



*Applying scientific
thinking in the
service of society*

**Academy of Science of South Africa
Strategic Plan
for the
fiscal years
2015/16 – 2019/20**

January 2015

Foreword

The Academy of Science of South Africa (ASSAf) is the officially recognised national science academy of South Africa through the ASSAf Act, *Act No. 67 of 2001*, which came into operation in May 2002. ASSAf is also governed by the Science and Technology Laws Amendment Act, *Act No. 16 of 2011*. In addition, ASSAf is subject to the Public Finance Management Act, *Act No. 1 of 1999*, as well as a set of Treasury Regulations.

The dual mandate of the Academy is to:

- Promote and inspire outstanding achievements in all fields of scientific enquiry and to grant recognition for excellence;
- Proactively or upon request undertake studies on matters of public interest with a view to providing evidence-based scientific advice to government and other stakeholders.

ASSAf's strength resides in the quality and diversity of its Membership; internationally renowned scholars elected by their peers, who give of their time voluntarily in the service of society. ASSAf is able to use its Membership as a collective resource for evidence-based solutions to national problems.

The ASSAf Act provides the framework for identifying the Academy's overarching goals, within which the strategic priorities and focus for the next 5-year period are outlined. Overarching goals of ASSAf are as follows:

1. Recognition and reward of excellence
2. Promotion of innovation and scholarly activity
3. Promotion of effective, evidence-based scientific advice
4. Promotion of public interest in and awareness of science and science education
5. Promotion of national, regional and international linkages

These are closely aligned with those of government and the Department of Science and Technology (DST), in particular.

The activities of the Academy are structured into six programmes to meet the overarching goals. These are: Governance and Administration; Communication; Liaison; Policy Advisory Programme; Scholarly Publishing Programme (SPP); and Publications.

The Governance and Administration Programme is central to the efficient functioning of the Academy, providing essential administrative support to the Council and the secretariat. This programme is also responsible for all reporting requirements, including financial.

The Communication Programme aims to provide effective and targeted communication with ASSAf stakeholders to support the vision of the Academy to be the apex organisation of science and scholarship in South Africa. ASSAf stakeholders include Members, representatives of government and other science councils, universities, sponsors and the public.

The purpose of the Liaison Programme is to establish and give effect to strategic partnerships with other national science academies and academy networks, and to establish, strengthen and enhance interactions with key stakeholders in key national government departments, policy-makers in government, and relevant national and international scientific networks and organisations. The programme is structured into national and international liaison activities.

The Policy Advisory Programme, was developed to assist ASSAf in the fulfilment of its science advisory role in support of policy regarding key challenges facing the nation. A variety of relevant consensus and forum studies is undertaken. ASSAf has also expanded its advisory activities through the publication of policymakers' booklets on key topics and commentaries on national policies. Over and above their advisory function, evidence-based study activities provide an important mechanism for establishing and strengthening international links, securing external project-related funding, and in mobilising ASSAf Members to volunteer their service on committees and panels. Studies generally fall into broad categories related to health; environment; and social sciences and education. Once concluded, considerable effort is expended in disseminating the findings and ensuring effective uptake of the recommendations.

The Scholarly Publishing Programme is regarded as a major intervention into the National System of Innovation (NSI) in South Africa, the strategic goal of which is to enhance the national capacity to produce and publish research, on the one hand, and to increase the quality and visibility of South African research publications, on the other. In order to achieve this goal, the SPP is responsible for, *inter alia*, the peer review of South African scholarly journals, the implementation of the open access platform for scholarly journals, the hosting of a National Scholarly Editors' Forum and the improvement of scientific writing skills.

The Publications Programme is responsible for the production and dissemination of the Academy's flagship journal, the *South African Journal of Science*, and the science magazine, *Quest: Science for South Africa*.

ASSAf faces challenges in the execution of its mandate and the achievement of its goals as it is dependent on volunteer contributions by its Membership. In addition, the small budget limits the number of staff ASSAf can employ and the range of activities in which it can engage.

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PART A: Strategic Overview

1. Vision

The Academy of Science of South Africa (ASSAf) aspires to be the apex organisation for science and scholarship in South Africa, recognised and connected both nationally and internationally. Through its Membership which represents the collective voice of the most active scholars in all fields of scholarly enquiry, ASSAf aims to generate evidence-based solutions to national problems.

2. Mission

The mission of the Academy is to:

- Recognise scholarly achievement and excellence in the application of scientific thinking for the benefit of society;
- Mobilise Members to ensure that they are available to contribute their expertise in the service of society;
- Conduct systematic and evidence-based studies on issues of national importance, producing authoritative reports that have significant impact on policy-making;
- Promote the development of an indigenous system of South African research publications, increasing their quality, visibility, accessibility and impact;
- Publish science-focused periodicals that will showcase the best of southern African research to a wide national and international audience;
- Develop productive partnerships with national, regional and international organisations with a view to building our capacity in science and its application within the National System of Innovation (NSI);
- Create diversified sources of funding for sustainable functioning and growth of a national academy;
- Communicate effectively with relevant stakeholders through various media and fora.

3. Values

ASSAf's strength resides in the quality and diversity of its Membership; internationally renowned scholars elected by their peers, who give of their time voluntarily in the service of society. The Membership could be regarded as the 'brains trust' of the nation. ASSAf is able to use its Membership as a collective resource for evidence-based solutions to national problems.

