give additional guidance about issues needing to be discussed and addressed.
- Provide a brief write-up of ZAS' activities. This would help potential qualifying members to consider joining.
- It may take time before the Academy Bill has been passed in Parliament. Therefore focus now on collaboration, particularly internationally. ZAS to indicate what participations are needed.
- Link with ASSAf and identify opportunities, especially for young academics.
- Create a database of young academics and their skills and academic interests. It would, however, be a huge task. Who would do it? Employ someone for this?
- Profile academics' activities, including interests in the creation of cultural industries.
- Issue a call to the diaspora to become paying members of ZAS.

Group 2

- Sensitise target groups and individuals to ZAS by, for example, hosting bi-annual workshops.
- Tap into and develop young people's talent; give students opportunities to run aspects of ZAS.
- Convene similar events to this workshop in UK, USA and elsewhere where there are many Zimbabwean academics. Create partnerships to run them.

- Utilise the human capital present at the meeting, including databases from participants' own institutions. Organisations such as the National Research Foundation (NRF) may be able to indicate possible members.
- The President of ZAS to consider drafting an official letter to institutional leaders such as Vice Chancellors (VCs) of universities so as to increase the database of potential members and partners for ZAS.

Group 3

- The Zimbabwean ZAS chapter must continue to give advice to government on scientific matters.
- ZAS membership should be based on eligibility and meeting the criteria and not on fixed numbers.
- Encourage scholarly exchange through guest lectures and similar activities.
- Encourage sabbatical exchanges of Zimbabwean scientists between South Africa and Zimbabwe.
- Investigate whether Zimbabwean scientific journals can be accredited by the South African Department of Higher Education and Training (DHET) and thus have wider exposure.
- Encourage collaboration between the Zimbabwean and South African academies on issues affecting the region such as water and climate.
- Inform the media about what the academies are doing.
- Use newsletters to increase visibility.
- Existing ZAS members should mentor young scientists and grow the country's own timber.

Group 4

- Encourage membership from outside the country.
- Fill the information gap: who are Zimbabwe's scientists? Where are they? What are they doing? Count the number in the diaspora.
- Conduct consensus studies looking at indigenous and non-indigenous issues.
- To maximise fund-raising and financial support (such as that provided for this meeting by the German National Academy of Sciences, Leopoldina), is it possible for the secretariat to be located in South Africa? ASSAf has access to the NRF interns; could such a relationship enable the formation of a secretariat? Could Zimbabwean VCs pay for one assistant from their budgets?

9. Suggestions on the Way Forward

Professor Abbyssinia Mushunje, University of Fort Hare

Short and Medium Term Interventions

1. Secretariat
 - a. Scientists to donate money to fund secretariat staffing
 - b. Scientists to be invited by ZAS to participate in academy activities e.g. guest lectures. This will create publicity for ZAS and in turn attract the attention of government.
 - c. Interns could be sourced to undertake some administrative tasks.
 - The competency of the intern will need to be carefully determined.
 - The option of ASSAf hosting an intern could be explored.
 - The intern selected could be located in two locations i.e. Zimbabwe and South Africa

- Funding for the intern could be sourced as part of a scientist's research project
 - d. TUT creative centre (through Prof Kennedy Chinyowa and Dr Owen Seda) to explore with ASSAf on how to set up a ZAS secretariat in SA.
 - e. Vice Chancellors of universities could be approached to second part time administrators
2. ZAS to undertake a consensus study on a topical issue that would assist it in gaining traction as a provider of science advice. Scientists in the diaspora could help identify a topic, funding and experts for the study.
 3. Identify a focal contact person in SA who will communicate with ZAS; Prof Voster Muchenje was selected for this role. Additionally, each participant was asked to be a representative at their respective institution.
 4. Recruitment of new ZAS Members
 - a. More members including those in the diaspora need to be recruited.
 - b. ZAS to distribute an application form to all meeting participants to apply for membership. For those that do not meet the requirements to be a member, they would still be incorporated into ZAS activities as its "community of scientists" or "friends of ZAS".
 5. Sabbatical exchanges between SA and Zimbabwe by ZAS members could be explored.
 6. Scientists in the diaspora could contribute money towards an annual award for young scientists on a particular theme.

