The NISPAcee Journal of Public Administration and Policy, Vol. XIV, No. 2, Winter 2021/2022

10.2478/nispa-2021-0013

Inter-Regional Cooperation in Waste Management: New Trends in Moscow and the Moscow Region

Rosaline Georgevna Agiamoh[1]

Abstract

Globalization metrics rank Moscow as an *alpha global city* and the second most populous city in Europe. The city's rate of urbanization and population growth has increased over the past decade triggering outward urban sprawl and the attendant need for spatial development within the city's suburb – the *Moscow Region* municipality. This study focuses on internal factors and trends facilitating the need for inter-municipal waste management cooperation between the Moscow metropolis and the Moscow Region municipality. The paper reviews the policies driving this partnership and the inter-sectoral network facilitating waste management. Partnership effectiveness is evaluated via a multi-indicator approach, alongside qualitative thematic analysis comprising public surveys and the review of legal, administrative and operational documents. The findings reveal that cooperation between the municipalities is primarily driven by the convergence of socio-cultural factors, common territorial boundaries, the provision of public utilities and urban spatial constraints.

Keywords:
inter-municipal cooperation, municipal waste management, inter-sectoral networks, regionalism, urban spatial development

Metropolitan Cooperation

Fast paced globalization has focused modern research in inter-regional cooperation to dwell primarily on the context of transnational economic cooperation, such as the European Union (EU), the Association of South-East Asian Nations (ASEAN), the Economic Community of West African States (ECOWAS) and oth-

1 National Research University Higher School of Economics, Faculty of Social Science, Moscow, Russian Federation; Masaryk University, Faculty of Economics and Administration, Brno, Czech Republic.

Open Access. © 2021 Rosaline Georgevna Agiamoh, published by Sciendo.

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 License.

er multinational regions. Partnerships in such regions are driven by cross-border trade, migration and military alliances, yet they are also faced with equal factor challenges such as bureaucracy, fair competition, currency devaluation and strategic alliances (Song 2007; Abramov et al. 2016; Andronova 2016; Börzel and Risse 2016; Maier-Knapp 2019).

Metropolitan regions, however, are characterized by their administrative or legislative functions, economic dependencies and historic or cultural affiliations (Otgaar et al. 2008). A metropolis is often easily identified as the largest and busiest city in a country, and the metropolitan area could be defined as a *functional urban area* comprising a city with its commuting zone (Dijkstra et al. 2019).

It is usually hard to distinguish the borderlines between metropolitan areas and their surrounding territories or municipalities located along their periphery since over time these boundaries become interlinked through common infrastructure, facilities and economies of scale (Dallhammer et al. 2019). Metropolitan areas often transcend their boundaries by spill-over spatial development into neighbouring municipalities as a result of urban sprawl, thereby frequently facilitating the need for regional cooperation. Some metropolitan areas may further transform into a megalopolis (sometimes referred to as megapolis) forming a cluster of well networked urban centres, as in the case of Moscow City and the Moscow Region (Leksin and Porfiriev 2018). Inter-regional cooperation at this level is often classified as Inter-Municipal Cooperation (IMC) which is driven by specific economic or administrative motives and largely dependent on the stakeholders within these sectors (government, private sector or the citizenry).

IMC as defined by Agranoff and McGuire (2003) is a process involving cooperation between municipalities through legal agreements and co-production towards promoting regional service coordination and attaining economies of scale. IMC is therefore a process of collaboration across municipalities through which various stakeholders within a particular network cooperate towards specific outcomes and develop long-term formal institutions. IMC could be seen as a practical application of the "collaborative governance" theory, specifically in the case of waste management cooperation, which deals with multiple private-sector stakeholders. Ansell and Gash (2007) define collaborative governance as:

A governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets.

The key drivers for IMC as identified by Jackson et al. (2010) usually involve the need for attaining improved services and economies of scale for specific projects, access to funds and the drive for development within a specific catchment area. Municipalities may also require support in managing public infrastructure, such as waste management, water resources or public transportation, and may use IMC as a

platform to bolster publicity and improve public relations (Struk and Bakoš 2021). Ferreira (2018) also identifies that leadership, network management and common ground have a stronger influence on IMC, especially for smaller urban areas which utilize IMC as a public administration solution to achieve enhanced sectoral service delivery and economies of scale.

Municipal waste management is gradually becoming a key benchmark indicator for city sustainability assessment and institutional development (Cetrulo et al. 2020). This is primarily so because performance in the waste management sector is predicated on public policy, governance, technology and cooperation with the private sector and civil society. Moscow City and the Moscow Region have recently become embedded in the territorial management of their municipal waste, and this poses an interesting case to identify key factors driving the cooperation as well as opportunities to evaluate inter-agency collaboration.

Moscow's Municipal Waste Challenges

The United Nations estimates that by 2050 over 68 % of the world's population will live in urban areas.[2] This global trend signals an increase in housing demand, waste volume and additional pressure on public transportation. The Moscow megapolis is currently facing such challenges in the waste sector due to the increased urban population growth rate[3], the housing boom and the new consumerism culture. Waste volumes have increased drastically over the past decade, and this sudden surge in waste generation has led to landfill overfilling, as the post-soviet waste management infrastructure is simply unable to cater to such volumes. To address these issues Moscow aims to achieve a sustainable level of circular economy by 2025 and plans to create new technological centres for the processing, recycling and disposal of waste. However spatial development remains a huge challenge as the capital city has a population of 12.5 million[4] and covers an area of 2,561.5 square kilometres. For decades the city has successfully managed urban population growth and housing demands via a vertical city concept. Unfortunately waste management infrastructure has not followed a similar progressive trend. The country reached a phase of recycling stagnation after the breakdown of the Soviet Union and has only recently initiated remediation programmes at a national level. Much environmental damage has already been recorded, especially in the surrounding Moscow Region, where most of the open landfills and illegal dump sites are located. The capital city generates over 7 million tons of solid waste yearly, yet has only three incinerator plants with a collective capacity of around 1 million tons per year. The fact that most waste

2 United Nations: https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html

3 Russia's Urban Population Growth Rate https://data.worldbank.org/indicator/SP.URB.TOTL?locations=RU

4 www.macrotrends.net

remains unsorted further complicates the situation and for the most part is landfilled. This infrastructural deficit and lack of waste storage space in the capital has been the key driver for partnership with regional municipalities. For over a decade Moscow continuously evacuated waste to landfills in the neighbouring region for processing and landfilling. As waste volumes continue to rise with no attendant infrastructural development in the regions, landfills have become overfilled, reaching their maximum capacity (Bobylev et al. 2015; Agiamoh and Larionova 2020) and most often have turned into open waste dumps, thereby causing environmental degradation and public health concerns (Yablokov 2010; Phillips et al. 2014).

This situation has led to public outcry and heated environmental debates and protests in recent years which have placed the government of the Moscow Region in a tough public relations situation. Its legitimacy is being questioned, and its top-level government officials are being accused of corruption, complacency and promoting social inequality. Further complications in the waste management scheme have arisen with the decommissioning of landfills across the Moscow Region due to public discontent, thereby placing even more pressure on the Moscow municipality and inadvertently causing illegal waste dumping (Rogoża 2018).

It therefore comes as no surprise that the Moscow government has initiated inter-municipal cooperation agreements (IMC) with the Moscow Region to facilitate unfettered access for waste export to the region. This cooperation agreement also provides the fiscal plan for regional economic and infrastructural development to the tune of 38 billion rubles.[5] Job creation, improved healthcare and social amenities are all promises that have been made by the Moscow municipality. However, communities in the region believe such cooperation may not be in their best interest. Community protests continue to oppose the construction of new waste processing and incineration plants despite the promise of new and advanced technologies. In some cases communities have openly barricaded the entry of waste vehicles to their communities. The legitimacy theory and social contract theory are therefore applied in this study to highlight the different perspectives and standards of society. Since most Moscow residents have townhouses and cottages in the regions, it is interesting to understand how they view the recent policy reforms.

The survival of Moscow's current territorial waste scheme therefore depends largely on the support of the Moscow Region and the successful implementation of the current IMC. The theory of collective action is evaluated alongside the current IMC structure to determine if the proper institutionalization framework has been developed. It is believed that IMC could facilitate sustainable waste reforms. Also since the region holds key spatial leverage over Moscow City, it has the capability to initiate much needed local sustainability projects to ensure long-term investment in the region (e.g. "eco-industrial park" development). Alternatively a breakdown in IMC may trigger top-level strategic intervention, which may likely lead to further

5 Updated IMC Agreement: https://mosreg.ru/download/document/1027870

land-grab by the Moscow municipality. In this regard, the study tests whether the theory of collaborative advantage takes precedence over the theory of collaborative governance, considering the extant local challenges (Ansell and Gash 2007); Huxham and Vangen 2013).