Policy advisory activities are a common feature of academies around the world, all using an evidence-based approach based on the convening of experts with diverse perspectives to discuss and illuminate issues.

Key universal elements of Academy advice are that it is:

- Authoritative
- Independent
- Objective and free of vested interests
- Trusted
- Based on voluntary involvement
- Based on rigorous analysis of evidence and peer review
- Transparent
- Multi-disciplinary and able to address complex issues that transcend disciplinary boundaries.

4. Legislative and other mandates

The Academy of Science of South Africa (ASSAf) is the only national science academy to be officially recognised by the South African government through the passage of the ASSAf Act, *Act No. 67 of 2001*, which came into operation in May 2002.

The mandate of the Academy is to:

- Promote and inspire outstanding achievements in all fields of scientific enquiry and to grant recognition for excellence;
- Proactively, or upon request, undertake studies on matters of public interest with a view to providing evidence-based scientific advice to government and other stakeholders.

ASSAf is governed by the following statutory and other requirements:

- Academy of Science of South Africa (ASSAf) Act (*Act No. 67 of 2001*);
- Science and Technology Laws Amendment Act (*Act No. 16 of 2011*);
- ASSAf constitution comprising a set of 14 Regulations.

Additional policies that are taken into account when identifying strategic priorities of ASSAf are:

- Public Finance Management Act (PFMA) (*Act No. 1 of 1999*);
- National priorities outlined in the Medium-term Strategic Framework (MSTF)
- White Paper on Science and Technology (1996);
- Ten-Year Innovation Plan for Science and Technology (2008-2018)
- New Growth Path (2010);
- National Skills Development Strategy (2011);
- National Development Plan (2012).

5. Situational analysis

5.1 Performance environment

ASSAf's policy advisory role is informed by key national challenges and is executed in both a responsive and proactive manner. ASSAf strives to address cross-cutting and complex issues that suit the particular convening strength and niche of an Academy. ASSAf also seeks to implement projects in association with other science academies in Africa and abroad, in its efforts to influence regional and global policy. Linkages with other academies in the Southern African Development Community (SADC) and Africa are regarded as particularly important, as are the collaborations with key partners in the United Kingdom (UK), United States (US), Germany and France, and the BRICS countries of India, China, Russia and Brazil.

Challenges faced by ASSAf include its dependence on volunteer contributions by its Membership, and its inadequate budget, which limits the number of staff it can employ and the range of activities in which it can engage.

5.2 Organisational environment

As a Membership-based organisation, the key intellectual resources of the Academy reside in its Membership, which currently comprises 445 Members. Members, who volunteer their service, are supported in their science advisory role by the full-time staff of the secretariat.

The secretariat currently numbers 31 and is led by an Executive Officer, with the assistance of the management team comprising the Chief Operating Officer, five managers (Financial, Communication, Human Resources, Liaison and Scientific Advice (vacant) and the Director of the Scholarly Publishing Unit (SPU). In addition, five NRF (DST-funded) interns joined the Academy in 2014 and it is anticipated that four interns will join the Academy in April 2015. Part-time staff includes the Editors and Associate Editors of the *South African Journal of Science* and *Quest* science magazine.

The composition of the ASSAf secretariat is 65% black and 65% female. The Executive Officer is a white female and the management team of five comprises three female and two black staff.

ASSAf is governed by a Council, comprising 12 elected members and a thirteenth member appointed by the Minister as a representative of the National Advisory Council on Innovation. Council has also appointed three advisors. A new Council was elected in October 2012 and the composition of the current Council, including advisors, is 47% black and 27% female.

The activities of the Academy are structured into five programmes as follows: Governance and Administration; Scholarly Publishing Programme; Policy Advisory Programme; Liaison; and Communication and Publications.

ASSAf is currently accommodated in rented premises in Persequor Park, Pretoria. ASSAf aspires to purchase its own building. The chief motivation is to avoid escalating rental costs that are increasing at a faster rate than ASSAf's baseline allocation, thus placing ASSAf on an unsustainable path.

5.3 Description of the strategic planning process

As a young and small organisation that was involved in an intensive capacity development exercise led by the US National Academies over the period 2004 to 2010, ASSAf's operations were guided by a Strategic Plan and annual business plans prepared in consultation with the US National Academies. These plans have subsequently been replaced by the Strategic Plan and Annual Performance Plans submitted to DST each year.

Strategic planning is an ongoing process in ASSAf. The ASSAf management team comprising the Executive Officer, Chief Operations Officer, Financial Manager, Human Resources Manager, Director of the Scholarly Publishing Unit, Policy and Liaison Manager (vacant) and Communication Manager, meets regularly to discuss strategic planning issues and how ASSAf can respond to, and influence, developments in broader society. The Council of the Academy also engages in strategic planning exercises; the most recent one in February 2014 has informed this strategic plan. This strategic plan is the product of consultation with the Executive Committee of the Council of the Academy. The new Council, which took office in October 2012, embarked on a strategic planning exercise during both early 2013 and 2014.

6 Strategic outcome-oriented goals of the institution

The ASSAf Act provides the framework for identifying the Academy's overarching goals, within which the strategic priorities and focus for the next 5-year period are outlined. Overarching goals of ASSAf are as follows:

1. Recognition and reward of excellence
2. Promotion of innovation and scholarly activity
3. Promotion of effective, evidence-based scientific advice
4. Promotion of public interest in and awareness of science and science education
5. Promotion of national, regional and international linkages

These are closely aligned with those of government and the Department of Science and Technology (DST) as shown in the summary table overleaf.

