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# EARTH SCIENCES

## OPPORTUNITIES FOR THE DEVELOPMENT OF AGRO TOURISM IN THE FOOD BELT OF ASTANA CITY

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## ВОЗМОЖНОСТИ РАЗВИТИЯ АГРОТУРИЗМА ПРОДОВОЛЬСТВЕННОГО ПОЯСА Г. АСТАНА

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### Abstract

This article discusses the main advantages of the development of agrotourism in the zone of the food belt in Astana. The region is distinguished by its advantageous near capital position and the optimal combination of natural, agricultural and socio-economic resources. The development of agrotourism, as a relatively new type of recreation, is relevant and promising for almost all areas included in the food belt, since agricultural producers participating in the formation of the food belt of the capital are potential objects for the development of agrotourism. Successfully functioning tourist-excursion routes of agrotourism in the domestic tourist market have been identified. An analysis of the prerequisites for the development of agrotourism allows us to conclude that development in the food belt is quite promising.

### Аннотация

В данной статье рассматриваются основные преимущества развития агротуризма в зоне продовольственного пояса г. Астана. Регион отличается выгодным пристоличным положением и оптимальным сочетанием природных, сельскохозяйственных и социально-экономических ресурсов. Развитие агротуризма, как относительно нового вида отдыха, актуально и перспективно практически для всех районов входящих в продовольственный пояс, так как сельскохозяйственные товаропроизводители участвующие в формировании продовольственного пояса столицы, являются потенциальными объектами развития агротуризма. Определены успешно функционирующие туристско-экскурсионные маршруты агротуризма на внутреннем туристском рынке. Анализ предпосылок развития позволяет заключить, что развитие агротуризма в продовольственном поясе достаточно перспективно в Бурабайском, Коргалжынском, Аршалинском и Аккольском районах Акмолинской области имеют абсолютное преимущество для дальнейшего развития агротуризма.

**Keywords:** agrotourism, agriculture, food belt, environmentally friendly products, agricultural routes, agricultural enterprises.

**Ключевые слова:** агротуризм, сельское хозяйство, продовольственный пояс, экологически чистая продукция, агромаршруты, сельскохозяйственные предприятия.

Туризм является одной из ведущих и наиболее динамично развивающихся отраслей мировой экономики. Развитые страны уделяют большое внимание развитию данной отрасли. Туризм оказывает большое социальное влияние на регионы: благодаря развитию туризма появляются множество рабочих мест, развивается инфраструктура, улучшается сервис. В настоящее время имеется множество видов туризма. Основная характеристика формируется исходя из потребностей путешественников.

Сама туристическая деятельность постоянно меняется, появляются новые направления. Самыми популярными направлениями являются рекреационный туризм, культурно-исторический туризм, лечебно-оздоровительный туризм, спортивный и экстремальный туризм, деловой туризм, событийный туризм, экотуризм и т.д. Имеются направления туризма, которые с каждым годом приобретают все большую популярность в обществе: гастрономический туризм, космический туризм, сельский туризм (агротуризм).

Агротуризм - это сектор туристской индустрии, ориентированный на использование природных, культурно-исторических и других ресурсов сельской местности и ее особенностей для создания комплексного туристского продукта. Туристы окунаются в сельский образ жизни, знакомятся с работой ремесленников и фермеров, узнают местную культуру и обычаи.

Агротуризм решает проблему устойчивого развития сельских территорий. В связи с увеличением производительности труда в сельской местности, с каждым годом появляется избыток трудовых ресурсов. Решить данную проблему можно за счет развития несельскохозяйственной деятельности, вовлечения в нее все большего количества сельского населения [1].

Агротуризм позволяет покрыть сразу несколько важнейших социально-экономических и экологических задач: охрана окружающей среды, поддержание традиционных укладов жизни села, сохранение природы и экологии, ориентация туристов на правильное питание и здоровый образ жизни, экономический и мультипликативный эффект, увеличение сфер деятельности сельского населения [2].

По информации казахстанской ассоциации туризма на сегодняшний день в Казахстане действуют 140 гостевых домов и следующие сообщества специализируемые в различных отраслях туристской деятельности (communitybasedtourism): Алматинская область – познавательный, экстремальный, агротуризм (Саты, Карабулак, Каракестек, Лепсинск, Карабастау, Талгар); Акмолинская область – санаторно-курортный, познавательный, деловой, научный, игорный (Щучинск, Сарыбулак, Бурабай, Коргалжын); Восточно-Казахстанская область - познавательный, горно-лыжный, экстремальный (Черная Уба, Риддер); Жамбылская область – познавательный, санаторно-курортный (Мерке, Мынказан); Карагандинская область – познавательный, научный, деловой, санаторно-курортный (Каркаралы, Шабанбай би); Туркестанская область – познавательный, научный, памятнический (Джабаглы, Ленгер).

В Республике Казахстан задачу по развитию этой отрасли ставит перед собой Казахстанская ассоциация агро и сельского туризма совместно с АО "НК "Kazakh Tourism".

Экономическая безопасность страны характеризуется состоянием различных сфер деятельности. Одной из важнейших ее составляющих является продовольственная безопасность. Стратегия формирования продовольственной безопасности должна опираться на развитие инфраструктуры, составляющей инженерно-транспортный каркас и основу системы расселения населения. Создание развитых продовольственных поясов вокруг крупнейших городов является важной задачей при формировании продовольственной безопасности страны в целом.

На 01.03.2023 г. численность населения г. Астана составляла 1 362850 человек [3]. Город Астана является центром маятниковой миграции

региона, центром агломерации. Таким образом, в агломерацию помимо самого города входят Аршалынский, Целиноградский, Шортандинский, Аккольский районы (4 сельских округа) Акмолинской области [4].

Для обеспечения прогнозной численности населения продовольственными товарами необходимо создать развитый продовольственный пояс вокруг города Астана.

В зону продовольственного пояса г. Астана 17 административных районов Акмолинской области (Аккольский, Аршалынский, Атбасарский, Астраханский, Бурабайский, Буландынский, Биржан сал, Егиндикольский, Ерейментауский, Есильский, Жаксынскый, Жаркаинский, Зерендинский, Коргалжынский, Целиноградский, Сандыктауский, Шортандинский) и 4 административных района Карагандинской области (Абайский, Бухар-Жырауский, Нуринский, Осакаровский районы).

Территория продовольственного пояса города Астана расположена на севере центральной части Республики Казахстан между 53°41' и 48°37' с.ш и 65°21' и 75°07' в.д. Граничит с Северо-Казахстанской областью на севере, Костанайской областью на западе, Павлодарской областью на востоке, Улытауским, Жанааркинским районами Улытауской области, Шетским, Каркаралыным районами Карагандинской области на юге. Территория вытянута на 482 км с севера на юг и на 570 км с запада на восток [5].

Необходимо развивать экономики сельских территорий входящих в продовольственный пояс (в особенности агропромышленный комплекс) для достижения мультипликативного эффекта, позитивно меняющего состояние всех отраслей экономики региона, которые в свою очередь повышают уровень эффективности функционирования продовольственного пояса. Усиление процесса диверсификации позволит при нормативной урожайности сельскохозяйственных культур и продуктивности животноводства получить дополнительные объемы различной продукции.

В настоящее время агротуризм в продовольственном поясе г. Астана на стадии становления и развития. На момент обследования в г. Астана действовали агротуры выходного дня. Одним из организаторов таких туров являлась туристская компания «Agrotravel\_kz». Туристской компанией организуются в основном туры в сельскую местность Акмолинской области, которая является важным звеном в формировании продовольственного пояса столицы.

На момент исследования действовали несколько агронаправлений: Бурабайский район (Щучинск), Родина-Балкашино (Сандыктауский район), урочище Акунчук (Аккольский район), Селегинский каньон (Ерейментауский район) и т.д. Большинство туров являются однодневными, отдых на чистой природе сопровождается полезным питанием и расширением кругозора за счет приобретения полезных знаний по производству сельскохозяйственной продукции на местных агропромышленных

комплексах и небольших сельскохозяйственных предприятиях.

Количество людей, выезжающих в агротуры по словам представителей туристской компании «Agrotravel\_kz» не велик, варьируется в районе 30-40 человек еженедельно. Также, сотрудниками компании было отмечено, что наблюдается повышения спроса на данный вид услуг.

Коргалжинском районе Акмолинской области находятся 4 гостевых дома и один гостиничный комплекс, который можно отнести к агротуристскому комплексу, на базе которых можно получить широкий спектр услуг: проживание, питание, мастер-классы, погружение в быт, традиции и культуру казахского народа и др. Развитие агротуризма (сельского туризма) в данном районе обусловлено наличием в непосредственной близости Коргалжинского заповедника, в который приезжают многочисленные туристы наблюдать за птицами. В Аккольском районе п.Урюпинка существует один действующий гостевой дом и можно получить комплекс агротуристских услуг в поселке. В Аршалинском районе с лета 2020 г. В поселке Константиновка и Аршалы принимают субъекты агротуризма, такие как: пасечник, кузнец, гостевой дом и местный музыкальный коллектив, а так же отдельные семьи могут приготовить обед в национальном стиле. В Ерейментауском районе в п. Балыкты имеется гостевой дом Буйратауского Национального парка, так же в п.Торгай семья ремесленника принимает туристов по определенной двухчасовой программе. Зафиксированы гостевые дома в поселках Щучинск, Сарыбулак, Бурабай [6].

В ближайшем будущем Казахстанская ассоциация агро и сельского туризма планирует включить Казахстан в список стран, в которые можно приезжать отдохнуть и поработать на фермах и в агроусадебках. В настоящее время ассоциация разрабатывает дополнительные агромаршруты и обучает фермеров и ремесленников принимать у себя туристов.

Развитие агротуризма в продовольственном поясе г. Астана должна иметь двойной положительный эффект, так как основные объекты агротуризма - сельскохозяйственные товаропроизводители участвующие в формировании продовольственного

пояса столицы, будут иметь приоритет в доступе к рынкам сбыта и льготным финансовым продуктам. Таким образом, сельские товаропроизводители будут заинтересованы в осуществлении поставок своей продукции на рынки столицы. Дополнительные заработки, которые сельхоз формирования смогут получить от агротуристской деятельности будут способствовать улучшению финансового положения, обновлению технологии (улучшение качества производимой продукции) и увеличению оплаты трудящихся. В заключении стоит отметить, что агротуристская деятельность в рамках продовольственного пояса позволит сократить безработицу в регионе, улучшит экономическое благосостояние местного населения, поднимет уровень сервиса в сельской местности и уменьшит отток населения.

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**ON THE METHODS OF ASSESSMENT OF SEISMIC AND TECHNOGENIC HAZARDS OF  
TRANSPORT INFRASTRUCTURE FACILITIES****Dzhurik V.I.,***Chief Research Scientist**Institute of the Earth's Crust SB RAS, Lermontov St., 128, Irkutsk, 664033, Russia***Serebrennikov S.P.***Senior Research Scientist**Institute of the Earth's Crust SB RAS, Lermontov St., 128, Irkutsk, 664033, Russia*[DOI: 10.5281/zenodo.8116171](https://doi.org/10.5281/zenodo.8116171)**К МЕТОДИКЕ ОЦЕНКИ СЕЙСМИЧЕСКОЙ И ТЕХНОГЕННОЙ ОПАСНОСТИ  
ТРАНСПОРТНОЙ ИНФРАСТРУКТУРЫ****Джурик В.И.,***Главный научный сотрудник,**Институт земной коры СО РАН**664033, Россия, г. Иркутск, ул. Лермонтова, д. 128***Серебренников С.П.***старший научный сотрудник,**Институт земной коры СО РАН**664033, Россия, г. Иркутск, ул. Лермонтова, д. 128***Abstract**

There have been considered the examples of reasonable level of seismic hazard of infrastructure facilities. Presented here are the research materials on the forecast effect of soft and rocky grounds on both specific objects and a complex of facilities as a whole. The example assumes the railway infrastructure in Siberia.

**Аннотация**

Рассмотрены примеры обоснования уровня сейсмической опасности на объектах линейных сооружений. Представлены материалы исследований по прогнозу влияния отдельных групп рыхлых и скальных образований, как на конкретные объекты, так и на весь комплекс сооружений. В качестве примера рассматривается железнодорожная инфраструктура расположенная на территории Сибири.

**Keywords:** engineering-seismological parameters, grounds, permafrost, seismic hazard**Ключевые слова:** инженерно-сейсмологические параметры, грунты, мерзлота, сейсмическая опасность

Обоснование уровня сейсмической и техногенной опасности базируется на материалах геофизических и инженерно-геологических исследований при проектировании, строительстве и эксплуатации объектов строительства железнодорожной инфраструктуры на территории Сибири.

Необходимость прогноза влияния приповерхностной зоны инженерно-геологического разреза на уровень проявления сейсмических свойств отдельных групп рыхлых и скальных образований, их техногенного состояния обусловлена многообразием параметров геофизических полей непосредственно на территории расположения объектов и факторов, влияющих на изменение природной среды.

Целью исследований является анализ геофизических и инженерно-геологических данных для территории расположения линейных сооружений с последующей возможностью прогнозировать уровень сейсмической и техногенной опасности на объекты промышленного и гражданского назначения. Потребность исследований обусловлена высоким уровнем сейсмической опасности (до 10 баллов). Исходными данными для этого исследования

послужили материалы инструментальных сейсмо-разведочных измерений и состояние инженерно-геологического комплекса на территории восточного сегмента железнодорожной структуры России.

Авторами рассмотрена возможность прогнозирования влияния приповерхностной зоны геологического разреза на уровень проявления сейсмической опасности отдельных групп рыхлых и скальных образований, вероятность их трансформаций, которая базируется на изучении основных параметров геофизических полей непосредственно на территории расположения объектов и региона в целом. Исходные данные для обоснования инженерно-сейсмологических условий и влияния комплекса грунтов на основные параметры сейсмических воздействий представлены на участках строительства и эксплуатации опорных объектов Байкало-Амурской железнодорожной магистрали, охватывающих весь спектр инженерно-геологических условий в пределах распространения вечномёрзлых грунтов[1]. По материалам экспериментальных методов получены все необходимые сведения (представлены в табличной форме) о состоянии и мощности рыхлых отложений, основных сейсмических параметрах грунтов, скоростях распространения в них



сейсмических волн. В итоге зафиксированные результаты геолого-геофизических исследований позволили создать обобщенную базу основных инженерно-сейсмологических параметров и создать условия для определения уровня сейсмической опасности для промышленных и гражданских объектов Сибири.

При строительстве крупных инфраструктурных объектов изначально предполагается возможность развития природных процессов, спровоцированных нарушением природной и инженерно-геологической ситуации, что в свою очередь приводит к увеличению уровня техногенной и сейсмической опасности.