The primary objective of the study is therefore to provide background information on inter-municipal cooperation in waste management within the Moscow megapolis and to determine the internal factors driving this partnership. The following research questions help guide the study:

- What type of cooperation exists between Moscow and the Moscow Region?
- What are the motives for this cooperation? Are there forms of bureaucratic coercion or select incentives to cooperate?
- What factors contribute to or obstruct this cooperation?
- Is the inter-regional cooperation successful?
- What is the impact of IMC on regional sustainable development?

To answer these questions, the study applies the theory of regionalism and institutionalized collective action (Feiock 2013) to provide insight on the motives (internal factors) behind the municipal cooperation and the effectiveness of such collective action within such large municipalities. The collaborative governance theory (Ansell and Gash 2007) also provides insight into the adaptability of New Public Governance within a predominantly bureaucratic system. The study reviews critical variables that encourage such state action and weighs their application towards fostering better participatory governance. A multiple-indicator approach is further applied in evaluating municipal cooperation outcomes (Barabashev et al. 2019). Drawing on the Institutional Collective Action (ICA) framework and the literature on bureaucratic structures, this study tests the hypothesis that decisions for administrative cooperation are interest-based and largely influenced by legitimization efforts.

Literature Review

IMC can take on different forms, based on the structure of the legal agreement and municipal functions (Swianiewicz and Teles 2019). The most common forms of IMC across Europe, as identified by Hulst and van Montfort (2012), are the quasi-regional governments, planning forums, service delivery organizations and service delivery agreements. Cooperation between municipalities could also be voluntary or compulsory, based on the state's governance structure (Bel and Warner 2015). For instance, joint corporation is a popular system of IMC in Europe (practiced in Norway, Finland and the Netherlands), while inter-local contracting (via administrative organizations) is the preferred partnership method in the USA (Warner and Hebdon 2001). Informal cooperation between municipalities is also more common in decentralized government systems (Sedmihradská 2018), while

formal cooperation is predominantly characteristic of the unitary governance system which may also have special associations and networks to facilitate the process of region-wide municipal cooperation, as is the practice in Russia. Post-soviet countries in Eastern Europe are often characterized by the multi-tier municipal system. Kolsut (2018) identifies four types of associations across Europe, based on their inter-connection with government tiers: The consolidated, bipolar, federative and fragmented model (see Table 1 for details); interestingly all tiers exist in Russia at the federal, regional and local government levels as non-governmental, non-political organizations which serve in an advisory capacity to the municipalities, and although the case for the fragmented model in local self-government (LSG) is still ongoing in Russia, many scholars believe this model may not be successful due to high operational costs and low expertise in managing such associations (Lyakisheva and Shlegel 2017; Shugrina 2016). Moscow as a capital city and centre of economic development holds federative status and various levels of autonomy, so the city participates in multiple associations and could be characterized under each of the aforementioned models. Nonetheless, decision-making powers are centralized at the federal level, and despite the various associations at the local and regional government levels their function is often limited to simply implementing national strategies and directives.[6] With the introduction of the "waste reform" most of the regulatory oversight has also shifted from the LSG to the federal government with most of the operations being handled directly by the regional operators that have been licensed to cover a specific zone.

Research examining the drivers of inter-municipal cooperation (IMC) has evolved over the past decade. Various approaches have been applied to understand the factors responsible for cooperation between municipalities, and until recently most of the literature has been focused on economic factors such as transaction costs, debt burden, tax burden, own fiscal revenues, and supra-local regulation limiting local taxation and debt (Bel and Costas 2006; Bae 2010; Bel et al. 2013; Soukopová and Klimovský 2016; Hakobyan 2019). Most studies have further identified economies-of-scale benefits for municipalities with smaller population sizes below ten thousand (Soukopová and Vaceková 2018; Hakobyan 2019) despite challenges of insufficient bids and monopoly pricing (Mohr et al. 2010).

Recent studies have also highlighted a number of important factors facilitating IMC, such as fiscal stress (Girard et al. 2009; Sundell et al. 2009; Zullo 2009; LeRoux and Pandey 2011), mode of service delivery (Brown et al. 2008), availability of professional managers (Hefetz and Warner 2012; Bakoš et al. 2021), asset specificity (Jung and Jeong 2013), reciprocal exchange (Shrestha and Feiock 2011) and geographic distance (Mazzalay 2011).

6 https://www.uclg.org/sites/default/files/report_localization_hlpf_2020.pdf

Table 1
Municipal Association Types (Comparative Case: Russian Federation)

Type	Description	Europe	Russian Federation
Consolidated model	A single joint network of municipalities usually at the national/federal level	Bulgaria; Czech Republic; Denmark; Finland; Greece; Latvia; Lithuania; Netherlands; Norway; Sweden	The United All-Russian Association of Municipalities [ARCM] established in 2006
Bipolar model	Exclusive associations for large urban cities or smaller rural towns	Bosnia and Herzegovina; Croatia; Estonia; Italy; Slovakia; Slovenia; Switzerland	The Union of Russian Cities (URC) established in 1991
Federative model	Comprises regional associations usually set up for municipalities within a special geographic or economic region	Austria; Belgium; Germany; Spain	• Association of Siberian and Far Eastern Cities (ASFEC) established in 1986
			• Council of Municipalities **Moscow Region** established 26 May 2006
			• Association Council of Municipalities of the Altai Territory established 28 June 2006
Fragmented model	Separate associations based on urban area development (metropolis, city, town, or regional affiliation)	France; Poland; United Kingdom	• Council of Municipalities **Moscow City** established 6 November 2002
			• The Barnaul agglomeration established 8 June 2012

Source: Author, adapted from Kolsut (2018) and Lyakisheva and Shlegel (2017)

Spatial development and population size has been noticed over time as a key factor in IMC (Bel and Mur 2009, Bel and Warner 2015; Matějová et al. 2017; Bel and Sebő 2021) with the majority of estimations showing that metropolitan cities have higher rates of cooperation. However, these studies have fallen short of explaining this situation or identifying any main variables for this occurrence. Most assumptions have simply attributed this to a case of proximity. Population density is also identified as a key driver of cooperation, especially for smaller municipalities seeking to reduce their recurring expenditures (Bel and Sebő 2021). This study, however, argues that spatial development is a key factor owing to a city's need for integrated development due to possible land constraints caused by overpopulation, urbanization and the need for outward expansion.

In reviewing available literature on the subject, one tends to notice a succinct pattern in the general hypothesis presented:

- Inter-municipal cooperation saves costs.
- Inter-municipal cooperation increases costs.
- There is no evident cost difference.
- Fiscal stress drives inter-municipal cooperation.
- Other factors drive inter-municipal cooperation.

Statistical test methods have been applied in most of the past studies to analyze the variation in municipal budgets over time, including costs for utility payments (gas, water, electricity and waste disposal). The method of theoretical analysis on the other hand is predominantly associated with qualitative factors such as polycentric spatial development (Olsson and Cars 2011), entrepreneurship (Ladygin 2011) and institutional collective action (Tavares and Feiock 2018).

The bulk of literature available on this topic covers the USA and some countries in Europe and South America. Literature on IMCs in Russia is relatively sparse and, for the most part, takes on a legal or local self-governance viewpoint (Mironova 2015), which is why this study is quite crucial, especially given the recent national waste management reforms and IMC agreements within the Moscow megapolis. Furthermore, studies specifically covering IMC in solid waste management are quite limited with recurring studies from just a few authors, such as Germa Bel, Jana Soukopová and Michal Struk. This study therefore provides a foundational overview on the subject with an analysis of key factors driving IMC in the Russian capital. Of particular importance to the study would be previous studies that have measured the effects of geographical distance (Mazzalay 2011) and municipal population size heterogeneity (Di Porto et al. 2013; Blaeschke 2014; Soukopová et al. 2014), especially considering recent studies which have shown that the theoretical foundations for service-sharing extends beyond economies of scale and transaction costs (Soukopová and Klimovský 2016; Sedmihradská 2018; Swianiewicz and Teles 2019; Aldag et al. 2020) because while budgetary reviews could provide a general outlook on municipal development, it does not adequately cover the whole picture

considering that public relations and legitimization efforts may actually influence budgetary alignment. Market monopoly could coerce figures to support political agendas, and this process also does not capture the implications for social welfare and community well-being.

