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University Research in Armenia: The Aftermath of Independence

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Introduction

Through continual efforts to establish post-Soviet research infrastructures, Armenia found itself embedded in a complex interplay of frequently contradictory national and international approaches towards the governance of higher education and research. Researchers in the country have looked on passively as post-Soviet (after 1991), post-Bologna (after 2005), post-Velvet Revolution (after 2018), and post-War (after 2020) circumstances prompted an endless chain of policy priority changes in the state governance of universities.

In 2005, the Armenian government followed the path taken by Western European countries by formally joining the Bologna Process

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(see, e.g. Karakhanyan et al., 2011). Joining the Bologna process was said to have been a predominantly top-down decision made by the government (Balasanyan, 2018). It resulted in the excessive focus on the role of university management without enhancement of teaching capacity or requesting any input from academic staff (Karakhanyan, 2011).

In 2018, a nationwide protest movement called the "Velvet Revolution" dislodged the semi-authoritarian political regime in Armenia, and the country finally began to take strides towards democratisation (Lanskoy & Suthers, 2019, p. 85). Several issues related to the state of Armenian universities became subject to public discussion: de-politicising the boards of trustees of Armenian state universities; fighting corruption in higher education and research; plagiarism; protecting the right to education and academic freedom; university autonomy; and the broken link between research and university education. These issues and debates had previously been covered in numerous reports on the country's higher education system (see, e.g. CEU, 2013; World Bank, 2019) but had never become subjects of discussion among university governing bodies, academic staff, or students themselves. Yet, when Armenia had arrived at this positive turning point in its history of state-building (Balian & Shorjian, 2018), a new six-week war broke out in Nagorno-Karabakh in 2020. The current (2020) post-war situation in Armenia will most probably again lead to the promotion of a new set of state priorities in university governance and research.

Reviewing the major changes in higher education and research in the wake of Armenia's independence, this chapter attempts to show why Armenian universities were largely unable to internalise their research missions. The universities failed to develop their capacity to define and carry out their research missions in a sustainable way. According to the Armenian National Quality Assurance Agency, research and development has been the weakest point of the Armenian higher education, with the lack of research promotion and research-based teaching persisting as system-wide problems (ANQA, 2018). This chapter argues that the ever-changing political context and the related changes in university policy priorities have led to a growing distance between state-led governance structures and what has been called "academic collegiality" (the academic culture or normative framework, as well as the researchers' own beliefs

about what is organisationally appropriate) (Austin & Jones, 2016, p. 125). Universities have been plagued by a lack of capacity for change management (Gvaramadze, 2010), while the researchers themselves have relied on what they call "individuality of governance," through which they have developed their own ways of doing research following localised rather than collectively shared research missions within and across their university environments.

The present chapter is based on qualitative document analysis and key informant interviews. Legislative documents, university and news websites, announcements, and annual reports of research institutes were analysed. Reflections on Armenian research developments were collected through 17 semi-structured interviews that aimed to explore major current research development trends in Armenia. The interviews were held with three policy-makers, four academic (and research) leaders holding management positions at universities and a think tank, and seven academic researchers from different subfields (Science, Technology, Engineering, and Mathematics [STEM] and Social Sciences and Humanities). There are in-text references to the policy-makers, researchers, and academic leaders next to quotes or ideas extracted from their interviews. Some parts of the text use direct quotes from interviews to emphasise contradictions between the views of policy-makers and the logic of university reforms.

Conducted in October–December 2019, the interviews supplemented the document analysis, providing up-to-date information on not-yet-documented issues within the research community. The document analysis continued longer (until April 2021).

Qualitative in nature, the research methodology aimed to capture dynamic processes within the ever-evolving research landscape in Armenia as described in the following sub-chapters. Our qualitative study understood temporality as a basic characteristic of Armenian higher education research (McLeod & Thomson, 2009).

Rather than testing any particular theory, the study approached the collected data using inductive reasoning to derive theoretical meanings based on data-driven observations (de Vaus, 2001, pp. 5–6).