Long Term Interventions

1. ZAS should aim to have a full time secretariat.
2. A senior official needs to be identified to assist in pushing the agenda for ZAS and ZIMYAS in the Zimbabwean government.
3. The possibility of hosting other similar meetings in countries where there are many Zimbabwean scientists should be explored.
4. ZAS to draft a 5-year strategic plan. The plan should be aligned with the ZAS bill that was sent to the government for enactment.

Overall, all participants were asked to take ownership of contributing to the future of ZAS and ZIMYAS.

10. Closing Remarks from Participants

Professor Voster Muchenje, Co-Chair, South African Young Academy of Science

- There was little sign of volunteering from among participants present at the meeting.
- A database of Zimbabwean scientists in the SA diaspora is important.
- ZAS needs to grapple with the issues relating to membership.
- Not many spoke about consensus studies. What should their focus be? On a general science system? Or specific topics such as genetically modified organisms (GMOs) or climate change?
- Scholarly exchange is achievable without much cost: Consider lectures under the ZAS banner, which would raise the organisation's profile.
- Involve young scientists and capitalise on their energy.
- Note ASSAf's model of using eminent visiting lecturers.

- Ensure that ZAS is present at the biennial meetings at the Science University of Zimbabwe.
- Use social media to increase ZAS' visibility and its profile.
- How can academics create and become part of specific scientific discussions and not the usual political public discussions?

11. Vote of Thanks and Closure

Professor Mutambirwa, President, Zimbabwe Academy of Sciences

Thanking all participants, and the staff and management of ASSAf, Professor Mutambirwa said that the meeting was just the beginning. He was excited, touched and grateful by the responses and participation of the Zimbabwean scientists in the diaspora. He stated that he would like to see ZAS' membership increase, and a major issue arising from the discussions was the need for people's contact details. Once email addresses are available, information about the registration process and about ZAS can be sent out.

To maintain ZAS' high academic standards, the committee will continue to vet all applications for membership. Without such standards, support from international academies may be at risk. At the same time, ZAS encourages younger academics to become involved and welcomes their participation.

Professor Mutambirwa closed the event by wishing all participants a safe journey home and assuring them that ZAS would keep in touch with them.

APPENDIX 1: PRESENTATION BY ZAS

ZIMBABWE ACADEMY OF SCIENCES

www.zas.ac.zw



PRESENTATION

AT ASSAf, ZAS, LEOPOLDINA DIASPORA MEETING

September 14, 2016, Johannesburg
Overview and Challenges

by
Professor Chris Mutambirwa

president@zas.ac.zw



FOUNDATION OF ZAS

Founded on 2nd October 2004
Foundation Background Research by the
Research Council of Zimbabwe

35 Founding Fellows
Founding Constitution



OVERALL OBJECTIVE OF ZAS

The pursuit, encouragement and maintenance of excellence in the fields of science and technology in order to promote the advancement and practice of science and technology for the development of the nation and the benefit of mankind.



VISION AND MISSION

THE VISION

To be the vanguard agency in promoting knowledge-led socio-economic development of Zimbabwe

THE MISSION

Forging smart partnership with the private sector, government and civil society to the realization of the goal of making Zimbabwe a modern industrial state



MEMBERSHIP OF THE ACADEMY

❖ **Elected Fellows** Zimbabwean citizens of exceptional merit and distinction in the field of science and technology (ref. Constitution)

❖ **Honorary Fellows** (maximum of 6)

❖ **Foreign Fellows** (maximum of 6)

❖ **Founding Fellows** (35)



PRINCIPAL ORGANS OF THE ACADEMY

Patron of the Academy (when Bill in place)

The General Meetings

The Colleges

The Executive Committee

The Secretariat



COLLEGES OF THE ACADEMY

College of Life Sciences

Agriculture, Biology, Biochemistry, Food & Nutrition, Medicine and Health Sciences, Environmental Sciences

College of Physical Sciences

Architecture, Astronomy, Earth Sciences, Engineering, Geodesy, Mathematics, Physical and Natural Sciences, Surveying and Photogrammetry

