

File Ref.	Discussion Meeting between African Synchrotron Initiative (ASI) and African Light Source (AfLS)
Date of Meeting	14th June 2022
Document name	Minutes of the discussion meeting between ASI and AfLS
Time of meeting	Meeting started at 1100hrs to 1220hrs (EAT)
Present	<ol style="list-style-type: none"> 1. Edward Mitchell (Chair) – ESRF, France (Moderator of the meeting) 2. Shabaan Khalil – Zewail City of Science and Technology, Egypt 3. Malik Maaza – IThemba Labs, South Africa 4. Simon Connell – AfLS 5. Prosper Ngabonziza - AfLS 6. Rita Musyimi – African Academy of Sciences (AAS) (Recording)
Opening remarks	<p>Edward Mitchel welcomed all to the meeting and thanked them for taking time to meet. He reiterated that this was a friendly discussion among colleagues in the spirit of Ubuntu and the effort that each party was making towards the same direction of achieving the African Synchrotron.</p> <p>It was agreed that each member from the ALS and AfLS would have five minutes to present what they have been doing so far. He suggested that the comments should not be long and urged that everyone should try and restrict themselves to the allocated minutes each to avoid repetition.</p>
Presentations	<p>An overview of both AfLS and ASI was given by Prof Simon Connell and Prof Malik Maaza respectively, followed by deliberations by each member present at the meeting.</p> <p>Simon Connell</p> <p>He stated that he was happy the meeting was taking place. He emphasised that he is a</p>

member of the AAS. He shared slides that he had prepared.

He emphasised six points:

He gave an overview of the AfLS from 1990 when the first publication on Source light was produced. He reported that Dr Sekazi Mtingwa was visionary in making the first formal Pan African call for an African Light Source at the occasion of the launch of the African Laser Centre. Thereafter there have been many other initiatives to date.

The AfLS 3rd Conference was held in 2020, and the culmination with this meeting between the ASI and AfLS in June 2022. He presented the many AfLS roadmap related activities which had been formalized starting from 2015. The 1st AfLS Conference which is an Ubuntu-driven process, called on all Africans to participate and be inclusive of anyone outside of the African Continent, including in the diaspora, who were friends of the African Continent. The other conferences were held in 2019, 2020, 2021 and 2022.

In the 2015 AfLS Conference, a well-publicized Bottom Up and Top-Down Approach was used. This involved linking many young people and growing their talent. An MoU for funded training with LAMP was developed to this end.

In the 2021 AfLS Conference, five African governments, many co-conveners, professional bodies and academies were included. There were five hundred registrations.

The Bottom-Up Approach involved Human Capacity; African Scientists access to existing Light Sources (LSs); African relationships with existing LSs; Involvement of Industry; Community for the LS users; Outreach.

The Top-Down Approach involved **Strategic Approach to government** – substantial progress was made with the African Union, the SD Commission of the Union, many academies such as AAS, NASAC and many other professional bodies and voluntary associations, who have become co-conveners.

The **Conceptual Design report** is in five volumes:

Volume 1: Scientific, Socio-economic, Educational and Political benefits

Volume 2: Machine Design Concepts

Volume 3: Scientific capabilities and beamline technical concepts

Volume 4: Building Design and Infrastructure

Volume 5: Finance and Governance

InterAfrican cooperation on local/feeder infrastructure:

African multinational beamlines at existing LSs:

Regional/Pan African membership of existing LSs:

Technical Design report:

A list of organizations with a relationship with the AfLS was provided which includes SESAME with whom AfLS have an MoU to organize many activities together and promote African use of SESAME; international institutions and pan African and national institutions in Africa.

In the 2021 AfLS Conference, five African governments, several co-conveners, professional bodies and academies were included. There were five hundred registrations.

AfLS profile includes targeted links with authoring, website and social media, such as Institute of Physics.

Malik Maaza

He thanked Simon Connell for the overview and reminded all that the AAS acknowledges the efforts and achievements of AfLS.

However, AAS through the ASI feels that it is more than three decades, and the idea mooted by the AfLS has not progressed forward. The AAS, having been mandated by the African Union (AU) as the voice for science and technology in Africa, feels it is time now to take lead on this and ensure that it translates the effort into a real project supported by different governments and partners in Africa. The AAS believes that it should market the idea of African Synchrotron as well as table it at the highest level possible to potential partners in Europe, China and US.

Due to its nature as the sole institution that has the mandate to speak on behalf of the AU on matters of science and technology in Africa, the AAS through the ASI believes it is time now for ASI to table the project to Heads of State and at the Science, Technology and Education Commission.

Edward Mitchell

Since this is a project for Africa by Africans, he invited the members to share mutual areas of interest and deliberations by both parties.

Khalil Shabaan

It is natural to consider the project in stages. However, there is need to be realistic. One billion dollars is not at the disposal of Africa to build the African Synchrotron soon.