University Landscape

The universities of Armenia are subordinated to the Ministry of Education, Science, Culture and Sports (MoESCS). The Supreme Certifying Committee (SCC) and the State Committee of Sciences (SCS) are also subordinated to MoESCS. The Supreme Certifying Committee (SCC) of Armenia, founded in 1993, maintains research qualification standards, awards research degrees and titles, and assures the quality of research work implemented by Armenian universities in compliance with state standards (MoESCS, 2020a). The task of the State Committee of Sciences (SCS), established in 2007, is to ensure the progressive development of research as a key element of the economic development of the country (MoESCS, 2020b). The SCS develops state policies and drafts legal acts for the Republic of Armenia in the field of research in collaboration with universities and different research institutes and laboratories.

Established in 1943, the National Academy of Sciences of Armenia is still one of the most influential research institutions in the country (SCI, 2020). Following the creation of the Third Republic of Armenia (1992), the Academy was renamed the "National Academy of Sciences" and has been operating under the Government of Armenia ever since (SCI, 2020). The academy is governed by a presidium of 15 members who are nationally renowned academics—all males with a majority (11 out of 15) specialising in Science, Technology, Engineering and Mathematics (STEM). The Academy has five main sub-divisions, only one of which specialises in Humanities and Social Sciences with a focus on Armenology and Ethnography. As of 2019, 3585 academic staff members were working at the Academy (SCI, 2020). In principle, the Academy specialises in research rather than teaching; however, it has an international research educational centre that offers master's and PhD programmes (currently, the centre has around 700 master's students and up to 200 PhD students).

According to recent statistics and records, there are 51 universities (27 state, 4 inter-state and 24 private) in Armenia with around 69,000 students and 7000 academic staff members (ArmStat, 2018; MoESCS, 2020–2021). Compared to institutions founded by the state, inter-state (inter-governmental) and private universities (mostly established as

limited liability companies), as well as independent research institutes and think tanks, tend to be more market-oriented as they get less state support.

The biggest state university of Armenia is Yerevan State University (in the size of the student body—18,000 in 2020 with 1200 academic staff members; YSU, 2020). Established in 1919 by the Council of Ministers of the (First) Republic of Armenia, it was the country's first academic institution. In 2014, YSU was restructured from a state non-commercial organisation into a foundation by the decision of the government (in the 2010s, many other state universities underwent similar transformations). Serzh Sargsyan, president of Armenia at the time, was elected chairman of the YSU board in 2015 (president.am, 2015); as a result, the university was criticised for being politically influenced by the government until the 2018 revolution and the resignation of rector Aram Simonyan in May 2019. New members were nominated to the YSU board after the Velvet Revolution. Once again, these new members included not only academics and student representatives but also representatives of the new government.

Other major Armenian state universities are the Yerevan State Medical University with 1100 academic staff members and around 8000 students, which separated from YSU in 1989; the National Polytechnic University that was established in 1933 and currently has 800 academic staff members and around 8000 students; the Armenian State University of Economics that separated from YSU in 1975 and currently has 457 academic staff members and 5269 students; and some others (e.g. the State Pedagogical Universityz, the Brusov State University, the National Agrarian University, and the National University of Architecture and Construction). These universities are mostly registered as non-commercial organisations and governed by boards of trustees.

As Armenia moved towards a free-market economy following independence, the number of private universities in the country peaked out in 1997 with a total student body of 56,154. This number gradually decreased afterwards with the number of students at private universities falling by 31 per cent in 2009–2018, and 16 universities being closed (World Bank, 2019, p. 8). The overall situation of private universities in Armenia is currently uncertain. Governance structures and election

processes for rectors (who may also be the founders/owners of these universities) have not become transparent yet (World Bank, 2019, p. 23). Private universities mostly concentrate on specific domains of the Humanities and Social Sciences (e.g. political science, psychology, economics, languages, and law) and certain medical disciplines (e.g. pharmacy, dentistry, and traditional medicine) (MoESCS, 2020–2021). Higher educational policy has still to regulate private universities; it is unclear whether they will undergo specific assessment and quality assurance procedures, form consortia/joint universities or continue business as usual.

