

**COLLABORATIVE RESEARCH TO IMPROVE QUALITY OF LIFE IN PORTUGAL,
PORTUGUESE-SPEAKING AFRICAN COUNTRIES (PALOP), AND ELSEWHERE IN AFRICA
JOINTLY WITH PORTUGUESE INSTITUTIONS AND IN
COLLABORATION WITH THE AGA KHAN DEVELOPMENT NETWORK (AKDN)**

Final Scientific Evaluation of the 1st Call

Summary report by the External Scientific Review Panel (ESRP)

The purpose of this report is to present the overall scientific results achieved by the 16 funded projects, considering all the interactions between the ESRP and the Principal Investigator (PI) of each project, during six years, between 2018 and 2023.

The methodology used was based on a comparison between the initial objectives of each project (in terms of milestones, tasks, outputs, and scientific spreading activities) and the final reports, produced by the PIs and analysed by the members of ESRP specifically assigned to accompany each project.

Three types of documents were produced for each project:

1. Qualitative comments focusing on the main achievements (non-public).
2. Quantitative comparisons between the initial objectives (in terms of milestones, tasks, outputs, and scientific spreading activities) and the final results.
3. Quantitative screening of the scientific outputs.

Overall, considering the diversity of the scientific areas covered and the different African locations (ANNEX 1), the global perspective is of a significant success, taking into account the initial question: *“Was there a network of scientific human power between Portuguese institutions and their counterparts in the Portuguese Speaking African Countries, capable of performing joint research and technological projects aiming to promote the improvement of quality of life in Africa?”*. In addition to the foreseeable barriers, the program faced the limitations caused by the COVID-19 pandemic and, in some cases, very difficult local problems, namely in the north of Mozambique, which were partially overcome by the extending the period of activities until the middle of 2023.

1. – Qualitative analyses of the final reports

The 16 projects were accompanied by the ESRP, with the support of FCT, during the whole period of execution and progress reports were produced by the PIs according with the workplan. In the last year, corresponding to the period between 2022 and 2023, a final report was presented by each PI allowing the qualitative analyses

The projects covered a great diversity of areas, namely **biological sciences** (quality of life in fishing communities in Mozambique, coastal biodiversity in peri-urban Sub-Saharan Africa contrasting Indian and Atlantic coasts, Cape Verde endemic flora, Luanda Bay ecological assessment and aquaculture in Mozambique), **exact and applied sciences** (quality of life in the urban margins of Luanda and Maputo, radioastronomy in Mozambique, palaeontology in Mozambique, energy photovoltaic system for family agricultural production in Mozambique, geosciences in Angola and Mozambique), **health sciences** (HIV-AIDS in Cape Verde, tuberculosis in Guinea Bissau, malaria in Angola, sickle cell anaemia in Angola), **social sciences** (memories, cultures and identities between Portugal and Mozambique, democratization and electoral integrity in Angola and Mozambique).

The great majority of the projects reached all the initial objectives, and some performed at the highest level, such as *PaleoMoz* (palaeontology in Mozambique), *CVAgrobiodiversity* (Cape Verde endemic flora), *Maf_TB* (tuberculosis in Guinea Bissau) and *Cultures Past & Present* (memories, cultures and identities between Portugal and Mozambique), just to name a few. In addition, it was possible to identify the implantation of seeds for future cooperation, not only in the above mentioned projects, but also in others, such as *LuandaWaterfront* (ecological assessment with the launching of a joint degree between Portugal and Angola), *PV4Sustainability* (energy photovoltaic system for family agricultural production in Mozambique), *Africa Habitat* (quality of life in the urban margins of Luanda and Maputo), and *COBIO-NET* (coastal biodiversity in peri-urban Sub-Saharan Africa contrasting Indian and Atlantic coasts), just to name a few. In some cases, however, the local context was an obstacle to reach the final objectives and this drawback occurred in *MalAngo* (malaria in Angola), *DOPPLER* (radioastronomy in Mozambique) and *SUGGEST-AFRICA* (geosciences in Angola and Mozambique).