The broad goals of the National Development Plan, applicable within the context of ASSAf activities, are as follows:

- Strengthening skills and resource base
- Regional development, African advancement and international cooperation

- Improvement of the health profile of society
- Improvement of rural development and food security
- Improvement of environmental assets and natural resources

Strategic priorities of ASSAf over the next five-year period are described in further detail below.

1. Recognition and Reward of Excellence

This prime function of ASSAf is an ongoing activity that involves election to Membership of the Academy; the award of two Science-for-Society gold medals for outstanding achievement in scientific thinking for the benefit of society; the award of the Sydney Brenner post-doctoral fellowship; and the AU-TWAS Young Scientist awards.

In the next strategic planning cycle, further initiatives are as follows:

- Secretariat support for the South African Young Academy of Science (SAYAS), linked to the Global Young Academy in order to promote the recognition of promising young scientists;
- Investigation of continued and new funding sources for the award of post-doctoral fellowships.

2. Promotion of Innovation and Scholarly Activity

Ongoing activities include the hosting of the annual ASSAf distinguished visiting scholar, the ASSAf regional scholarly lectures hosted at various universities, the publication of the *South African Journal of Science* and *Quest*, and the evidence-based, science advisory activities conducted by ASSAf (described in more detail below). The Scholarly Publishing Programme (SPP), which is regarded as a major intervention into the NSI in South Africa, has made substantial progress in, *inter alia*, the peer-reviewed assessment of South African scholarly journals; the publication of the Scholarly Books report; the establishment and implementation of the open access SciELO South Africa platform for scholarly journals; and the establishment of a National Scholarly Editors' Forum (NSEF) and the National Scholarly Book Publishers' Forum (NSBPF). The SPP will embark on additional new initiatives in the next few years.

In the next strategic planning cycle, the following initiatives are planned:

- Further implementation of SPP activities including:
 - Improvement of quality, quantity, accessibility and visibility of SA scholarly publications through the completion of the peer review of SA journals;

dissemination and implementation of the report on access to journals in core commercial databases.

- Establishment of a fully functional open access national publishing forum that includes full in-house management of the SciELO platform; inclusion of an electronic content management system; national publication facilities with the necessary training; help desk facility and a citation indexing system in place; completed investigation of appropriate business models for open access publishing.
 - Improvement of accreditation for journals and books and changed funding policies.
 - Implementation of a free online scientific/scholarly writing course.
 - Advocacy for and establishment of institutional repositories.
- Promotion of young scientists through the South African Young Academy of Science; the hosting of an annual Young Scientists' Conference to provide a forum for young scientists to showcase their research and network among others in similar discipline fields; and an on-line scientific writing course for graduate students;
 - Promotion of women in science initiatives through the implementation of the Organization for Women in Science in the Developing World (OWSD, formerly TWOWS) National Chapter activities.

3. Promotion of effective, evidence-based scientific advice

In order for ASSAf to fulfil its science advisory role regarding key challenges facing the nation, a variety of consensus and forum studies and policy commentaries are undertaken. Over and above their scientific advisory function, evidence-based study activities provide an important mechanism for establishing and strengthening international links, securing external project-related funding, and in mobilising ASSAf Members to volunteer their service on committees and panels. Studies generally fall into broad categories related to health; energy and environment; and social sciences and education. Once concluded, considerable effort is expended in disseminating the findings to ensure effective uptake of the recommendations and enhance their impact.

Their alignment with government priorities and DST's grand challenges are shown in the following table.

DST Grand Challenges	ASSAf Evidence-based Study Activities	Government Priorities
From Farmer to Pharma	GMOs in African Agriculture:	Improvement of rural

(Biotechnology)	<p>Challenges & Opportunities</p> <p>Regulation of Agricultural GM Technology</p> <p>Clinical Research & Related Training in SA</p> <p>Improved Nutritional Assessment</p> <p>Long-term Strategy for HIV/AIDS</p>	<p>development and food security</p> <p>Improvement of health profile of society</p> <p>Strengthening of the skills and resource base of SA</p>
Space Science and Technology	-	
Energy	<p>Improving Access to Energy in Sub-Saharan Africa</p> <p>Nuclear Energy Safety</p>	Improvement of rural development and food security
Global Change	<p>Low Carbon Cities</p> <p>Science, Water and Sanitation</p> <p>State of Low Carbon Technologies in South Africa</p>	Improvement of environmental assets and natural resources
Human and Social Dynamics	<p>PhD Study</p> <p>State of the Humanities in SA</p> <p>STEM Education</p> <p>Scholarly Publishing Programme</p>	Strengthening of the skills and resource base of SA

In the next strategic planning cycle, the following initiatives are planned:

- Completion, publication and dissemination of reports on current consensus studies, including presentation of results to key stakeholders, and monitoring of uptake and impact of studies;
- Introduction of new evidence-based studies in line with the Academy's mission and the priorities of the country. Potential key themes include Long-Term Infrastructural Needs for HIV/AIDS Burden; and Revitalising Agricultural Education and Training.