New Policy Developments

Recently, two important laws on higher education and research in Armenia have signalled new policy developments. The Law on Higher Education and Science (MoESCS, 2019) states that higher education reform had been limited by the previous political regime in Armenia (before 2018). The new law points to the lack of collaboration between universities and the Academy of Sciences. It states that post-graduate programmes leading to the degree of candidate of sciences (inherited from Soviet times) shall be transformed into PhD programmes and that the higher cycle of studies for the doctor of sciences degree ("doktorantura" maintained since Soviet times) shall be eliminated. This means that future researchers will finish the post-graduate cycle in around three years rather than six. The new law calls for increasing the autonomy of universities and liberalising internal management by shifting from a bureaucratic to a more dynamic approach. The Academy of Sciences opposed the law, arguing that it should mention the Academy as the leading basic research body that provides methodological guidance to universities and other research institutions. The Academy has traditionally favoured an academic system of research and striven to maintain the centralised management of its sub-divisions and sought to confine research to its institutes, maintaining the status quo. At the time of this writing, the president of Armenia has not yet signed this Law on Higher Education and Science and has asked the Constitutional Court of Armenia to examine the conformity of the law to the RA Constitution (president.am, 2021).

The Law on Research and Development drafted by the SCS is more research-oriented (SCS, 2017). This law describes different types of research organisations and defines a "research university" as a state higher education institution or research organisation that combines the functions of a higher education institution and a research organisation operating on the basis of the principle of unity of education and research activities. Interestingly, contrary to the Law on Higher Education and Science discussed earlier, this law continues to use the Soviet terms "candidate of sciences" and "doctor of sciences."

Approaching the new research policy developments implied by the changes in the higher education and research legislation framework through the agency theory (Lane & Kivisto, 2008), we explored the response of university researchers to the aforementioned legislative initiatives. Competing expectations of government officials on decisions made by institutional officials as well as bureaucratic government achievements can affect policy effectiveness and institutional autonomy (Austin & Jones, 2016, p. 35), especially when there is a clear contradiction between what policy-makers mean by "complete" autonomy and what university researchers target as "institutional" (not individual) autonomy. One researcher formulated his expectations as follows: *"The state must set a clear task, demanding and assuring that a researcher works in the proper way."* At the same time, a policy-maker said, *"The state may commission* [research], *but, when we talk about university research autonomy, it should also mean that they* [the universities] *can take the initiative and propose something to the state. Universities do not use their autonomy."*

Another remark by a policy-maker shows that changes imposed by the state in Armenia are openly criticised even by the decision-makers themselves as impediments to the development of university autonomy: "*every major turning point in the management system* [of education and research] *was a compulsion. These changes resulted from coercion. The political system* [lacking coherence among its own research governing bodies] *is mistakenly trying to impose changes on universities, ignoring their autonomy and the principle of academic freedom.*" On the whole, individual policy-makers and researchers in Armenia seem to be disappointed with constant changes in state governance of universities. This frustration is illustrated by the following statement made by a researcher: *"Let's have a*

look at how many reforms we've made in the 30 years since 1991. We are constantly reforming and already getting tired of it." As a result, regardless of what has taken place in state-led research governance in the country, individual researchers have found their own ways of doing research detached from shared research environments. As a result, one often hears that there are individual researchers in Armenia yet no shared university research environment.