Waste management has been a key aspect of concern for most countries as it often reflects the level of governance, infrastructural development and sustainability of a region. Three Sustainable Development Goals (SDGs) – 11, 12 and 14 – and eight targets are specifically focused on Solid Waste management:

Goal 11: Sustainable Cities & Communities

11.6.1: Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities (UN Habitat, UNSD, UNEP)

Goal 12: Responsible Consumption & Production

12.2.1: Material footprint, material footprint per capita, and material footprint per GDP (OECD, UNEP)

12.2.2: Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP (OECD, UNEP)

12.3.1: Global food loss and waste (FAO, UNEP)

12.4.1: Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement (UNEP)

12.4.2: (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment (Eurostat, OECD, UNEP, UNSD)

12.5.1: National recycling rate, tons of material recycled (Eurostat, OECD, UNEP, UNSD)

Goal 14: Life below Water

14.1.1: (a) Index of coastal eutrophication; and (b) plastic debris density (FAO, IMO, IOC-UNESCO, UNEP)

Despite the UN's effort to streamline data collection, waste statistics is still largely unavailable. Most municipalities find it difficult to measure the exact volume of waste generated, and the figures presented are often estimates based on assumptions. Methodologies are also not standardized or easily implemented across various regions. The implementation of SDGs also varies between economies. In Russia the SDGs are taken quite seriously as they provide a reference benchmarking

system; currently the SWM Projections towards Agenda 2030[7] can be summarized as follows:

- Increasing the share of recycled and neutralized waste in the total waste volume from 59.6 % in 2016 to 86 % by 2030;
- Increasing the share of Solid Municipal waste (SMW) intended for processing in the total volume of those removed from the places of concentration by almost 10 times, from 8.9 % in 2016 to 80 % by 2030;
- Introduction of innovative resource-saving, environmentally safe and efficient technologies based on a single technological platform;
- Sustainable use of renewable and sustainable management of non-renewable natural resources;
- Stimulating investment attraction in the introduction of resource-saving technologies, production of environmentally friendly products, research and development, etc.

Moscow and the Moscow Region have greatly improved their national metadata by standardizing SDG methodologies following the implementation of the *territorial waste management scheme*. Moscow has also adequately mapped the responsible departments for each SDG to evaluate the strong areas in terms of local action and easily identify weak points for increased focus in the short, medium and long term. The SDG is also leveraged to further improve policy outcomes in the city with three main strategies for the coming decade: *The 2010–35 Master Plan* to promote "balanced urban development"; *the Investment Strategy 2025* with the long-term objective to create a favourable investment climate in the city of Moscow; and *the Smart City 2030 Strategy* containing six main directions aligned to the SDGs, namely human and social capital, urban environment, urban economy, digital government, security and ecology, and digital mobility.[8] The core idea is to provide digital solutions that help advance urban sustainable development, in particular to boost local living standards and to ensure more cost-effective management and service-provision processes. Each of these strategies have some integrated programmes with the Moscow Region in anticipation of the spillover effects due to urban sprawl.

Going by the aforementioned, this study builds on the previous hypothesis that fiscal stress is a key driver for inter-municipal cooperation; however the study also presents deeper insight into the unique situation in Moscow – a global city with an annual growth rate of 0.8 %[9], surrounded by rapidly expanding satellite cities

7 https://sustainabledevelopment.un.org/content/documents/26962VNR_2020_Russia_Report_English.pdf

8 https://www.oecd-ilibrary.org/sites/ba1e177d-en/index.html?itemId=/content/component/ba1e177d-en

9 https://worldpopulationreview.com/world-cities/moscow-population

(Gorlov 2017) and dealing with infrastructural pressures, specifically spatial development, waste evacuation and disposal challenges (Agiamoh 2020). This study further supports the regionalism theory and Feiock's theory of institutional collective action, to which end the study also presents a snapshot of the horizontal and vertical cooperation between ministries due to IMC. The study also contributes to the theory of positive bureaucratic action (Adler and Borys 1996).

Methodology

The study is qualitative in nature and looks at the possibility that factors other than fiscal constraints drive inter-municipal cooperation, specifically in the case of the inter-regional cooperation between Moscow City and the Moscow Region. The study therefore hypothesizes that:

H1: Factors other than economics-of-scale drive inter-municipal cooperation.

H2: Coercive bureaucracy advances public waste management efficiency.

H3: Urban spatial constraints are a key driver for IMC in metropolitan regions.

In testing these ideas, the study reviews various public and legal documents connected with the cooperation between both regions. In discussing the hypothesis, an analysis of Kolsut's models is applied to help understand the networks between municipalities and real-life applications. A survey was also conducted for three weeks in December 2020 within an interesting part of Moscow City, the Nekrasovka District, which intertwines with Lyubertsy in the Moscow Region. Both districts are co-located and separated by streets less than 10 meters apart. According to Rosstat (https://rosstat.gov.ru/) the current population of Nekrasovka is 83,525 and Lyubertsy 205,295.

A total of 421 respondents participated in the survey, making it statistically significant at a 5% margin of error. Most responses were received between 5 and 23 December 2020. The survey comprised a total of six questions in Russian, presented using google forms, and was intended to highlight the level of public sensitization on IMC between the municipalities as well as understand the current challenges being faced in the region. The survey of both resident groups provides insight to the pressing challenges within their co-located municipalities and also highlights the socio-economic inequalities between both areas. The second wave of the COVID-19 pandemic affected the survey process since it imposed social distancing requirements and restrictions on movement. The survey was therefore conducted online and promoted for three weeks through popular community forums and social media chat rooms via platforms like Yandex Rayon, Telegram, Facebook and VKontakte.

Findings

The study findings have been sectioned according to the proposed hypotheses; this way each topic is discussed objectively and arguments are presented in a logical order. The section on *municipal convergence* reviews common characteristics and factors between Moscow City and the Moscow Region and positively supports the theory that factors other than economies-of-scale drive inter-municipal cooperation. The section on *positive bureaucracy* discusses the Russian public administration system, which is predominantly bureaucratic; it evaluates the effectiveness of the system within the context of waste management, and public opinion by way of a sample survey is also included in the findings. Finally the section on *spatial development* reviews the urbanization challenges in Moscow and presents a number of urban spatial constraints which have been key drivers for inter-municipal cooperation in Moscow.

The survey summary is presented in Box 1, a total of 421 respondents participated in the survey; 64.4 % were from Lyubertsy and 35.6 % were from Nekrasovka. The data analyzed shows that 86 % of the population is not aware of inter-municipal cooperation between municipalities. Those who are aware of some form of cooperation identify transport as a key area of partnership between the districts. A sense of social inequality is perceived as most respondents believe that better social services are offered in Moscow City, even though their neighbourhoods are literally juxtaposed beside each other. Most respondents highlighted key challenges being faced in their district as environmental issues, traffic congestion and poor administrative oversight. They also support the theory that coercive bureaucracy is needed and even demanded to ensure compliance at the local government level, especially with regards to the waste management sector and environmental issues.

Box 1
Survey Findings

Total Number of Respondents: 421

Nekrasovka, Moscow City: 64.4 % Lyubertsy, Moscow Region: 35.6 %

Age Group:

18–24: 3.8 % 25–34: 17.1 % 35–44: **38.5%**

45–54: 20 % 55–64: 12.8 % 65 & Older: 7.8 %

1. How would you classify the current state of economic or infrastructure development of your region?

Positive: 9.3 % **Average: 50.6%** Negative: 40.6 %

2. Rate the ecological situation in your area from 1 to 5 (where 1 is bad & 5 is excellent)

1: 45.8% 2: 26.4 % 3: 19.7 % 4: 6.4 % 5: 1.7 %

3. What environmental issues affect you the most?

Air Pollution: 78.1 % Water Pollution: 7.1 % Soil Pollution: 3.8 %

Noise Pollution: 6.4 % None: 4.5 %

4. In your opinion, where is the best social security of citizens observed?

Moscow City: 94.3 % Moscow Region: 0.5 % Same: 5.2 %

5. Are you aware of any programmes of inter-municipal cooperation between Nekrasovka and Lyubertsy, for example, in the field of transport services, health care or utilization of household waste?

Yes: 14 % **No: 86 %**

5b. If "YES", please indicate in which area:

Health: 18.6 % **Transport: 59.3 %** Waste Management: 18.6 %

Communal services: 0 % Arts & Culture: 3.4 %

6. In your opinion, what are the main challenges of your municipality (open question).

257 responses were received and top recurring challenges were identified as:

- Environmental degradation (air, water, soil and noise pollution)
- Transportation Challenges (traffic congestion & parking difficulties)
- Poor local and regional administration

Municipal convergence – Moscow City & Moscow Region

As in most European regions, IMC in Russia is driven by the need for regional economic growth and towards facilitating the joint administration of public infrastructure. Russia is divided into twelve economic regions based on territories sharing common characteristics of:

- Climatic, ecological, and geological conditions;
- Economic conditions and development potential;
- Social goals and living standards;
- Technical methods, and
- Customs oversight.