4. Promotion of public interest in and awareness of science and science education

In accordance with objectives outlined in the ASSAf Act, as amended, and the goals of most science academies around the world, ASSAf is engaged in a wide range of science education activities. These include the publication of the highly acclaimed science magazine, *Quest: Science for South Africa*, which is widely disseminated free of charge to secondary schools in South Africa and other key stakeholders, and actively promoted at key national science events. Other activities are conducted under the auspices of the ASSAf Standing Committee on Science, Technology, Engineering and Mathematics (STEM) Education, which, to date, has focused on Critical Issues in Science and Mathematics Education in South African Schools, and in collaboration with the Uganda National Academy of Sciences (UNAS), a project on Promoting Best Practices in Science Education in sub-Saharan Africa. A further initiative has focused on promoting Inquiry-based Science Education (IBSE) for girls in conjunction with the academies of science in Zimbabwe and Zambia.

In the next strategic planning cycle, the following initiatives are planned:

- Improved and targeted dissemination of *Quest*;
- Expansion and promotion of the *Quest* interactive website;
- Collaboration with the French Academy of Sciences with regard to their primary school science initiative, *viz.* La main à la pâte, with a view to implementing a pilot project in South African schools;
- Initiation of a new consensus study aimed at addressing a critical science education issue.
- Promotion of public awareness and understanding of science through proactive involvement of ASSAf Members in media statements on matters of current scientific interest;

5. Promotion of National, Regional and International Linkages

ASSAf is currently an active member of a number of international networks including the Global Network of Science Academies (IAP), the InterAcademy Council (IAC), the InterAcademy Medical Panel (IAMP), the Academy of Sciences for the Developing World (TWAS), the G-Science grouping of academies, and the Network of African Science Academies (NASAC). The President of ASSAf currently serves on the executive board of the IAC and has recently been elected President of the Network of African Academies of Science (NASAC). ASSAf also participates in the Science for Society Forum of Presidents of Academies, the Human Rights Network of Academics and Science Academies and intends to participate in the International Science, Technology and Innovation Centre for South-South Cooperation (ISTIC). ASSAf also annually nominates leading young scientists to participate in the World Economic Forum meeting held in China each year (Summer Davos).

The international linkages bring opportunities ranging from funding of project-related activities (e.g. IAP), promotion of young scientists (TWAS), capacity development of academies (NASAC, the German science academy, viz. Leopoldina), to participation in global and continental policy advisory activities (IAC, G8+5 (now G-Science), and NASAC).

ASSAf currently has bilateral agreements with the Uganda National Academy of Sciences (UNAS), the Russian Academy of Sciences (RAS), the Chinese Academy of Sciences (CAS), the Nigerian Academy of Science (NAS) and the Mauritius Academy of Science and Technology (MAST). To date, UNAS and ASSAf have partnered on science education and water activities, RAS and ASSAf have held a joint workshop to strengthen links in the fields of biotechnology, nanotechnology and cyberinfrastructure, and MAST and ASSAf have collaborated on GMOs and energy.

ASSAf has also collaborated with NASAC to strengthen science academies in the SADC region and is actively engaged in joint initiatives with the science academies in Mozambique, Mauritius, Zambia and Zimbabwe.

In the next strategic planning cycle, the following initiatives are planned:

- Strengthen the current bilateral agreements through appropriate and relevant initiatives;
- Increase the number of South African scientists elected as TWAS fellows through a concerted drive to increase the nomination of candidates meeting the high expectations of that body;
- Increase the applications for TWAS Fellowships by young South African scientists through targeted dissemination of fellowship announcements;
- Play a leading role in the initiation and strengthening of science academies in the SADC region;
- Play a leading role in Africa through submission of joint project proposals with African science academies to the IAP.

Strategic Outcome-oriented Goals	Indicators	National Development Plan goal statements
1. Recognition and reward of excellence	<ul style="list-style-type: none"> • Targeted membership drives to increase and diversify the membership • Award of 2 Science-for-Society gold medals p.a. • Award of 1 Sydney Brenner fellowship p.a. • Award of Young Scientist Prize • Secretariat support for the SA Young Academy of Science 	Strengthening of the skills and resource base of SA
2. Promotion of innovation and scholarly activity	<ul style="list-style-type: none"> • Hosting of annual ASSAf visiting scholar • Hosting of regional scholarly lectures • Publication of <i>SA Journal of Science</i> • Publication of consensus and forum study reports, policy commentaries and policymakers' booklets • Publication of reports on peer-reviewed, discipline-based scholarly journals • Uploading of approved journals on to open access platform • Hosting of annual meetings for editors and publishers of scholarly journals • Implementation of online scientific writing course • Hosting of annual young scientists' conference • Promotion of women in science activities 	Strengthening of the skills and resource base of SA
3. Promotion of effective, evidence-based scientific advice	<ul style="list-style-type: none"> • Implementation of Scholarly Publishing Programme • Introduction of new evidence-based studies in broad areas of health, environment and social sciences & education • Dissemination of study reports for improved uptake and impact of evidence-based studies • Provision of policy commentaries 	Improvement of health profile of society Improvement of environmental assets and natural resources; Improvement of rural development and food security
4. Promotion of public interest in and awareness of science and science	<ul style="list-style-type: none"> • Publication of <i>Quest: Science for South Africa</i> magazine • Participation in national science events • Implementation of STEM Education Committee 	Strengthening of the skills and resource base of SA

education	activities	
5. Promotion of national, regional and international linkages	<ul style="list-style-type: none"> • Strengthening and initiating bilateral Academy agreements • Strengthening and initiating science academies in the SADC region • Play a leadership role in the Network of African Science Academies (NASAC) 	Regional development, African advancement and international cooperation

Part B: Strategic objectives

7. Programme 1: Administration and Governance Programme

This programme is central to the efficient functioning of the Academy, providing essential administrative and financial support to the Council and the secretariat. This programme is also responsible for all reporting requirements and compliance matters, including the annual audits, the Strategic Plan, the APP and quarterly reports. A monitoring and evaluation (M&E) component was added to this programme's responsibilities in 2014/15.