Even such momentous developments as the Velvet Revolution did not necessarily make the politically environment more hospitable for implementing new policies. After the head of the SCC changed in 2018 in the wake of the Revolution, the number of post-graduate dissertation defences in Armenia greatly decreased (by around 50 per cent, from 550 in 2015 to 266 in 2019, see the Open Access Repository of Armenian Electronic Theses and Dissertations; Armenian ETD-OA, 2020). This was attributed to the fact that the SCC began to examine theses for plagiarism more closely to combat academic dishonesty and strengthen academic integrity. An important contribution of the post-revolutionary head of the SCC during his tenure in 2018–2020 was his stress on the fight against plagiarism for enhancing the quality of PhD theses across universities. However, neither the MoESCS nor the universities themselves spoke out publicly in support of this policy. Due to tensions between the MoESCS and the head of the SCC, who ordered the careful examination of all plagiarism cases, including those involving the newly appointed university rector, the SCC head resigned in 2020. Currently (2021), the future of the SCC is unclear: it may become part of the MoESCS, close altogether or continue to operate as before. The case of the SCC shows that important decisions do not emerge in the vacuum, but form through interactions within a complex network of interested parties and stakeholders (Padure & Jones, 2009).

Research Funding

Research in Armenia is funded from the following sources: the state budget of RA; foundations, other countries, and international organisations; various grants; loans; and revenue from research and

development, publications, consulting, and other activities, (SCS, 2017).

In 2021, the Armenian government increased the budget for research activities, initially set at AMD 13 billion (USD 29.7 million), by AMD 2 billion 784 million (around USD 5.5 million; SCS, 2021a). State funding for research is coordinated by the SCS through open grants. There are three major types or schemes of funding: basic funding for programmes of fundamental importance, the maintenance and development of infrastructure or infrastructure modernisation, the maintenance of research facilities of national importance, staff training, and salary bonuses for academic degrees; targeted funding based on pre-defined priorities; and contractual funding for thematic programmes.

Basic funding is provided on a competitive basis to projects in priority research domains for work on issues of national socio-economic, technical, and cultural significance. As one policy-maker stated, such funding is "*given for solving important problems for the state. Such research is generally large and long-term, implemented with the government or jointly with several* [selected] *research institutes.*"

As evidenced by the interviews, the choice of priority domains eligible for basic funding has not been made clear yet. The SCS has also introduced a new model for allocating basic funding to encourage universities and other research institutes to become more active. It is basically an attempt to introduce a research rating system in Armenia. It makes use of the following criteria: research efficiency, human resources, material and technical infrastructure, integration into national and international research educational spaces, commercialisation of research results, and financial efficiency. Research organisations shall be classified into four categories, with the first two getting most of the funding, and the third and fourth being subject to optimisation programmes (Sargsyan et al., 2019).

Despite the willingness of the SCS to promote fundraising for collaborations between business and academia (through a separate grant scheme), universities frequently follow the Soviet logic of doing research: separate institutes are entrusted with applied research, while academia is given a limited capacity to conduct basic research. As one researcher explained, *"We do not have institutes or units that are qualified enough to collaborate*

with technology centres for doing applied research." There is a notion inherited from the Soviet era that real academics should not be conducting applied research. One respondent believes that *"those who do applied research are different; their research must be commissioned and funded by specific firms, institutions or venture funds"* (researcher interview). According to data published on the SCS website for the year 2020, the distribution of research funding resulting from nine SCS open calls for applications from universities, research institutes and individual researchers (SCS, 2021b) shows that the National Academy of Sciences (with 57 total awards) and Yerevan State University (with 37 total awards) are the top award-winning institutions.

An analysis of thematic projects funded in 2011–2013 and 2018–2020 (SCS, 2011–2013, 2018–2020) shows that, while the number of awards in the social sciences, on the one hand, and Armenology and the humanities, on the other, has increased over the years from 8 to 16 and from 21 to 25, respectively, the number of awards in the STEM fields rose from 99 in 2011–2013 to 123 in 2018–2020. The interviewed social scientists accentuated the asymmetry of development and funding between Armenology, humanities, social sciences and STEM fields. As one researcher put it,