Опыт инженерно-сейсмологических исследований, проведенный в пределах криолитозоны [2,3,4] показал, что если методика прогноза сейсмических воздействий в баллах для естественного состояния мерзлых грунтов достаточно обоснована, то прогнозированию возможных состояний грунтов после нарушения природной среды необходимо уделить внимание. Реализацию одного из подходов решения поставленной задачи мы приводим на примере обоснования сейсмической опасности линейных сооружений (Юг Якутии) на трассе железнодорожного пути «ст. Икабьекан-Тарыннахский ГОК» протяженностью 180 км.

Строительство и эксплуатация железной дороги связано с планированием комплексного развития и в первую очередь включает строительство горно-обогатительных комбинатов и промышленных объектов, расположенных в районах с высокой сейсмичностью [5], что ставит серьезные задачи по обеспечению сейсмической безопасности таких объектов.

Статистику измерений инженерно-сейсмологических условий мы использовали для формирования комплекта наиболее вероятных вариантов сейсмических воздействий для естественного и прогнозируемого состояния грунтов конкретных объектов и далее для районирования по ним трассы линейного сооружения. В связи относительной протяженностью объекта мы представляем результаты исследований в обобщенном виде (табл. 1). Представим основные показатели, используемые в таблицах:  $h(m)$  – глубина сейсмозондирования;  $V_p(m/c)$  – скорость продольных волн;  $V_s(m/c)$  – скорость поперечных волн;  $A_{max}(cm/c^2)$  максимальные ускорения;  $F(Гц)$  – резонансная частота;  $I$  – баллы; из инженерно-геологических:  $\rho(t/m^3)$  – плотность грунтов.

Таблица 1

Состояние грунта	h (м)	Vp (м/с)	Vs (м/с)	ρ (т/м³)	A <sub>max</sub> (см/с²)	I F(Гц)
Скальные (мерзлые)	10	2700	1450	2,5	208	8
	∞	3000	1600	2,6		>20
Естественное состояние						
Рыхлые талые до 10м. Ниже мерзлые с 20м эталонные	2	600	300	1,8	434	9 10,4
	8	800	400	1,9		
	10	2500	1300	2,1		
	10	2700	1450	2,5		
	∞	3000	1600	2,6		
Рыхлые талые до 20м. Ниже эталонные	2	600	300	1,8	480	9 5,8
	8	800	400	1,9		
	10	900	450	2,0		
	10	2700	1450	2,5		
	∞	3000	1600	2,6		
Мерзлые рыхлые, (T<-2°C)	10	2500	1300	2,0	230	8 15,7
	20	2600	1360	2,1		
	10	2700	1450	2,5		
Рыхлые водонасыщенные мерзлые (-1°C) коренные породы	14	1700	520	2,1	820	10
	20	2600	1360	2,1		
	10	2700	1450	2,5		
	∞	3000	1600	2,6		
Рыхлые мерзлые (-1°C) мерзлые (-2°C) коренные породы	4	800	400	1,9	248	8 14
	12	2500	1300	2,0		
	22	2600	1360	2,1		
	10	2700	1450	2,5		
	∞	3000	1600	2,6		
Прогнозируемое состояние						
Рыхлые водонасыщенные мерзлые (-1°C) коренные породы	9	800	400	1,9	510	9 7
	12	1700	520	2,1		
	18	2600	1360	2,1		
	10	2700	1450	2,5		
	∞	3000	1600	2,6		
Рыхлые водонасыщенные мерзлые (-1°C) коренные породы	3	800	400	1,9	860	10 6
	18	1700	520	2,1		
	20	2600	1360	2,1		
	10	2700	1450	2,5		
	∞	3000	1600	2,6		

Из рассмотренного примера очевидно, что даже частичная деградация мерзлоты приводит к значительному ухудшению инженерно-сейсмологических условий строительства и эксплуатации железнодорожного пути..

Пример более детальной оценки сейсмической и техногенной опасности объектов транспортной инфраструктуры авторы осуществляют при анализе геолого-геофизических данных по железнодорожной трассе ст. Чара – ст. Чина.

В мерзлотном отношении участок дороги расположен в области сплошного распространения вечномерзлых грунтов. Мощность мерзлых грунтов от ст. Чара (Чарская впадина) и далее в долинах рек к ст. Чина может превышать 100 м, а их температура опускаться ниже  $-1$ ,  $-2^{\circ}\text{C}$ . В горном сооружении, по которому проходит большая часть трассы, включая и хр. Удокан мощность мерзлоты превышает 600 м, а ее температура на отметке 2000 м опускается до  $-8^{\circ}\text{C}$ , в целом она меняется в основном от  $-1$  до  $-3^{\circ}\text{C}$ .

Наиболее сильно техногенному воздействию подвергаются участки мостовых переходов. Природное равновесие нарушается вследствие необходимости подготовки площадок для мостовых переходов. Удаление рыхлого материала приводит к уменьшению устойчивости склонов, увеличивается угол естественного откоса и происходит интенсивная деградация мерзлоты. При строительстве моста через руч. Ущелистый строителями были подрезаны борта ручья, что привело к активному протаванию мерзлоты вверх по склону. Еще более осложнило обстановку наличие зоны разлома, пересекающей трассу по правому борту ручья. Если при строительстве дороги рыхлые отложения убирались по возможности до коренных пород, то при строительстве моста воздействие на природный комплекс приводит к концентрации талых и дождевых вод, проявлению эрозионных процессов вблизи насыпи и термопросадок под ней. Расчетные сейсмические воздействия для опор мостового перехода через р. Ущелистый продемонстрированы в таблице 2.

Таблица 2

№ опоры	Vp (м/с)	Vs (м/с)	H (м)	a <sub>max</sub> (см/с <sup>2</sup> )	f <sub>U max</sub> (Гц)
1,2,3	3600 4000	2000 2160	12 -	382	33
4,5	3400 3600 4000	1860 2000 2360	12 18 -	421	30
6,7,8	800 1800 3800 4000	400 600 2180 2360	16 14 10 -	776	6
9	1200 3800 4000	600 2180 2360	11 10 -	518	12
10,11	3800 4000	2180 2360	10 -	368	34

Другим сложными фрагментами строительства железнодорожного пути являются его переходы через сухие лога, где отсыпается насыпь высотой до 65 м. На этих участках переходным слоем от относительно крепких песчаников к насыпным грунтам служат сильно трещиноватые коренные породы. Сейсморазведочные измерения позволяют авторам утверждать, что мощность этого слоя на бортовых участках, с понижением к руслу ручья,

увеличивается от 3 до 8 м, а в русловой части он может достигать 8-12 м. В естественных условиях этот слой перекрывается рыхлыми грунтами мощностью до 4 м. Само нарушение структуры рыхлых поверхностных отложений и наличие временных водотоков приводит к активизации экзогенных процессов. Расчетные сейсмические воздействия для железнодорожной трассы на участке пересечения сухих логов представлены в таблице 3.

Таблица 3

Привязка	Vp (м/с)	Vs (м/с)	H (м)	a <sub>max</sub> (см/с <sup>2</sup> )	f <sub>U max</sub> (Гц)
Левый борт	1800 4000	970 2360	4 -	378,0	40
Средняя часть	1200 3500 4000	600 1900 2300	4 6 -	416,5	>40
Правый борт	3500 4000	1900 2360	10 -	383,8	>40

Используя изложенный выше подход к оценке сейсмической опасности, проведен расчет приращений сейсмической балльности на участке железнодорожной ветки ст. Чара - ст. Чина. Расчеты приращений за счет изменения акустических жесткостей и температуры мерзлых пород ( $t$ , °C) сведены в таблицу 4. В таблице представлены: литологический комплекс (мощность исследуемого слоя до

4м), значения скоростей продольных  $V_p$  и поперечных  $V_s$  сейсмических волн, температура грунтов и приращения сейсмической балльности  $\Delta J$ . Авторы отмечают, что скорость в сезонно талых грунтах не учитывалась, как при выборе скоростей в эталонных грунтах, так и при расчетах приращений балльности.

Таблица 4

Литологический комплекс	$V_p$ , м/с	$V_s$ , м/с	$t$ , °C	$\Delta J$ за счет ( $\rho V$ ), балл	$\Delta J$ за счет $t$ °	$\Delta I$ баллы
Пойм и низкие надпойменные террасы	510 3500	320 1900	-3,4 -2,1	0,05	0,32	0,37
Высокие надпойменные террасы	540 3290	260 1710	-1,0	0,08	0,54	0,62
Делювиальный комплекс	740 4600		-8,5 -2,9	-0,13	0,21	0,08
Моренный комплекс	700 3400		-5,5 -4,8	0,06	0	0,06
Проллювиальные отложения	610 3800	290 2000	<-2	-0,16	0	-0,16
Аллювиальные отложения троговых долин	1100 4000	2400	<-2	-0,2	0	-0,2

В статье рассмотрены данные экспериментальных и расчетных методов и их возможности по усовершенствованию инженерно-сейсмологического обеспечения сейсмической безопасности строительства линейных сооружений в условиях криолитозоны. Требуемые, согласно нормативным документам, основные показатели (сейсмической опасности) полученные согласно теоретическим расчетам, могут быть приведены в соответствие с экспериментальными данными, когда для каждого комплекса грунтов будут рассчитаны и масштабированы параметры сейсмических воздействий, соответствующие исходной сейсмичности района. В этом случае расчеты для каждого состояния грунтов (воздушно-сухие, водонасыщенные и мерзлые) будут наиболее обоснованными, и соответствовать экспериментальным измерениям. Последние в свою очередь являются основой прогноза параметров сейсмических воздействий на случай частичной или полной деградации мерзлоты в результате строительства.

Проведенный выше анализ можно считать обобщением, полученных результатов работ по сейсмическому микрорайонированию трасс линейных сооружений на юге Якутии и севере Забайкалья, в направлении более рационального использования теоретических расчетов и данных экспериментальных методов в условиях региона в целом. Основой для получения акселерограмм, спектров ускорений и частотных характеристик, служили данные комплекса расчетных и инструментальных методов сейсмического микрорайонирования (сейсмических жесткостей и микросейсм). В результате получен набор необходимых данных для оценки инженерно- сейсмологических условий строительства и эксплуатации линейных сооружений по предложенной выше методике, возможности кото-

рой реализованы на примере двух участков, расположенных в девятибалльной сейсмической зоне, и в сложных геокриологических условиях.

При достаточном статистическом наборе регистрируемых инструментальными методами сейсмического микрорайонирования характеристик, обоснованном формировании исходного сигнала, уровня исходной сейсмичности территории строительства и данных записей местных землетрясений, обеспечивается, на уровне требований нормативных документов [6], получение необходимого набора параметров сейсмических воздействий для проектирования сейсмостойких линейных сооружений.

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# HISTORICAL SCIENCES

## ANGELA MERKEL STATESMAN AND POLITICIAN

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### Abstract

Today, Germany is the leading country in the European Union. Germany's success in the following decades was directly related to the work of Chancellor Angela Merkel, who led the government. This article Angela Merkel's come to government and political activities were analyzed

**Keywords:** Germany, Angela Mercel, Policy, Security, World, Freedom, Europe, European, Federal.

Today, Germany is the leading country in the European Union. Germany's success in the following decades was directly related to the work of Chancellor Angela Merkel, who led it.

Germany has developed rapidly under the leadership of this woman for more than ten years. Germany has developed not only politically, but also socio-economically. For this reason, the study of Germany, which has achieved such achievements, and Angela Merkel's activities related to it, is relevant today.

Since the management history of Angela Merkel and her administration is directly connected with modern history, this issue is covered mainly in periodicals. However, special scientific research works on this have not been carried out until today. The subject has been studied by other authors of the world, mainly as a partial stop in the process of studying the history of Germany. That's why we aim to study it separately in this article.

Angela Dorothea Merkel was born on July 17, 1954 in the family of Horsta Kasner and Gerlinda Kasner in Hamburg. A few days after Angela's birth, her family moved from Hamburg to Perleberg, GDR. In 1957, Angela's family also came to this city due to the transfer of her priest father to the Temple City Church. Angela's mother was a teacher who taught Latin and English. Angela also had a brother Marcus and a sister Irena.

According to the memories of her former classmates and teachers, Angela (then surname Kasner) did not stand out in any way, except for her achievements in mastering the Russian language and mathematics. As a member of the pioneer organization at school, Angela wore a blue tie (in the former GDR, the pioneer organization members did not wear a red tie, as in the USSR), and the fact that Angela would eventually take the position of Chancellor of Germany, no one could have imagined.

In the eighth year of her chancellorship, Angela Merkel has reached the zenith of her power – again. She has now been at the head of the greatest and richest economy in Europe for two parliamentary terms. She is the undisputed leader of her party and faces almost no opposition. She presides over a cabinet of mostly loyal and obedient ministers. She has tamed her second coalition partner, putting to rest the initial negative impression of her government. She treats the opposition with

disdain. Publicly, she enjoys a great deal of respect – no chancellor before her had been able to call on such high approval ratings in their seventh year of government. Economically, her country is not in a bad shape – compared to its neighbours. Nor is Germany troubled by any major problems at home.

Angela Merkel has risen to a position of power and worldwide influence. She is one of a small group of heads of state who can look back on a similarly long period in office. In the European Union she is the last of her generation of leaders: apart from that perennial, the Prime Minister of Luxembourg, no one has been in power longer than she has. The President of the European Commission took office the year before her – but only with her help. Merkel is working with the second American President of her time in office, and she had dealings with their predecessor. She is engaged in a kind of hare-and-tortoise race with the President of Russia as to who will stay in office longest. In China Merkel has so far seen only one change of leadership: she eagerly anticipated her meeting with the new leaders, wishing to compare the new politicians in power with their familiar predecessors [1].

Merkel started her political career in 1990. Since the fall of the "Berlin Wall" in the fall of 1989, many things have changed in the life of Angela Merkel, along with millions of Germans. In particular, the emergence of new democratic parties, the termination of the Academy of Sciences of the former GDR, where he worked, encouraged him to join the "Democratic Uprising" movement. Angela, who is a physicist by profession, starts working in this party as an EHM administrator. Later, he also works as a referent, a member of the propaganda group. This party, which started as an opposition movement to the government, later joined the coalition with the Christian-Social Union and the Christian-Democrat parties. At that time, the leader of this block was Federal Chancellor Helmut Kohl, a prominent political figure of his time [2].

By the fall of 1989, with the fall of the Berlin Wall and the beginning of democratic processes in the GDR, along with the dissolution of the GDR FA, Angela joined the newly formed party "Democratic Breakthrough". Merkel's position in the party was lucky. From 1989 to 1990, he was a member of the "Democratic Eruption" party. Since 1990, he has been a deputy of the Christian Democratic Union (XDI), and in 1990-

1998 he was appointed to the position of deputy chairman of this party.