Federal Law No. 211 FZ[10] (adopted 21 December 1999) on the "general principles of organization and activities of economic interaction associations of the subjects of the Russian Federation" has been the bedrock of modern cooperation agreements (IMCs) between regions in the Russian Federation. The policies enacted serve as a guide for regional cooperation towards nascent economic goals. This law governs the creation and operation of economic associations, it further determines the development strategies, priorities and programmes of such associations. Over the years various amendments have been applied to the legislature and more recent policies drafted to facilitate sectoral growth between economic zones, such as the Presidential Decree No. 13[11] (dated 16 January 2017), which approves the fundamentals of State policy on regional development of the Russian Federation till 2025. Currently cooperation between Moscow City and the Moscow Region is facilitated by a number of separate agreements between agencies in various sectors, such as public health, transportation, waste management, etc. (see Table 3). IMC within the country is most popular amongst neighbouring municipalities via partnerships sought through the establishment of inter-municipal organizations, legal agreements and budgetary cooperation (Babun 2013; Sabyna 2016).

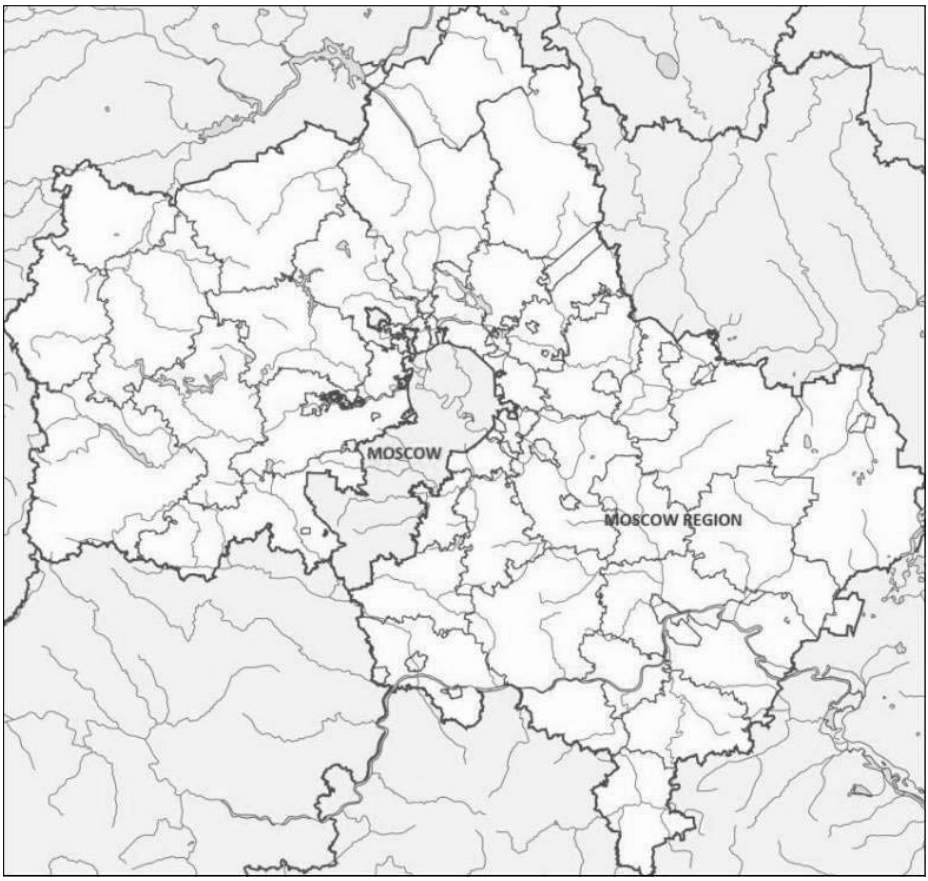
Moscow and the Moscow Region belong to the Central Economic Region and are both members of the Central Federal District. Both territories are bound by a number of factors listed above, key amongst which are geographical (territorial borders, ecology, language, culture and history), political and socio-economic factors (Buchakova 2010). As members of the Central Federal District and due to their geographic proximity and history, both territories are closely linked through administrative and legal oversight as such IMC agreements between both territories are quite common especially with regards to inter-regional public transportation services. Government regulation and legislature in both territories are also closely linked and often result in multi-level inter-agency networking. Figure 1 shows the

10 Federal Law No.211 FZ [in Russian]: http://ivo.garant.ru/#/document/57742816/paragraph/8994:0

11 Presidential Decree No.13 [in English]: https://cis-legislation.com/document.fwx?rgn=92911

geographical map of both territories and Table 2 highlights their comparative peculiarities at a glance.

Figure 1
Administrative Map of Moscow and the Moscow Region



Source: By Author adapted from Wikimedia Commons

Table 2
Comparative Administrative Profile – Moscow and Moscow Region

	Moscow	**Moscow Oblast**
Area	2,561.5 km^2	44,329 km^2
Population (2020)[1]	12,692,466	7,687,647
Unemployment Rate (2021)[2]	3.1%	3.9%
Executive Head	Mayor	Governor
Administrative Centre	Moscow	Moscow and Krasnogorsk
Municipal Districts (Okrug)	12	17
Municipalities (Intra-city)	146	50
Urban Settlements	125	69
Rural Districts (Suburbs)	21	99
Legislative Authority	Moscow City Duma	Moscow Regional Duma
GRP Per Capita in Rubles (2018)[3]	1,423,588.6	556,413.90
Average Monthly Salary in Rubles (Feb 2021)[4]	104,451	56,126.5
Active Waste Processing Plants (2020)[5]	0	10
Decommissioned Landfills (2013–2020) All landfills with old technologies have been closed.	0	39
Landfills being reconstructed & upgraded (2021)	0	11
WTE plants being built (2021)	0	4

Source: By Author, Data was collated from ROSSTAT, Min of Labour & Social Protection, State & Regional Duma Press Offices

[1] Rosstat population stats for 2020: https://www.gks.ru/storage/mediabank/PrPopul2020.xls.
[2] Rosstat unemployment rate for Ages 15+. The COVID 19 Pandemic has affected the rate of unemployment, which has increased significantly from 1.5 in 2019 to 3.5% in 2021 in Moscow and from 2.6 to 3.9 in Moscow oblast: https://gks.ru/bgd/free/b04_03/IssWWW.exe/Stg/d02/77.htm and https://mintrud.gov.ru/ministry/programms/inform/1.
[3] Rosstat GRP per capita income: http://www.gks.ru/free_doc/new_site/business/it/mon-sub-/1.4.1.xls.
[4] Rosstat Average monthly nominal accrued wages of employees for the full range of organizations in the constituent entities as of February 2021, rubles: https://rosstat.gov.ru/labor_market_employment_salaries.
[5] Report by the Moscow Oblast Minister of Housing & Communal Services: https://www.mosoblduma.ru/Press-centr/news/337068#tab-text.

If one were to classify both territories based on Kolsut's model these municipalities can be seen to have common networks within the Bipolar, Federative and Fragmented structures. Also based on the aforementioned municipal convergence review one can argue in favour of the hypothesis (H1) that "*factors other*

than economics-of-scale drive inter-municipal cooperation", specifically in the case of municipalities within the same regional or geographic ambit. There are of course significant disparities in per-capita income and living standards; nonetheless these differences also stem historically from the factual governance and administrative structure of both territories.