> *This comes from the USSR. You see this disproportion in the fact that people who are appointed to research posts* [high positions]*—the chair of the SCS, the president of the National Academy of Sciences, etc.—are all representatives of the natural sciences, and their approaches are based on the logic of these sciences. Yet many things that are important in the social sciences and humanities are not formally included in the standards for assessing the effectiveness of our research.*

In conversations with social scientists, it became clear that STEM field is perceived as getting more attention due to their closer and more direct link to the economy than social sciences and their capacity to generate economic impact. Even there, however, the choice of projects to be funded does not necessarily appear transparent. *"It is at best a bureaucratic game that cannot work. Those who govern research are far removed from actual research; there are* [only] *beautiful words like 'nano', 'bio', 'cognitive research', 'big data', etc."*, thrown around as one researcher from a STEM field said.

Since 2019, SCS calls require research teams that apply for grants to collaborate with a scholar/advisor from abroad with an h-index of at least 10 in Scopus. When a call for proposals was directed at the promotion of women leadership in research, all awards were given to women in STEM. One explanation for this is that scholars in Armenology and social sciences and humanities might have had difficulty finding a foreign colleague with an h-index of at least 10 in their research fields. The calls for proposals for 2020 took this into account, setting different h-index requirements depending on the field.

Among other sources of funding, worth mentioning is the initiative of YSU that pays salary bonuses from around USD 100 to USD 400 for different types of publications. For example, for publishing of a monograph (min. 120 pages) a researcher receives a bonus of around USD 400. The highest bonus (around USD 600) is paid to those who receive a doctor of sciences degree. For a publication in a journal with an impact factor, a researcher gets a bonus of around USD 300. However, the introduction of the bonus system does not seem to have resulted in an uptick in publication activity. According to YSU's annual reports (YSU, 2014–2019), the number of journal articles published by its academic staff was 2015 in 2014–2015 and only 1314 in 2018–1019.

Among sources of research funding from other countries or international organisations, the EU is a prominent donor, all the more so as Armenia enjoys full access to the EU's Horizon 2020 grant programme. According to the Horizon 2020 Armenia country profile (EC, 2020), the Armenian State Medical University, the American University of Armenia (AUA), and the Russian-Armenian Slavonic University were among the top organisations receiving funding in 2020. The Academy of Sciences and its institutes received four grants the same year. The Armenian research community has always benefitted from different independent sources of funding for Armenian Studies (or Armenology), including those provided by the state and Armenian diaspora (see e.g. SAS, 2013; VGS, n.d.; CGF, 2020; ANSEF, 2020; NAASR, 2020). In general, statistics on research funding in Armenia are scarce. Beyond the records of state funding provided by SCS, no study has examined the opinions of university academic staff members about the diverse sources of research funding and their experiences with them.

Research Collaboration

A common belief that is evident in many interviews is that there are individual researchers in Armenian universities yet no shared university research environment. Each Armenian university and even each university department defines its own scope of research that are not necessarily aligned, at least not completely, with the university's overall research missions. As one interviewed researcher stated, *"We do not serve any externally defined research mission, yet we are held responsible for the texts that we produce."*

Every research institution seeks to establish itself, attract more funding, and win grant competitions, yet the lack of networking between research institutions and of synergy between research projects remains an ongoing challenge.

> *There is a very difficult situation in Armenia. I visit research centres on different occasions and offer to cooperate and engage in joint projects, because we have good equipment. But it is in our mindset that each of us shall have everything. We need to expand research areas and use research centres more efficiently—not just one institute per research domain. Major systemic and structural changes are needed here. We have to mobilise our resources, both human and financial.* (Researcher Interview)

Some of the researchers stated that there are isolated research communities and leaders "on the islands of science." Research collaboration between them has not been properly mapped, and these teams follow their own localised rather than collective research missions. There is also a latent conflict between different types of research organisation, for example, between think tanks and universities. The following quote from an academic leader interview expresses the typical perception of think tanks:

> *The university must stay as far away as possible from the pervasive reach of NGOs, businesses and all that, because if NGO-ism penetrated the university sector and people began to follow its principles, then research would die. As a rule, the analytical centres operating in Armenia are very primitive and tend to be money-makers rather than practitioners.*

Similarly, a policy-maker stated, *"The work of private research organisations is not very reliable: at least, I do not know of any exceptions."* Meanwhile, the leaders of think tanks and research institutes argue that their research develops at a faster pace than at universities, because they strive for methodological innovations.