After the elections in the GDR, he became the official representative of the East German government. From this year, he takes the post of press secretary of the GDR government headed by Lothar de Maiziere, the first and only non-communist. Since December 1990, he has been a deputy in the Bundestag of the GFR [3].

From January 1991 to 1994, after the personal proposal of Gelmut Koll, he was appointed Minister of Women and Youth Affairs. By 1994, Angela Merkel held the position of Minister of Environment and Nature Protection, Nuclear Safety. Probably because he did not come up with any serious initiative, almost not many people remember his time as a minister. But from time to time he did not forget to show his loyalty to his mighty patron [2].

Angela Merkel included "humanity, fair treatment of all generations, love for nation and homeland, fight against bureaucracy" in the party's program of action. All this was still not enough to recommend his candidacy for the post of federal chancellor. That's when Mrs. Merkel makes good use of strategy and behind-the-scenes games. In addition, Mrs. Merkel managed to find an ally across the ocean: unlike the leaders of the ruling party, she openly supported the actions of the George Bush administration in Iraq.

When Angela Merkel was elected Chancellor of Germany on November 22, 2005, German women took it as their personal success. This event was remarkable in the history of Germany in two respects: firstly, a woman had never been in charge of the government in German history (except for Feophane, the empress who lived in the 10th century); secondly, until then, none of the representatives of the former socialist state - the GDR had risen to such a high position.

At first glance, she is not much different from ordinary housewives, a simple and sincere woman. But her ambitions, her ability to assess the situation correctly and her ability to work show who this woman really is. His inconspicuous appearance and alienation from suspicious behavior serve as a mask for him to confuse his opponents on the way to the chancellor's seat.

In the activity program announced in 2006, Angela Merkel indicated that she would carry out fundamental reforms in the areas of the federal system, budget and financial system, scientific research, energy policy, family, labor market and health care, as well as the fight against bureaucracy. Despite the fact that clear goals and tasks were not defined, its management method was initially supported by a wide segment of the population, representatives of the business world and foreign partners.

In a very short period of time, his popularity reached high ratings: in 2006 polls, 80 percent of the

German population expressed satisfaction with his policies. His government began to achieve positive results in the economy, particularly in reducing unemployment [2]

A period of peace reigned at the beginning of the new term of the Bundestag under Merkel and her cabinet. In late March 2006, Merkel presented her eight-point plan for the second half of her term. It shows the main directions of reforming the federal system, the fight against bureaucracy, scientific research, energy policy, budget and financial policy, family, labor market, and especially the health care system.

Despite the lack of visible decisive actions, the business-like way of managing the state will initially win the approval of the population and win business abroad. "Forbes" magazine named Angela Merkel the most famous woman in the world in 2006, 2007 and 2008, and "Times" magazine included the Chancellor of the Federal Republic of Germany in 2006 and 2007 among the hundred most famous people on the planet.

By 2013, it was predicted that the outlook for the German economy might not be positive for the coming months. The Bundesbank's November report downgraded business forecasts and noted no new industrial orders [4].

Environmental protection. In April 1995, Angela Merkel, as German Minister of Environment, hosted the first UN Nature Conference in Berlin. The Berlin Mandate was the first document to attract international efforts to reduce greenhouse gases. In subsequent negotiations, Angela Merkel approached the Kyoto Protocol in 1997 to set sufficiently high emission reduction targets. Angela Merkel is a supporter of the peaceful use of nuclear power and nuclear power plants to obtain electricity. In his position, he was also responsible for dealing with the use of nuclear waste. In May 1998, it became known about the increasing importance of radiation in "Castor" containers sent to France. The opposition demanded the resignation of Minister Merkel for violating her supervisory functions. However, Merkel shows that she is exercising her basic powers and that her federal lands and the nuclear industry are responsible [4].

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# POLITICAL SCIENCES

## ANALYSIS OF RELATIONS BETWEEN KAZAKHSTAN AND KYRGYZSTAN FROM A COMMERCIAL AND ECONOMIC POINT OF VIEW

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### Abstract

The Republic of Kazakhstan and the Kyrgyz Republic have always been close friends, allies and brotherly countries. In the past decades, a solid foundation of bilateral relations has been laid. In recent years, various meetings have been held to strengthen the relations of Kazakhstan and Kyrgyzstan. The status and appearance of the commercial and economic relations of the two countries are regularly discussed at the level of diplomatic representatives, including the heads of state and government of the two countries, the foreign ministers, the ministers of the relevant fields and the ambassadors. Kyrgyzstan and Kazakhstan have successfully interacted within the framework of international and regional organizations and have the same or close positions in many important international and regional issues. This completes the current interaction potential of the two countries. Today, one of the main objectives of foreign policy of both countries is the dynamic and balanced development of foreign economic ties, which provide the most favorable conditions for economic growth. In this context, the expansion of the commercial and economic cooperation is of particular importance for the two republics. The trade and economic relations between the two states are analyzed below.

**Keywords:** Kyrgyzstan, Kazakhstan, commercial relations, economic relations, trade, export, import

Kazakhstan is the second largest export market for Kyrgyzstan after Switzerland. The money from Kazakhstan traditionally plays an important role in the economy of Kyrgyzstan. It should be noted that the excess of exports over imports has been maintained since 1995 to the present. Exports decreased by 15.7%, from \$518.6 million in 2015 to \$437.2 million in 2016. Imports increased by 27.1%, from \$182.0 million in 2015 to \$231.4 million in 2016. [1]

The main export goods supplied from Kazakhstan to Kyrgyzstan are: petroleum products, tobacco products, wheat, rolled products made of non-enriched steel, flat, mineral and carbonated water, sugar, coal, hot-rolled steel made of non-enriched steel, automobiles, hygiene products for women and children, cement. The main types of imported goods from Kyrgyzstan to Kazakhstan are: other ores and concentrates, petroleum products, polished glass, bakery and flour confectionery, milk and cream not condensed, plastic containers, alcohol, butter, yogurt, kefir. [2]

Trade is primarily a basic type of interaction between people and countries. The main volume of exports is provided by such sectors of the economy as agriculture, animal husbandry and the domestic flagship of the economy, light industry. Kazakh entrepreneurs are quite actively showing their desire to cooperate with their Kyrgyz colleagues. Kazakhstani businessmen are interested in cooperation in the field of light industry, agricultural products, the products of tanneries, i.e. the raw materials themselves. [3]

Currently, Kazakhstan and Kyrgyzstan are planning to increase their trade volume to \$ 2 billion. For example, according to the press service of the President of the Kazakhstan Council of Ministers, during a meeting held in April 2022 between the Prime Minister of Kazakhstan Alihan Smayilov and the Ambassador of Kyrgyzstan Dastan Dushekeyev, the parties discussed

cooperation in the fields of trade, investment, transit and transportation, as well as water-energy balance. While discussing the issue of mutual trade, the Prime Minister expressed his opinion on the need to expand the product range. The most important achievement in the field of trade and economics was the increase in mutual trade volume and the achievement of the trade volume target of 1 billion dollars. The new target is to reach a trade turnover of 2 billion dollars. [4]

During his official visit to Bishkek on the invitation of Sadyr Japarov in May 2022, President of Kazakhstan Kassym-Jomart Tokayev used the following statements about increasing the trade volume between the two countries to \$ 2 billion: "Today I am in Bishkek at the invitation of President Sadyr Japarov. We have agreed to increase the trade volume between our countries to \$ 2 billion in the coming years. In order to achieve these goals, we need to create conditions for the entrepreneurs of our countries, this also applies to integration". During his meeting with President Sadyr Japarov earlier, Kassym-Jomart Tokayev stated that Kazakhstan can sell hundreds of types of goods and products to Kyrgyzstan with the support of KazakhExport. [5]

Today, the business world of the two countries is effectively evaluating mutual trade opportunities. For example, Kazakhstan plans to export 1000 Yutong brand buses to Kyrgyzstan. Within the scope of the visit of the Chairman of the Council of Ministers of Kyrgyzstan Akylbek Japarov to Kazakhstan on December 8, 2021, a memorandum on the purchase of buses was signed at the Government House in Nur-Sultan. According to the press service of the Prime Minister of Kazakhstan, the memorandum provides for the supply of 1,000 Yutong brand electric, gas and diesel buses produced in Kazakhstan and 100 pieces of special equipment to Kyrgyzstan on a leasing basis in 2022. [6]

In addition, six export contracts have been signed for the supply of products worth \$ 17.5 million from Kazakhstan to Kyrgyzstan. In addition, six export contracts were signed for the supply of 17.5 million dollars of products from Kazakhstan to Kyrgyzstan. According to Kazinform International News Agency, which referred to the press service of the Ministry of Trade of the Republic of Kazakhstan, Kazakhstan Trade and Economic Mission (TEM) carried out important work in Bishkek. As a result of the negotiations between Kazakhstan and Kyrgyzstan enterprises within the scope of TEM, 6 export contracts were signed for the supply of salt, flour and pasta, beer and soft drinks, confectionery and dairy products from Kazakhstan to Kyrgyzstan. The total amount of the contracts made is \$ 17.5 million. [7]

As it can be seen, political dialogues have been continuing since the establishment of diplomatic relations between the two countries, mutual visits and contacts have been carried out at the highest level. These mutual high-level meetings, visits and contacts contribute to the development of trade and economic relations between the two countries. For example, according to the information obtained from the Anadolu Agency website, President of Kyrgyzstan Sadyr Japarov met with President of Kazakhstan Kassym-Jomart Tokayev on March 2, 2021, within the framework of his state visit. Tokayev and Japarov discussed bilateral cooperation issues covering trade, economy, investment, defense, energy, water resources, customs, health, education and cultural fields. In addition, documents have been signed between the authorized ministries of the two countries in many areas such as electricity trade. Accordingly, Kazakhstan and Kyrgyzstan will start implementing cooperation projects in the fields of industry, hydropower, fuel and energy complex, use of underground resources, agriculture, processing sector, logistics and banking. [8]

Currently, it is planned to implement many projects between Kyrgyzstan and Kazakhstan. For example, it is planned to modernize the Lugovaya-Balykchy railway line between Kyrgyzstan and Kazakhstan to make it suitable for electric trains. According to the information obtained from the Sputnik.kg website, it has been announced that a new road map for the development of railway transportation in the country was determined by the Prime Ministry of Kyrgyzstan on January 25, 2021, and within the framework of this road map, the Lugovaya-Balykchy railway line between Kyrgyzstan and Kazakhstan will be equipped with an electrification system between 2023 and 2025. [9]

It is also planned to establish an oil processing facility with the partnership of the two countries. According to the information obtained from the website Economist.kg, Kazakhstan's Temirlan Oil representatives have announced that they are planning to establish an oil processing facility in the Mamak Free Trade Zone in the Talas Region of Kyrgyzstan, and within this framework, a proposal has been submitted to the Kyrgyz authorities. [10]

The relations between the two countries are increasing day by day. For example, during the IX meeting of the Intergovernmental Council held between the

Prime Minister of Kazakhstan Askar Mamin and the Prime Minister of Kyrgyzstan Ulukbek Maripov on April 2, 2021, trade-economic relations, investment, agriculture, water, energy, transit and transportation, tourism, space and informatics, cooperation in the field of industry, education, culture, health, social security, population and labor migration, environmental protection, interregional and border cooperation, Eurasian Economic Union (EEU) and other integration issues were discussed. In addition, the parties evaluated the possibility of establishing the "Alatau" joint border Trade Center at the "Karatuu - Ak Tilek" checkpoint. As part of the project to establish the center, it is planned to create modern warehouses for fruit and vegetable products, as well as certification organizations, sanitary and phytosanitary checkpoints. During the meeting, the construction of wholesale distribution centers in the Chuy and Issyk-Lake regions of Kyrgyzstan was also discussed. After the meeting, the Heads of Government attended the opening ceremony of the "Korday-Ak-Yol" crossing point. Such activities will be able to have a significant impact on the development of trade and economic cooperation between Kazakhstan and Kyrgyzstan. [11]

Today, Kyrgyzstan-Kazakhstan cooperation has recently gained dynamism and a practical focus. For example, according to the information service of the Ministry of Trade and Integration of Kazakhstan, the government of Kazakhstan is considering building a trade and logistics complex in the regions surrounding four neighboring countries and on the Caspian Sea coast. Accordingly, an industrial trade and logistics complex will be built in the border region of Kyrgyzstan (Jambyl region). Central Asia International Industrial Cooperation Center (Turkistan Region) on the border of Uzbekistan, Eurasia Border Shopping Center (West Kazakhstan Region) on the Russian border, and Caspian Junction container center in Aktau city located on the Caspian Sea coast will be built. In addition, the International Border Cooperation Center Horgos complex on the Chinese border will also be expanded. Trade and logistics complexes carry out the activities of storage, recovery, processing of goods, production of new goods and their effective integration into international goods distribution systems and sales. These complexes reduce the cost of goods and allow them to be delivered quickly to the targeted points. [12]

As it seems, bilateral cooperation between the two countries is increasing day by day. For example, according to the news published on the official website of Economist.kg on May 26, 2022, President of Kazakhstan Kassym-Jomart Tokayev announced that after his meeting with his Kyrgyz counterpart, it is planned to establish a solar power plant in the Issyk-Kul region with the participation of Kazakhstan. The cost of the project will be 300 million dollars. Tokayev stressed that Kazakhstan is ready to fully fulfill all its obligations and jointly implement important projects. The President of the Republic of Kazakhstan, during his earlier meeting with the President of Kyrgyzstan Sadyr Japarov, offered to study mutually beneficial proposals and create a list of promising investment projects. [13]



Today, the business world of the two countries actively evaluates investment opportunities. Kazakhstan, Kyrgyzstan and Uzbekistan are planning to jointly build a hydroelectric power plant. According to the news of Liter.kz, on January 6, 2023, in Bishkek, the energy ministers of Kazakhstan, Uzbekistan and Kyrgyzstan agreed on the joint construction of Kambar-Ata HEPP-1. After its construction is completed, it is expected that Kambar-Ata HEPP-1 will be the largest power plant in Kyrgyzstan. The HEPP will be able to stabilize the electricity and water supply for the Central Asian countries. [14]

Today, the issues between the two countries are tried to be resolved only with a mutually beneficial and compromising understanding. Cooperation is carried out in accordance with the mutual interests of the parties. For example, during the meeting of President of the Kyrgyz Republic, Sadyr Japarov, with the Speaker of the Senate of the Parliament of the Republic of Kazakhstan Maulen Ashimbayev on January 24, 2023, views were exchanged on further strengthening and expanding the political-economic, cultural-human ties between the countries. The President stated that the dynamics of bilateral cooperation with Kazakhstan is at a very high level and Kyrgyzstan will make every effort to strengthen it more comprehensively. The Chairman of the Senate of the Parliament of Kazakhstan expressed his country's interest in further developing comprehensive cooperation with the Kyrgyz Republic. After the meeting, the parties expressed their confidence that the cooperation between Kyrgyzstan and Kazakhstan will continue to develop on the basis of solid allied relations and strategic partnership. [15]

### Conclusion

In conclusion, the current state of relations between Kazakhstan and Kyrgyzstan in recent years can be considered stable and positive. Kazakhstan has historically been one of Kyrgyzstan's most important trading partners and investors. Today's relations are seen by both states as relations dominated by the desire to establish relations on a stable and predictable basis. There is also an external motivating factor for improving bilateral relations. Neither Kazakhstan nor Kyrgyzstan benefits from having their relations moderated by someone from the outside. Both states are quite capable of resolving their "fraternal differences" themselves. Kazakhstan is in a good position and the population perceives Kazakhstan as a friendly country. A reliable foundation for the formation, development and strengthening of relations between the republics of Kazakhstan and Kyrgyzstan is the geographical proximity of the two countries, deep historical roots, common language, culture, traditions. Therefore, the development of cooperation with the Kyrgyz state remains one of the tasks of Kazakhstan's foreign policy. The establishment of good-neighborly, stable relations with a neighboring

country is one of the important factors in ensuring the national security of the two countries.