There is no contradiction to the extent that both ASI and AfLS are preparing Africa to get to a point of awareness on the importance of the Synchrotron, not just to African governments but also to African scientists. He acknowledged that AfLS was doing a lot in this area. The ASI would also do the same, so as to complement the efforts of both.

AfLS is preparing a lot of studies and meetings and ASI would like for these to be completed. Whatever the ASI also achieves in the two-year period, they will share with the AAS, with AfLS or with any organization that can complete this project. ASI is preparing the ground to reach a level of construction of the Synchrotron.

It has been two months since ASI was formed with a mandate of two years. The ASI intends to achieve as much as they can and it is immaterial to them who ends up completing the project, whether the ASI or AAS or AfLS.

The issue is whether the preparation should be done under one umbrella of the ASI and AfLS. This has been tried in the past and found that it was difficult because the AfLS is already well established with a lot of people, members and have already progressed through a lot of steps. Hence in the ASI discussions, it was agreed to organize themselves, to arrange cooperation and relations, rather than have a strained relationship. This is a long-term project. Even with optimism, it appears the earliest the Synchrotron can be in Africa is about ten years from now.

Therefore, it is still in the initial stages when there should be collaboration, awareness creation and training of users. This can be done by forming several light source groups around African countries. The sum of all these groups' efforts will help achieve the Synchrotron project.

At a later stage, when the one billion dollar is available and there is a country willing to host the machine, and AU can decide to go ahead, then it can be agreed on who are the experts and who can collaborate.

Conclusion: the project has several stages, and it is still in the pilot stages. All efforts from all quarters should be brought together. This is more important than worrying about who is taking the lead. There is no need for voting. The stage is for awareness creation; providing scientific background, and the need for this facility.

Prosper Ngabonziza

He was happy to meet the members and it was good to learn what the each group was trying to do.

He agreed with what Prof Khalil said that this is a long-term project and reiterated that at AfLS they are projecting 2035 as the construction period of the Synchrotron.

He added that he may have misunderstood but would like to convey that it is a long-term project that requires careful planning, going step by step such that by the time the project is ready, the workforce, namely scientists and technicians that can use the Synchrotron are prepared to do so.

To sell the idea of a Synchrotron to politicians, there is need to present a compelling case that is well defined to them, explain what the synchrotron is and what it will do for Africa, etc.

It should not be about one or the other organization taking over to finish the project faster than the other organization. There are standard steps and a process to be followed, for instance, it is not possible for one organization to undertake a one-year training in one month.

Each organization can be independent and collaborate and work together on mutual areas of interest.

It would be unethical for one organization to take over what the other organization has been doing and to appropriate it to self.

The main thing to discuss is how to collaborate and have interactions if possible. If not possible agree to go independently and see how to work on improving awareness creation, training young scientists and roping in the political system and in the end get the Synchrotron in about ten years.

If there are international organizations that can support the Synchrotron, the bare minimum will be to see how ready Africa is for a Synchrotron, otherwise the idea will be shot down. However, if it is possible to prove that the ground is well prepared, there are dedicated people, the setting is ready with trained scientists and technicians, there is political sensitization and what is lacking is the funds to make the project possible.

His suggestion is to open the discussion on friendly collaboration and common projects.

Though ambitious, it could also be possible to work independently towards two synchrotrons for Africa.

Let it not be that one organization is above or under the other one. It is important to try and find a way to collaborate and have mutual projects.

Edward Mitchell

Having sat in meetings of each organization, he summarized that the feeling is that no one organization should be under the other.

There does seem to be complementarity for a long-term, step-by-step process towards achieving the African Synchrotron.

Simon Connell

He agreed with Prosper.

There should be avoidance of the language that AAS must take over, that AAS will lead and market, as this is not a constructive language.

Best practice in other countries is that academies play a significant role in terms of support and giving a pedigree to the programme. There is always a coherent group of experts that makes it happen, which is what the AfLS has been for Africa. AfLS is glad to hear that ASI recognizes the work that AfLS has been doing.

This should not be about personalities, it should be about doing that which is best for Africa and strengthening the institutions that promote democracy, Ubuntu and decolonization in Africa.

He stated further that he was not in favour of the mentality that funding is done by going outside to China, Europe etc. Africa has a history of colonization and needs to be decolonized. This project must be an African project, led by Africans for Africans. He would be happy for Friends of Africa in the words of Kwame Nkrumah, 'If Africa is born in their hearts, they can contribute' but the major funding must come from Africa. The international organizations can assist in the transitional stage where the African governments are in the process of learning the lesson of the importance of funding science.

Can Africa afford the one billion dollars? Yes, it can afford it. Africa has afforded the square kilometre rail; it carried its port alone when there was the economic crisis in the preliminary stages of the square kilometre rail.

This is the African Light Source and Africa has the fiscal responsibility and is learning and is on the trajectory where it can do it.

Malik Maaza

That is why the AAS is the platform to correctly voice to the Heads of States and policy makers for this project.

The AAS is not looking to take over but has seen this project for 3 decades has not brought this to the AU table, which is the right platform.