There is also informal international collaboration at work that is based on individual initiatives and individual social networks:

> *Through informal international cooperation, we borrow and adopt some methods. We see what they* [the international partners] *are doing and learn a lot… We've been working on a single project with … the University of Washington for 5 years; it has made us work in new formats. I don't know of any specific targeted programme. That's how we develop our capabilities*. (Researcher Interview)

According to our interviews, a number of German research institutions have been working with Armenian researchers on STEM projects over the past several years. There is also collaboration between Armenian researchers and Russian institutions as well as numerous instances of individual collaborations with Armenian expats, which remain undocumented, however, with the exception of co-authored publications in peer-reviewed journals from around the world.

According to researchers, most of the academic staff at Armenian state and private universities as well as think tanks has received some sort of research training abroad. This could explain why Armenia has a strong record of publications with international partners (Chankseliani et al., 2021). However, there is no qualitative data on this, and it is largely a matter of individual initiative. A look at the webpages of individual researchers makes it clear that, over the past 20 years, an increasing number of academics have participated in internships or fellowships or done post-graduate studies abroad. As one researcher said, "*An outsider may think that many academic staff members come from abroad, yet it's not true even in the case of the American University of Armenia. Most of them are Armenians like me who have returned after studying abroad"* (Researcher Interview).

Some researchers (especially from state universities) actually complained about too much individual autonomy, which may be understood as academic self-governance without sound institutional frameworks, controls, or quality. "*We have absolute freedom, yet it's too much. There is no sense of common purpose, everything is left to individual initiatives*," one researcher pointed out. Another academic leader expressed his concerns as follows: *"A problem that exists at all universities* [in Armenia] *is the 'individuality of governance', that is, of everything being decided by individuals. The responsibility is on one person: it is not shared."*

While this individual autonomy has been the driving force of Armenian universities, researchers' decisions have been channelled through informal structures without coalescing into effective structures of collegiality that would allow for coordination between various university subdivisions in order to facilitate institutional decision-making (Bess, 1988).

Conclusion

The key contention made in this chapter is that the lack of synergy between research institutions and the absence of a holistic vision of reforms and state policy in the field of education and research have become a major problem for the Armenian research community.

Before the Velvet Revolution of 2018, governments tried to impose changes on research institutions, ignoring autonomy and the principle of academic freedom and pushing through structural changes in order to adhere to the requirements of the Bologna Process. After 2018, many policy issues have been raised and discussed, yet the desired changes have not been implemented so far.

While all the key actors involved in monitoring and promoting research reforms in Armenia have accentuated the problem of the broken link between the Academy of Sciences (that seeks to maintain the status quo) and universities, there seems to be no agreed solution on how research should be promoted to facilitate the formation of research universities. Another major issue is that academic researchers believe that the role of the state is to create demand for research, while policy-makers point to the lack of initiative on the part of universities. Nationwide

priorities have clearly not been translated into university policies and practices; achieving this would require better research management and integrity at universities that could turn into academic self-governance.

Due to the disconnection between the state and universities and between university management and researcher priorities, much within the Armenian research system has been decided by individuals within their own research communities, the situation that has been described as the "individuality of governance." While this may be a precondition for academic freedom and a good starting point for the development of academic self-governance, it may not be enough for research capacity building. The absence of internalised university research missions that would promote a common vision between research institutions and the development of common goals among research communities has resulted in a lack of collaboration and even a lack of trust between policy-makers and universities and between universities and other research institutions.