In one of his speeches, President of Kazakhstan Nursultan Nazarbayev noted that "There are few peoples in the world whose destinies are as closely linked as the Kyrgyz and Kazakhs. A single history and kinship, the intertwining of millions of human destinies, common aspirations and goals – all this is the unshakable foundation of our joint future. This is a valuable historical heritage of our two peoples, which must be preserved and multiplied for our future generations."

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# PSYCHOLOGICAL SCIENCES

## INVESTIGATION OF INDIVIDUALS WITH THE PROFESSIONS THEY HAVE TRAINED AND THE FIELD OF WORK THAT THEY PERFORM

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## ИССЛЕДОВАНИЕ ЛИЦ ПО ПРОФЕССИЯМ, КОТОРЫМИ ОНИ ОБУЧИЛИСЬ, И ОБЛАСТЬЮ РАБОТЫ, КОТОРУЮ ОНИ ВЫПОЛНЯЮТ

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### Abstract

This research was carried out to examine the professions of individuals in which they were educated and the fields of work they do. The opinions of individuals who are university graduates and have a profession were collected with a structured interview form. As a result of the research, it was concluded that individuals chose the departments when they applied to the university because they liked and were curious, and they continued their business areas with enthusiasm in the field they received education.

### Аннотация

Это исследование было проведено для исследование профессий людей, в которых они получили образование, и областей работы, которыми они занимаются. Мнения лиц, имеющих высшее образование и имеющих профессию, были собраны с помощью формы структурированного интервью. В результате исследования был сделан вывод, что люди выбирали факультеты при поступлении в ВУЗ, потому что им это нравилось и было интересно, и они с энтузиазмом продолжали свои направления в той области, в которой получили образование.

**Keywords:** profession, choice of profession, job, field of work

**Ключевые слова:** профессия, выбор профессии, работа, сфера деятельности.

### Введение

Работа - явление, возникающее из потребностей человека и возникающее в результате общественных отношений человека как цивилизованного существа. Иными словами, работа возникает при наличии цепи событий, происходящих в обществе, и вообще является социальным явлением. Многие люди также называют свою оценку досуга

или занятия «работой» [1]. Профессия – это ситуация, возникшая в результате разделения труда и специализации людей как необходимости совместного проживания, а также в результате этого явления. Понятие профессии можно определить в простом понимании как «работа, которую человек выполняет, чтобы заработать себе на жизнь». Профессиональная дифференциация от традицион-

ных обществ к современным обществам наблюдается с течением времени. Профессия происходит от арабского слова «suluk» и означает «путь, хождение, метод, стиль, расположение» [2]. Иными словами, профессия может быть определена как услуга, которая выполняется самостоятельно и как можно более непрерывно, удовлетворяет материальные и духовные потребности людей и общества, является функцией экономики, в особенности обучаемой, основанной на способностях, способностях и силе, и оплачивается взамен. В мире существует множество видов профессий. Такие потребности, как образование, здоровье и безопасность, которые люди имеют на протяжении всей своей жизни, определяют профессиональные группы. С течением времени меняется и степень важности профессий. В то время как некоторые профессии теряют свое значение и исчезают в зависимости от меняющихся времен и условий, многие новые профессии появляются и набирают популярность.

В глобализирующемся мире работа приобрела множество различных измерений. Сегодня видно, что молодые люди работают в разных сферах, где они не получили образования. Для того, чтобы иметь профессию, потребность в формальном образовании уменьшается, и достаточно только обучения работе.

#### **Цель исследования**

Общая цель данного исследования состоит в изучении профессий, по которым люди получают образование, и областей работы, которыми они занимаются.

#### **МЕТОД**

##### **Исследовательская модель**

Это исследование является качественным исследованием. Качественные методы сбора данных, такие как наблюдение, интервью, анализ документов и речи, обычно используются в качественных исследованиях. Кроме того, качественные исследования, в которых восприятия и события, связанные с людьми, глубоко изучаются в социальной реальности и природной среде, также имеют целостную перспективу, объединяющую различные дисциплины [6]. Кроме того, качественное исследование рассматривает проблему в ее собственном контексте с интерпретативным подходом; Интерпретируя

события и факты, он фокусируется на значениях, которые им приписывают люди. Исследовательские психические процессы исследователя, обращаясь к качественному исследованию, становятся функциональными [8] и с более острым пониманием воспринимают различные отношения между событиями [4].

##### **Рабочая группа**

Исследовательская группа этого исследования состояла из людей, работающих в разных областях/учреждениях. Исследование было основано на добровольности, и мнения 43 человек были запрошены при сохранении конфиденциальности информации о личности участников.

##### **Инструмент сбора данных**

Данные были собраны с помощью формы структурированного интервью, разработанной исследователем и научным руководителем в соответствии с методикой качественного исследования. Структурированное интервью — это тип интервью, который включает в себя заранее определенный набор вопросов и ответов. Цель состоит в том, чтобы определить параллелизм и различие между информацией, предоставленной интервьюируемыми, и провести сравнение [16]. Техника структурированного интервью также похожа на опросные исследования, в которых человек отвечает на свою собственную информацию в соответствии с определенными категориями [15]. Форма интервью была сначала подготовлена на турецком языке. В начало формы добавлена Инструкция, содержащая краткую информацию о цели исследования. Затем было переведено исследователем на кыргызский язык, чтобы его можно было применить к кыргызстанцам и не было разногласий по вопросам.

##### **Анализ и анализ данных**

При анализе данных соблюдаются этапы создания основы для анализа, обработки данных в соответствии с тематической структурой, определения и интерпретации результатов. В рамках контент-анализа было принято решение использовать кодировку как К (участник) для обозначения участников, принявших участие в интервью.

## Результаты

Таблица 8.

Показатели работы в поле с причинами выбора отделов

Причины выбора области образования				Причины выбора области работы	
Часть, которую я люблю и удивляюсь	22	Работаю по профессии	16	Потому что я люблю	10
				Жизненные условия	4
				Безопасная среда	2
		Не работаю по профессии	6	Жизненные условия	4
Нравится	2				
Совпадение	8	Работаю по профессии	5	Накопление опыта	2
				Нравится	1
				Жизненные условия	1
				Для семьи	1
		Не работаю по профессии	3	Жизненные условия	3
Престиж	5	Работаю по профессии	2	Нравится	2
		Не работаю по профессии	3	Жизненные условия	3
Желание быть полезным обществу и людям	3	Работаю по профессии			
		Не работаю по профессии	3	Жизненные условия	2
				Зароботная плата	1
Семья	3	Работаю по профессии	2	Для семьи	1
		Не работаю по профессии	1	Зароботная плата	1
Низкий балл	2	Работаю по профессии			
		Не работаю по профессии	2	Нравится	2

Как видно из Таблицы 8, есть 22 человека, которым понравился отдел, и они выбрали интересные их отделы. 16 из них заявили, что работают по специальности, в которой получили образование. Большинство участников заявили, что им нравится и интересуется этой областью так же, как и причины для работы в той области, которую они изучали. Другие продолжают работать в той сфере, где проходили обучение, в связи с жизненными условиями и безопасностью рабочей среды. 6 из них заявили, что не работают по специальности и/или не работают вообще. Причиной этого они заявили, что любят области, в которых работают, и свои жизненные условия.

Из 8 человек, попавших на кафедру случайно, 5 заявили, что работают по специальности, в которой получили образование. Они заявили, что хотят набраться опыта и стать профессионалами в качестве причин для работы в этой области, любят эту область и продолжают работать для своей семьи. 3 из них заявили, что не работают по специальности по жизненным обстоятельствам.

В то время как 2 из 5 участников, выбравших кафедру по престижности, с удовольствием работали по специальности, в которой получили образование, 3 из них заявили, что причиной не работы по специальности стали жизненные обстоятельства.

2 из 3 участников, на которых повлияли их семьи и которые выбрали факультет, заявили, что они

до сих пор работают на свою семью в той сфере, в которой они получили образование. Один участник также заявил причину работы вне поля, потому что у него была хорошая зарплата.

2 из 2 участников, поступивших на факультет, который они выбрали по результатам государственного экзамена, заявили, что работают не по той специальности, в которой обучались, и что им нравится та сфера деятельности, которой они занимаются в данный момент.

### Заключение и Обсуждение

На основании данных, полученных от участников, были сделаны следующие выводы.

В результате исследования был сделан вывод, что большинство участников были лица в возрасте 20-30 лет, а остальные были в возрасте 31-40 лет и старше 41 года.

В результате исследования был сделан вывод, что большинство участников получили подготовку в области педагогики, психологии и экономики. [18] Наиболее выбираемыми факультетами в Кыргызстане были педагогика, юриспруденция, экспертиза, медицина и перевод.

В результате исследования, по анализу полученных данных о причинах выбора кафедры, на которой лица получили образование, сделан вывод о том, что большинство участников выбирали кафедры добровольно и осознанно, выбирали ка-

федры случайным образом, и неосознанно при поступлении в вуз, а закончили, потому что выбрали профессию, и потому что она престижная. Результаты исследования [11] под названием «Наука, технологии, математика и инженерия: выбирать или не выбирать» с точки зрения среднего балла учащихся с низкими и средними оценками, учащихся с низкими баллами. средние не рассматривали выбор положительных и естественных наук, а те, у кого средний балл по математике и естественным наукам, были замечены, что они склонны выбирать область. При изучении результатов исследований, проведенных [9], было установлено, что важнейшим фактором выбора профессии индивидуумами является «нравится профессия». [16] констатировали, что люди, выбравшие интересующую их профессию, с большей вероятностью будут развивать свои знания и навыки. Было замечено, что влияние возможностей трудоустройства после окончания учебы на выбор профессии находится на умеренном уровне.

Сделан вывод, что большинство лиц, выбравших факультет, на котором они получили образование, потому что они были любознательными, работали в той области, в которой они получили образование. В качестве причин работы в этой области был сделан вывод о том, что большинству участников эта область нравилась и интересовалась одинаково. Сделан вывод, что остальные продолжают работать в той сфере, где проходили обучение, в связи с жизненно важными условиями и безопасностью производственной среды. Некоторые из участников заявили, что не работали по своей специальности и/или не работали вообще. Причина этого в том, что им нравятся условия жизни и районы, в которых они работают. Сделан вывод о том, что большинство участников, случайно попавших на кафедру, работали в той сфере, где они получили образование, и что они продолжали работать в этой сфере с целью набраться опыта и стать профессионалами, любя эту область и свое дело. Сделан вывод о том, что часть участников не работала по специальности в связи с жизненными условиями. Сделан вывод о том, что те, кто предпочитает престижные отделения, счастливо работают в той сфере, где они получают образование, а участники, не работающие в этой области, работают вне поля в силу причин, вытекающих из жизненных условий. Был сделан вывод, что участники, выбравшие кафедру под влиянием своих семей, все еще работали в сфере, где они получили образование, для своей семьи и из-за хорошего экономического дохода. Поскольку результаты государственного экзамена были низкими, был сделан вывод, что поступившие на кафедру и закончившие обучение работали не по той специальности, по которой получали образование, а в силу причин, по которым им нравилась та сфера деятельности, которой они занимаются в настоящее время.

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# TECHNICAL SCIENCES

## SALT WATER DESALINATION BY THE METHOD OF NANOFILTRATION

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## ОПРЕСНЕНИЯ СОЛЕНЫХ ВОД МЕТОДОМ НАНОФИЛЬТРАЦИИ

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### Abstract

This article discusses the issues of preventing sulfate scale formation in desalination systems by using the method of preliminary nanofiltration. As a result of computational experiments on a computer, the process of nanofiltration purification of the Caspian water was studied. High selectivity values of NF-200-400i membranes for scale-forming components have been established. It has been shown that preliminary nanofiltration of Caspian water reliably prevents the precipitation of sulfate deposits at subsequent stages of reverse osmosis and thermal desalination. It becomes possible to increase the yield of desalinated water, organize the distillation process at high temperatures and, as a result, reduce the cost of desalination.

### Аннотация

В данной статье рассмотрены вопросы предотвращения сульфатного накипеобразования в системах опреснения путем использования метода предварительной нанофильтрации. В результате вычислительных экспериментов на компьютере исследован процесс нанофильтрационной очистки воды Каспия. Установлены высокие значения селективности мембран NF-200-400i по накипеобразующим компонентам. Показано, что предварительная нанофильтрация каспийской воды надежно предотвращает выпадение сульфатных отложений на последующих стадиях обратноосмотического и термического опреснения. Появляется возможность повышения выхода опресненной воды, организации процесса дистилляции в области высоких температур и, как результат, снижения затрат на опреснение.

**Keywords:** nanofiltration, desalination, scale formation.

**Ключевые слова:** нанофильтрация, опреснение, накипеобразование.

В связи с ростом численности населения, ограниченности или неравномерного распределения пресноводных источников, для обеспечения условий устойчивого развития экономики и решения социальных задач, общество начало обращаться к технологиям для опреснения соленых вод (океаны, моря, подземные источники и т.д.), ресурсы которых практически неограниченны [1-3]. Для Азербайджанской Республики весьма актуальным является опреснение воды Каспийского моря и подземных солоноватых вод Апшеронского полуострова. Наибольший интерес в этой связи представляют термический и обратноосмотический методы опреснения. Наиболее проблемные вопросы технологий опреснения связаны с решением задач по предотвращению образования кальциевых отложений ( $\text{CaCO}_3$ ,  $\text{CaSO}_4$ ) на поверхностях нагрева термических и мембранных – обратноосмотических установок. Причем основной упор делается на

предотвращение образования сульфата кальция, так как эти отложения не растворяются в кислотах, и их очистка является весьма сложной задачей.

