

NAS RA SWOT ANALYSIS

Salzburg Principles	Strengths	Weaknesses	Opportunities	Threats
<p>1. The main component of doctoral/ PhD education/ is the promotion of research through original and innovative research. At the same time doctoral/ PhD education/has to comply with the needs of a labour market which is much wider than academia. It is important that the advancement of doctoral education follows its own path and uses tools which are different from the ones used in the First and Second Education Cycles.</p>	<p>NAS RA organizes and carries out fundamental and applied research in different fields of science, as well as coordinates research carried out throughout Armenia.</p> <p>NAS RA is an official scientific consultant to the highest Governing Bodies of Armenia</p> <p>As a state scientific organization NAS RA unifies scientific and research organizations, subsidiary services and governing body - it includes more than 34 scientific institutions and other organizations. The main requirement of all the PhD and doctoral dissertations is scientific novelty, visible and applicable significance of results and suggestions</p>	<p>Applicability of research results and suggestions how to use or introduce them in practice very often remain on paper.</p> <p>In some specialties current material and technical basis and infrastructures of scientific and technological field limit opportunities for the implementation of the state-of-the-art research and do not provide with efficient application of scientific potential. Most of the facilities are outdated and are not suitable for the implementation of</p>	<p>Enhancing internship in private sectors for original and innovative research</p>	<p>In case of interdisciplinary specialties, sometimes it is impossible to exclude the usage of the same tools which are used in the First and Second education cycles</p> <p>During internship in a private sector there might be leakage of information on innovative research</p>

	how to make them work.	high level, particularly applied research.		
2. The introduction of Salzburg principles in the Armenian HE policies and strategies; HE must be in charge of developing relevant PhD and doctoral programmes, meeting new challenges and providing opportunities for the professional career advancement . The goal of the doctoral/PhD/ education is to create an environment which will foster personal development instead of similarity and predictability	Special status of NAS RA in RA scientific policy development, implementation and science management is defined in RA Law ‘On National Academy of Sciences of the Republic of Armenia” by the RA president’s decrees, orders and RA government resolutions	National regulations, documentation and legislative frameworks might impede efficient enforcement of Salzburg principles.	Change and amend relevant national regulations, documentation and legislative frameworks at governmental level upon legislative initiatives	Official localization of Salzburg principles without proper discussion and involvement of all stakeholders
3. The importance of diversity. Diversity of doctoral programmes in Europe including joint doctorates is a power, which has to be underpinned by quality and sound practice.	NAS RA research organizations have laboratories and some of them have experimental plants, special design bureaus, botanical gardens and the like, where PhD students can do practical and experimental parts of their research accordingly.	Regulatory documents on appointing two scientific supervisors incase of interdisciplinary research is not clear. Given that there are no developed infrastructures for scientific research	Cooperation with business sectors, brain circulation	Brain drain

		leads to the reductions in competitiveness of applied research results		
4. Doctoral/PhD candidates as early stage researchers should be recognized as professionals with commensurate rights who can make a contribution to the creation of new knowledge	Most of the NAS RA scientific institutions employ their PhD candidates as researchers at the beginning of their studies with commensurate rights and responsibilities thus giving an opportunity to integrate into a research organization's activities.	Researchers' low salary is a big drawback for the involvement of young researchers.	Ensure appropriate conditions and funding for doing research	Demotivation, brain drain
5. The crucial role of supervision and assessment: as to individual PhD candidates, arrangements for supervision and assessment should be based on a transparent contractual framework of shared responsibilities among PhD candidates, supervisors and the institution (and other partners)	There is a sample contract approved by the government which is signed between PhD applicants and a head of a research organization, which defines the rights and responsibilities of both parties, a working plan and attestation procedure.	The sample contract is not signed between a PhD applicant, supervisor and scientific institution and does not regulate the rights of intellectual property or the rights of industrial property	Amend the sample contract making it three- party and include provisions regulating intellectual property rights between a PhD candidate and supervisor. Improve the field of the management of intellectual property which will aim at the protection of the results of intellectual property and their implementation in the	<ul style="list-style-type: none"> • When doing team research and explorations it is hard to identify proper distribution of the work

