Sciences especially in the African Science Academy Development Initiative (ASADI) and UNESCO. Its members have visited several science academies in the world to learn about their programmes.

6.4Publications

TAAS publishes newsletters, policy documents and books.

7.0 PROPOSED FUTURE ACTIVITIES

1.1 Forum Studies

The current key policy and strategic issues, as per TAAS Strategic Plan, are:

1. Dissemination of information and applied tacit knowledge on science and technology in rural communities and primary and secondary schools in Kiswahili by such activities as creating a Swahili Science Dictionary;
2. Gender mainstreaming and development of girls in science and technology related fields in Tanzania;
3. An International conference on Gender and sustainable development in Africa in 2018 in collaboration with NASAC and French Science Academy.
4. Conducting independent research and open public lectures on policy and strategic issues that are important for national socio-economic development:
   i. Using Science, Technology, and Innovation Knowhow and Tools to Spur Climate Change Resilience and Adaptation in Tanzania, in the period 2015-2050.
   ii. Which future pathway for Tanzania's Agricultural Development for Combating Poverty?: Family Farming, Industrial Agriculture, and Emergence Genetically Engineered Technologies and Products.
   iii. The implications of land use and tenure in Tanzania's socio-economic development: Land use planning, access to land resources, and use,
   iv. How to strike an eco-balance between accelerated and sustainable agricultural and industrial development and environmental management?
   v. Research and Utilization of Accessible Renewable Energy Sources and Systems for Generation of Income and Employment in Rural Settings.
   vi. Addressing Future Demographic Factors and Trends in Tanzania: Shift of the population/labor dynamics as Tanzania graduates from agriculture to early industrialization,
   vii. Health and Balanced and Equitable Development: How to cost-effectively to address health issues such as rising cancer, diabetes, and communicable diseases in Tanzania?
   viii. What needs to be done to change the perception among the Tanzania youth that science is hard and does not pay? To be done through publishing a 'Lighting of Fire' Vol. 2, and
   ix. The role and use of nuclear technology in Tanzania's energy mix and in industry in the next 50 years.
5. Collection, processing, publication and dissemination of science information and materials for use in promotion of individual and national development; and
6. Supporting the implementation of policies and initiatives in strategic sectors by providing researched, evidence and science-based policy contributions and neutral strategic advice that respond to stakeholder and national aspirations and future prospective opportunities.

7.2 Capacity Building

1. Capacity building of scientists and enhancing their skills, expertise, and experience through multilateral linkages, training collaborations and long-term research and skills transfer exchanges;
2. Support the TAAS and scientists in Tanzanian institutions to publish local science journals which are international level publications;
3. Support to the Academy to be recognized by legislation by creating a TAAS Act of Parliament;
4. To support and build the capacity of the TAAS Secretariat to kick start and coordinate the implementation of the initial activities; and
5. Support TAAS to have own home which includes building and facilities.

8.0 COUNCIL

1. **Professor Esther Mwaikambo**, President
2. **Professor Joseph Kuzilwa**, Vice President
3. **Dr. Gratian Bamwenda**, Secretary General
4. **Professor Yunus Mgaya**, Honorary Treasurer
5. **Professor Ludovick Kinabo**, Editor in Chief
6. **Professor Matthew Luhanga**, Immediate Past President
7. **Professor Keto Mshigeni**, Immediate Past Secretary General
8. **Professor John Shija**, Member
9. **Professor Ali Mshinda**, Member
10. **Professor Contancia Rugumamu**, Member
11. **Professor Julie Makani**, Member
12. **Dr. Asifa Nanyaro**, Executive Director

SOME PUBLICATIONS

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TANZANIA ACADEMY OF SCIENCES (TAAS)

1.0 HISTORY AND BACKGROUND

The Tanzania Academy of Sciences (TAAS) is a non-political, non-sectarian, non-profit making national body of learned men and women in physical, natural and social sciences and technologies. It consists of persons distinguished in their own right and who are interested in the promotion, advancement and application of science and technology for human development.