В течении последних 60 лет разработка эффективных технологий предотвращения накипеобразования, характеризующихся высокими эколого-экономическими показателями является одним из приоритетных направлений исследований. В зависимости от качества опресняемой воды, для решения этой задачи, на сегодняшний день, применяются следующие основные методы [1-3]: 1. подкисление исходной воды (обычно серной кислотой); 2. введение в опресняемую воду специальных ингибиторов (антинакипинов); 3. реагентное умягчение; 4. ионообменное умягчение ( $\text{Na}$ -,  $\text{Mg}$ -Na-катионирование); 5. комбинирование двух из указанных методов, например, подкисление в сочетании с введением антинакипинов. Каждый из этих методов имеет свои недостатки и преимущества.

Вместе с тем, работы в области их совершенствования и разработки новых методов продолжаются, что диктуется стремлением создать всё более простые и экономичные методы.

Для предотвращения накипеобразования наиболее широкое применение нашел метод введения антинакипинов. Однако практика опреснения показывает, что с повышением температуры кипения антинакипины подвергаются термолузу и эффективность их существенно снижается. Эффективность действия антинакипинов снижается и в условиях высокой пересыщенности растворов по сульфату кальция. Согласно данным [4] нет антинакипинов надежно решающих сульфатную проблему. Поэтому даже с использованием современных антинакипинов в установках термического опреснения океанской воды максимальная температура кипения (МТК) ограничивается 110 – 112°C при выходе опресненной воды ~ 50%. Если антинакипины не используются, то величина МТК снижается до 90°C, а выход опресненной воды – 35%.

Метод предварительной нанофильтрации заключается в том, что опресняемая вода предварительно фильтруется через наномембраны, характеризующиеся высокой селективностью по отношению к двухзарядным ионам  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$  и  $\text{SO}_4^{2-}$ . В процессе нанофильтрации вода умягчается, десульфатизируется и частично деминерализуется. Поэтому в процессе опреснения интенсивность накипеобразования существенно снижается,

появляется возможность повышения выхода опресненной воды, а также МТК.

Цель статьи – краткий анализ технологических решений и результатов исследований в области предотвращения накипеобразования методом нанофильтрации (NF) с оценкой его перспектив применительно к опреснению воды Каспийского моря.

Следует отметить, что NF-технология, занимающая промежуточное положение между ультрафильтрацией (UF) и обратным осмосом (RO) изначально была разработана, главным образом, с целью очистки поверхностных и подземных вод для получения питьевой воды, а также очистки сточных вод [5]. Лишь позже возник новый подход к использованию NF-процесса для снижения осадкообразования в системах опреснения минерализованных вод.

Нами были рассмотрены работы, выполненные на воде Персидского залива с содержанием 42-47 г/л, что в несколько раз выше содержания воды Каспийского моря: 12-13 г/л. Каспийская вода существенно отличается от воды залива и более высокой долей компонентов накипеобразующих ионов, т.е. обладает более высоким потенциалом сульфатного накипеобразования ПСН (таблица 1). Поэтому положительные результаты, приведенные в цитируемых работах, не могут быть экстраполированы на системы опреснения Каспийского моря. Только после проведения специальных исследований может быть сделан вывод о приемлемости и условиях использования нанофильтрационной предочистки в системах опреснения каспийской воды.

Таблица 1.

Доли накипеобразующих компонентов океанской воды и воды Каспийского моря (относительно TDS)

Компоненты	Океан		Персидский Залив		Каспийское море	
	мг/л	%	мг/л	%	мг/л	%
$\text{Ca}^{2+}$	404	1,2	600	1,3	320	2,5
$\text{Mg}^{2+}$	1320	3,8	1550	3,3	729	5,7
$\text{SO}_4^{2-}$	2938	8,4	3440	7,3	3264	25,6
$\text{HCO}_3^-$	165	0,5	128	0,3	213	1,7
TDS	35000	-	47367	-	12750	-

Были исследованы две схемы обработки воды Каспийского моря с использованием NF для предварительного удаления основной части накипеобразующих ионов: с обратноосмотическим и термическим опреснением. Исследования по стадиям NF и RO были выполнены методом вычислительного эксперимента с использованием компьютерной программы ROSA (Reverse Osmosis Systems Analysis).

При нанофильтрационной обработке каспийской воды из условия предотвращения выпадения на мембранах осадков сульфата кальция максимально допустимое значения выхода пермеата составляет ~ 55%, чему соответствует пермеат с pH=6,56 и ионным составом, (мг/л):  $\text{Na}^+$  - 1360;

$\text{Mg}^{2+}$  - 89,4;  $\text{Ca}^{2+}$  - 46,7;  $\text{HCO}_3^-$  - 58,5;  $\text{Cl}^-$  - 2367;  $\text{SO}_4^{2-}$  - 48,0; TDS – 3973. При этом давление исходной воды составляет – 14,7 бар, концентрата – 12,7 бар, а удельный расход электроэнергии – 0,94 кВт·ч/м³.

В дальнейших исследованиях изучался накипеобразующий потенциал этого пермеата как при питании RO, так и MSF. Расчетные исследования по RO проводились по той же программе ROSA, причем предусматривалось использование мембран BW-300-440i, поскольку пермеатом NF является солоноватая вода с содержанием около 4 г/л (таблица 5). Исследовалась работа RO установки производительностью 25 м³/ч, оснащенной



24 мембранами указанного типа. В вычислительных экспериментах варьировалась величина выхода опресненной воды RO ( $\beta_{RO}$ ) в пределах 80-95% при  $\beta_{NF}=55\%$  и оценивались потенциалы образования карбонатного и сульфатного отложений (таблица 2).

Как видно из полученных данных питание RO установки пермеатом NF полностью решает проблему кальциевых отложений во всем диапазоне

$\beta_{RO}$  : насыщение концентрата RO по сульфату кальция составляет несколько единиц. Очевидно оптимальная величина  $\beta_{RO}$  должна определяться из условия  $TDS_{конц} \leq 60$  г/л, выше которой заметно усиливается негативное влияние концентрационной поляризации [6]. Это условие достигается при  $\beta_{RO}=93\%$ .

Таблица 2

**Показатели RO – опреснения воды Каспийского моря с NF – предочисткой (TDS – 3973 мг/л)**

Показатели	$\beta_{RO}, \%$		
	85	90	95
TDS пермеата RO, мг/л	123	176	316
TDS концентрата RO, мг/л	25742	38129	73294
Ионная сила концентрата, моль/л	0,49	0,74	1,48
S@DSI	- 0,38	- 0,19	0,32
Насыщение концентрата по сульфату кальция, %	2,4	3,6	9,0
Давление питательной воды RO, бар	21,5	27,2	44,7
Удельный расход электроэнергии, кВт·час/м <sup>3</sup>	0,88	1,05	1,63

При исследовании системы высокотемпературного термического опреснения каспийской воды с предварительной нанофильтрационной обработкой для оценки ПСН пермеата и его концентратов использовался ручной метод расчета, основанный на сравнении произведения растворимости сульфата кальция (ПР) с произведением активности этой соли (ПА). За показатель отсутствия сульфатной накипи принималось условие ПА: ПР < 1.

Расчеты были выполнены для значений кратностей упаривания  $m = 1 \div 10$ . Полученные значения ПА сравнивались с  $ПР_{CaSO_4}$  и по результатам определялась величина максимальной температуры кипения. Значения ПР в области температур 100 – 200°C принимались из [21].

Согласно полученным данным величина  $ПР_{CaSO_4}$  пермеата NF каспийской воды составит  $6,3 \cdot 10^{-8}$  (моль/л)<sup>2</sup>, что вдвое меньше  $ПР_{CaSO_4}$  при температуре 200°C. С повышением кратности упаривания допустимая температура кипения снижается, но остается достаточно высокой: даже при 10-ти кратном упаривании достигает 158°C.

Эти данные однозначно свидетельствуют об эффективности нанофильтрации, как метода решения проблемы сульфатных отложений в системах термического опреснения воды Каспийского моря. Также как и ионообменная предочистка (Na-, Mg-Na – катионирование) нанофильтрация позволяет практически полностью снять ограничение на температуру испарения со всеми позитивными последствиями, которые подробно рассмотрены в монографии [2] и сводятся в основном к возможности:

- расширения температурного диапазона термической дистилляции и увеличения числа ступеней;
- организации процесса термической дистилляции в области температур более 100°C, когда исключается присос коррозионноагрессивных O<sub>2</sub> и CO<sub>2</sub> в составе атмосферного воздуха и создаются условия для изготовления испарителей из дешевых

углеродистых сталей, вместо нержавеющей сталей и сплавов;

- существенного повышения эффективности двухцелевых систем по выработке электрической энергии и пресной воды за счет организации более рациональной взаимосвязи опреснительной установки с регенеративной системой паровых турбин.

Результатом является существенное снижение затрат на опреснение: в зависимости от конкретных условий от 30 до 80%.

Сравнительный анализ технологий ионообменной и мембранной предочистки показывает, что у каждой из них есть свои преимущества и недостатки. Так, технология ионообменной предочистки в вариантах Na- и Mg-Na – катионирования каспийской воды прошла многолетнюю промышленную апробацию и доказала свою эффективность. Основное достоинство ионообменной технологии – возможность глубокого декальцинирования воды: до 3 – 5 мг-экв/л при Na-катионировании и 0,5-1 мг-экв/л при Mg-Na – катионировании. В случае же нанофильтрованного декальцинирования, как было показано выше, остаточное содержание кальция составит около 2,3 мг-экв/л. Вместе с тем, при нанофильтрации наряду с ионами кальция удаляются и сульфат – ионы. Их остаточное содержание составляет 1 мг-экв/л против 68 мг-экв/л в умягченной морской воде. К достоинствам нанофильтрации следует отнести компактность соответствующих установок, простоту эксплуатации, легкость автоматизации работы. Вместе с тем проблема громоздкости оборудования ионитных установок в современных условиях может быть решена средствами автоматизации процессов. Существенным недостатком NF-технологии является большой объем сбросного раствора – 45% от поступающего. Для ионообменной технологии этот показатель составляет 7– 10% [2].

Аналитический обзор литературных данных показывает, что нанофильтрация является эффективным методом предотвращения накипобразования

установок обратноосмотического и термического опреснения океанской воды (Персидский Залив). Главная особенность нанофильтрации заключается в одновременном удалении из опресняемой воды основной части накипеобразующих компонентов –  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ,  $\text{SO}_4^{2-}$ ,  $\text{HCO}_3^-$ .

Расчетами обосновано, что решение сульфатной проблемы методом предварительной нанофильтрации позволяет увеличить выход опресненной воды обратноосмотических установок на 35% и повысить температуру кипения в термических установках от 110°C до 130°C и более с отказом от антинакипинов. Обоснована возможность обеспечения безнакипного режима работы опреснительных установок и при питании их смесью пермеата нанофильтрации с океанской водой. Для нанофильтрации океанской воды максимальная величина конверсии составляет 64%. При более высоких значениях этого показателя наблюдается выпадение сульфата кальция на мембранах.

С использованием компьютерной программы «ROSA» исследованы технологические показатели процесса нанофильтрации воды Каспийского моря, характеризующегося более высоким потенциалом сульфатного накипеобразования по сравнению с океанской водой. На примере мембран NF-200-400i установлена ее высокая селективность по накипеобразующим компонентам, что позволяет успешно решать проблему сульфатной накипи. Для нанофильтрации каспийской воды максимальный выход пермеата составляет 55%. Увеличение этого показателя может быть достигнуто путем частичного

декальцинирования обрабатываемой воды, например, методом Mg-Na-катионирования. Питание обратноосмотической установки пермеатом нанофильтрации позволяет повысить выход опресненной воды до 92%, а в термических установках – полностью снять ограничения на температуру испарения и кратность упаривания, организовать высокотемпературное опреснение с низкими затратами.

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# ECONOMIC SCIENCES

## FINANCING OF THE SUSTAINABLE TOURISM INDUSTRY IN GEORGIA

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### Abstract

Tourism plays a vital role in generating revenue for Georgia. The influx of tourists contributes to various sectors of the economy, including accommodation, transportation, food and beverage services, entertainment, and retail. Furthermore, tourism can have a multiplier effect on the economy. When tourists spend money in Georgia, it circulates through the economy, generating income for various businesses and individuals. This increased economic activity leads to further job creation, stimulates investment, and contributes to the overall development of the country. Additionally, tourism also generates indirect revenue through associated sectors such as agriculture, construction, and manufacturing, which cater to the needs of tourists and the tourism industry. In the process of the research are used general scientific methods (systemic, structural, functional) and private methods (graphic and those of conformity). Official statistical data existing in the country as well as the data and evaluations officially published by international organizations are also used.

Based on the research done we would like to provide several recommendations aiming to provide a foundation for improving the financing of sustainable tourism in Georgia, enabling the region to develop and support tourism initiatives that are economically viable, socially inclusive, and environmentally responsible.

**Keywords:** Financing, Tourism, Financial innovations, Expenses, International organization, Sustainable tourism.

### Introduction

Tourism has a significant impact on the economy of Georgia, particularly in terms of generating revenue and employment opportunities. Over a million (1,094,400) foreign visitors visited Georgia in the second quarter of 2022. This is almost 200% more than in the same period last year. However, it still lags behind pre-pandemic levels, when Georgia received twice as many foreign visitors in 2019, at 2.2 million. Tourist spending in the second quarter of 2022 amounted to 2.3 billion GEL (about 850 million dollars). Tourism also has a significant impact on employment in Georgia. According to the Georgian National Tourism Administration, the tourism sector employed over 100,000 people in 2019, which is approximately 6% of the country's total workforce. In addition to the direct economic impact, tourism also has indirect benefits for Georgia's economy, including increased demand for goods and services such as food, transportation, and accommodations. This can stimulate growth in related sectors, such as agriculture and construction, leading to further economic benefits.

Based on the research done we would like to provide several recommendations aiming to provide a foundation for improving the financing of sustainable tourism in Georgia, enabling the region to develop and support tourism initiatives that are economically viable, socially inclusive, and environmentally responsible.

### Methodology

The purpose of the research is to identify the basic challenges of financing sustainable tourism development in Georgia and express a vision regarding the industry's prospects. This can be accomplished through various research activities, including:

1. Identifying financing challenges: The research aims to identify and analyze the key challenges that hinder the financing of sustainable tourism development in Georgia. This includes factors such as limited access to capital, inadequate financial mechanisms, lack of investor awareness, or the absence of dedicated funding sources for sustainable tourism projects.