College of Social Sciences

Anthropology, Archaeology, Commerce, Economics, Education, Geography, History and Philosophy of Science, Journalism, Political Science, Population Studies, Psychology, Sociology



FELLOWS OF THE ACADEMY

College	Male	Female	TOTAL
Life Sciences	25	6	31
Physical Sciences	35	2	37
Social Sciences	13	6	19
TOTAL	73	14	87



EXECUTIVE COMMITTEE COMPOSITION

President
 Vice-President
 Immediate Past President
 Secretary General
 Honorary Treasurer
 Deans of Academy Colleges
 Committee Members/Alternates (1 from each College)
 (each elected for 3 year term)

Ex-officio Secretariat



FUNCTIONS OF THE EXECUTIVE COMMITTEE

- Formulate policy relating to the functions of the Academy
- Administer the affairs of the Academy and report to the General Meetings of the Academy
- Recommend the directions and priorities of the Academy



FUNCTIONS/OBJECTIVES OF ZAS

- Promote and foster the development of science and technology by providing a forum for the interchange of ideas among scientists and technologists;
- Promote the awareness of policy makers, and other stakeholders' understanding and appreciation of the role of science and technology in human progress;



➤ Promote creativity in the field of science and technology in a manner that enhances the professional development of Academy Fellows and other Zimbabweans;

➤ Identify opportunities for intervention by science and technology in the economic and social areas;



➤ Continuously monitor the global developments in science and technology and flag those developments which are relevant to the needs of Zimbabwe;

➤ Provide consultancy services to the public sector and other stakeholders on developmental issues for which the Academy has competence;



➤ Be of continuous assistance to society and government in science and technology;

➤ Initiate and sponsor multi-disciplinary studies related to and necessary for the better understanding of the social and economic implications of science and technology;



➤ Encourage research and development and education and training of the appropriate scientific and technical manpower;

➤ Establish and maintain relations between the Academy and overseas bodies with similar objectives in science and technology as the Academy;



FINANCES OF THE ACADEMY

- Donations
- Subscriptions of Fellows – not all pay
- Capacity Building Grants from TWAS, IAP through NASAC (with assistance of ASSAf)
- Consultancies
- Collaborative Projects with Regional and International Academy Partners
- Public and Private Sectors



ACADEMY EXPENSES

Monies (not committed to specific projects) may be used to:

- pay for administrative costs of the Academy
- provide awards, fellowships, scholarships and research grants
- publish and purchase magazines, books and articles
- organize seminars/workshops, expositions and similar activities



ZAS ANNUAL EVENTS

ANNUAL GENERAL ASSEMBLY

- Election of New Fellows
- Election of New Executive Committee

ANNUAL DINNER

- Anniversary of Academy Celebration
- Induction of new Fellows
- Guest Lecture



SELECTED ZAS ACTIVITIES

- Bird Flu workshop
- GMOs workshop
- Climate Change workshop
- Energy workshop
- Water Forum with Association of Civil Engineers
- Water and Sanitation Workshop
- STI Status reviews for MSTD (UNESCO)
- Nanotechnology workshop (f. TWAS & CPTM)
- Public Guest Lecture Series
- Policy Booklet launches and dissemination
- Set up ZIMYAS



ZAS ACTIVITIES (cont)

- Peer review of papers for the National S&T Symposia with RCZ
- ZAS Journal of Sciences
- National, Regional and International Science Awards Work-shop (2010 – MSTD funded)
- Adjudications and promotion of applications by local scientists for international awards



ZAS AND NATIONAL AFFAIRS

- Close links with Ministry of Higher and Tertiary Education, Science & Technology Development (MHTESTD)
 - Fellows on University Councils
 - Some VCs and Profs Fellows of ZAS
 - Fellows on Boards of Govt Institutions
- Some Civil Servants Fellows of ZAS



ZAS AND NATIONAL AFFAIRS

Provide authoritative information on Science and Technology issues to government, the media and other professional bodies

National Research Priorities and Associated Priority Goals of Nation.