This programme is also responsible for recognition and promotion of excellence and awards.

Strategic objectives

Strategic Objective 1.1	Promote good governance through Council
Objective statement	To ensure good governance of the Academy through execution of Council elections, support of Council meetings and committees, efficient and effective execution of Council resolutions and efficient and effective financial and human resource management activities.
Baseline	Academy governance activities are executed in accordance with the requirements as outlined in the ASSAf Act, the Science and Technology Laws Amendment Act, as well as the PFMA and Treasury requirements.
Justification	Council is the highest decision-making body of the Academy entrusted with the responsibility to ensure smooth and effective governance in the execution of the Academy's mandate.
Links	Links to all the Academy objectives through ensuring effective and transparent governance.
Strategic Objective 1.2	Promote diversification of Academy membership
Objective statement	To increase the proportions of women and black membership
Baseline	Women comprise 24% and blacks 27% of the membership.
Justification	Transformation of Academy membership is essential to ensure legitimacy, to enable full

	participation by all potential candidates and to avoid perpetuating past historical imbalances. The full diversity of South Africa's population is required to address the challenges of the nation.
Links	Promotion of innovation and scholarly activity, as well as recognition and reward of excellence
Strategic Objective 1.3	Recognise, reward and promote excellence in science
Objective statement	To award up to two gold medals per annum for outstanding achievement in scientific thinking for the benefit of society; to award a prestigious Sydney Brenner postdoctoral fellowship every year; to host two annual distinguished visiting scholars per annum; and to increase the number of regions in which scholarly lectures are held.
Baseline	ASSAf awards two gold medals annually; awards a Sydney Brenner fellowship each year; hosts an annual distinguished scholar from abroad; hosts scholarly lectures in one region.
Justification	Gold medals are the apex awards of the Academy and the South African science system and are awarded in recognition of outstanding achievements by individuals. Annual lectures provide an opportunity for SA scholars to engage with a leading international scholar. Public lectures promote the profile of the Academy and relations with other organisations.
Links	Promotion of innovation and scholarly activity, as well as recognition and reward of excellence.

7.2 Resource considerations

The budget for this programme has increased steadily over the past few years in support of the increased number of activities within ASSAf. It has increased from R2.238m in 2008/09 to R4.472m in 2013/14. The main change has been the successful internalisation of all payroll and human resource functions that were previously outsourced to the National Research Foundation (NRF). This has increased the workload on financial staff but due to general financial constraints the workload has had to be absorbed internally. Increased government reporting requirements have also placed an additional load on a small and lean organisation such as ASSAf, which does not have dedicated personnel to fulfil this function. There is now a dedicated Human Resource person within ASSAf.

ASSAf is operating in rented premises and the lease has been expended for the next six months until December 2014 and will be renewed for a shortened period of time as ASSAf is in the process of seeking alternative, permanent accommodation for the ASSAf secretariat, preferably within the east of Pretoria.

8. Programme 2: Communication Programme

The purpose of this programme is to provide effective and targeted communication with ASSAf stakeholders to support the vision of the Academy to be the apex organisation of science and scholarship in South Africa.

The Communication Programme handles all matters related to information provision and dissemination, market-related communications and outreach initiatives on behalf of ASSAf.

ASSAf stakeholders include Members, representatives of government and other science councils, universities, sponsors and the public.

Strategic objectives

Strategic Objective 2.1	Market the Academy amongst its target audiences
Objective statement	To market the Academy effectively and appropriately through the website, increased use of electronic media, publication and dissemination of relevant products, stakeholder meetings, release of press statements and promotion of Academy products.
Baseline	ASSAf has a revitalised brand that is entrenched in all its communication tools. ASSAf has a well-established internet presence with a professional website, and dedicated websites, such as Online Scientific Writing. The websites are regularly updated, press statements are regularly released and Academy activities publicised.
Justification	To ensure effective marketing of the Academy and to raise its profile amongst its target audiences.
Links	Supports ASSAf's overall strategic objectives.
Strategic Objective 2.2	Promote public awareness of science
Objective statement	To promote awareness of science amongst the public and particularly among the youth through the publication and dissemination of <i>Quest</i> science magazine, the <i>Quest</i> interactive website, release of

	press statements and active participation in key national science events.
Baseline	ASSAf participates and supports national activities in raising awareness of science.
Justification	To promote interest in and awareness of science amongst school learners.
Links	Promotion of interest in and awareness of science.

8.2 Resource considerations

This programme is adequately staffed within the secretariat for the next five years, but there is a need for the operational budget to increase in line with the improved communication and dissemination strategies (e.g. formal press launch) for each new report that is published. For budgeting and reporting purposes the budget for this programme is the budget for mainstream communication.