2. Assessing current financing practices: The research seeks to evaluate the existing financing practices in the Georgian tourism industry, including the sources of funding, investment patterns, and the effectiveness of financial mechanisms. This assessment can help identify gaps, inefficiencies, and areas that require improvement.

3. Examining policy and regulatory frameworks: This includes analyzing government policies, legislation, and regulations related to tourism and sustainable development, as well as the presence of incentives or support programs for sustainable tourism initiatives.

4. Conducting stakeholder analysis: The research involves engaging with various stakeholders, such as government agencies, tourism industry professionals, financial institutions, investors, and sustainability experts. By studying the surveys, the research aims to gather perspectives, experiences, and insights from these stakeholders to better understand the challenges

and opportunities in financing sustainable tourism development.

5. Proposing recommendations and a vision: Based on the findings, the research aims to provide recommendations and propose a vision for the future of sustainable tourism financing in Georgia. This may involve suggesting innovative financing models to address the identified challenges and enhance the prospects of the industry.

The ultimate goal of the research is to contribute to the knowledge base surrounding sustainable tourism financing in Georgia and offer insights that can inform stakeholders in developing strategies and actions to overcome financing challenges and foster the sustainable growth of the tourism industry.

#### **Tourism Development Financing directions**

Tourism has a significant impact on the economy of Georgia, particularly in terms of generating revenue and employment opportunities. Over a million (1,094,400) foreign visitors visited Georgia in the second quarter of 2022. This is almost 200% more than in the same period last year. However, it still lags behind pre-pandemic levels, when Georgia received twice as many foreign visitors in 2019, at 2.2 million. Tourist spending in the second quarter of 2022 amounted to 2.3 billion GEL (about 850 million dollars). Tourism also has a significant impact on employment and stability of national currency in Georgia (Dilanchiev, Taktakishvili, 2021). According to the Georgian National Tourism Administration, the tourism sector employed over 100,000 people in 2019, which is approximately 6% of the country's total workforce) (Geostat.ge 2022).

According to a report by the World Economy and Tourism Council (WTTC), 483,000 jobs were created in Georgia's tourism sector before the covid 19 pandemic event, also known as a Coronomic Crisis (Papava, Charaia, 2020; Charaia, Lashkhi, 2020). Georgia ranked 78th in the world in terms of the share of direct employment in tourism and travel. In 2018, the share of employees in the tourism and related industries was 7.8%. Georgia ranked 29th among 145 countries of the world (WTTC . 2021).

In addition to the direct economic impact, tourism also has indirect benefits for Georgia's economy, including increased demand for goods and services such as food, transportation, and accommodations. This can stimulate growth in related sectors, such as agriculture and construction, leading to further economic benefits (Meladze et al., 2022).

Based on all the mentioned, it is clear that financing sustainable tourism development in Georgia is important because it can help to promote economic growth, create jobs, and generate income for local communities, while also preserving the country's rich cultural heritage (Kadagidze, Piranashvili, 2018). a great support in this process can be fintech technologies, especially to easy the support for smaller businesses

(Lashkhi et al, 2022). By investing in sustainable tourism initiatives, we can help to ensure that the benefits of tourism are shared more equitably, and that the negative impacts of tourism are minimized.

For the development of sustainable tourism, the participation of representatives of the state, international or private business in this process is of great importance. There are many different actors who are interested in financing sustainable tourism development in Georgia. These could include:

1. The Georgian government - The government may be interested in financing sustainable cultural tourism development in order to promote economic growth, create jobs, and boost the country's tourism sector.

2. International organizations - International organizations such as the United Nations Development Programme (UNDP), the World Bank, and the European Union may be interested in financing sustainable cultural tourism development in Georgia as part of their efforts to promote sustainable development and reduce poverty.

3. Private investors - Private investors may be interested in financing sustainable cultural tourism development in Georgia if they believe that it offers a good return on investment and has the potential to generate significant social and environmental benefits.

4. Non-governmental organizations (NGOs) - NGOs may be interested in financing sustainable cultural tourism development in Georgia as part of their efforts to promote sustainable development, protect cultural heritage, and support local communities.

Over the past decade, the number of tourists in Georgia has been increasing, especially this trend was noticeable in 2009-2013, when their number increased by 300% - from 1.5 million to 5.4 million people. At the same time, total tourism revenue increased from \$475 million to \$1.8 billion over the same period, more than 20 times the global average (GNTA, Georgian tourism in figures, 2015). This circumstance prompted the Ministry of Economy and Sustainable Development of Georgia, the National Tourism Administration to develop "Tourism Development Strategy in Georgia - 2025" (Ministry of Economy and Sustainable Development & GNTA 2015), with the financial and technical support of the World Bank. (The World Bank, 2014). It is known, that for many years the country had a vision, but there was not yet a clear and well-thought-out strategy that could be implemented and monitored (The World Bank, 2015).

Tourism Development Strategy in Georgia included the development of infrastructure, the promotion of the country, the improvement of the quality of service and the diversification of the tourism product. Based on this plan, in 2018, the Government of Georgia developed a marketing, branding and promotion strategy to communicate Georgia brand positioning, visual and verbal identity guidelines, and advertising objectives and target high-growth, high-spending source markets (The World Bank, 2020; Abashidze, 2023).

Table 1.

**Distribution of monthly average expenditure spent by inbound visitors of age 15 and older by expenditure categories (Million GEL)**

Year	Accommodation	Holiday, leisure, recreation, cultural and sporting activities	Shopping	Local transport	Foods and drinks	Other expenditure	Total expenditure
2015	66.9	56.4	94.2	22.3	81.5	16.8	<b>338.2</b>
2016	85.6	66.7	86.0	26.6	87.6	12.4	<b>365.0</b>
2017	110.6	88.8	101.1	40.3	123.0	16.3	<b>480.1</b>
2018	154.5	119.6	134.3	46.7	188.9	15.7	<b>659.8</b>
2019	168.4	127.4	150.0	53.7	195.3	14.4	<b>709.3</b>
2022	279.3	97.0	139.1	71.6	299.3	14.3	<b>900.7</b>

**Source:** GEOSTAT, 2022

The table above, which presents the distribution of average monthly expenses incurred during the visits of non-resident guests to Georgia, by category of expenses, in 2015-2022, shows a significant increase in expenses over the period under review.

Georgia's tourism development strategy emphasizes that the country is focused on maximizing the tourism industry's profits (Figures in Tourism, 2016, p.3) and from a financial point of view, it is important to ensure the growth of costs, since an increase in the amount of money spent by foreign visitors in Georgia has a significant impact on the balance of payments (Ernazarov, 2018).

Georgia received 3.5 billion US dollars from international tourist visits in 2022, this indicator increased by 182.5 percent compared to 2021, and the income exceeded 107.6 percent compared to 2019. In 2022, 5,426,903 international travelers visited the country – 1885 percent more than in 2021 - while the number of international tourist visits reached 3,652,949 (+131.6% y/y) (GEOSTAT 2022).

Here is some information on the government's budget allocation for tourism development in Georgia over the past five years:

- In 2021, the Georgian government allocated GEL 53.5 million (approximately USD 16.5 million) for the development of the country's tourism sector.
- In 2020, the government allocated GEL 57.4 million (approximately USD 17.8 million) for tourism development.
- In 2019, the government allocated GEL 38.5 million (approximately USD 12 million) for tourism development projects.
- In 2018, the government allocated GEL 49.3 million (approximately USD 15.3 million) for tourism development.

- In 2017, the government allocated GEL 48.3 million (approximately USD 15 million) for tourism development projects (Figures in Tourism 2016, 2017, 2018, 2019).

It's worth noting that these figures represent the total amount allocated for tourism development, which includes not only sustainable cultural tourism development, but also other areas of tourism such as infrastructure development and marketing.

An analysis of the funds spent by the Georgian government in the field of tourism shows that these expenditures are highly variable, depending on different circumstances. The biggest drop in tourism spending came in 2020, when the pandemic all but shut out almost all sectors of the local economy (Charaia et al., 2021; Charaia et al., 2022) and of course foreign tourists and the tourism industry became heavily dependent on domestic travelers and government subsidies. During this period, a large number of subsidies were allocated from the state budget to support the tourism business. In addition, even after the pandemic, the state continues to allocate large amounts of funds. In particular, the amount spent in the budget increased by 99% in 2022, and an increase of another 45% is planned for 2023. It should be noted here that according to the real indicators of the first three quarters of 2022, insufficient funds have been allocated for the development of tourism, which is only 68% of the planned budget (Figure 1. Government Spending on Tourism Support (Million, GEL)).

At the same time, we will see a better picture in terms of spending, if we analyze the share of spending on tourism in GDP, we will see that these figures are increasing, with the only exception being the pandemic (Figure 2. Share of Tourism in GDP and Share of Tourism Spending in the Total Budget).

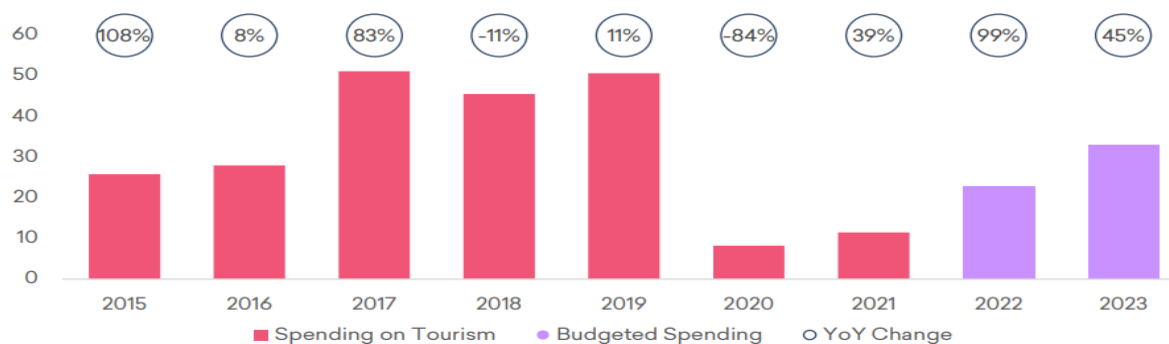


Figure 1. Government Spending on Tourism Support (Million, GEL)<sup>1</sup>

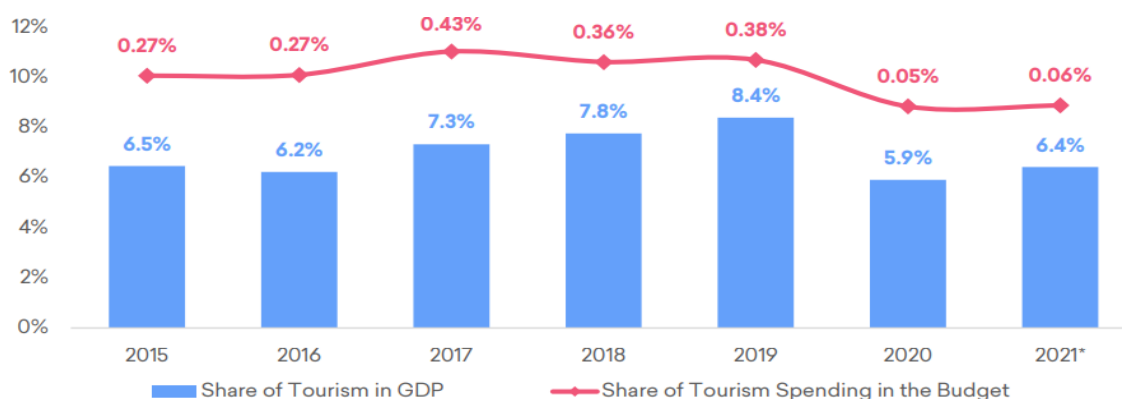


Figure 2. Share of Tourism in GDP and Share of Tourism Spending in the Total Budget<sup>2</sup>

In addition to government funding, there have been several initiatives aimed at financing sustainable tourism development in Georgia. For example, the European Union has provided funding for a number of tourism-related projects in the country, including initiatives aimed at promoting sustainable tourism and preserving cultural heritage. Similarly, the United Nations Development Programme (UNDP) has worked with local communities in Georgia to develop sustainable tourism initiatives that support economic development and cultural preservation.

international organizations such as the World Bank and the European Bank for Reconstruction and Development (EBRD) and others have provided financing for tourism-related projects in Georgia. For example, the EBRD has provided financing for the development of ski resorts in Georgia, which have the potential to support sustainable tourism development. Here are some notable dates and events related to financing sustainable cultural tourism in Georgia over the past 5 years:

- In 2016, the World Bank provided a \$10 million loan to Georgia to support the development of its tourism sector, including efforts to promote sustainable tourism practices and preserve cultural heritage sites.
- In 2017, the European Bank for Reconstruction and Development (EBRD) provided a €1.5 million loan to fund the renovation of the historic Rabati Castle in the southern Georgian city of Akhaltsikhe, with the aim of boosting tourism in the region.

- Also in 2018, the EBRD provided a €2 million loan to finance the construction of a new hotel in the town of Kazbegi, in the mountainous northern region of Georgia, with the aim of promoting sustainable tourism in the area.

- In 2019, the United Nations Development Programme (UNDP) launched a new project in Georgia called "Improving Rural Development and Livelihoods through Sustainable Tourism," which aims to support the development of sustainable and inclusive tourism in rural areas, with a focus on preserving cultural heritage and promoting local economic growth.

- In 2020, the Georgian government launched a new program called "Spend Your Summer in Georgia," which provides subsidies and tax incentives to local tour operators and hotels to encourage domestic tourism and support the country's tourism industry amid the COVID-19 pandemic.

These are just a few examples, but they give a sense of the ongoing efforts to finance sustainable cultural tourism development in Georgia in recent years.

Finally, private sector investment is also playing an increasingly important role in financing sustainable tourism development in Georgia, particularly in the areas of hospitality and tourism infrastructure development. For example, in 2021, a Turkish hospitality company announced plans to invest USD 100 million in the development of a sustainable tourism complex in Georgia's Black Sea region.

<sup>1</sup> Source: Ministry of Finance (MoF), Georgian National Tourism Administration (GNTA). (2020).

<sup>2</sup> Source: Ministry of Finance (MoF), Georgian National Tourism Administration (GNTA). (2020).

### **Financial innovations to finance sustainable tourism development**

In order to strengthen the tourism industry and attract more high-yielding tourists to the country, it is of great importance to involve the fintech sector in financing companies involved in the tourism business. Currently, Georgia has been making efforts to leverage fintech in financing tourism (L.Kadagidze, M.Piranashvili, 2021). There are several financial innovations being used in Georgia to finance sustainable tourism development. Here are some examples:

**Crowdfunding:** Crowdfunding platforms such as Indiegogo (Mamalashvili. 2020) and Kickstarter (Kickstarter. 2023) have been used to fund sustainable tourism projects in Georgia. For example, in 2018, a Georgian company launched a crowdfunding campaign to raise funds for a sustainable tourism project in the Caucasus Mountains.