2. - Quantitative analysis comparing the initial objectives (in terms of milestones, tasks, outputs, and scientific spreading activities), and the final results

Most of the projects attained all the initial objectives in terms of milestones (only three did not reach 100% (*MalAngo*, *NutriMo*, aquaculture in Mozambique, and *SUGGEST*

AFRICA), but all remained above 50% of the target. In terms of achieving the planned tasks, the pattern was similar, as can be seen in **ANNEX 2** with only *MalAngo* performing below 50% of the target. The same pattern was found in the planned outputs and scientific spreading actions. Concerning the work plan, only five failed to accomplish it at the highest level (*AFRICA HABITAT*, *DOPPLER*, *MalAngo*, *NutriMo* and *SUGGEST AFRICA*), but were all above 50% of the top achievement.

3. - Quantitative analyses of the scientific output

This analysis showed a very impressive number of scientific publications and communications, even considering the specificities of each of the scientific areas involved. Such considerable differences in scientific outputs between projects is displayed in **ANNEX 3**, turning social sciences, with only two projects, responsible for between one third and one fourth of the total production. Further analysis is needed to identify the nature and impact of such publications.

Another important scientific component is related with capacity building and, again, impressive results were fulfilled, with 21 PhD and 31 MSc degrees awarded during the whole duration of the programme. The project with the highest number of PhD awarded (four), was *P-DEIAM* (democratization and electoral integrity in Angola and Mozambique). In the case of MSc the maximal number of degrees awarded, five each, was to *CVAgrobiodiversity* and to *SCAFfoldChild* (sickle cell anaemia in Angola). In what concerned technological developments, such as models, computation applications, prototypes and patents, the results were poor. Again, a more detailed analysis is needed particularly to compare the scientific contribution of the Portuguese institutions involved in comparison with their African counterparts.

The mainly Portuguese institutions involved were, the universities of Algarve, Aveiro, Beira Interior, Lisbon, Minho and Porto and the Lisbon University Institute (ISCTE), the Lisbon Polytechnic Institute, the Egas Moniz Institute, and the Calouste Gulbenkian Foundation (CGF). In most cases the direct involvement occurred through their specialised schools or institutes, except in the case of CGF which was involved because its role in CISA (see the individual assessment of project *MalAngo*).

Final Comments

As stated in the launching of the 1st call, the purpose of this Collaborative Research Programme was to improve, through scientific projects the quality of life in Portugal, in Portuguese Speaking African Countries (PALOP) and elsewhere in Africa.

In order to achieve that purpose an initial question was formulated: *“Was there a network of scientific human power between Portuguese institutions and their counterparts in the Portuguese Speaking African Countries, capable of performing joint research and technological projects aiming to promote the improvement of quality of life in Africa?”*

This final evaluation was able to identify a significant number of Portuguese institutions (mainly universities), capable to develop such networks, mostly based on their previous links with Africa. The diversity of the areas where these networks were developed included mainly, health, energy, fishing, ecology, palaeontology, cultural identity, and habitat.

Geographically, Mozambique was identified as the African country with more scientific networks (energy, habitat, palaeontology, aquaculture and fishing, political sciences, intercultural relations, coastal biodiversity) followed by Angola (malaria, ecological assessment, habitat, geosciences). In the smaller countries a certain number of networks was identified though more specific (Cape Verde, HIV and agrobiodiversity; Guinea Bissau, tuberculosis).

However, the capacity building was not significantly different between countries, since out of the 21 PhDs, a quarter was from Cape Verde. Further studies will be needed to understand how these newly qualified elements will contribute to the scientific and technological development in Africa.