9. Programme 3: Liaison Programme

The purpose of this programme is to establish and give effect to strategic partnerships with other national science academies and academy networks, and to establish, strengthen and enhance interactions with key stakeholders in key national government departments, policy-makers in government, and relevant national and international scientific networks and organisations. A key objective of this programme during 2015/16 is to focus on academy development in the Southern African Development Community (SADC) region and to strengthen our bilateral agreements with other academies. The programme is also responsible for capacity development activities that include young scientists and women in science.

In 2015/16, ASSAf will assume hosting responsibilities for the International Council for Science (ICSU) Regional Office of Africa (ROA).

The programme is structured into international and national liaison activities.

Strategic objectives

Strategic Objective 3.1	Initiate and develop relations with global, African and SADC science Academy networks, national science Academies and other science organisations
Objective statement	To participate in and maintain effective relations with global and particularly African national science Academies and networks, and international and national science organisations thereby contributing

	to evidence-based policy making.
Baseline	<p>ASSAf is a member of the Global Network of Science Academies (IAP), the InterAcademy Council (IAC), the InterAcademy Medical Panel (IAMP), the G-Science (formerly G8+5) grouping of academies, and the Network of African Science Academies (NASAC). ASSAf also participates in the activities of The World Academy of Sciences (TWAS), formerly the Academy of Sciences for the Developing World, the “Science for Society Forum” of Presidents of Academies and the Human Rights Network of Academics and Science Academies.</p> <p>ASSAf currently has bilateral agreements with the Uganda National Academy of Sciences (UNAS), the Russian Academy of Sciences (RAS), the Chinese Academy of Sciences (CAS), the Nigerian Academy of Science (NAS), the Mauritius Academy of Science and Technology (MAST) and the German Academy of Sciences (Leopoldina). To date, UNAS and ASSAf have partnered on science education and water activities; RAS and ASSAf have held a joint workshop to strengthen links in the fields of biotechnology, nanotechnology and cyber-infrastructure; MAST and ASSAf have partnered on GMOs and energy; and Leopoldina and ASSAf have collaborated on energy and climate change issues.</p> <p>ASSAf has been involved in strengthening academies in Zambia, Zimbabwe, Tanzania, Mauritius, Kenya, Mozambique, Ethiopia and Sudan and has been requested to assist with the establishment of academies in Namibia and Botswana.</p>
Justification	<p>Linkages with other academies are important for addressing regional, continental and global issues that require collaborative efforts and insights. Effective international linkages enhance the credibility of an organisation and extend the reach of its sphere of influence.</p>
Links	<p>Promotion of national, regional and international linkages and contribution to the Government's Outcome 11: Create a better South Africa and contribute to a safer South Africa in a better world.</p>
Strategic Objective 3.2	Promote participation for young scientists and women in science-policy related activities

Objective statement	To promote and enhance the participation of young scientists and women in global and national science activities
Baseline	<p>ASSAf has hosted annual conferences of young scientists, disseminated fellowship/scholarship opportunities, nominated leading young scientists for international events, presented awards/prizes for young scientists, and collaborated with the South African Young Academy of Science (SAYAS).</p> <p>A national chapter of the Organisation of Women Scientists for the Developing World (OWSD – formerly TWOWS) and an executive committee has been established. Appropriate activities will be conducted under the auspices of the national chapter.</p>
Justification	<p>ASSAf is mindful of its responsibility to foster the next generation of leading scholars and to involve young scientists in academy related activities as much as possible. The annual Young Scientists' Conference provides an opportunity for young scientists to network and showcase their work. The establishment of a Young Academy provides young scientists with a platform to contribute nationally and even participate in international scientific activities.</p> <p>The activities will provide women scientists with a networking platform and an opportunity to contribute to science development in the country.</p>
Links	Promotion of innovation and scholarly activity, as well as recognition and reward of excellence.

9.2 Resource considerations

The international component of the Liaison function has increased dramatically over the recent past and is on an upward trajectory, as the reputation and profile of ASSAf increases internationally. As a result, ASSAf is invited to serve in executive positions on international bodies (e.g. IAC, TWAS), and to partner with other prestigious academies (e.g. US, TWAS, Royal Society in UK and in Canada) in sessions organised at key international events (e.g. American Association for the Advancement of Science annual meeting in 2012, InterAcademy Panel meeting in 2010, World Conference for Science Journalists in 2011). ASSAf is also a member of the IAP Executive Committee. It is clear that in the future provision will have to be made to resource the international liaison function adequately and appropriately to facilitate strategic and targeted links, consistent with ASSAf's role as a significant academy in the region, the continent, and the globe.

It is also anticipated that ASSAf will participate more fully in ISTIC and potentially in activities of the BRICS (Brazil, Russia, India, China and South Africa) grouping of academies.

With this increased activity in the international portfolio, the anticipated implementation of activities of the South African Young Academy of Science, for which ASSAf will provide secretariat support, and the implementation of activities for the OWSD National Chapter activities, an additional Liaison Officer has been appointed to take responsibility for these new activities.