Positive Bureaucracy

In recent years bureaucracy has often been associated with mundane, rigid and outdated administrative processes, which in the opinion of most new schools of thought, such as New Public Management and New Public Governance, is undemocratic and does not provide flexibility for regional or sectoral development. However, it is this same structure of administration that has built nations and held up their economies for decades. Bureaucratic administration is still predominantly applied today in most military formations to ensure quick and direct hierarchical responses. Public administration in Russia is predominantly bureaucratic in nature, although much effort has gone into introducing citizen participation through more autonomy for local self-governance and e-governance platforms. Nonetheless most policy reforms in the past have resulted in increasing the weight of top-level influence on the system and strengthening the authority of the political and administrative elite (Barabashev and Prokofiev 2019). It is unclear how the "waste reform" will pan out, especially with the current administrative challenges being faced by regions with smaller populations. In 2019 regional operators had amassed a debt on non-payment of utility bills amounting to 33.7 billion rubles, and by April 2020 this amount had increased to 50 billion rubles.[12] This deficit hampers operations and the payment of other stakeholders, such as the contracted local collection companies. Without the inflow of funds reinvestment in the sector is not possible, causing additional pressures on the system and delays in achieving the national strategic goals for the "waste reform". Table 3 highlights the active inter-regional or IMC agreements between Moscow City and the Moscow Region. A review of these agreements reveals to a large extent the positive intervention of federal law on local government policies, mostly towards social welfare (e.g. transportation, health, utilities, waste disposal, etc,). However, inter-regional cooperation or inter-municipal partnerships are seldom publicized and a very small proportion of the population are even aware that such programmes exist, as exemplified in the survey conducted within the Nekrasovka and Lyubertsy Districts – out of 421 responses only 14 % of the respondents were aware of some inter-municipal cooperation, and this was mostly identified in the area of transportation (59.3 %), health (18.6 %), waste management (18.6 %) and arts & culture (3.4 %). A similar survey conducted by https://wciom.ru/ and https://www.rbc.ru/ across Russia in 2019 revealed that 50 % of respondents

12 https://reo.ru/

had no understanding of the "waste reform", and 26 % were hearing of it for the first time; only 24 % of respondents actually mentioned that they understood the context and scope of the waste reform.

Table 3

Inter-municipal Cooperation Agreements between Moscow & the Moscow Region

Start Date	Current Date	Legal Codes	Inter-regional Agreement Scope	Status
25/10/2016	31/12/2019	77-1109-3; 77-1109-2; 77-1109-1; 77-1109	Municipal Solid Waste Management (MSWM)	Active
30/12/2009	20/11/2019	77-506-2; 77-1065-2; 77-1172; 77-901-6, 77-1065-1; 638/32; 526-RP; 77-1065; 77-856-1; No. 77-856; 77-826; 77-645-1; 77-776; 77-506-1; 842/39; 394-RP; 77-645; 108/7; 1566/46; 816-RP; 77-506; 1213/60; 1197/56	Transport services	Active
05/07/2018	05/07/2018	77-1069	Regulation of electric power prices (Tariffs)	Active
01/06/2018	12/12/2018	No. 328-RP; 776-RP	Healthcare Services	Active
18/05/2018	18/05/2018	77-1038	Development of industrial potential of the Moscow Region	Active
16/04/2018	16/04/2018	93	Provision of clean drinking water in the Moscow Region	Active
15/02/2018	15/02/2018	31	Strategic development of the Moscow Region	Active
08/11/2017	08/11/2017	77-992	Trade, economy, science, technology, socio-cultural and socio-environmental cooperation	Active
29/06/2012	29/06/2012	333-RP	Licensing the retail sale of alcoholic beverages	Active
21/10/2010	28/12/2010	1200/61; 1083-PP; 1148/59; 923/50	Debt Repayments	Active

Source: Author; data was collated from the review of publicly available government legal documents on Kodeks.ru and consultant.ru

Within the past decade there have been over 39 active Legal IMC agreements between Moscow and the Moscow Region in the various sectors indicated above. A review of legal and administrative documents provided a snapshot of the cooperation focus areas between the municipalities. At the top of the list of recurring agreements between 2009 and 2019 are public utilities and services, such as transport services (59 %), solid waste management (10.3 %), debt management (10.3 %) and healthcare services (5.13 %). Transport services and municipal waste management have been an area of key strategic cooperation between Moscow City and the Moscow Region specifically since the majority of landfills and incineration plants are located in the Moscow Region.

The current IMC in Municipal Solid Waste (MSW) is based on an agreement signed between Moscow and the Moscow Region. According to officials, working meetings are held on a regular basis focusing on issues related to the establishment of new waste processing plants and capacity utilization within existing MSW management facilities. MSW flows between regions are regulated in accordance with the IMC agreement and the economic feasibility agreement. Currently, Federal Law No. 89-FZ of June 1998 on the "waste of production and consumption" has been adopted (latest amendments were included in the April 2020 amendments No. 117-FZ). Generally the law facilitates the selection of a regional operator in cities of federal significance, subject to the availability of a MSW action plan approved and agreed with the authorized federal executive body no later than January 2022. The waste reform has shifted powers from the local governments to the regional and federal governments. The local government or municipalities now function in a support capacity.

Pending the selection of a regional operator, five private waste management companies continue to serve as operators within the city. These major companies are currently licensed by long-term government contracts to manage municipal waste in specific districts. Some of these operators also have agreements with various municipalities in the Moscow Region as well as private processing companies also located in the Moscow Region. There is also an understanding according to the provisions of the Moscow Government Decree No. 734-PP[13] dated 06/18/2019 "On the implementation of measures for the separate collection (accumulation) of solid municipal waste in the city of Moscow", which provides for amending long-term government contracts by concluding appropriate supplementary agreements which will ensure the participation of city operating companies in organizing recycling systems (separate waste collection) in the city; hence the current operators will continue to function as sub-operators under the purview of the selected regional operator.

The government in July 2019 by Federal decree 225-FZ established the Russian Ecological Operator (https://reo.ru/), a hybrid organization that supports the government in achieving its strategies for waste sector reform by attracting invest-

13 https://www.mos.ru/authority/documents/doc/41553220/

ments, auditing the private sector waste operators and providing key consultations for the government.

So despite the seeming autonomy given to local regional governments and their inter-networks at various levels; as previously discussed using Kolsut's model, most laws and directives are primarily controlled by the federal governance system in a centralized manner. IMC could therefore be seen as a tool to facilitate collaborative governance and better networks between inter-government agencies; however, the true efficacy of regulations and legislation is still controlled via a central system of governance. In this light there are concerns about the regional operator monopolizing the waste market despite its proposed quasi-government structure, seeing as Moscow will still have an upper hand in dictating the location of landfills, tariffs, waste resource allotments and budgetary allocations.

The Moscow Region continually receives a daily influx of solid waste from the capital which greatly surpasses their operational capacity, leading to landfill overflow, indiscriminate dumping, environmental degradation and community protests (Rogoża 2018). To quell public grievances a total of thirty-nine (39) landfills were decommissioned between 2013 and 2020 (Figure 2 shows the 39th landfill, which was closed in late 2020).

Figure 2
Closure of 39th Landfill "Lesnaya" in Serpukhov, Moscow Region



Source: Ministry of Housing & Communal Services, Moscow Region[14]

14 Closure of last MSW landfill [in Russian]: https://mosreg.ru/sobytiya/novosti/news-submoscow/glavnoe-za-nedelyu-v-podmoskove-zakrytie-poslednego-poligona-tko-i-novyi-nerabochii-den

IMC agreements between both territories have also started focusing on long-term cooperation in Municipal Solid Waste Management (MSWM) involving infrastructure development, adoption of modern technologies and fiscal support. The Government of Moscow (Mayor Sergei Sobyanin) and the Government of the Moscow Region (Governor Andrey Vorobyov) recently signed an inter-municipal partnership agreement[15] (dated 18 February 2018) on trade, economic, scientific, technical, socio-cultural and socio-ecological cooperation. This cooperation is aimed at the strategic development of the Moscow Region, which includes access to clean drinking water, environmental safety, health centres and public transportation amongst others. In the sphere of municipal waste management, the regional agreement between Moscow and the Moscow Region under section 27 specifically provides for the:

- selection of technologies for the treatment of various types of waste, including municipal solid waste, currently in use or planned in the Moscow Region;
- interaction with investors on the implementation of investment projects for the creation of solid municipal waste management facilities in the Moscow Region;
- spatial distribution in the Moscow Region and the technical and economic characteristics planned for the use of facilities for the treatment and disposal of municipal solid waste, and the potential demand of the city of Moscow for production capacities (share of capacities) in relation to exit motorways.

