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Preface
The Guarini Institute for Government and Leadership White Paper Series (GWPS). The GWPS is designed to stimulate timely and relevant discussion around key public policy topics germane to New Jersey. The series will provide contributors a unique opportunity to share their opinions related to critical public policy issues in New Jersey. The position/argument reflects that of the author and not Saint Peter's University.

About the Author
Dr. Alexander Mirescu is an Assistant Professor of Political Science at Saint Peter’s University, lecturing on comparative politics and international relations. He was the 2012-2013 Guarini Fellowship recipient and in 2013 conducted field research on civil society and democratization in Tunisia with support from the Kenny Summer Scholars Fellowship. Since 2009, Dr. Mirescu has maintained strong ties with the United Nations system, serving as a consultant with UNDP, UNOIOS, UNDESA and the Multi-Partner Transfer Fund at UNDP. His UN work focuses on national capacity development, poverty reduction, anti-corruption and civic engagement, and disaster risk reduction. In August 2015, he was selected by the United Nations International Strategy for Disaster Risk Reduction (UNISDR) to serve as the North American/East Coast public advocate for the United Nation's "Making Cities Resilient" campaign. Working with UNISDR, he helped to establish the Saint Peter's University-UNISDR Joint Training Initiative, which trains undergraduate political science students in Disaster Risk Reduction and advocating for the Cities campaign. To date, it is the only undergraduate level training program anywhere that is officially sanctioned by a UN body.
**Global Disaster Risk Reduction Policy and Subnational Application: An Assessment of Policy Effects of Hurricane Sandy Three Years On**

**Introduction**
This year, the chronology of global efforts to deliver improved and effective development policy has reached a critical moment. The 2015 role out of the Sustainable Development Goals (hereafter, SDGs) at this year’s United Nation’s General Assembly signal a profound and observable paradigm shift in the trajectory of development policy. Replacing the prior Millennium Development Goals, the SDGs, a set of 17 objectives, recognize a wider set of pressing challenges and offer a more aggressive set of benchmarks and mechanisms for U.N. member states, NGOs, national development stakeholders and civil society organizations to meet these new objectives. Therefore, like prior important historical mile markers - 1945, 1968, 1989 and 2000 - 2015 will take its place in global policy history as one of far-reaching policy change.

**Shifting Delivery of Global Policy to Subnational Actors**
One of the most visible departures from the MDGs is in the SDGs scope of action. While the Millennium Goals conceptualized development action primarily as the responsibility of the developing, global south with assistance from the developed global north, the SDGs make clear that new global challenges, such as conflict reduction and resolution, climate change, governmental accountability and inclusive and equitably distributed development, will be a joint effort for developed and developing states alike. This historic distinction rearranges long-held views on how political and economic development should be delivered and forces stakeholders and development actors at all levels to radically readjust the relationship between global initiatives and strategies and local-level action. In short, all states need to contribute to the post-2015 objectives.

Unlike the Millennium Conference, which was held at the General Assembly in New York in 2000, the first steps of the post-2015 framework were taken in March 2015 at the Third United Nations World Conference on Disaster Risk Reduction in Sendai, Japan. Building upon prior frameworks and in recognition of the growing intensity of natural disasters and their ability to drastically turn back the clock on development projects, in the case of Nepal, for example, by decades, UN Secretary General Ban-Ki Moon underlined the intertwined relationship of three primary development foci: sustainable development, climate change and disaster risk reduction. The WCDRR resulted in a global agreement, the Sendai Framework for Action 2015-2030, which outlines four priorities for action: understanding risk reduction; strengthening disaster risk governance for improved management; investing in resilience; and, enhancing disaster risk preparedness by supporting “building back better” in recovery, rehabilitation and reconstruction strategies.

An aspect also stressed in the SDGs is the Sendai Framework’s emphasis on the efforts at the national and local level. Here, Sendai and the SDGs identify the delivery of improved, efficient and durable development efforts at the international level, such as the United

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1 The Hyogo Framework for Action of 2005-2015 preceded the Sendai Framework and served as one the first global platforms for recognizing the co-relational effects of disasters on delivering effective and durable development projects by highlighting five priorities for action. These priorities included, among others, the necessity for early warning systems, establishing national disaster risk platforms and the creation of an educational culture of disaster risk reduction.

Nations International Strategy for Disaster Risk Reduction (UNISDR), as being directly linked to sub-national actors. At the sub-national level, a diverse set of stakeholders, ranging from community groups, schools, civil society organizations and, increasingly, the research and policy contributions of universities, are recognized as being important agents on the very front line of global efforts. When they engage global players like UNISDR, municipalities can access a larger “community of practice” to share information and lessons learned.

The SDGs, Disaster Risk Reduction Policy and Hurricane Sandy: A Local Perspective

When assessing the three years that have passed since Hurricane Sandy, two New Jersey municipalities, devastated by storm surge and high floodwaters, have placed themselves on the forefront of engaging disaster risk reduction efforts that are aligned with global policy. Compared to other vulnerable regions of the United States, Hoboken and Union Beach, two vastly different entities, stand out for their integration of global frameworks with creative approaches at the municipal level. Both municipalities have set into motion a set of conditions that will enhance resiliency, secure economic assets and human lives, ensure for better mitigation and quicker recovery, and use natural assets and new technologies that reduce the effects of climate change. What have they implemented that can serve as examples to other North American and global municipalities?