As for the African institutions acting as partners in the projects several universities were actively involved, mainly the University Eduardo Mondlane, in Mozambique, as well as other non-academic institutions, such as the National Museum of Geology and Mines, in Mozambique, the Directorate General of Public Health, in Cape Verde, and the Bandim Health Program, in Guinea Bissau. Besides this diversity it is not clear how these institutions will remain involved in the future.

These institutional networks should be further explored in the next calls and a particular effort should be made to involve other networks as AKDN, for example, by disseminating the present report through the appropriate AKDN channels.

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ANNEX 1

Geographic Locations and Scientific Areas covered by the 16 projects



ANNEX 2

- Quantitative Analysis (1)

- comparisons between initial objectives (in terms of milestones, tasks, outputs, and scientific spreading activities) and final results.

Nº	Project Title	ESRP	Start Date End Date	1 - Milestone List				2 - Planned Tasks				3 - Planned Outputs				4 - Planned Scientific Spreading Actions				5 - Original Timeline				6 - Work Plan			
				100% ou +	99% 50%	49% 10%	< 9%	100% ou +	99% 50%	49% 10%	< 9%	100% ou +	99% 50%	49% 10%	< 9%	100% ou +	99% 50%	49% 10%	< 9%	100% ou +	99% 50%	49% 10%	< 9%				
1	Africa Habitat (a) Isabel Raposo / Fac Arquit / Ulisboa	HN	01/10/2018 31/12/2022	X					X				X				X						X				
2	BIOFISH-QoL (b) Francisco Leitão / CCMAR / Ualg	PP	01/11/2020 30/06/2023	X				X				X			X			X				X					
3	COBIO-NET José Paula / Fac Ciências / Ulisboa	PP	01/11/2018 30/04/2023	X				X				X			X			X				X					
4	CulturesPast&Present Moisés Martins / Uminho	MA	01/09/2018 31/08/2022	X				X				X			X			X				X					
5	CV-Agrobiodiversity (c) Mª Manuel Romeiras / ISA / Ulisboa	PP	01/10/2018 31/05/2023	X				X				X			X			X				X					
6	CVHVCo Nuno Taveira / Egas Moniz CRL	JN	01/11/2018 31/03/2023	X					X			X			X				X			X					
7	DOPPLER João Paulo Barraca / UAveiro	HN	28/08/2018 09/05/2022	X				X				X				X			X				X				
8	LuandaWaterFront (d) Alexandra Teodósio / CCMAR / UAlg	PP	01/08/2018 28/02/2023	X				X				X			X			X				X					
9	MAF_TB Margarida Saraiva / i3S-IBMC/UPorto	JN	28/08/2018 31/08/2022	X				X				X			X				X			X					
10	MaAngo J Pedro Gil / Calouste Gulbenkian Foundation	JN	01/09/2018 30/04/2022		X				X				X			X				X			X				
11	NutriMo (e) Amadeu Maia Soares / UAveiro	PP	01/10/2018 28/02/2023		X			X				X				X			X				X				
12	P-DEIAM Nuno Vidal / ISCTE-IUL	MA	01/10/2018 28/02/2023	X				X				X			X			X				X					
13	PaleoMoz (f) Ricardo Araújo / IST / Ulisboa	HN	01/01/2019 31/12/2022	X				X				X			X			X				X					
14	PV4-SUSTAINABILITY Carlos Monteiro Couto/ Uminho	HN+MA	01/11/2018 31/12/2022	X				X				X			X				X			X					
15	SCAFoldChild Miguel Brito / Escola Tecnologia Saúde / IPL	JN	01/10/2018 31/03/2022	X				X				X			X			X				X					
16	SUGGEST-AFRICA Rui Fernandes / UBI	HN	01/10/2018 30/06/2023		X				X				X			X			X				X				

NOTES: (a) Pilot Installation - Luanda Laboratory (b) 4 Advanced courses (c) Most of the abstracts presented in international Conferences were published in Conference Proceedings (d) A PhD programme CCMAR in Marine & Environmental Sciences was approved by UNILAO (e) 6 - Training workshops; 2 - project documentaries; 1 - feed formula; Conflicts in Cabo Delgado, detailed in the report, caused problems in the project workplan (f) 1 - documentary