Research and Intellectual Expo (with MHTESTD and RCZ)



ZAS INTERNATIONAL AFFILIATION

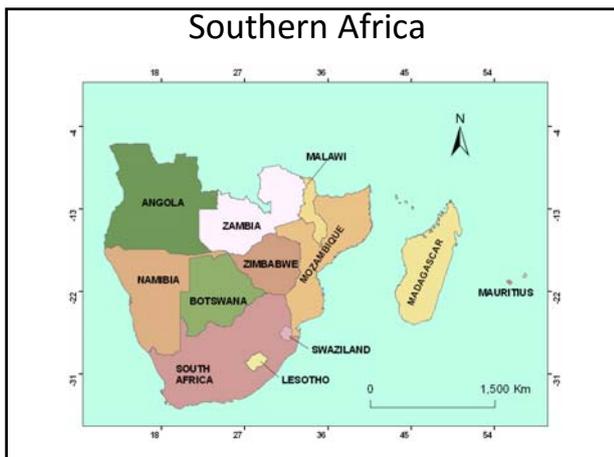
Member of NASAC

Member of IAP

Collaboration with

- TWAS
- IAC
- African National Academies
- International Academies
- IHRN for Scientists





ZAS collaboration with ASSAf

- Workshops for Diaspora Zimbabweans (sponsors NASAC Capacity Building Grant; Leopoldina)
- Training Secretariat (NASAC Capacity Building Grant)
- Collaborative fund sourcing for science-based studies to develop policy recommendations and applications (e.g. policymakers’ booklets)
- IBSE Policy-makers’ Booklet launch workshop
- And others



CHALLENGES FACING ZAS

- FINANCIAL Needs
- Slow Accreditation/ZAS BILL with MHTESTD
- Impact of Socio-Political & Econ. Environment
- No Fulltime Administrator/Executive Officer
- EXCO & College Members Committed to Fulltime Jobs; Follow-up difficulties
- Poor Communications – Technical, Government & with Fellows



CHALLENGES (Cont.)

- Flight of Qualified Scientists; “Brain Drain”- Outmigration into Diaspora
- Membership Financial Support - Subscriptions & otherways limited
- Funding for R&D, Science Meetings, Administration costs, Travel Expenses, Outreach Science Activity, etc.
- Permanent Office Needed



MIGRATION OF ZAS OFFICE

- Research Council of Zimbabwe (2004-7)
- Biotechnology Trust of Zimbabwe (2007-9)
- University of Zimbabwe (2009 – Present)
 - Tropical Resources Ecology Programme (TREP)
 - P.O. Box 212 Mt. Pleasant
 - Harare.
 - zas@zas.ac.zw
- Compiled/revised Sept 2016



THANK YOU



APPENDIX 2: PRESENTATION BY ZIMYAS

Must Do(s)

- Smile at everyone....
- Greet everyone....
- Ask everyone to smile
- Acknowledge...“all protocol observed”



The Mozambique Spitting Cobra



<http://cache.eb.com/eb/image?id=92719&rendTypeld=4>

Toxinological Meal (DDT)

Elapids – Spitting Cobra



Spitting Cobra *Naja nigricollis* spiti Zaria, Nigeria: showing intense conjunctivitis © David A. Warrell

Figure 95: Blindness from dense corneal opacity resulting from untreated Black-Necked Spitting Cobra *Naja nigricollis* spiti 5 years previously © David A. Warrell

Pictures from: WHO (2004), Guidelines for the Prevention and Clinical Management of Snakebite in Africa, WHO Publications, Geneva

Toxinological Meal (DDT)



The Zimbabwe Young Academy of Sciences (ZIMYAS): A Brief Overview

Dexter Tagwireyi, PhD
President, ZIMYAS



The Genesis



Sometime in September 2011

ZIMBABWE COUNCIL FOR HIGHER EDUCATION



21 Airport Road
P. Bag CY 7785
Causeway, Harare
Phone: 263-4-571163/5, 581994
Fax: +263-4-570815

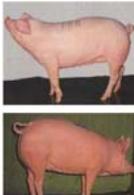
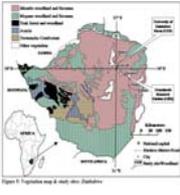
28 September 2011

Dear Participant

Re: Invitation to participate at the Young Scientists Forum

I invite you to participate at the Young Scientist Forum that will be held at the Crown Plaza Hotel, Harare on October 17, 2011. The event is funded by the TWAS Regional Office for Sub-Saharan Africa (ROSSA). The Zimbabwe Council for Higher Education (ZIMCHE) and the Zimbabwe Academy of Sciences (ZAS) are partnering in organizing this event.