Tanzania Academy of Sciences was founded on 24th February, 2004 when twenty five senior Tanzanian scientists met and decided to form a science academy. The main driving force behind this initiative was Hon. Prof. Peter Msolla the then Deputy Vice chancellor of Sokoine University of Agriculture (SUA) and later Minister of Communication, Science and Technology (MCST). TAAS as a learned, independent, non-for profit scientific organization was registered as a Non-Governmental Organization (NGO) scientific body on April 13, 2005 and officially launched on 24 June, 2005, in Dodoma, by His Excellency, Benjamin William Mkapa, the then President of the United Republic of Tanzania. Efforts are being made to have TAAS recognized by legislation. The academy consists of 131 members including: fellows, honorary fellows, ordinary and associate members.

2.0 VISION STATEMENT

The vision of TAAS is "To be the epicenter for promotion of excellence in the advancement and application of science, technology and innovation for national socio-economic development in Tanzania".

3.0 MISSION

The mission of the academy is "To promote scientific and technological learning and the utilization of scientific and technological knowledge for national socio-economic development".

4.0 PRINCIPLES, GOALS AND FUNCTIONS

The principles of TAAS are to:

1. Nurture scientific knowledge and innovation in order to improve and enhance the contribution of science in the everyday activities of a Tanzanian,
2. Offer quality scientific services with integrity, and
3. Work with efficiency to ensure optimal utilization of resources in generating valuable long term outcomes and impacts.

The major goals of TAAS are promotion, advancement and application of Science and Technology for socio–economic development of Tanzania, and provision of quality, neutral policy and strategic advice. In addition, TAAS is a platform for evidence based opinion exchange among stakeholders and for provision of realistic science based policy responses and home grown solutions that are in line with current and future national aspirations and needs.

The functions of TAAS are to:

(1) Promote knowledge creation and innovation in scientific and socio-economic fields;

(2) Advise and provide policy and strategic advice on science, technology and innovation (STI) to the society;

(3) Support and facilitate high quality scientific research and its applications by availing competitive research grants and promotion of research projects;

(4) Promote dissemination and exchange of scientific knowledge through learned journals, meetings, conferences, seminars and lectures;

(5) Promote science education through improvement of the national science education policy, content, and standards, quality of science curriculum and science teachers; and

(6) Facilitate value adding linkages and collaborations with scientific communities within the country and abroad through exchange programs and fellowships for training and research.

5.0 STRATEGIC PLAN

The TAAS strategic priorities are designed to increase interest and incentivize use of science in the society through promotion of science education in kindergarten, primary, secondary schools and universities.

5.1 Core Values

The building of a cohesive and binding organizational culture is a fundamental pre-requisite for the sustainable development of TAAS. It is the adoption and integration of these core values that will ensure an organizational team spirit. The core values of TAAS are:

1. Integrity and courtesy: TAAS will offer its services with integrity and courtesy;
2. Transparency: TAAS will exercise transparency in the treatment of its stakeholders and the general community;
3. Efficiency: TAAS will work with efficiency to ensure economic use of resources in serving its customers;
4. Innovation: TAAS will strive to be innovative in its approaches and activities;
5. Accountability: TAAS will be accountable for its decisions; and
6. Teamwork: TAAS will exercise team spirit in the promotion of science technology and innovation

5.2 Core Operational Functions of TAAS

In the strategic plan, TAAS mission will be implemented through the following principal operational functions:

(1) Research: Coordinating and promoting efforts to enhance the conduct of nationally, regionally and internationally recognized research;

(2) Partnerships Building and Animation: Forging and animating networks and partnerships to serve science, technology and innovation development needs of Tanzania;

(3) Policy Advice Generation: Helping to shape national, regional and international public policies related to science, technology and innovation;

(4) Scientific exchanges: Facilitating scientific exchanges (e.g., symposia, conferences, workshops, journals, Internet linkages) designed to promote increased excellence in national science, technology and innovation systems;

(5) Information Dissemination: Collecting, storing, analyzing, and disseminating information relevant to the promotion of science, technology and innovation;

(6) Resource mobilization: Mobilizing and sustaining resources for promoting excellence in the advancement and application of science, technology and innovation for national socio-economic development;

(7) Recognizing outstanding Science, Technology and Innovation (STI) talents and achievements : Reward talent for the purpose of building national motivation and commitment to excellence in Tanzanian science, technology and innovation; and

(8) Institutional Capacity Development: Building effective administrative, human, physical and financial capacity to deliver the core mission of the Academy.