Firstly, this small set of New Jersey cases shows that regardless of size, every town or city can successfully integrate durable, long-term policies toward managing and mitigating risk. Hoboken, a comparatively affluent urban center of 50,000 residents located directly on the Hudson in metro New York City, differs greatly from Union Beach. Situated at the confluence of the Raritan River and Lower New York Bay, Union Beach is small suburban community of 6,600 largely working-class commuters. According to data from the Census Bureau, Hoboken’s annual median family income, adjusted for inflation, is just over USD 101,000, while Union Beach’s figure is noted just below USD 60,000. Field research and semi-structured, open-ended interviews conducted throughout 2014 and 2015 with representatives from both city councils and the offices of the mayor reveal even deeper economic differences: Union Beach continues to feel the loss of property tax-generated income from a loss of nearly 300 houses, to date still unoccupied since Sandy. Still, despite their economic differences, both municipalities have aggressively sought out and secured federal and national funding specifically for resiliency projects.

This has translated into a similar set of disaster risk projects. Hoboken and Union Beach have projects coming online within the next one to four years that use pre-existing or construct natural buffers, wetlands and beaches and shorelines as a mechanism to facilitate the detaining and release of flood waters. Specifically, Union Beach will complete by 2019 a hybrid set of policies that will create a defense wall at the most exposed and vulnerable parts of the town and, along with pumps and floodgates, will actually build and expand its beachfront, green spaces, dune structures and wetlands. Similarly, Hoboken, which was the recipient of approximately 230 million USD in federal disaster and resiliency planning monies, is in the process of building several multi-use, publicly accessible parks. Working with UNISDR and OMA, a New York City-based rebuild-by-design architecture firm, Hoboken will be able to sustain flood waters with expanded green spaces, rain gardens and wetlands, but in times of higher floods, these parks house subterranean water detainment structures to re-route damaging water levels away from infrastructure, businesses and residences. After the storm, those waters can be pumped away, thereby mitigating negatives effects.

Secondly, another identifiable factor distinguishes Union Beach and Hoboken from most
other post-Sandy municipalities: political will. In several interviews and having conducted Local Government Self-Assessment Tools (LGSAT, a useful UNISDR mechanism to measure levels of vulnerability) with political science majors from Saint Peter’s University’s Joint Training Initiative with UNISDR, mayors Dawn Zimmer and Paul Smith steadfastly recognize the benefits of implementing resiliency efforts, whose primary purpose is to secure their municipalities from the intensification of storms and other weather events. Moreover, their respective city councils, regardless of political affiliation, support these efforts. Hence, the role of political elites to engage in DRR policies significantly determines the ultimate adoption or rejection of resiliency efforts.

Finally, the collaboration of municipalities with international organizations, even in the context of the United States, has had some measureable influence of end policies. In the wake of Hurricane Sandy, Special-Representative to the UN Secretary General, Margareta Wahlström, and UNISDR officials visited Hoboken and Union Beach. Hoboken, as a signatory to UNISDR’s Making Cities Resilient campaign and a recent recipient of Role Model City status, has worked most actively with the United Nations, drawing inspiration and policy ideas from the campaign and also aligning its resiliency policy to UNISDR benchmarks and standards. Similarly, SRSG Wahlström visited the devastation wrought by Sandy in Union Beach. As UNISDR’s advocate for the Cities campaign, I followed up with a second visit in September to pledge support to the mayor and city council representative.

In both empirical cases, identifiable DRR action is delivering on several SDGs. In terms of resiliency, SDG 9 promotes the construction of “resilient infrastructure,” which is currently being undertaken by both municipalities. Additionally, large-scale climate events inherently reveal that poverty and economic inequality are risk drivers. Hurricane Sandy was no different in that the highest levels of damage are located in poorer demographic areas. SDG 10 seeks to reduce inequality within countries, while SDG 11 promotes policies that make cities and human settlements inclusive, safe, resilient and sustainable. By integrating natural buffer zones, wetlands and rain basins, Hoboken and Union Beach are taking action to “combat climate change and its impacts,” which aligns with SDG 13 and SDG 15’s benchmark on “protecting, restoring and promoting use of terrestrial ecosystems.” All this suggests that both municipalities are well on their way to a greener, safer and more resilient future.

**Policy Recommendations**

This brief overview demonstrates that developed states are no longer insulated from those natural and man-made challenges that have tended to plague developing countries. The adoption of the SDGs recognizes this new paradigm. The Sendai Framework for Action and the work of UNISDR support the SDGs in their recognition of the benefits of global policy ideas being implemented by active, subnational and local-level actors. Hoboken and Union Beach are benefitting from this global-local policy engagement and can serve as successful examples for other American communities affected by disasters.

Here are some concrete policy steps that vulnerable municipalities can adopt:

- **Early Warning Systems** – better and more available information about possible storms means less human and economic assets that are adversely affected.

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Hoboken, for example, issues a regular newsletter, communicates all related information in Spanish and English through community centers and has a reverse 411 mobile service to warn people of last minute events.

- **Using Natural Buffers and Ecosystems** – nature already provides with some of the best ways of protecting property, such as dunes and wetland systems. Hoboken and Union Beach are expanding these areas and creating new green spaces, such as rain gardens, to expand the absorption load of damaging floodwaters.

- **Improved Flood Technology** – The Netherlands, a country mostly at or below sea level, has developed a vibrant public-private sector for project management and information on exchange on floodgate technology, high volume water pumps and creating multi-use flood spillover spaces that double as parks and recreational areas.

- **Multi-purpose Green Spaces** – Hoboken is constructing several parks that have a water absorption function, but also contain water detention areas where waters can be held and then later released. Several projects throughout the world have been highlighted for their multi-use functionality as a part of resiliency.

- **Creating a Culture of Resiliency** – Hoboken and Saint Peter’s University, with support for UNISDR, will roll out a new program in public schools, where undergraduate students teach a short curriculum to primary and middle school children on the effects of Hurricane Sandy, what to do in a disaster and what measure they can implement at home to reduce risk and reverse the effects of climate change.