**1. Impact investing:** Impact investing involves investing in projects or companies that have a positive social or environmental impact. Impact investors may be interested in financing sustainable tourism development in Georgia if they believe that it will have a positive impact on local communities and the environment. Impact investing can provide long-term funding for sustainable tourism projects and may be a good fit for investors who are interested in both financial returns and social impact. In Georgia, there are several impact investments funds such as Caucasus Nature Fund, which invest in sustainable tourism projects that conserve natural and cultural heritage. The Caucasus Nature Fund will allocate €870,000 for the development of such kind of national parks in Georgia as are: Borjom-Kharagauli, Mtirala and Pshav-Khevsureti between 2019 and 2021 (CNF. 2019). In 2021 CNF secured a grant from the Wyss Foundation for up to \$ 11 million in support for five new Protected Areas to be created in Georgia. CNF In 2022 will support to open two new Protected Areas in Georgia – in Racha and Shida-Kartli – to be legally established by the end of 2022 (CNF. 2021). From the point of view of improving the use of digital technologies for the tourism potential of Georgia and its development, two CENN projects are very important: "Digital Caucasus" and "Development of the Social Enterprise Ecosystem for Green Growth (SEED)", which consider employment of people. in the sector and the promotion of existing entrepreneurs.(CENN.2020)

**2. Green bonds:** Green bonds are debt securities issued to finance projects that have a positive environmental impact. They can be used to finance sustainable tourism projects, such as the construction of eco-friendly hotels, conservation projects, or renewable energy infrastructure. Green bonds have gained popularity in recent years and can provide an attractive source of funding for sustainable tourism projects in Georgia. So, Green Bonds: Green bonds are fixed-income financial instruments used to finance projects that have positive environmental or climate benefits. In 2019, the Georgian Energy Development Fund issued the country's first green bond to finance sustainable tourism projects (IMF,2022). IFC anchored the coun-

try's first \$20 million green bond under \$80 million issuance. To date, this is the largest placement of domestic corporate bonds in Georgia. In addition, the Asian Development Bank (ADB) has invested \$4 million in green bonds (NBG. 2023).

**3. Microfinance:** Microfinance institutions provide small loans to entrepreneurs and small businesses, including those in the tourism industry. In Georgia, microfinance institutions such as Crystal Fund and FINCA Georgia provide loans to tourism-related businesses to support sustainable tourism development (The Word bank. 2019).

**4. Alternative Lending:** Fintech companies have introduced alternative lending models, such as peer-to-peer lending, which can connect borrowers in the tourism sector with individual lenders or investors. This provides an alternative source of financing for tourism businesses, particularly SMEs, that may face challenges accessing traditional bank loans.

**5. TBC Bank:** TBC Bank, one of the leading banks in Georgia, has a strong focus on fintech and has been working closely with businesses in the tourism sector. They provide various financial services and solutions tailored to the needs of tourism companies, including payment processing, lending, and digital banking services. TBC Company created "Space" the first fully digital bank both in Georgia and in the region . Space is a technologically sophisticated and large-scale next-generation digital bank that is on par with fintech companies firmly established in the international arena.

Implementing fintech in financing tourism in Georgia can bring several benefits to the industry and the overall sustainable development of the region. Here are some key benefits: Increased access to financing: Fintech solutions can provide greater access to financing for tourism businesses, entrepreneurs, and local communities. By leveraging digital platforms and alternative lending models, fintech can connect potential investors with tourism projects, overcoming traditional barriers to entry and increasing the availability of funds for sustainable tourism initiatives; Diversification of funding sources: Fintech services can diversify the sources of funding for sustainable tourism in Georgia. Crowdfunding platforms, peer-to-peer lending, and other fintech innovations can attract a broader range of investors, including individual backers and impact investors interested in supporting sustainable tourism. This reduces reliance on traditional banking institutions and broadens the funding landscape (Tsutskiridze, Charaia, 2023); Enhanced efficiency and transparency: Fintech enables streamlined financial processes and transparent transactions.

### **Conclusion and recommendation**

In conclusion, financing sustainable tourism development in Georgia is not only an investment in the country's economic growth but also a commitment to preserving its unique natural and cultural heritage. By channeling financial resources towards sustainable initiatives, Georgia can attract responsible travelers, protect its environment, and foster the socio-economic well-being of local communities.

Sustainable tourism development in Georgia requires a collaborative effort from public and private sectors, as well as local communities. By leveraging innovative financing mechanisms and partnerships, such as public-private partnerships and impact investments, Georgia can unlock the potential for sustainable growth in its tourism sector while preserving its pristine landscapes and cultural traditions.

To attract financing for sustainable tourism in Georgia, it is crucial to emphasize the country's rich biodiversity, stunning landscapes, and diverse cultural heritage. By highlighting the value proposition and unique selling points of sustainable tourism in Georgia, such as eco-adventure tourism, agrotourism, and cultural experiences, investors can be incentivized to support projects that align with sustainable development goals.

Financial institutions and development banks can play a significant role in providing access to capital for sustainable tourism projects in Georgia. By integrating environmental and social risk assessments into their investment decisions, these institutions can support the development of environmentally friendly and socially responsible tourism initiatives.

The Georgian government has a pivotal role to play in facilitating the financing of sustainable tourism. By creating favorable policy frameworks, providing incentives, and supporting capacity-building initiatives, the government can attract both domestic and international investments to drive sustainable tourism development in the country.

Lastly, fostering awareness and education, as well as supporting professional orientation (Kvirkvaia et al., 2018) about the benefits of sustainable tourism among stakeholders, including local communities, tourism operators, and tourists, is essential. By promoting responsible travel practices and sustainable tourism principles, Georgia can create a positive cycle of engagement and support for sustainable tourism initiatives.

These conclusions highlight the importance of financing sustainable tourism development in Georgia, the need for collaboration and innovation, and the role of different stakeholders, including the government and financial institutions, in achieving sustainable outcomes.

Based on the research done we would like to provide several recommendations which could improve the financing process for sustainable tourism development in Georgia:

1. Engage international development organizations and donors: Seek partnerships with international development organizations, multilateral agencies, and donors that prioritize sustainable tourism development. Collaborate with them to secure financial support, technical assistance, and capacity-building programs.

2. Encourage private sector investment: Foster private sector investment in sustainable tourism by offering incentives such as tax breaks, subsidies, or preferential access to funding. Create an attractive investment environment that promotes sustainable tourism initiatives and demonstrates potential returns on investment.

3. Develop public-private partnerships: Foster collaboration between the public and private sectors to leverage resources, expertise, and funding. Encourage joint ventures and public-private partnerships to finance sustainable tourism projects. This can include infrastructure development, eco-lodges, and community-based tourism enterprises.

4. Explore crowdfunding and crowdsourcing platforms: Utilize crowdfunding and crowdsourcing platforms to raise funds for specific sustainable tourism projects. This approach allows individuals and organizations passionate about sustainable tourism to contribute financially and support initiatives directly.

5. Promote impact investment: Encourage impact investors who prioritize both financial returns and positive social and environmental impacts to invest in sustainable tourism projects. Highlight the potential benefits of sustainable tourism, such as job creation, community development, and conservation efforts.

6. Enhance financial literacy and capacity: Provide training and capacity-building programs for tourism stakeholders, including local communities, entrepreneurs, and project managers, to improve their financial literacy. This will empower them to develop strong business plans, attract investors, and effectively manage financial resources.

7. Develop innovative financing models: Explore innovative financing models such as green bonds, social impact bonds, or revenue-sharing agreements to fund sustainable tourism projects. These models can attract investors interested in aligning their financial goals with sustainable development objectives.

8. Establish monitoring and reporting mechanisms: Develop systems to monitor the utilization of funds allocated to sustainable tourism projects and report on their impact. Regularly evaluate the effectiveness of the financing process and make necessary adjustments to improve efficiency and maximize results.

By implementing these recommendations, Georgia can enhance the financing process for sustainable tourism development, attract investments, and ensure the long-term viability of sustainable initiatives in the Caucasian region.

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## DEVELOPMENT OF ANTIMONOPOLY POLICY IN GEORGIA

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### Abstract

The development of an Antimonopoly Policy is important for the economic development of Georgia, as it helps to foster competition, protect consumer rights, and ensure fair business practices. Here are a few key reasons why the development of an Antimonopoly Policy is significant: promoting competition, protecting consumer rights, ensuring market efficiency, attracting investment and enhancing business environment. In conclusion, the development of an Antimonopoly Policy in Georgia is crucial for promoting competition, protecting consumer rights, ensuring market efficiency, attracting investment, and aligning with international standards. It provides a framework for fair business practices, stimulates economic development, and contributes to a healthy and competitive business environment.

In the process of the research are used general scientific methods (systemic, structural, functional) and private methods (graphic and those of conformity). Official statistical data existing in the country as well as the data and evaluations officially published by international organizations are also used.

**Keywords:** Competition law, Competition policy, Antitrust, Consumer protection, Economic regulation

### Introduction

In Georgia, as well as in most post-socialist countries, the period of transition to a market economy was characterized by great difficulties and resistance. Obviously, the process of modifying the country's economy on the rails of the market economy was not simple and easy to implement, bringing new, unfaced challenges (Anguridze et al., 2015; Papava, Charaia, 2021). Security problems and modern challenges of the Georgian national currency. Tbilisi State University.). However, it is also clear that in all those countries where this process started and did not achieve any significant success, the main reason for this success was the political will of each individual state, one of the most important elements of which is the realization of a consistent anti-monopoly policy, which in turn must

be harmonized. with the outside world and should not contradict the norms and international obligations established by international standards, at the same time considering major global and local events, supporting or destabilizing implementation of new approaches, for instance Covid-19 global pandemic (Charaia et al., 2021) and/or modern financial instruments bringing new reality to the market (Lashkhi et al., 2022).

Georgia, as a market-oriented country, from the very first year of gaining independence, set a goal to promote free trade and competition, providing equal opportunities for the business and professional (Kvirkvaia et al., 2018), to serve the system. The achievement of which would be impossible without the presence of effective levers to identify and prevent the elements hindering the market economy. The latter was

achievable precisely under the conditions of introduction of legal mechanisms of antimonopoly regulation and its practical implementation.

Accordingly, since 1992, the process of formation and formation of antimonopoly policy began in Georgia, which throughout this 30-year history was not always consistent, and in some cases it fell out of the general principles of antimonopoly regulation.

### Methodology

The antimonopoly policy of Georgia is examined in this article using a mixed-methods approach, which combines several research techniques. The study uses both primary and secondary data sources to present a thorough examination of Georgia's legal system, enforcement procedures, difficulties, and future possibilities for antimonopoly policy:

- Literature Review: The academic literature, policy papers, reports, and case studies pertaining to Georgia's antimonopoly policy were all carefully examined. The objectives of this stage were to lay a theoretical framework, identify significant research gaps, and comprehend the current issues and leading practices in the area of competition regulation.

- Legal Analysis: The Law on Competition and pertinent laws were thoroughly examined. The study looked at the legislation's contents and breadth, as well as the GNCA's authority and duties, merger control laws, and the definition of anticompetitive acts. This investigation shed light on the Georgian legal system's antimonopoly regulatory structure. Qualitative Data Collection: Semi-structured interviews were conducted with key stakeholders involved in antitrust regulation in Georgia. These interviews involved officials from the GNCA, representatives from relevant government agencies, legal experts, and industry professionals. The interviews aimed to gain insights into the practical implementation of antimonopoly policy, challenges faced by enforcement agencies, and potential areas for improvement.

- Case Studies: A few noteworthy antitrust investigations and enforcement actions in Georgia were the subject of in-depth case studies. These incidents were found after consulting with specialists and reviewing available public information. The case studies provide thorough illustrations of how antimonopoly policy was used, the difficulties faced, and the results obtained.

- Comparative study: To measure Georgia's antimonopoly policy against best practices in other countries, an international comparative study was conducted. This required researching the antitrust laws of nations with comparable economic situations or regulatory difficulties (Blair & Sokol, 2017). The comparison research helped to identify prospective policy changes and Georgia's improvement plans.

To give a thorough knowledge of Georgia's antimonopoly policy, the results from the qualitative interviews, data analysis, case studies, and comparative analysis were combined. The study findings form the foundation for this article's examination of obstacles and opportunities in the next parts.

### Stages of antimonopoly policy in Georgia

The purpose of the present study is to briefly present and evaluate the history of the formation and implementation of the antimonopoly policy in Georgia for more than three decades, which in turn can be divided into the following stages:

**First stage:** March 1992 - June 1996. This period begins with the adoption of the Resolution of the Cabinet of Ministers of the Republic of Georgia dated March 17, 1992 (No. 323) "On some measures of demonopolization of economic activity in the Republic of Georgia". Later, the Decree of the State Council of the Republic of Georgia dated October 16, 1992, "On Limitation of Monopolistic Activities and Development of Competition" was adopted, thus defining the organizational and legal bases for the development of competition, prevention, limitation and prevention of monopolistic activities and unfair competition. In the same period, the Decree of the President of Georgia dated March 1995 (No. 60) "On the protection of consumers from unfair advertising" was adopted, on the basis of which, in parallel with the implementation of the function of supporting entrepreneurship and the development of competition, as well as protecting the rights of consumers and supporting market needs (Abashidze, 2023), the function of controlling advertising activities was assigned to the Ministry of Economy of Georgia (Antimonopoly Main Department of Politics) (Chinchilakashvili, 2017).

It should also be noted here that the first stage of competition policy formation in Georgia coincided with the process of mass privatization, which is why great caution and prudence were needed in the implementation of this policy. Accordingly, if we judge from today's perspective, it is clear that the Competition Authority of Georgia (through the internal structural units of the central apparatus of the Ministry of Economy) more or less successfully coped with the tasks facing it (preventing new monopolistic formations and improving the business environment) during that period (Gakharia, Gelashvili 2014).

**Second stage:** July 1996 - June 2002. This period coincides with the process of formation of competition law in the country on the constitutional basis. This period is connected with the establishment of a more or less independent antimonopoly body in Georgia - the State Antimonopoly Service of Georgia under the Ministry of Economy of Georgia.

In the same period, Georgian laws "On monopoly activity and competition", "On protection of consumer rights" and "On advertising" were adopted, and dozens of normative acts based on these laws (only 21 sub-normative rules in the direction of consumer rights protection) were adopted.

In the same period, the State Antimonopoly Service of Georgia implemented a number of such activities, which significantly improved the competitive environment in individual commodity markets. The relevant commodity markets were intensively researched in order to assess the competitive environment in these markets and identify economic agents with dominant/monopoly status. In addition, important steps have been taken both in terms

of protection of consumer rights and regulation of advertising activities.