The aforementioned cooperation points were developed on the backdrop of the initial MSWM cooperation agreement between the two regions, which was formalized on 25 October 2016. This agreement was subsequently amended on 24 December 2018 and supplements added twice in 2019 with a final edit published on 31 December 2019. The new supplements (No. 1 77-1109-1)[16] specifically include clauses on free access in transporting waste from Moscow City to the various landfills in the region, data management and budgetary allocation from Moscow City to the region for the establishment of new waste processing plants (Rub 13.5 Billion in 2019) and administrative operations (Rub 25 Billion in 2019–2021). The updated agreement also contains an addendum of the agreed volume of waste to be handled by the Moscow Region. The proposed volume of waste to be processed from 2019 to 2029 is estimated to range between 38.6 and 49.8 million tons. This agreement thereby facilitates the construction of four thermal waste processing plants in the Moscow Region, each having an operating capacity of 700,000 tons/yr. Two of these plants are expected to be in operation by October 2021.[17]

15 Moscow and Moscow Region cooperation agreement [in Russian]: http://docs.cntd.ru/document/555621736

16 Updated https://mosreg.ru/download/document/1027870

17 News Archive [in Russian]: https://news.solidwaste.ru/2019/09

So while institutional collective action dilemmas may occur in inter-agency collaboration, there seems to be a forward push through such challenges via direct hierarchical authoritative administration. For instance in the case of the partnership on territorial waste management, as discussed above, the governor of the Moscow Region works closely with the Mayor of Moscow to cater to any challenges, such as infrastructural inadequacies, local tariffs and budgetary constraints. This top-down approach has fast-tracked the various interlinked projects within the sector, and according to the recent RAEX Index[18] of the best regions in Russia by investment risk, the Moscow Region scored the highest index – ranking A1 as a top investment destination with "maximum potential and minimum risk".

In view of the aforementioned, one can positively argue in support of Adler and Borys' conceptual framework of coercive bureaucracy that formalized workflow processes, hierarchy and designated functions can produce more efficient results, especially in this case of handling the waste management stalemate between both regions and quelling public tension – hence (H2) "*Coercive bureaucracy advances public waste management efficiency*." This is not to say that enabling factors were totally discarded in the negotiation process, on the contrary the current waste territorial schemes of both Moscow City and the Moscow Region involved a great deal of inter-departmental and intra-agency cooperation as well as stakeholder relation, but the guiding administrative structure was primarily driven by a top-down approach to ensure that processes were fast-tracked, information was provided and the entire report submitted within a set timeframe. This process has in turn provided some measure of oversight in the waste sector and provided opportunities for private sector cooperation, especially with regards to financing, equipment purchase and business expansion.

Spatial Development

Cities grow, and they grow fast; Moscow's population between 2010 and 2020 increased by 8.6 %[19], and the city's rate of urbanization between 1991 and 2018 was 98.7 while the Moscow Region was at 81.6 for the same period.[20] In 2012 Moscow City expanded into the territory of the Moscow Region and gained around 1,500 square kilometers. This expansion created two new districts, Troitsky and Novomoskovsky, which according to the Moscow government[21] should increase in population five-fold by 2035, reaching 1.6 million. These new districts are being developed utilizing new planning principles that integrate people-friendly cityscapes.

18 https://raex-rr.com/country/region_risks/rating_of_regions_by_investment_risk

19 https://www.macrotrends.net/cities/22299/moscow/population

20 https://russia.duck.consulting/maps/103/2018

21 https://www.mos.ru/en/news/item/26435073/

A recent report by PWC[22] revealed intense transportation development within Moscow between 2011 and 2019, increasing the length of Moscow roads by 19 %. This trend endures as the Moscow government continues to expand the subway lines within the city and into the new districts and the surrounding Moscow Region. It is estimated that by 2022 the Moscow Metro will have reached a total length of 450 kilometers, merging 31 city districts.

The pressing need for efficient transportation within the city is driven by the rate of urbanization and population growth, which spills over to the suburbs. In 2019, Moscow set a new record in housing development, as 4.96 million square meters of new apartment space was built.[23] In comparison, over 4.6 million square meters of new apartment space was built in the Moscow Region[24], indicating the growing demand in the suburbs for more affordable housing. Housing in Moscow is characterized by vertical or upward growth, and the Moscow Region is quickly imbibing this trend. Villages and townships are being swallowed up by ever expanding mass housing projects, with an average of 17 floors inextricably changing the community socio-economic and cultural lifestyle.

Historically, Moscow has always been the centre of administration, and the Moscow Region infrastructure was primarily developed to support the Moscow City economy and infrastructure. Industries and waste disposal sites were also strategically positioned in green buffers outwards of the city in satellite settlements (Gorlov 2017). Federal Law No. 89 FZ on "production and consumption waste" prohibits the disposal of waste within the boundaries of settlements, thus making it impossible to position waste disposal facilities within the federal states. Moscow City therefore depends largely on landfills in the Moscow Region territory and has legal and space constraints in positioning new landfills within the territory of the city. Also, with growing urbanization and the expansion of the city (urban sprawl) towards satellite towns, the challenge of managing solid waste and the attendant landfills has become ever more pressing. Landfills are at over-capacity, causing illegal dumping, environmental and health hazards, thereby triggering public discontent in the Moscow Region and fueling numerous environmental protests in various communities demanding that such waste disposal sites be permanently shut-down (Agiamoh and Larionova 2020). Urban spatial constraints are therefore a key driver for inter-municipal cooperation (H3), specifically in metropolitan regions such as Moscow City in which the current legislature does not provide any room for accommodating waste processing facilities. It is therefore no surprise that the newly established waste management territorial scheme between both regions proposes the development of waste-to-energy plants in exchange for regional economic

22 https://www.pwc.ru/en/publications/collection/quality-of-living.pdf

23 https://www.svoboda.org/a/30374298.html

24 https://mosreg.ru/sobytiya/novosti/news-submoscow/okolo-8-mln-kvadratnykh-metrov-zhilya-sdadut-v-podmoskove-v-2019-godu

growth, increased employment and fiscal support for infrastructure in the Moscow Region. Development on this front also meets the United Nations SGDs on a number of levels, further boosting the city's sustainability index through the attainment of multiple goals.

Some communities, however, are still opposed to the inter-municipal cooperation, demanding that Moscow cater to its own waste, stating that the "Moscow Region is not a waste dump". There is also a general sense of mistrust as witnessed in the recent survey conducted during the study, which revealed that most respondents in the Moscow Region feel a sense of social inequality, especially in the provision of public and social welfare services to their districts, and they highlighted numerous negative impacts on their community due to increased urbanization caused by proximity to Moscow City – specifically new mass housing developments and commercial infrastructure, which according to most is gradually eroding their socio-cultural lifestyle, increasing effluent waste and air pollution, which continually damages their health and the surrounding environment.

Conclusions

Partnerships between cities have historically been witnessed as a propeller for regional economic growth. More recently such partnerships have been termed Inter-municipal Cooperation (IMC), connoting a contractual arrangement between municipalities. Little research is available on the topic in Russia, and this study provides background information which reveals that there are indeed different tiers of inter-municipal cooperation at both regional and local levels. The study focuses on the relationship within the Moscow Megalopolis being Moscow City and the surrounding Moscow Region. The inter-municipal networks between both territories are interlinked at the federal, state and local government levels; however, Moscow as a federal city is seen to have overriding powers in terms of legislature and fiscal policies.

The study analyzes the drivers for cooperation between the municipalities and positively supports the theory that factors other than economics-of-scale drive inter-municipal cooperation. The shortage of MSW processing and treatment facilities is a pressing challenge throughout the country; however, this is felt more acutely in Moscow and its surrounding region because of the population density and consumer lifestyle. Legislative restrictions also make it impossible for Moscow City to establish landfills or accommodate such processing industries due to current urban planning constraints and land-use positioning of residential complexes. This pressing challenge has therefore led to the urgent need for cooperation between the city and its immediate suburbia. According to current legislature and official reports this partnership seeks to promote joint projects in waste management under mutually beneficial terms, which would ultimately lead to economic growth for the Moscow

Region and a more sustainable infrastructure waste system for both territories. The study findings show that cooperation between municipalities within this specific sector of waste management is primarily driven by the convergence of socio-cultural factors, common territorial boundaries, provision of public utilities and more recently city spatial constraints. It would be interesting to see how this partnership develops and if indeed positive bureaucracy and Moscow's regional waste export legitimization efforts would be successful in the long-term. The study findings help our perspective on the research questions which are further answered below:

