**Telescoping into the US to analyze dynamic multi-sector hotspots and inter-sectoral linkages.**

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**Abstract**

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* Google Sheet: <https://docs.google.com/spreadsheets/d/1HxYzOf6g8Y_wH81eNUUbniznkPPFiEqX9247wKY-hso/edit#gid=1426711730>
* Github Page: <https://github.com/zarrarkhan/paperMetisUSA>

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# Introduction

## Literature Review:

**Dynamic Hotspot Analysis**

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| **Study** | **Definition** | **Theme** | **Positives** | **Negatives** |
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**Hotspot Analysis Literature Review (Will go into SI)**

Ed Byers 2018 (Byers et al., 2018)

**Global exposure and vulnerability to multi-sector development and climate change hotspots**

<https://iopscience.iop.org/article/10.1088/1748-9326/aabf45/meta>

RAND 2016 (Willis et al., 2016)

**Developing the Pardee RAND Food-Energy-Water Security Index: Toward a Global Standardized, Quantitative, and Transparent Resource Assessment**

<https://www.prgs.edu/pardee-initiative/food-energy-water/about.html>

<https://www.rand.org/pubs/tools/TL165.html>

El-Gafy 2017 (El-Gafy, 2017)

**Water–food–energy nexus index: analysis of water–energy–food nexus of crop’s production system applying the indicators approach**

<https://link.springer.com/article/10.1007/s13201-017-0551-3>

Karan & Asadi 2018 (Karan and Asadi, 2018)

**Quantitative modeling of interconnections associated with sustainable food, energy and water (FEW) systems**

<https://www.sciencedirect.com/science/article/pii/S0959652618322649>

Venghaus & Dieken 2019 (Venghaus and Dieken, 2019)

**From a few security indices to the FEW Security Index: Consistency in global food, energy and water security assessment**

<https://www.sciencedirect.com/science/article/pii/S2352550919301587>

Miner & Rodgers 2019 (Miner and Rodgers, 2019)

**Parts Unmapped: Linear Multi-variate Analysis of Food, Water, and Temperature Requirements for Regional Stability**

<https://apps.dtic.mil/dtic/tr/fulltext/u2/1081507.pdf>

Zhang et al. 2019 (Zhang et al., 2019)

**Understanding the tele-coupling mechanism of urban food-energy-water nexus: Critical sources, nodes, and supply chains**

<https://www.sciencedirect.com/science/article/pii/S0959652619321973>

Tashtoush et al. 2019 (Tashtoush et al., 2019)

**A review of the water–energy–food nexus measurement and management approach**

<https://link.springer.com/article/10.1007/s42108-019-00042-8>

Mc Grane et al. 2018 (McGrane et al., 2019)

**Scaling the nexus: Towards integrated frameworks for analysing water, energy and food**

<https://rgs-ibg.onlinelibrary.wiley.com/doi/abs/10.1111/geoj.12256@10.1111/(ISSN)1475-4959.Geography_and_the_Water-Energy-Food_Nexus>

Endo et al. 2017 (Endo et al., 2017)

**A review of the current state of research on the water, energy, and food nexus**

<https://www.mdpi.com/2073-4441/7/10/5806/htm>

Endo et al. 2015 (Endo et al., 2015)

**Methods of the Water-Energy-Food Nexus**

<https://www.mdpi.com/2073-4441/7/10/5806/htm>

**Multi-Scale (Inter-links)**

Veldhuis (2017)

**Integrated approaches to the optimisation of regional and local food–energy–water systems**

<https://www.sciencedirect.com/science/article/pii/S2211339817300242>

Abulibdeh & Zaidan 2020 (Abulibdeh and Zaidan, 2020)

Uses WEF index from RAND 2018.

Cremades et al. (2019) (Cremades et al., 2019)

Vinca et al.

NEST

Brown et al. 2019 (Brown et al., 2019)

**Adaptation to Future Water Shortages in the United States Caused by Population Growth and Climate Change**

<https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2018EF001091>

(Abulibdeh and Zaidan, 2020; Albrecht et al., 2018; Bazilian et al., 2011; Cremades et al., 2019; de Strasser et al., 2016; Endo et al., 2017; Gober, 2018; Ibrahim et al., 2019; Johnson et al., 2019; Kahil et al., 2017; Kurian and Ardakanian, 2015; Lechón et al., 2018; Liu et al., 2018; Nauditt, 2018; Newell et al., 2019; Nhamo et al., 2018; Oki et al., 2017; Opejin et al., 2020; Rasul and Sharma, 2016; Ringler et al., 2013; Saladini et al., 2018; Sarkodie and Owusu, 2020; Scott et al., 2015a, 2015b; Simpson and Jewitt, 2019; Sušnik et al., 2018; Vinca et al., 2019; Wallington and Cai, 2017; White et al., 2018; Zhang et al., 2018; Zhu, 2020)

## Research Questions:

# Methodology

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# Results & Discussion

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# Conclusions

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# Acknowledgments

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# Data availability statement

All data that support the findings of this study are included as part of the supplementary information.

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