10. Programme 4: Policy Advisory Programme

In order for ASSAf to fulfil its science advisory role in support of policy development regarding key challenges facing the nation, a variety of consensus studies is undertaken. In addition to the in-depth consensus studies, ASSAf produces concise policymakers' booklets and symposia proceedings reports; the latter represent the products of various convening activities of the Academy, which in 2014/15 included topics such as nuclear energy; mental, neurological and substance use (MNS) disorders; and green technologies. ASSAf also localises international Academy reports, as such reports represent considerable investment of human and financial resources. For a relatively small marginal investment on the part of the 'recipient' Academy the study can be made relevant for the local context.

Over and above their role in supporting policy development, evidence-based study activities provide an important mechanism for establishing and strengthening international links, securing external project-related funding, and in mobilising ASSAf Members to volunteer their service on committees and panels. Studies generally fall into broad categories related to: health; education; climate change; energy; the science-policy nexus; biosafety and biosecurity; science for poverty alleviation. Once concluded, considerable effort is expended in disseminating the findings and ensuring effective uptake of the recommendations.

In addition to evidence-based studies on various topics, ASSAf is embarking increasingly on policy commentaries and assessment studies.

Strategic objectives

Strategic Objective 4.1	Provide evidence-based science advice to support policy development
Objective statement	To identify and execute studies in line with the Academy's mission and the priorities of the country with a view to fulfilling the policy advisory role of the Academy.
Baseline	ASSAf has completed a total of 38 studies, consisting of 16 consensus studies, 16 workshop proceedings reports and has produced six policymakers' booklets.
Justification	To ensure that the Academy accomplishes its mission and remains both relevant and responsive

	to the needs of the country.
Links	Promotion of effective, evidence-based advice.
Justification	The methodology used represents international best practice for Academy studies and ensures that the recommendations made are independent, objective and free of vested interests,
Links	Promotion of effective, evidence-based scientific advice.
Strategic Objective 4.2	Ensure effective dissemination and uptake of reports
Objective statement	To share project reports with relevant stakeholders and policy-makers to ensure uptake of policy recommendations.
Baseline	Reports are presented to relevant stakeholders through face-to-face meetings and workshops. They are sent to stakeholders and policy-makers as per dissemination plans. Other forms of media used include television, websites, and print. Concise versions of reports are published to suit specific target audiences.
Justification	Translating Academy outputs into action depends on communicating the study results in an effective manner so that the outputs are available, accessible and usable.
Links	Promotion of effective, evidence-based scientific advice.

10.2 Resource considerations

Currently, the programme is structured such that the four Programme Officers each takes responsibility for projects and advisory activities in themed areas. The four Programme Officers are operating at full capacity and so if additional studies are introduced, dedicated staff will be appointed on a contract basis using external funding. This programme is also beginning to take on a new policy advocacy role, in line with trends at some of the well-established science academies, for example the Royal Society in the UK, by commenting on government white papers and policies. This role is being developed using existing resources.

11. Programme 5: Publications Programme

The purpose of this programme is to manage and produce ASSAf's flagship journal, the *South African Journal of Science*, and the science magazine, *Quest: Science for South Africa*. The *SAJS*, now in its 110th year of publication, aspires to be the leading multidisciplinary journal in Africa, publishing original research with a multidisciplinary or regional focus. As well as serving as a forum for debate about recent developments in research and higher education.

Quest is a full-colour, quarterly, popular science magazine directed at a target audience comprising learners, educators and the general public. *Quest* is aimed at engendering understanding of and an interest in science amongst school children.

Strategic objectives

Strategic Objective 5.1	Produce, publish and disseminate ASSAf publications
Objective statement	To produce and disseminate high quality print versions of periodical publications such as the <i>SAJS</i> and <i>Quest</i> .
Baseline	Publications are of a high quality; periodical publications are produced timeously; and are disseminated widely to ASSAf stakeholders.
Justification	The publication of <i>SAJS</i> is to provide a high-quality outlet for the publication of SA research. <i>Quest</i> magazine aims to promote an interest in science amongst learners.
Links	Promotion of innovation and scholarly activity; promotion of effective evidence-based scientific advice; promotion of interest in and awareness of science education.
Links	Promotion of interest in and awareness of science.

11.2 Resource considerations

This programme is adequately staffed within the secretariat for the next five years, but there is a need for the operational budget to increase in line with the increased number of evidence-based reports for each new report that is published. For budgeting and reporting purposes the budget for this programme is for Publications.

12. Programme 6: Scholarly Publishing Programme

The Scholarly Publishing Programme (SPP) is regarded as a major intervention into the National System of Innovation (NSI) in South Africa. The strategic goal of the SPP is to enhance the national capacity to produce and publish research, on the one hand, and to increase the quality and visibility of South African research publications, on the other. The Scholarly Publishing Unit (SPU) in the Academy is headed by a Director and currently staffed by seven staff members and one DST intern.

The additional annual allocation of R6m from the DST, effective 2013/2014, for the Open Access platform and other activities has greatly assisted ASSAf to keep momentum in this programme, and to make a valuable contribution to improved access to scholarly publications, an essential ingredient for human capital development in a modern, rapidly developing knowledge-based economy such as South Africa.