- *What type of cooperation exists between Moscow and the Moscow Region?* Intermunicipal cooperation is practiced between the two regions specifically in areas of transport, healthcare, waste management and debt repayment. However, Moscow's unique position as a federal state as well as the nation's capital affords it ample budgetary allocations and authority in policy development and economic partnership arrangements.
- *What are the motives for this cooperation? Are there forms of bureaucratic coercion or select incentives to cooperate?* The cooperation is primarily driven by Moscow's demographics and urban spatial constraints. Legislature prohibits the location of landfills or waste disposal and processing plants within the borders of the city. IMC in this case provides leverage for public relations and access (transportation of waste to landfills and waste processing plants located in the Moscow Region). As a federal state Moscow City exerts bureaucratic dominance over the Moscow Region, nonetheless the Moscow Region has also benefited from added economic incentives such as foreign direct investments, infrastructural development, improved rate of employment and standard of living.
- *What factors contribute to or obstruct this cooperation?* The new "waste reform" has provided increased opportunities for regional operators in the Moscow Region. Most of these companies are expanding their operations to include waste processing. The challenge of collective action by existing companies restricts new entrants into the sector, thereby limiting competition and dictating tariffs on the market. Also due to the sheer volume of investment required to operate in this sector the reform has made it difficult for SMEs to develop. Public dissent and environmental protests also pose huge public relation challenges for the government.
- *Is the inter-regional cooperation successful?* In summary, "Yes", the cooperation has allowed infrastructural development to proceed, it may not provide the immediate ideal solution that most communities are seeking but in the long term it would provide a much needed solution to the growing waste problem in the region.
- *What is the impact of IMC on regional sustainable development?* More attention is now given to the SDGs. The new WTE plants are being equipped with state-of-the-art filtration systems ensuring better air quality and reduced environmental

degradation. Urban settlements are also being planned with more consideration for spatial development and modern technologies. The government is investing 22 trillion rubles over 9 years via a project called "Aggressive Infrastructural Development" to ensure these new standards are met.[25]

The study therefore contributes to the theory of positive bureaucratic action suggesting this approach could be a solution to institutional collective action dilemmas. The study also provides supporting material for further research into IMC in Russia specifically towards the evaluation of the ongoing inter-municipal cooperation between Moscow City and the Moscow Region on territorial waste management. Future research could expand on the impact of open waste disposal sites or landfills on community health and the surrounding environment; this would provide some measure for the cost of externalities of soil & air pollution.

References

Abramov R. A., S. G. Strelchenko and S. V. Derevyanko. 2016. "Interregional Cooperation within Integration Processes in the Union State of Russia and Belarus" [in Russian]. *Journal of Spatial Economics* 4, 153–173. DOI:10.14530/se.2016.4.153–173

Adler, P. S. and B. Borys. 1996. "Two Types of Bureaucracy: Enabling and Coercive." *Administrative Science Quarterly*, 61–89.

Agiamoh, R. 2020. "From Bureaucracy to Market? Ongoing Reform and Performance Challenges of Solid Waste Administration in Moscow." *Public Administration Issues* 5, 149–170. DOI:10.17323/1999-5431-2020-0-5-149-170.

Agiamoh, R. G. and A. N. Larionova. 2020. "Impact of Waste Disposal Sites on Property Value in Moscow, Russia." *Journal of Urban Ethnography page.*

Agranoff, R. and M. McGuire. 2004. *Collaborative Public Management: New Strategies for Local Governments*. Georgetown University Press.

Aldag, A. M., M. E. Warner and G. Bel. 2020. "It Depends on What You Share: The Elusive Cost Savings from Service Sharing." *Journal of Public Administration Research and Theory* 30(2), 275–289.

Andronova I. 2016. "Eurasian Economic Union: Opportunities and Barriers to Regional and Global Leadership" [in Russing and English]. *International Organisations Research Journal* 11(2), 7–23. DOI:10.17323/1996-7845-2016-02-07.

Ansell, C. and A. Gash. 2007. "Collaborative Governance in Theory and Practice." *Journal of Public Administration Research and Theory* 18(4), 543–571. DOI:10.1093/jopart/mum032.

25 https://www.forbes.ru/finansy-i-investicii/427779-v-pravitelstve-planiruet-potratit-na-agressivnoe-razvitie-infrastruktury

Babun, R. V. 2013. "Agglomeration as an Object of Government (the Case Study of Southern Kuznetsk Basin Cities)." *Reg. Res. Russ.* 3, 392–396. DOI:10.1134/S2079970513040023.

Bae, S. 2010. "Public versus Private Delivery of Municipal Solid Waste Services: The Case of North Carolina." *Contemporary Economic Policy* 28(3), 414–428.

Bakoš, E., F. Hrůza, D. Fiedor and K. D. Klemešová. 2021 (in press). "The Perception of Inter-Municipal Cooperation by Local Officials and Managers." *Central European Journal of Public Policy*.

Barabashev, A., A. Makarov and I. Makarov. 2019. "On the Improvement of Indicative Quality Assessment of Public Administration" [in Russian]. *Public Administration Issues, Higher School of Economics* 2, 7–38.

Barabashev, A. and V. Prokofiev. 2019. "Why Reforms of Public Service of Russia are Cyclic: An Institutional Explanation from a Liberal Perspective." In *Dimensions and Challenges of Russian Liberalism (pp. 165–188)*. Springer, Cham.

Bel, G. and A. Costas. 2006. "Do Public Sector Reforms Get Rusty? Local Privatization in Spain." *Journal of Policy Reform* 9(1), 1–24.

Bel, G., X. Fageda and M. Mur. 2013. "Why do Municipalities Cooperate to Provide Local Public Services? An Empirical Analysis." *Local Government Studies* 39(3), 435–454.

Bel, G. and M. Mur. 2009. "Intermunicipal Cooperation, Privatization and Waste Management costs: Evidence from Rural Municipalities." *Waste Management* 29(10), 2772–2778.

Bel, G. and M. Sebő. 2021. "Does Inter-Municipal Cooperation Really Reduce Delivery Costs? An Empirical Evaluation of the Role of Scale Economies, Transaction Costs, and Governance Arrangements." *Urban Affairs Review* 57(1), 153–188.

Bel, G. and M. E. Warner. 2015. "Inter-Municipal Cooperation and Costs: Expectations and Evidence." *Public Administration* 93(1), 52–67.

Blaeschke, F. 2014. "What Drives Small Municipalities to Cooperate? Evidence from Hessian Municipalities." Joint Discussion Paper Series in Economics 14–2014.

Bobylev S. N., O. V. Kudryavtseva, S. V. Solov'eva and K. S. Sitkina. 2015. *Indicators of Environmentally Sustainable Development for the Regions of Russia* [in Russian]. Moscow: Infra-M.

Börzel, T. A. and T. Risse. 2016. *The Oxford Handbook of Comparative Regionalism*. Oxford Handbooks. Oxford University Press.

Brown, T. L., M. Potoski and D. M. Van Slyke. 2008. "Changing Modes of Service Delivery: How Past Choices Structure Future Choices." *Environment and Planning C: Government and Policy* 26(1), 127–143.

Buchakova, M. A. 2010. "Inter-Regional Coordination in the Sphere of Environmental Protection" [in Russian]. Available at https://cyberleninka.ru (last accessed 3 February 2020).

Cetrulo, N. M., T. B. Cetrulo, S. L. F. G. Dias and T. B. Ramos. 2020. "Solid Waste Indicators in Local Sustainability Assessment: A Literature Review." *Ambiente & Sociedade* 23.

Dallhammer, E., M. Derszniak-Noirjean, R. Gaugitsch, S. Hans, S. Zillmer, M. Gaupp-Berghausen, R. Koscher and C. Lüer. 2019. "The Impacts of Metropolitan Regions on their Surrounding Areas." European Committee of the Regions, Commission for Territorial Cohesion Policy and EU Budget, European Union. DOI:10.2863/35077.

Dijkstra, L., H. Poelman and P. Veneri (2019), „The EU-OECD definition of a functional urban area", *OECD Regional Development Working Papers*, No. 2019/11, OECD Publishing, Paris, https://doi.org/10.1787/d58cb34d-en

Di Porto, E., V. R. Merlin and S. Paty. 2013. "Cooperation among Local Governments to Deliver Public Services: A 'Structural' Bivariate Response Model with Fixed Effects and Endogenous Covariate." GATE Groupe d'Analyse et de Théorie Économique Lyon--St Étienne Working Paper No. WP 1304.

Feiock, R. C. 2013. "The Institutional Collective Action Framework." *Policy Studies Journal* 41(3), 397–425.

Ferreira, M. E. 2018. *Inter-Municipal Cooperation within the Solid Waste Management Network in Cuenca-Azogues Emerging Metropolitan Region*. Master's Thesis, International Institute of Urban Studies, Erasmus University Rotterdam. Netherlands. Available at https://pdfs.semanticscholar.org/79c1/2a051572b61e00275ecb2845b478a6139fed.pdf?_ga=2.89417887.584950513.1584269865-1694479459.1571651541 (last accessed 10 May 2021).

Girard, P., R. D. Mohr, S. C. Deller and J. M. Halstead. 2009. "Public-Private Partnerships and Cooperative Agreements in Municipal Service Delivery." *Intl Journal of Public Administration* 32(5), 370–392.