On the positive side, the establishment of the SCS gave Armenian universities an opportunity for the transparent and effective use of the state research budget. However, STEM, Armenology, and social sciences and humanities have not been provided with equal opportunities for advancement in post-Soviet Armenia, and there have been almost no opportunities for development or collaboration between different research domains. Importantly, the SCS is working towards designing better and more equitable mechanisms of research funding so as to promote high-quality research and research-based teaching. Information and statistics on non-state research funding sources and collaborative networks between Armenian researchers and foreign colleagues could help to shape the further policies of the SCS.

In addition to new laws on higher education and research, regulatory mechanisms are needed to build links between state, university and researcher priorities in all three domains discussed earlier: new policy developments, research funding, and research collaboration. Given the ever-changing political context of Armenia, it is particularly important to establish and prioritise academic self-governing bodies (including research ethics committees) and draw state attention towards university management and academic collegiality to foster the better development of university research in the country.

References

ANQA. (2018). *HH havatarmagroum antsats masnagitakan ousoumnakan hastatoutyounneri pordzagitakan zekouytsnerits dours bervats khndirner [Issues derived from expert reports for RA educational institutions that underwent accreditation].* http://www.anqa.am/en/publications/system-problems-in-armenian-heis-comparative-analysis-of-accredited-higher-education-institutions-expert-reports-available-in-armenian/

ANSEF. (2020). Armenian National Science and Educational Fund. http://ansef.org/aboutansef

ArmStat. (2018). *Statistical yearbook: Education and culture*. https://armstat.am/file/doc/99510758.pdf

Austin, I., & Jones, A. G. (2016). *Global perspectives, theories and practices*. Routledge.

Balasanyan, S. (2018). From pedagogy to quality: The Europeanised experience of higher education in post-Soviet Armenia. *European Educational Research Journal, 17*(4), 584–601.

Balian, A., & Shorjian, N. (2018). State-building and development challenges: The case of Armenia. *Open Journal for Sociological Studies, 2*(2), 93–108.

Bess, J. L. (1988). *Collegiality and bureaucracy in the modern university*. Teachers College Press.

CEU. (2013). *Higher education in Armenia today: A focused review*. CEU Higher Education Observatory.

CGF. (2020). *Programme of the* Armenian Communities Department of the Calouste Gulbenkian Foundation. https://gulbenkian.pt/armenian-communities/how-to-apply/grants/

Chankseliani, M., Lovakov, A., & Pislyakov, V. (2021). A big picture: Bibliometric study of academic publications from post-Soviet countries. *Scientometrics, 126*, 8701–8730. https://doi.org/10.1007/s11192-021-04124-5

De Vaus, D. A. (2001). *Research design in social research*. Sage.

EC. (2020). *Horizon 2020 Country Index: Armenia.* https://webgate.ec.europa.eu/dashboard/extensions/CountryProfile/CountryProfile.html?Country=Armenia

Gvaramadze, I. (2010). Skill formation and utilisation in the post-Soviet transition: Higher education planning in post-Soviet Georgia. *Higher Education Quarterly, 64*(2), 118–132.

Karakhanyan, S. (2011). *Reforming higher education in a post-Soviet context: The case of Armenia* [unpublished PhD thesis]. Radboud University Nijmegen.

Karakhanyan, S., Van Veen, K., & Bergen, T. (2011). Educational policy diffusion and transfer: The case of Armenia. *Higher Education Policy, 24*(1), 53–83.

Lane, L. A., & Kivisto, J. (2008). Interests, information, and incentives in higher education: Principal-agent theory and its potential application to the study of higher education governance. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (Vol. 23, pp. 114–174). Springer.

Lanskoy, M., & Suthers, E. (2019). Armenia's Velvet Revolution. *Journal of Democracy, 30*(2), 85–99.

