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ENVS 171 - Short Paper 1

Policy, science, and government are all interconnected in present-day policy-making and decision-making. Questions posit (1) how is the U.S. governance structured, and what influences environmental policies?; (2) what are the influences on policy development?; (3) what ways can the science community interact with policymakers? The U.S. policy system is a complex system of policymakers, advocates, lobbyists, and ideas. Roger Pielke, an American political scientist and professor, wrote The Honest Broker: Making Sense of Science in Policy and Politics, where he defines the terms of policy, which is simply a decision; politics, which "is bargaining, negotiation, and compromise in pursuit of desired ends"; and science, which "is the systematic pursuit of knowledge" (Pielke, 2014, pg. 37).

The U.S. government is structured with a combination of political theories: federalism and polycentricity. Federalism has three main principles/models as outlined by Inman and Rubinfeld (1996): (1) economic federalism, in which a centralized government is "assigned responsibility for… public activities distinguished by significant externalities involving spatially dispersed populations" whereas the local governments are responsible for providing "public activities for which spillovers are limited or absent" (Inman and Rubinfeld, 1997, pg. 45), in which overall has a "mixed success as a guide to economic policy (Inman and Rubinfeld, 1997, pg. 47); (2) cooperative federalism, in which "all central government policies [are] to be unanimously approved by the elected representatives from… the lower-tier governments" (Inman and Rubinfeld, 1997, pg. 49), this method of federalism has not been shown to be effective, as shown by early U.S. history where limitations were seen by the passage of the U.S. Constitution as a "response to the inability of the Articles of Confederation to achieve agreement

among the States" (Inman and Rubinfeld, 1997, pg. 49-50); (3) democratic (majority-rule) federalism, which "seeks to balance the potential efficiency gains of a greater centralization… against the inefficiencies which might arise when a democratic central legislature sets policies" (Inman and Rubinfeld, 1997, pg. 51), the key feature of democratic federalism is where a simple majority approves legislature (51-percent). Democratic federalism curates the formation of advocacy groups that can set policy agendas and creates compromise and bargaining ("scratch my back…"). Federalism, in the U.S., is frequently decided by the President or period, where U.S. federalism has seen changes throughout U.S. history: dual federalism (1790s to 1930s), cooperative federalism (1930s to 1960), creative federalism (1960 to 1980), new federalism (1980 to 2001), Bush federalism (2001 to 2008), and progressive federalism (2009 to present [time of written]) (Types of federalism… government, n.d.). These types of federalism, while not all actual types of federalism, show the changing systems within the U.S. governmental system, where there can be changes in the federal oversight within the U.S. political system.

Polycentricity is a "social system of many decision centers having limited and autonomous prerogatives and operating under an overarching set of rules" (Aligica and Tarko, 2012). Polycentricities' key characteristics are that all decision-makers are subject to rules that create order, allow decision-makers freedom and discretion to create solutions to local problems, and if externalities develop, more than one institution may develop and implement the solution. Polycentricity is designed to establish and enforce rules that everyone plays by (Singh, 2019, Federalism Lecture Slides). The U.S. is similar to this mode of governance, where there is no one center of control; rather, there is a balanced multitude of centers. This is shown through the tiers of the federal government, where there are the legislative, executive, and judicial branches that balance each other.

The structure of U.S. governance significantly affects policies, specifically environmental policies. Gilens and Page outlined four theoretical traditions for policy-making: (1) Majoritarian Electoral Democracy, which is described as "positive or empirical theories, which is where U.S. government policies chiefly to the collective will of average citizens, who are seen as empowered by democratic elections" (Gilens and Page, 2014, pg. 565); (2) Economic-Elite Domination, which "argues that U.S. policy-making is dominated by individuals who have substantial economic resources" (Gilens and Page, 2014, pg. 566), in which this policy has been argued to be dated back to the U.S. Constitution where framers were protecting economic interests of the wealthy; (3) Majoritarian Pluralism, as defined by Gilens and Page (2014), is organized around "majoritarian" interest groups, business firms, and industrial sectors; (4) Biased Pluralism, "which posit struggles among an unrepresentative universe of interest groups, characterized by E.E. Schattschneider as heavenly chorus with an 'upper-class accent'" (Gilens and Page, 2014, pg. 567). These four traditions for policy-making convey the challenges and effects that the U.S. governance system has on policy-making. This showed that economic elites and business organizations have a significant effect on policies. The U.S. governance system allows special interest groups to radically change the pollical system and policies in the U.S., where oftentimes it does not benefit the greater good of the U.S. population.