Strategic objectives

Strategic Objective 6.1	Promote access to knowledge resources
Objective statement	To increase the number of high-quality South African scholarly journals on the open access platform, Scientific Electronic Library Online (SciELO) - South Africa as well as the improvement of access to international commercial databases
Baseline	There are currently 49 journals on the platform and the projected total number of titles on the platform is approximately 180.
Justification	To increase visibility of SA scholarly journals and to improve access for SA scholars and postgraduate students. Through optimising research access, the platform maximises visibility, usage, uptake, impact and hence research progress and it exposes research undertaken in developing countries to developed countries. Government faces three major priorities: (1) to produce a highly qualified human resource base which is needed for national development, (2) to develop the next generation of academics to sustain and transform the system; and (3) to produce high-quality research and innovation outputs that can enhance the country's global competitiveness. All three priorities are

	absolutely dependent on access to papers published by other scholars, local and international, in leading journals.
Links	Promotion of innovation and scholarly activity, as well as effective, evidence-based scientific advice. Supporting the transformation of South Africa's economy from a resource-based to a knowledge-based economy.
Strategic Objective 6.2	Undertake quality assurance of journals, books and collected works in South Africa
Objective statement	To implement a system for peer review of discipline-grouped SA scholarly journals and books in order to enhance the quality of them and establish the role they play in research in South Africa.
Baseline	<p>Five discipline groups have been completed, viz. Social Sciences; Agriculture and Related Sciences; Law; Health and Related Sciences; and Religious Sciences. The next subject group is nearing completion: Humanities; Languages and Literature. Eight additional subject groups will be rolled out in 2015/2016.</p> <p>A consensus study report on <i>A Strategic Approach to Research Publishing in South Africa</i> was published in 2006 and a consensus study report on <i>Scholarly Books: Their Production, Use and Evaluation in South Africa Today</i> was published in 2009.</p>
Justification	To enhance the production, visibility and impact of high-quality scholarly journals, books and collected works in SA. To bring peer review standards for scholarly books, collected works and journals up to a high level. To improve public policy in respect of these mentioned materials and to enhance the impact of all scholarly research in the development of a new generation of researchers.
Links	Promotion of innovation and scholarly activity, as well as effective, evidence-based scientific advice. Supporting the transformation of South Africa's economy from a resource-based to a knowledge-based economy.
Strategic Objective 6.3	Enhance scientific writing for research publishing

Objective statement	Establish a web-based, online scientific writing course for graduate students and young academic staff aimed at supplementing and enriching in-house offerings.
Baseline	The online system has been developed and will offer four tiers of support: a listing of suitable resources with access details; self-teaching lectures on various aspects of scientific/scholarly writing; a direct mentoring system for help with writing tasks; and short block courses for face-to-face instruction and help.
Justification	A nationally coordinated, low cost-to-user online course system will greatly widen the scope of benefits, and permit over-stretched researchers at institutions to concentrate more on content than on issues of skill, at least as far as writing for publication is concerned. There is a need for training courses in view of concerns about the quality of student writing.
Links	Supporting the transformation of SA's economy from a resource-based to a knowledge-based economy.

12.2 Resource considerations

A Memorandum of Agreement has been concluded between DHET and ASSAf whereby at the end of March 2015, after a one year funding of R5.1 million, the following deliverables would have been reached:

- Conduct one *ad hoc* peer review panel for DHET to evaluate the applications for new and re-applications of journals for accreditation.
- Investigate the role of international publishers in publishing South African scholarly journals and to make recommendations to DHET in terms of the current policy.
- As a one year pilot conduct peer review evaluations on scholarly books and conference proceedings, as well as evaluating the existing accredited conference proceeding list.
- Adding additional titles and back issues per annum on the SciELO SA platform in order to reach optimal growth much faster.
- Background study on Open Access and its implications towards policy making and funding.
- Creating an Implementation Framework for the DHET for natural site licencing for all researchers to access.

The SPP is an ambitious programme poised to make a major intervention into South Africa's NSI and will require substantial, sustained investment to realise its objectives. Due to the inclusion of SciELO SA on the Web of Knowledge platform, and certification standards of the international SciELO platform, increased activities will follow in the field of adding back issues of

journals, and preparation (mark up and conversion) of journals. With the increased activities it is also anticipated that at least three new contract posts will be needed with effect from 2013/2014 to assist with the markup of journals to be placed on the open access platform. ASSAf is also now required to host this national asset of full text journal database (SciELO SA) on servers which require broad bandwidth, dedicated access and other infrastructural requirements

13. Risk Management

ASSAf's risk profile relates to three broad areas, viz. financial, human resources and reputational.

Financial risk is due to its dependence on external revenue sources, predominantly government, for its operation, but also on external project-related funding sources. The risk in terms of human resources relates to the retention of staff. In view of the small number of staff, the loss of even a single staff member from a key position for a brief period creates a void that is difficult to fill as there is no surplus human capacity in the system. The third item, reputational risk, relates to the vision of the Academy to be an independent, authoritative voice in evidence-based science for policymakers. Although heavily dependent on government for funding, it is imperative that the Academy guards its independence of government. With increasing dependence on external sponsors for funding, there is the risk of ASSAf's values and objectives being compromised.

Plans to manage these risks are as follows:

- Financial – vigorously pursue options to secure, not only project-based funding which has been successful, but unfettered funding that could supplement ASSAf's core grant from government.
- Human Resources – ensure that retention of staff is assured through good remuneration, good working conditions, and human resource policies that support and facilitate their development.
- Reputational – ensure that ASSAf's independence is upheld in all contractual work with government or other agencies and ensure the delivery of high quality products endorsed by the ASSAf Council.