McLeod, J., & Thomson, R. (2009). *Researching social change: Qualitative approaches*. *Sage.*

MoESC. (2019). *Bardzragoyn krtotyan ev gitutyan masin HH orenki nakhagits [RA Law on Higher Education and Science].* https://www.e-draft.am/projects/2164/about

MoESCS. (2020–2021). *Approved list of HEIs, professions and entrance exams for the 2020/2021 academic year.* https://www.edraft.am/en/projects/1985/justification

MoESCS. (2020a). *Supreme Certifying Committee.* http://escs.am/en/static/scc?s=edu

MoESCS. (2020b). *Science Committee.* http://escs.am/en/static/scienccom?s=edu

NAASR. (2020). *NAASR research grants in Armenian studies.* https://naasr.org/pages/grants-academic-outreach

Padure, L., & Jones, G. (2009). Policy networks and research on higher education governance and policy. In J. Huisman (Ed.), *International perspectives on the governance of higher education: Alternative frameworks for coordination* (pp. 107–125). Routledge.

President.am. (2015). *YSU board of trustees elects rector of Yerevan State University Foundation.* https://www.president.am/en/press-release/item/2015/06/19/President-Serzh-Sargsyan-meeting-board-of-trustees-of-YSU/

President.am. (2021). *Haytararoutyoun Hanrapetoutyan nakhagahi storagrmany nerkayatsvats «Bardzragouyn krtoutyan ev gitoutyan masin» orenqi ev harakits orenqneri masin [Statement on laws relating to the Law on Higher Education and Science submitted to the President of the Republic for signing]*. https://www.president.am/hy/press-release/item/2021/04/22/Announcement/

Sargsyan, S. A., Harutyunyan, T. S., Sahakyan, V. H., & Haroutiunian, S. G. (2019). Novaya model reitingovovo finansirovanie nauchnikh organisacii Armenii [Classification model of funding for research institutions in Armenia]. *Bibliosphere, 3*, 85–92. https://doi.org/10.20913/1815-3186-2019-3-85-92

SAS. (2013). *Society for Armenian Studies (SAS) Grants* https://societyforarmenianstudies.com/resources/

SCI. (2020). *National Academy of Sciences of the Republic of Armenia.* https://www.sci.am/about.php?langid=2

SCS. (2011–2013). *Tarekan Thematik Hashvetvoutyoun [Annual Thematic Report].* http://scs.am/files/hashvetvutyun-tematik-2011-13.pdf

SCS. (2017). *«Gitakan ev gitatekhnikakan gortsuneutyan masin» Hayastani Hanrapetoutyan Orenk [RA Law on Research and Development Activity].* http://scs.am/files/naxagic-gitakan-gitatex-gorc-orenq-512759b238a3c5a40dc2db590068f0b5.pdf

SCS. (2018–2020). *Gitakan ev gitatekhnikakan gortsuneoutyan paymanagrayin (thematik) finansavorman npatakov gitakan themaneri hayteri mrtsuyti boghoqarkman ardyounqoum finansavourman erashkhavourvats gitakan temaneri cank [After-appellation list of approved project titles for the research and development activities for applications for the thematic (contractual) funding].* http://scs.am/files/tematik-2018-boxoqarkum.pdf

SCS. (2021a). *Armenian government increases research funding.* http://www.scs.am/en/08-04-2021

SCS. (2021b). *Mrtshouytneri ardyounkner [Results of grant competitions].* http://www.scs.am/am/6954e433a4402db729623210

VGS. (n.d.) *Aurora Humanitarian Initiative Vartan Gregorian Scholarship (Research Grants).* https://auroraprize.com/en/aurora/detail/14435/call-opens-for-research-grant-applications-

World Bank. (2019). *Tertiary Education Country Report.* http://documents.worldbank.org/curated/en/311701571813535701/pdf/Saber-Tertiary-Education-Country-Report-Armenia-2019.pdf

YSU. (2014–2019). *EPH hashvetvoutyounner [YSU reports].* https://bit.ly/3tjS6mL

YSU. (2020). Krtoutyouny EPH-um [*Education in YSU]*. http://www.ysu.am/education/hy/1370436757