			RA and abroad	
6. Critical Mass: Doctoral programmes should seek to achieve critical mass and should draw on different type of innovative practice being introduced in universities across Europe, bearing in mind that different solutions may be appropriate to different contexts and in particular across larger and smaller European countries. These range from graduate school in major universities to international, national and regional collaboration between universities.	NAS RA main goal is the organization and systemization of products and researches of fundamental and applied sciences in the most important directions of physics and mathematics, natural, chemical and earth sciences, technical, social sciences and Armenian studies through doctoral/PhD education. NAS RA was founded in 1943, now it offers more than 80 PhD programmes. At present current number of PhD candidates is as follows: PhD candidate/full time, part time/- 154 Seekers for PhD degree - 362 Foreign PhD candidates - 51	There is demotivation observed in some specialties which accordingly decreases the number of candidates thus making a gap in scientific generation.	Ensure state funding and appropriate material and technical conditions to achieve critical mass in the mentioned “unpopular” specialties. Ensure a flow of the young human resources in the field of science which will make a smooth alternation of generations.	In respect to an individual PhD candidate, individual supervision approach cannot be fully implemented taking into account supervisors’ workload and limited working places in scientific institutions.
7. Duration: doctoral programmes should operate within appropriate time duration	The regulatory documents set the following duration of PhD studies full-time – 3 years	Because of the introduction of the credit system the core time spent on	To lessen the credit workload of PhD students leaving only elective courses from	In case of some majors /for example, archaeology/, more time is needed to accomplish the practical or experimental

(three to four years full-time as a rule).	part-time – 4 years seekers for PhD degree – 5 years	research has been reduced, and, as a matter of fact, the full-time PhD candidates have to do their research in two years.	general educational parts and mandatory professional courses with credits.	part of research.
8. The promotion of innovative structures: to meet the challenge of interdisciplinary training and the development of transferable skills.	NAS RA has introduced such courses in the general educational part of PhD education, which aim to teach and develop professional, transferable and pedagogical knowledge to researchers, such as Pedagogy and psychology, Academic and business writing and communication, Basics of Intellectual Property Right and Patent, Development and Management of Projects.	Not all courses comply with the needs of fundamental and applied research in the most important directions in all branches of science. Additional funding is needed /state and/or private/ to expand the list of elective courses and to involve high-quality professors.	In case of financial support to complement the list of elective courses aimed to teach and develop professional, transferable and pedagogical knowledge to researchers with as many courses as possible.	The core time spent on research will be reduced.
9. Increasing mobility: Doctoral programmes should seek to offer geographical as well as interdisciplinary and intersectoral mobility and international collaboration within an integrated framework of	NAS RA has International Science and Technology Department. The main objective of the ISTPD is to promote more active participation of NAS RA institutes and individual researchers in international research programmes. The	Compared with the potential of human resources, the mobility in the third cycle is limited due to a number of conditions /financial, thematic, language barriers/	Implementation of joint PhD programs together with NAS RA research organizations and proper European HEIs and /or research institutions. Concluding intergovernmental	Impossibility to implement complete joint PhD programs because of incompliance and incompatibility in regulatory documents and legislative base. Difference in the list of the specializations having strategic significance for the particular

<p>cooperation between universities and other partners.</p>	<p>process of promoting the participation in international programmes is carried out by the Department through dissemination of information and awareness raising on international research programmes, organization of information events, providing assistance and consultancy on preparation and submission of project proposals, partner search and all other aspects related to participation in grant programmes thus promoting interdisciplinary and intersectoral mobility and international collaboration. The research organizations of NAS RA are members to international research organizations. Certain NAS RA research organizations propose PhD programs in English thus involving foreign students.</p>		<p>contracts and agreements with the appropriate amendment to regulatory documents and transfer of credits.</p>	<p>country.</p>
<p>10. Ensuring appropriate funding: the development</p>	<p>The academy operates based on combining the</p>	<p>State funding is not at proper level. The</p>	<p>Long-term investment of private sector,</p>	<p>Private sector's concerns and risks in regard with long-term</p>

<p>of quality doctoral programmes and the successful completion by doctoral candidates requires appropriate and sustainable funding.</p>	<p>principles of state governance and self-governance and carried out fundamental and applied research in the most important directions of physics and mathematics, natural, chemical and earth sciences, technical, social sciences and Armenian studies, it coordinates fundamental studies in the country implemented through budget funds.</p>	<p>material and technical bases of research organizations is out-of-date and needs modernization and supplementing in line with the progress of science.</p>	<p>commercialization of research results</p>	<p>investments.</p>
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