He reminded the members that the AAS was given this mandate in 2015 in Dakar by the AU to be the voice of Africa in matters of science, technology and innovation. AAS does not have to take over AfLS, only to be an ambassador and voice to heads of states, AU and other countries to grant funding.

Khalil Shabaan

He stated that the team will face a lot of challenges and disagreements; therefore, they should not start presenting challenges this early. To acquire funding, they should be prepared and qualified and unified because funding would not be granted to an individual but to the organisation at large.

He emphasised that ASI are not working for the AAS. The AAS have delegation from the AU and assumed to be supported by majority of African nations to represent them. This is a long-term project, and many more problems are sure to arise. He was not sure if the AAS will be able to carry the project five or even ten years from now so there was no need for discord rather the need to only do the work ahead of and prepare it well to hand it over to the organization that would continue the process and hopefully it would be an organization that is acceptable to all.

Simon Connell

He stated that he understands that the AAS is the ambassador for science and technology in Africa but cited that it is not the only one. There is also NASAC and the national academies, professional bodies, voluntary associations, among others. That said, the AAS has a prominent place, and that should be recognized.

Khalil Shabaan

Interjected to clarify that they are not working for the AAS but for themselves.

Simon Connell

Continued that he welcomes the AAS to continue in the role that Prof Maaza described. A way to make progress is to clarify what the niche role of an organization like the AAS and AFLS was.

Edward Mitchell

How do we get around the issue of the AAS? They all agree that it is the route to the Heads of States of Africa, the AAS has a key role to play. It is one of the important routes. He cited that there was need to get rid of some of the elephants in the room but at that at the moment it was not possible.

All agree that heads of state need to be reached out to and funding needs to be secured, grounds staff and training of technicians has to also take place, ASI has set a 2-year mandate to start with, AfLS has a longer period. They need to look ahead at what they both can do together moving forward. There was a build up of common ground where they could both prosper and try and keep the tone down.

Simon Connell

AFLS does indeed recognise the AAS as an important part of the process in the places Malik outlined. Common ground is that the AAS plays a significant role in that respect and the AfLS could be the body that sees the long-term project to conclusion. AAS should be there for the long term as there will be need for such kind of discussions in the future as well. The AfLS and AAS should work together in some sense with AfLS being recognised as the technical experts in aspects of the CDR topics. AAS should support the organisation and support the process. He reiterated that he is a member of the Academy, and he does not see a problem there.

Malik Maaza

It would be wise to have two parallel projects; the AFLS working within its mission of human capital development, mobility etc and the AAS not be involved to work on the same project and ensure that the two platforms operate parallel to each other in a complementary way and achieve the goal of the African Synchrotron facility in Africa. ASI being mandated by the AAS, whenever the AAS is asked to intervene, the ASI should represent them.

Prosper Ngabonziza

This is still in the initial stages. It is important to be clear that the AAS is not the only

route to the Heads of States and making the Africa Synchrotron a reality. There are other options. It is important to get ready and once this is done, the project can go through the AAS or another body which is not identified yet.

Khalil Shabaan

There is need to be behind one organisation to make connection with Heads of States and the AU. On the ground, work is being done on the scientific level. There needs to be some achievement within the ASI committee's lifetime, which is 2 years. It is not known how long AAS or AFLS will last.

Simon Connell

He proposed that a second meeting be held to resolve other issues that have arisen in this meeting. He said that he was happy that they had heard each other. He was hopeful that there can be a common ground. He stated that some are harder lined than he is, he was only trying to convey the AFLS executive committee's viewpoint. There is a lot more to say and do. He requested that more progress be made.

Khalil Shabaan

He was opposed to the idea of another meeting being held. He suggested they produce a work plan. Another meeting will repeat what has already been said. This needs to be discussed offline. Each can be completely independent.

Simon Connell

The two groups overlap therefore there is need to work together to produce a clear and coherent picture.

Ed Mitchell

Each team can select an item to focus on. Ex tech lab in Benin and their new science city being built there, Hercules school, LAMP initiative, ASI outreach. Help to prime Africa. Push for funding for another open sesame. He would push for funding for another open sesame. Therefore, having a coherent approach would be great.

Prosper Ngabonziza

He opined that there was no need to have another meeting at the present time. Suggested that if they are to meet again it should be after a few months when everyone has had a chance to calm down and ruminate on the discussions of this meeting. He suggested that if there is to be another meeting then it should be to discuss how to best prepare Africa for Synchrotron and to avoid politics all together.

Khalil Shabaan

He stated that they would be ready with a work plan by September.

Edward Mitchell

He suggested that the first half of September would be ideal to hold the meeting. He would communicate on a concrete date in due time. Thanked everyone for attending the meeting.

The meeting ended at 1220 EAT

Recording: https://aaofsciences-my.sharepoint.com/personal/r_musyimi_aasciences_africa/Documents/Recordings/2022-06-14%2010.59.10%20ASI%20-%20AfLS%20Discussion