...then 17th October 2011

$$S'(t) = \Lambda - (\lambda + \mu)S,$$

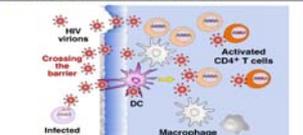
$$I_1'(t) = (1 - p)\lambda S - (\mu + \rho + \delta)I_1,$$

$$I_2'(t) = p\lambda S + \delta I_1 - (\mu + \rho)I_2,$$

$$A'(t) = \rho(I_1 + I_2) - (\mu + \nu)A,$$

$$\lambda(t) = \frac{\beta c(I_1(t) + \eta I_2(t) + \theta A(t))}{N(t)} \quad (1)$$

HIV Transmission is Facilitated by Genital Ulcerative Infections




Then Elections Were Held....

- President
- Vice President
- Secretary General
- Treasurer



And Prof. Gudyanga said...Go, be a Young Academy!



ZAS went on to announce that Zimbabwe now had a Young Academy



But we had no idea...

- What exactly were we supposed to do?
- What was this organisation?
- We were in limbo!



For a couple of months....



We began the constitution making process

- ZAS constitution
- GYA constitution
- ZAS nominated Prof. Chetsanga as facilitator



And in November 2013 (the rebirth)



Constitution for the Zimbabwe Young Academy of Sciences (ZIMYAS)

Preamble

Contemporary science must address increasingly complex problems. Such challenges often require participation from investigators with different backgrounds and areas of expertise. Furthermore, scientific progress frequently requires coordination of policies and inputs or support from different sectors of society. Yet, early scientific career development tends to

ZIMYAS GOALS AND OBJECTS?



Aims and Objects of ZIMYAS

1. To give a voice and professional development scope to young scientists



Goal 2

To promote science as a career of choice for young people.



Goal 3

- **To promote science capacity by:**
 - Promoting science as an engine of socio-economic development
 - Building intellectual capacity for scientific research
 - Supporting exchange visits for young scientists between local institutions and internationally to increase the scientific skill base
 - *Fostering collaboration and networking between local young scientists and fellow Zimbabwean young scientists in the Diaspora*

Goal 4

- **To encourage the development of novel approaches to solving problems of national and international significance by:**
 - Fostering international and interdisciplinary collaborations between young scientists
 - Holding regional and local topical workshops
 - Encouraging Government, research foundations and other philanthropic organizations to channel resources into identified ZIMYAS projects

Goal 5

- **Any other new goals that concern young scientists, which the General Assembly decides to promote.**

MEMBERSHIP

- Members of the ZIMYAS will be selected for one term of 5 years.
 - Re-election is not possible
- ZIMYAS shall consist of a maximum of 50 members.
- Nominations for membership can be made by the members of ZIMYAS, other National Science Academies, International Science Societies, Funding Agencies, Professional Bodies and other institutions of scientific repute as decided by the General assembly. The overriding aim is to ensure that all meritorious candidates have an opportunity to be nominated.

MEMBERSHIP CRITERIA

- At least a PhD qualification or an equivalent degree in natural sciences, engineering, social sciences, arts or humanities;
- Scientific excellence, ascertained by proven publication track record and clear potential for future achievements (i.e., a minimum of 6 publications in peer reviewed journals, patented products or technology);
- Demonstrated commitment to making a difference in the society by scholastic contributions;
- A candidate must be less than 40 years of age



Executive Committee

- President
- Vice President
- General Secretary
- Treasurer
- Two Committee Members



Challenges

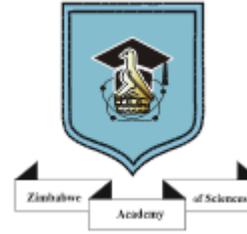
- No dedicated secretariat
- Competing commitments
- The 'Zimbabwean' Environment
- Financial support

Acknowledgments

- ZAS
- GYA
- ZIMYAS executive

Thank you.





APPENDIX 3: LIST OF PARTICIPANTS

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