As Gilens and Page show, the four major traditions for policy-making can radically change how policies are developed. The major influencing tradition is the economic-elite domination which has a direct and indirect influence on policy agenda. Policy agendas will reflect the preference of elites, generally where the money lies is where the policies are going to be created. Additionally, majoritarian pluralism also has a significant effect on policies where they influence policy agenda and do not reflect the needs or interests of the general public. These

effects can be seen through agenda setting, where major companies with substantial economic influence and a select-few rich public can provide financial contributions to members of Congress or the House to influence policies. The policy tradition that has the most effect on policy change is the economic-elite domination where Gilens and Page share their opinion on American democracy: “but if we believe that if policy-making is dominated by powerful business organizations and a small number of affluent Americans, then America’s dream to being a democratic society are seriously threatened” (Gilens and Page, 2014, pg. 577).

While certain policy-making traditions can have adverse effects on policies, issue framing generally positively affects policies. Issue framing also influences policy-making in determining how the public will evaluate the benefits and costs of an action. Issue framing can push support of a policy towards a goal, therefore, swaying the voting decisions of the general public. Issue framing is used throughout politics and policy-making, where politicians lead voters to decide on a particular issue. Issue framing generally has a positive effect on policy-making as it can help the general public make sense of an issue and how it can be resolved. Nisbet et al. identified some key findings of their research on issue framing: (1) policymakers should identify audience segments that are more likely to be “open-minded”; (2) development is needed for general audience appeals; (3) framing can urge the general public to carefully deliberate the tradeoffs of policies – specifically environmental policies (Nisbet et al., 2013, pg. 781).

The science community should engage with the policy community as this can create sound, scientifically-based policies. The general public wants evidence-based decision-making while also having scientists and experts involved with policy decisions. Science policy should adopt a co-production approach to policy, where scientists/researchers and potential users of the

information should work collaboratively to decide on the political agenda/policies. The co-production approach to science policy establishes credibility between science and policy communities, can sustain interaction over time between these communities while also create new ideas and innovations (Singh, 2019, Science Policy Lecture Slides).

Scientists have a decision to make on what role of science in policy they play. This decision will significantly affect whether or not there will be collaboration within the two communities. Pielke (2014) outlined the four different roles: 1) Pure Scientist, which primarily shares generalized information and resources regarding a topic; (2) Science Arbiter, which serves as "a resource for the visitor," answering the factual questions that the decision-maker may have; (3) Issue Advocate, which aims at convincing what the decision-maker should make; (4) Honest Broker of Policy Alternatives, which provides the decision-maker all of the information and then allows for the decision-maker to "face the challenge of reducing the scope of choice" (Pielke, 2014, pg. 2). These different roles have different combinations of their view on science and the view of democracy. The views on science are the (1) linear model, which is where scientists do research for published materials (mindset of "publish or perish") and rely on others to find and use their information, and the (2) co-production (stakeholder) model, which is a collaborative effort between scientists and the users of the information (in this case, policymakers), where scientists synthesize and design their information for the use of others. The views on democracy are the (1) Madison democracy, where experts align with favored interests groups and have an active role in advocation for policy alternatives, and (2) Schattschneider democracy, where policy alternatives are developed and proposed by experts/scientists, where the role of experts are to clarify alternatives and their implications. Where the roles of scientists in policy have the associated opinion on science and democracy: (1) Pure Scientist, combines Madisonian

democracy and linear model of science; (2) Science Arbiter, Schattschneiderian democracy and linear model of science; (3) Issue Advocate, Madisonian democracy and stakeholder model of science; (4) Honest Broker of Policy Alternatives, Schattschneiderian democracy and stakeholder model of science.

There are both advantages and disadvantages when you have the science community has a significant impact on policy-making. Some advantages of science within policy-making are that there will be sound, evidence-based policies that consider both science and the political landscapes of the issue. Pielke (2014) states that with Honest Brokers of Policy Alternatives, there will be a balance between policy and science, where there are no effects of science for policy. The issue associated with science and policy is that there is a question of credibility. When scientists are creating science for policies or politics, the validity of the science comes into question. Pielke (2014) also references the effect of Issue Advocates of science on policy, where issue advocates "overwhelmingly threatens the others, particular that of the Honest Broker of Policy Alternatives" (Pielke, 2014, pg. 135).

There needs to be a collaborative effort towards scientists and policymakers for sound, reliable, and credible policies. There does, however, need to be a balance on what role scientists play in politics and policy-making. Pielke (2014) states: "for the protection of science and the constructive role that it can play in policy, we desperately need organizations and individuals who are willing to expand on the range of options available to policymakers by serving as Honest Brokers of Policy Alternatives" (Pielke, 2014, pg. 141).

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