Gorlov, V. N. 2017. "Satellite Cities are an Attempt to Disperse the Population of Soviet Cities." *Bulletin of the Moscow State Regional University. Series: History and Political Science* 2, 93–99.

Hakobyan, T. 2019. "The Impact of Local Self-Government Reforms on Inter-Municipal Cooperation in Armenia" [in Russian]. *Public Administration Issues* 4, 163–176.

Hefetz, A., & Warner, M. E. (2012). Contracting or public delivery? The importance of service, market, and management characteristics. *Journal of public administration research and theory*, 22(2), 289–317.

Hulst, J. R. and A. J. G. M. van Montfort. 2012. "Institutional Features of Inter-Municipal Cooperation: Cooperative Arrangements and their National Contexts." *Public Policy and Administration* 27(2), 121–144. DOI:10.1177/0952076711403026.

Huxham, C. and S. Vangen. 2013. *Managing to Collaborate: The Theory and Practice of Collaborative Advantage*. Routledge.

Hertzog, R., Swianiewicz, P., Davey, K., & Balducci, M. (2010). Toolkit manual: Inter-municipal cooperation. Available at https://rm.coe.int/imc-intermunicipal-co-operation/1680746ec3 (last accessed 30 September 2021).

Jung, C. and S. H. Jeong. 2013. "Effects of Service Characteristics on Interlocal Cooperation in US Cities: A Pooled Regression Analysis." *International Journal of Public Administration* 36(5), 367–380.

Kolsut, B. 2018. "National Associations of Municipalities in Europe: Different Models of Institutionalized Political Cooperation." *Geography, Environment, Sustainability* 11(4), 39–55. DOI:10.24057/2071-9388-2018-11-4-39-55.

Ladygin, V. 2011. "Possibilities to Create a Municipal Business-Incubator Using the Mechanisms of Inter-Municipal Cooperation." *Public Administration Issues* 2, 25–38.

Leksin, V. N. and B. N. Porfiriev. 2018. "The Russian Phenomenon of Megalopolis-Type Cities." *Reg. Res. Russ.* 8, 133–140. DOI:10.1134/S2079970518020065.

LeRoux, K. and S. K. Pandey. 2011. "City Managers, Career Incentives, and Municipal Service Decisions: The Effects of Managerial Progressive Ambition on Interlocal Service Delivery." *Public Administration Review* 71(4), 627–636.

Lyakisheva V. G and A. A. Shlegel. 2017. "The Role of Inter-Municipal Cooperation in the Social-Economic Development of the Territory." *Journal of Economics, Profession and Business* 3. Available at https://cyberleninka.ru/article/n/rol-mezhmunitsipalnogo-sotrudnichestva-v-sotsialno-ekonomicheskom-razvitii-territorii (last accessed last accessed 10 May 2021).

Maier-Knapp, N. (2019). *Contemporary Inter-Regional Dialogue and Cooperation between the EU and ASEAN on Non-Traditional Security Challenges*. Routledge Contemporary Southeast Asia Series. Routledge.

Matějová, L., J. Nemec, M. Křápek and D. Klimovský. 2017. "Economies of Scale on the Municipal Level: Fact or Fiction in the Czech Republic?" *NISPAcee Journal of Public Administration and Policy* 10(1), 39.

Mazzalay, V. 2011. "Subnational Regionalisation in Argentina: The Effects of Subjective Interdependence and the Relationships between Actors on Intermunicipal Cooperation." *Bulletin of Latin American Research* 30(4), 453–472.

Mironova, O. V. 2015. "On Institutional Methods and Approaches in the Russian Practice of Inter-Municipal Cooperation." *Bulletin of the Astrakhan State Technical University. Series: Economics* 2, 57–64.

Mohr, R., S. C. Deller and J. M. Halstead. 2010. "Alternative Methods of Service Delivery in Small and Rural Municipalities." *Public Administration Review* 70(6), 894–905.

Olsson, A. R. and G. Cars. 2011. "Polycentric Spatial Development: Institutional Challenges to Intermunicipal Cooperation." *Jahrbuch für Regionalwissenschaft* 31(2), 155.

Otgaar A., L. Berg and C. Speller. 2008. *Empowering Metropolitan Regions Through New Forms of Cooperation*. Routledge.

Phillips, K. J. O., P. J. Longhurst and S. T. Wagland. 2014. "Assessing the Perception and Reality of Arguments against Thermal Waste Treatment Plants in Terms of Property Prices." *Waste Management* 34(1), 219–225.

Rogoża, J. 2018. A Stinking Business: Environmental Issues, Protests and Big Money in the Waste Business in Russia. Published by: Ośrodek Studiów Wschodnich im. Marka Karpia https://www.ceeol.com/search/gray-literature-detail?id=720092

Russian Federation. 1998. Federal Law of June 24, 1998 N 89-FZ "On Production and Consumption Wastes". Available at https://cis-legislation.com/document.fwx?rgn=1630 (last accessed last accessed 10 May 2021).

Sabyna, E. N. 2016. "Inter-Municipal Cooperation: Reality and Opportunities" [in Russian]. *Molodoy uchonyy* [Young scientist] *Journal* 24, 233–236. Available at https://moluch.ru/archive/128/35596/ (last accessed 10 May 2021).

Sedmihradská, L. 2018. "Inter-Municipal Cooperation in the Czech Republic: A Public Finance Perspective." *NISPAcee Journal of Public Administration and Policy* 11(2), 153–170.

Shrestha, M. K. and R. C. Feiock. 2011. "Transaction Cost, Exchange Embeddedness, and Interlocal Cooperation in Local Public Goods Supply." *Political Research Quarterly* 64(3), 573–587.

Shugrina, E. S. 2016. "Trends in the Development of Local Self-Government: Key Events 2015–2016 and their Influence on the State of Local Self-Government." In E. S. Shugrinoy (ed.). *A Report on the State of Local Self-Government in the Russian Federation: Current Challenges and Development Prospects*. Moscow: Prospekt, 4–14.

Song Weiqing. 2007. "Regionalisation, Inter-Regional Cooperation and Global Governance." *Asia Europe Journal* 5(1), 67–82. DOI:10.1007/s10308-006-0094-y.

Soukopová, J. and D. Klimovský. 2016. "Local Governments and Local Waste Management in the Czech Republic: Producers or Providers?" *NISPAcee Journal of Public Administration and Policy* 9(2), 217–237. DOI:10.1515/nispa-2016-0021.

Soukopová, J., J. Nemec, L. Matejová and M. Struk. 2014. "Municipality Size and Local Public Services: Do Economies of Scale Exist?" *NISPAcee Journal of Public Administration and Policy* 7(2), 151.

Soukopová, J. and G. Vaceková. 2018. "Internal Factors of Intermunicipal Cooperation: What Matters Most and why?" *Local Government Studies* 44(1), 105–126. DOI:10.1080/03003930.2017.1395739.

Struk, M. and E. Bakoš. 2021. "Long-Term Benefits of Intermunicipal Cooperation for Small Municipalities in Waste Management Provision." *International Journal of Environmental Research and Public Health* 18(4), 1449.

Sundell, A., M. Gilljam and V. Lapuente. 2009. "Patterns of Local Public Administration Reform: Perceived Effects and Determinants of Contracting and Intermunicipal Cooperation among Local Governments in Sweden." APSA 2009 Toronto Meeting Paper.

Swianiewicz, P. and F. Teles. 2019. "The Institutionalization of Inter-Municipal Arrangements in Europe: Findings from the Unusual Suspects." *Transylvanian Review of Administrative Sciences* 57E, 119–136. DOI:10.24193/tras.57E.8

Tavares, A. F. and R. C. Feiock. 2018. "Applying an Institutional Collective Action Framework to Investigate Intermunicipal Cooperation in Europe." *Perspectives on Public Management and Governance* 1(4), 299–316.

Vaceková, G., Lipovská, H., & Soukopová, J. (2020). The development of civil society organisations in the transitional economy of the Czech Republic. In *Handbook on Hybrid Organisations*. Edward Elgar Publishing.

Warner, M. and R. Hebdon. 2001. "Local Government Restructuring: Privatization and its Alternatives." *Journal of Policy Analysis and Management: The Journal of the Association for Public Policy Analysis and Management* 20(2), 315–336.

Yablokov, A. 2010. "Environment and Politics in Russia." *Russian Analytical Digest*, 27 May. Available at http://eng.yabloko.ru/Press/2010/10282010-yablokov-ecology.html (last accessed 10 May 2021).

Zullo, R. 2009. "Does Fiscal Stress Induce Privatization? Correlates of Private and Intermunicipal Contracting, 1992–2002." *Governance* 22(3), 459–481.