The fact that the activity performed by the State Antimonopoly Service of Georgia during this period was evaluated at a rather high level - in the 1999 report of the European Bank for Reconstruction and Development, which dealt with issues of competition policy in post-communist countries, is significant and significant.

**The third stage:** July 2002 - November 2004. This is the period when the mechanisms for the realization of a unified centralized antimonopoly policy begin to be divided (redistributed) in a narrow field, which was created a legal basis by the adoption of the Law of Georgia on "Independent Regulatory Bodies".

Simultaneously with the adoption of the aforementioned law, an amendment was made to the Law of Georgia "On Monopoly Activity and Competition", according to which the regulated sectors of the economy were removed from the area of supervision of the Antimonopoly Service. In addition, according to the amendments made to the Law of Georgia "On Statistics" on December 25, 2002, the State Antimonopoly Service of Georgia became unavailable to the primary data on the entrepreneurial activity of an economic agent (the volume of production of products), which is the basis of its activity (the study of commodity markets and the assessment of the competitive environment in these markets) became an obstacle.

Due to the mentioned and a number of other circumstances, the activity of the State Antimonopoly Service, in terms of competition protection, was carried out with certain delays during this period. Accordingly, the main focus was shifted to the areas of protection of consumer rights and regulation of advertising activities.

**Fourth stage:** December 2004 - August 2005. "This is the period when, without making any changes to the existing competition law in Georgia, a radical reduction in the number of the country's main competition body took place (01.12.2004), thus effectively rejecting (in the enforcement part, not at the legislative level), the competition policy implemented since 1992 and started intensive Work to establish competition law based on a new vision (the concept of letting the economy do its thing)". Accordingly, the State Antimonopoly Service of Georgia did not start studying new cases during this period (even though it had the right to do so at the legislative level) and in parallel with the work on the competition framework law based on the new vision, its activity was limited to involvement in ongoing (previously started and unfinished) court disputes. This period ends - with the liquidation of the State Antimonopoly Service of Georgia (August 19, 2005).

**The fifth stage:** September 2005 - June 2010. This period begins after the entry into force of the law of June 3, 2005 - "On Free Trade and Competition" (two months after its publication) and the liquidation of the State Antimonopoly Service of Georgia. A number of norms defined by the new competition framework law were not in line with the advanced international practice in this direction. (Gerber, 2018). It did not

include a significant part of the general provisions of competition and established only the regulations for the granting of consent determined by state aid and targeted state programs (procedures for agreement with the competition agency).

**Sixth stage:** July 2010 - December 2011. During this period, the state sub-departmental institution of the Ministry of Economic Development of Georgia - Free Trade and Competition Agency was liquidated, and in its place, a public law legal entity of the same name was created under the umbrella of the Government of Georgia. In accordance with the regulation approved by the government, the task of the Free Trade and Competition Agency of the Free Trade Association was defined - to develop a comprehensive strategy of competition policy and submit it to the Government of Georgia. Consequently, the agency's activities were limited to working on this strategy project, which is why it did not actually carry out any other activities during this entire period (Gal, 2017).

On the other hand, the comprehensive strategy of the competition policy prepared by the Free Trade and Competition Agency of the State of Georgia was adopted by the Decree of the Government of Georgia dated December 3, 2010 N1551, after which, in fact, the agency exhausted its powers (Gelashvili, 2016).

**Seventh stage:** January 2012 - March 2014.

During this period, without making any changes to the Competition Framework Law ("On Free Trade and Competition") (without reflecting the general principles of competition in it), the union (merger) of the State Competition Agency and the State Procurement Agencies of the State Procurement Agency took place mechanically from January 01, 2012.

Later, already on May 8, 2012, a new law was adopted - "On Free Trade and Competition" - which repealed the law of June 3, 2005 with the same name. This new framework competition law already contained the basic principles of competition and its individual provisions were more or less harmonized with the relevant norms of the European Union (Whish, 2015). However, the law as a whole was flawed, due to which it could not ensure full compliance with the principles of healthy competition. Accordingly, practical activities (in terms of assessing the competitive environment on the commodity markets and detecting and preventing anti-competitive actions), due to the lack of an appropriate legislative (sub-legal) base of the State Procurement Agency and the State Competition Agency, were not implemented during the entire seventh stage.

**The eighth stage:** April 2014 - October 2020. This period begins with the correction of existing gaps in the framework competition law (by making appropriate legislative amendments) and the establishment of an independent legal entity under public law - the Competition Agency of the National Competition Authority (established on April 14, 2014).

In addition, in parallel with the amendments made to the competition law, the competition agency developed and adopted relevant subordinate normative acts (5 orders of the chairman of the agency and 2

government resolutions), after their entry into force (October 1, 2014), the competition agency began intensive work in all areas of competition law enforcement. - In addition to the regulated sectors of the economy, competition legislation does not apply to business.

**The ninth stage:** November 2020 - March 2022. This period begins with the amendments made to the Law of Georgia "On Competition" (the main part entered into force on November 4, 2020). The package of amendments to the competition framework law was prepared within the framework of the EU-funded project "Support to the Georgian Competition Agency" and it was supposed to eliminate such issues in the law, which are considered problematic, such as - a) imperfection of the enforcement mechanisms provided for by the legislation in the process of studying the violation of the law, b) competition Inefficiency and malfunction of the scope of cooperation between the agency and the regulatory bodies of the regulated sphere of economy, c) Inefficiency of the regulatory norms of concentration, d) Incompleteness of procedural issues and deadlines of administrative proceedings carried out by the state government, the government of the autonomous republic and the local government body, e) In case of confirmation of the fact of unfair competition (Article 113 of the Law) failure to consider the sanction, f) replacement of the single-person management of the agency with collegial management and different mechanisms of law enforcement, terminology, etc. debugging and refinement.

In order to correct the mentioned shortcomings, as a result of the amendments made to the law, it can be said unequivocally that the competition framework law in force in the country, in the main, came into compliance (harmonized) with the advanced international practice, which in turn improved (increased) the quality of the work of the national competition agency of the country.

With the legislative changes adopted during this period, the competition legislation applies to the regulated sectors of the economy and its enforcement is carried out by the regulatory bodies of the relevant field.

In the same period, the first steps were taken in the country in terms of the formation of the anti-dumping policy and its implementation in practice. In particular, in order to protect local industry from dumping imports and/or possible damage - the law adopted in July 2020 - "On the introduction of anti-dumping measures in trade" came into effect on January 1, 2021, and to ensure its enforcement, the Department of Anti-Dumping Measures was established in the National Competition Agency of Georgia.

Also, from January 1, 2021, as part of the central apparatus of the National Competition Agency, the apparatus of the Dispute Review Board, which serves - the independent body created on the basis of the amendments made to the Law of Georgia "On State Procurement" in July 2020 - the State Procurement Dispute Review Board. On the other hand, 1) the council is an impartial and independent body created on

the basis of this law, whose goal is to resolve disputes quickly, effectively and fairly in accordance with the same law, 2) the council is separate from all bodies/persons, is independent in its activities and obeys only the law, 3) The regulation of the Council is approved by the resolution of the Government of Georgia, 4) The Chairman of the Council submits to the Parliament of Georgia, the Prime Minister of Georgia and the Agency no later than March 1 of each year, information on the activities of the Council for the past year. . . ." (7, Article 232). As we can see, on the one hand, the dispute review board in the field of state procurement is a separate, independent body, and on the other hand, the department that serves this board is a constituent part of the structure of the National Competition Agency of Georgia.

**The tenth stage:** the period from April 2022 to the present. This period begins - with the adoption of the Law of Georgia "On Protection of Consumer Rights" adopted by the Parliament of Georgia in 2022 (29.03.2022), which entered into force on April 1, 2022. Accordingly, in the territory of Georgia, in order to identify the facts of the prevention of violation of consumer rights and to promote the restoration of violated rights, and to respond appropriately, the National Competition Agency of Georgia started receiving and reviewing applications from November 1, 2022, which was preceded by the establishment of the consumer rights protection department in the central office of the agency and its corresponding Staffing.

As for the regulated sectors of the economy, the enforcement of the consumer rights protection policy, like the competition policy, is carried out by the regulatory bodies of the sector.

In the same period, the "TWINNING" project "Strengthening the capabilities of the Georgian Competition Agency" funded by the European Union was launched and is currently ongoing, within the framework of which, a team of professionals from the competition agencies of Lithuania and Austria provides consultations and technical support.

The purpose of this project is to strengthen the direction of competition and consumer protection policy within the framework of the association agreement, to improve the legal status of consumers in Georgia, to ensure a high level of protection, to strengthen the culture of behavior based on respect. Also, in accordance with EU best practices, strengthening the institutional and human resources capacity of GNCA.

Thus, since the end of March of last year, the process of performing the functions of protection of consumer rights, along with the important functions of antimonopoly regulation and anti-dumping measures, has become the most important part of the activity of the National Competition Agency.

**The eleventh stage:** the period after the establishment of the Competition Council. In our opinion, after the National Competition Agency of Georgia becomes a collegial management body, a new eleventh stage of competition policy enforcement will take place. The new edition of Article 171 of the Law

of Georgia "On Competition", which provides for the transition to a collegial model of agency management, entered into force on June 1, 2021. However, as a result of legislative changes implemented on December 22, 2022, this deadline was extended to January 1, 2025. Accordingly, from the moment of entry into force of this change, the manager/leader of the agency will not be the chairman (as it is today), but a five-member council elected by the parliament (through a public competition) for a five-year term. Also, from this period, the position of the executive director, who is appointed and dismissed by the Prime Minister of Georgia for a period of five years, according to the rule of open competition (Gakharia, Kenjebekishvili 2018). On the other hand, the transition to a collegial form of management of the National Competition Authority will further bring the competition policy implemented in the country closer to the European, advanced practice.

**Twelfth stage:** Enforcement of unified antimonopoly policy through the Competition Agency/Council in all sectors of the economy, including infrastructure sectors/regulated sectors. As we mentioned above (ninth period), after the amendments made to the Law of Georgia "On Competition" in 2020, it applies to all sectors, including the regulated sectors of the economy. However, its enforcement - in the regulated areas is carried out not through the National Competition Agency, centrally, but directly by the regulatory bodies/commissions of the field. Thus, after the changes of September 16, 2020, a complaint/statement regarding a possible violation of competition in the regulated sphere of the economy or a notification regarding concentration will be submitted to the regulatory bodies of the regulated sphere of the economy - a) National Bank of Georgia; b) Energy and Water Supply Regulatory Commission of Georgia and c) National Communications Commission of Georgia.

### Conclusions and recommendations

Obviously, the fact that the law of Georgia "on competition" applies to all areas of the economy is a step forward in the enforcement of competition law. However, the existing model of its enforcement in Georgia (3 independent regulatory bodies together with the National Competition Agency) does not represent advanced international, including European, practice. Therefore, after the country abandons the narrow sectoral practice of competition law enforcement and starts enforcing this policy in all sectors of the economy, directly through the National Competition Agency of Georgia - this will be the very beginning of a new stage that will be fully harmonized with advanced international and primarily European practice.

Based on all of the above, taking into account that the level of compliance of antimonopoly regulation and its executive institution with international standards is a determinant of the quality of market relations in the country, it can be said that the activities carried out in Georgia in terms of the implementation of competition legislation (starting from 1992), as a whole, depending

on the actual circumstances - in some cases was successful and in some cases unsuccessful.

Thus, if we evaluate the effectiveness of the antimonopoly/competition policy implemented in Georgia by years, we will see that it is most prominent in the initial and last periods. That is, from the first, second and eighth stages onwards - the practice of antimonopoly regulation can really be considered successful or at least partially successful.

Also, it can be safely said that after the institutional change planned from January 1, 2025, and finally, with the introduction of the implementation process of the unified antimonopoly policy in the country through one body (the National Competition Agency/Competition Council), the process of practical implementation of the antimonopoly policy in the country will be even more successful. What will make the business environment in Georgia even more secure and attractive.

Based on the research done we would like to provide several recommendations which could promote the antimonopoly activities farther in Georgia:

- Strengthen institutional independence by providing the Georgian National Competition Agency (GNCA) with sufficient funding, fiscal assistance, and legislative safeguards against political meddling (Kovzanadze, 2016). This will improve the agency's capacity to fairly and effectively enforce antitrust laws.

- Increase the GNCA's capacity for enforcement by providing it with more staff, technical equipment, and training programs. This will improve the GNCA's capacity for both enforcement and investigation. This will make it possible for the agency to handle more cases, carry out thorough market assessments, and successfully oppose anticompetitive behavior.

- Encourage the GNCA to proactively identify possible antitrust breaches and initiate investigations rather of depending primarily on complaints and reports in order to promote proactive investigations. This proactive strategy can aid in early detection and correction of anticompetitive activity, promoting a competitive market environment.

- Simplify Merger Control: Examine and update the merger control rules to make sure they properly identify mergers and acquisitions that could be anticompetitive. To prevent the establishment or strengthening of dominating market positions, mergers that have the potential to significantly reduce competition should be given more examination, especially in industries that are already highly concentrated. Boost Collaboration: Encourage methods for communication and collaboration between the GNCA and other pertinent government organizations, such as sector-specific regulators and consumer protection agencies. Through collaboration, anticompetitive activities in many economic sectors may be found and addressed.

- Implement public awareness campaigns to inform customers, companies, and the broader public about the value of competition and the negative repercussions of anticompetitive activity. Encourage a culture of competition that supports adherence to antitrust laws and creates a level playing field for all market players.



- International Cooperation: Look into possibilities for knowledge-sharing and international cooperation with antitrust authorities from other nations. Engage in bilateral or multilateral agreements to share best practices, knowledge, and experience in the area of competition regulation so that Georgia can gain insight from antitrust systems that have shown to be effective.

- Periodic Legislative Review: The Law on Competition and its regulations should be regularly reviewed to maintain their efficacy and applicability in tackling new antitrust issues (Fox, Crane, 2018). Keep up with global trends and change the legal system to reflect shifting market dynamics and technology improvements.

- Research and Data Collection: Encourage research and data gathering on matters relating to competition, such as market studies, sector-specific analysis, and evaluations of the economic effects of antitrust laws. The evidence-based ideas from this study can help Georgia's antimonopoly laws be continually improved.

- Collaboration with Civil Society: Encourage collaboration with academic institutions, professional groups, and civil society organizations to take use of their knowledge and advance public involvement in the creation and assessment of antimonopoly regulations. This involvement may help make the decision-making process more open and inclusive.

With the help of these suggestions, Georgia's antimonopoly policy will be able to better address its problems and create an atmosphere that encourages efficient markets and fair competition. By putting these recommendations into practice, the antitrust system can be made more effective and Georgia's economy can flourish sustainably.

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