5.3 Strategic Objectives of TAAS

The academy will dwell on accomplishing the hereunder-mentioned strategic objectives:

(1) Increased TAAS membership and their active participation,

(2) Enhanced TAAS financial sustainability,

(3) Enhanced TAAS administrative, human and physical capacity,

(4) Strengthened networking, partnering and collaboration on STI,

(5) Enhanced national STI excellence,

(6) Increased mainstreaming of STI in national socio-economic sectors and the general public,

(7) Strengthened access to STI advice by Government, Politicians and regional and international governance institutions, and

(8) Strengthened indigenous and exogenous STI knowledge/information production, storage and dissemination.

6.0 PAST AND CURRENT ACTIVITIES

6.1 Collaboration, Advocacy, Policy Advice and Scientific Meetings

The Academy has strongly promoted strategic linkages, networking and collaborations as means by which scientific institutions can share experiences, resources and knowledge in furtherance of scientific research and as well provide evidence based advice to Government and other stakeholders. In this respect, jointly with IAP, IAMP and NASAC TAAS has participated in issuing authoritative statements on global issues. Recent key meetings and publications by TAAS are:

(1) Engaging and Influencing Government and Decision Makers, 2009,

(2) The Development of Agricultural Research Strategy in Tanzania, 2011,

(3) The Implications of Climate Change to Sustainable Agriculture and Health, 2012,

(4) LIGHTING A FIRE Vol 1, a book authored by 31 Tanzanian scientists, 2012,

(5) The Deliberations on Science, Technology and Innovation Inputs to the Tanzania Constitution Reform, 2013,

(6) Is Tanzania ready for uranium mining?, 2014,

(7) Implications of gas and oil exploration, production and sustainably investing revenue: how best to prudently manage and invest gained revenue to safeguard national interests and to avoid the resource curse, 2014,

(8) Implications of Climate Change to Sustainable Agriculture and Health, 2014,

(9) Appropriate Technologies for Sustainable Energy in Off-grid Rural communities (Smart Villages Initiative)' in collaboration with Cambridge Malaysian Education and Development Trust, the European Academies Science Advisory Council, the International Science Programme at the University of Uppsala, and the Swedish Secretariat for Environmental Earth Systems Science at the Royal Swedish Academy of Sciences and National Kenyan Academy of Sciences, 2014.

(10) "Genetically Modified Organisms (GMO) Technologies, Processes and Products: Which way for Tanzania?", 2015

(11) "The Increasing Occurrence of Cancers in Tanzania: Best options for Prevention and Control", 2015

(12) "Policy support to push for financing, quality and comprehensive analysis of Tanzania Science, Technology and Innovation (STI) journals and coming up with strategies to increase quality and use on line" 2015

6.2 Collaborative Engagements

In partnership with the Royal society, IAP, IAMP, TWAS, NASAC and AAS, TAAS has facilitated scientists to attend international scientific training and conferences and to access competitive award schemes as follows:

(1) The Royal Society Pfizer Award which is awarded to a young African scientist at the outset of their career and to promote science capacity building. Two scientists from University of Dar es Salaam (UDSM) and Muhimbili University of Health and Allied Sciences (MUHAS) won the awards

(2) The Leverhulme Royal Society African Awards from 2008 which aim to develop and sustain excellence in science in Ghana and Tanzania scientists by doing collaborative research with scientists from United Kingdom (UK). To date eleven scientists in Tanzania, in the areas of agriculture (including animal health), water and sanitation, basic human health research (including medicinal chemistry), biodiversity (including medicinal plants and green chemistry) and energy (mainly in the area of renewable energy), have won collaborative research awards with UK counterparts;

(3) The TWAS-AAS-Microsoft Award for Young scientists which is awarded to scientists who have earned their Masters or PhD degree within the previous ten years and who have been working in Africa for at least two years prior to their domination. Already one Tanzanian engineer has won an award under the scheme.

(4) Support young scientists to attend international training including information on TWAS award opportunities for doctoral and post-doctoral fellowships and laboratory equipments grants; and

(5) Provided opportunities for young scientists in Tanzania to participate in international conferences and competitive opportunities which have so far yielded two winners – a physician winning a young physician award from the Global Network of Science Academies.

6.3 International Institutions which TAAS Participates in:

TAAS participates in the Inter Academy Panel (IAP); Inter Academy Council (IAC); Network of African Science Academies (NASAC) and Inter Academy Medical Panel (IAMP).

TAAS has linkages with the Academy of Sciences for the Developing World (TWAS), the African Academy of Sciences (AAS), the Royal Society, and the National Academy of