ANNEX 3

- Quantitative Analysis (2)

- Scientific output of each project and total results

Project Title	PI	Start Date End Date	Publications				Communications		Reports	Organisation of Seminars & Conferences	Advanced Training			Models	Computational Applications	Pilot Installations	Laboratory Prototypes	Patents
			Books	Articles International Journals	Articles National Journals	Publications in Conference Proceedings	International Meetings	National Meetings			PhD Theses	Master Thesis	Other (Ranging from Bachelors to PostDocs)					
Africa Habitat (a)	Isabel Raposo / Fac Arquit / ULisboa	01/10/2018 31/12/2022	2	10	8	1	53	76	8	13	0	0	0	0	0	1	0	0
BIOFISH-QoL (b)	Francisco Leão / CCMAR / UAig	01/11/2018 30/06/2023	1	4	0	0	11	14	5	8	2	0	8	0	0	0	0	0
COBIO-NET	José Paula / Fac Ciências / ULisboa	01/11/2018 30/04/2023	1	8	0	0	1	0	4	1	0	5	6	0	0	0	0	0
CulturesPast&Present	Moisés Martins / UMinho	01/09/2018 31/08/2022	7	7	13	3	101	40	0	0	3	1	32	0	0	0	0	0
CV-Agrobiodiversity (c)	M ^{re} Manuel Romeiras / ISA / ULisboa	01/10/2018 31/05/2023	4	30	4	0	67	20	3	7	2	5	7	0	0	0	0	0
CVHIVCo	Nuno Taveira / Egas Moniz CRL	01/11/2018 31/03/2023	0	9	1	0	5	3	4	1	3	1	0	0	0	0	0	0
DOPPLER	João Paulo Barraca / U Aveiro	28/08/2018 09/05/2022	1	2	1	1	4	4	2	16	2	0	4	0	1	1	1	0
LuandaWaterFront (d)	Alexandra Teodóssio / CCMAR / UAig	01/08/2018 28/02/2023	0	5	1	0	29	3	7	2	0	3	6	0	1	0	0	0
MAF_TB	Margarida Saraiva / I3S-IBMC/UPorto	28/08/2018 31/08/2022	0	2	0	0	3	4	4	5	1	1	0	0	0	0	0	0
MaIAngo	J Pedro Gil / Calouste Gulbenkian Foundation	01/09/2018 30/04/2022	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NutriMo (e)	Amadeu Maia Soares / U Aveiro	01/10/2018 28/02/2023	1	2	0	0	3	0	2	6	1	2	2	0	0	0	0	0
P-DEIAM	Nuno Vidal / SCITE-IUL	01/10/2018 28/02/2023	1	9	10	1	17	16	1	6	4	1	1	0	0	0	0	0
PaleoMoz (f)	Ricardo Araújo / IST / ULisboa	01/01/2019 31/12/2022	0	12	0	0	3	0	1	0	0	3	10	0	0	0	0	0
PV4-SUSTAINABILITY	Carlos Monteiro Couto / UMinho	01/11/2018 31/12/2022	1	2	2	0	1	1	10	1	1	1	3	0	1	1	1	0
SCAFoldChild	Miguel Brito / Escola Tecnologia Saúde / IPL	01/10/2018 31/03/2022	0	6	0	0	13	10	3	0	2	5	1	0	0	0	0	0
SUGGEST-AFRICA	Rui Fernandes / UBI	01/10/2018 30/06/2023	0	1	0	1	4	3	5	6	0	3	7	1	3	3	0	0
TOTAL			19	110	40	7	315	194	58	72	21	31	87	1	6	6	2	0
NOTAS:			(a) Pilot Installation - Luanda Laboratory															
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