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ENVIRONMENT AND DEMOCRACY

The use of highly aggregated indices has become common in political debates and for international comparisons as an instrument for evaluating different policy fields and their integration into the political discourse. This also applies to indices regarding the environment. The latter especially show changes that are a result of policy or protection measures. The indices differ from specific indicators that mainly cover current state and target state in a defined environmental topic. Two of these highly aggregated indices are the *Environmental Performance Index* (EPI) and the newly developed *Environmental Democracy Index* (EDI). While the first one measures the overall environmental performance of a country, the latter evaluates the chances for democratic participation in environmental issues.

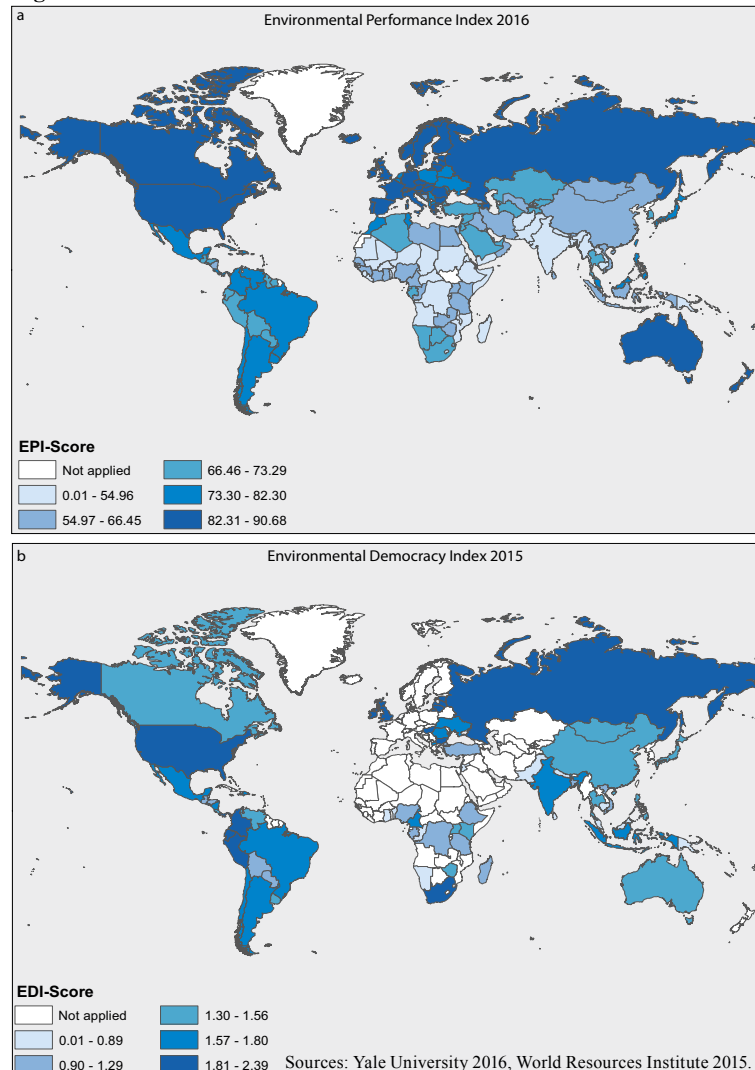
country. With this information individual countries can see the areas of environmental policy in which they have potential for improvement. Most of the underlying data originate from official statistics, as they are reported to international organizations like the UN or the WHO. The data get standardized according to population, land area and GDP and then normalized. For each underlying indicator a policy target is identified as a benchmark. The benchmarks are either taken from aims defined by international organizations like the WHO, or are set by the indicator itself for example at the 95th percentile of the range. The scores are measured and then converted to a scale between zero (farthest from the target) to 100 (closest to the target).

The index gets published every two years. Earlier releases of the indicator are not fully comparable because the indicator gets improved with every version both methodologically and in terms of the use of more

Environmental Performance Index

EPI was developed at the University of Yale and came into existence in 2006. It measures the overall ecological performance of countries and offers a basis for the assessment and comparison of national environmental policies. EPI uses 20 indicators from nine topics that can be separated into two categories: the protection of human health and the protection of the ecosystem. The former includes air quality, health effects and water supply, while the latter, for example, covers biodiversity, climate change, agriculture and fisheries. These issues are further divided into 20 indicators, which highlight the overarching themes. The indicators that are used include, for example, the quality of drinking water, waste water management, CO₂ intensity, air quality in homes, as well as the nitrogen balance in soils. The data map a broad spectrum of information available on the current situation of the environment in a

Figure 1



suitable data. The quality of data available for all countries is one of the main problems of the EPI. The global approach gives rise to further problems regarding the use of the EPI to measure a country's performance: in different regions of the world different environmental problems are pressing. Kraemer and Peichelt (2008) recommend the use of regional indices to evaluate a country's performance. Even the authors of the EPI studies admit that the overall EPI has only limited value for international comparisons. In their view, the strength of the EPI studies mainly lies in their compilation of underlying data that cover a broad range of environmental areas in different countries (Hsu et al. 2016).

Apart from the top Scandinavian countries like Finland, Sweden and Denmark that achieved scores of around 90, the EPI reached a particularly high value in the Baltic countries in 2016. The United Kingdom, Australia and Ireland also performed well (see Figure 1a and DICE Database 2016a). Germany (84) and Belgium (80) performed worst among the western European countries. Compared to other European countries Germany scores weakly due to its intensive agriculture and fishery, while Belgium's poor performance is due to deforestation and higher air pollution. Countries in the African region only reached the lowest ranks overall.

The current EPI shows that some environmental areas outperform others: there is access to clean drinking water for much of the world's population (almost 50 percent). Moreover, the number of maritime conservation areas has improved significantly over the last 16 years. Air quality, however, worsens at a low level. Around one third of the people living in poor air conditions can be found in East Asia and the Pacific region. Over 50 percent of people in China and South Korea are exposed to higher levels of particulate matter (Yale University 2016). This can largely be attributed to the fact that additional economic growth in developing countries leads to a deterioration in air quality. On the other hand, there is a strong correlation between a country's environmental performance and its wealth as measured by GDP. This can be explained by the fact that wealthy countries have more financial resources to invest in environmental performance (Hsu et al. 2016).

Environmental Democracy Index

The Environmental Performance Index mainly focuses on the quantitative evaluation of individual countries in terms of their ecological balance and the implementa-

tion of protective measures for the environment and human health. By contrast, the Environmental Democracy Index (EDI) explicitly assesses opportunities to participate in decision-making in the area of environmental issues. Set up in 2015 and initiated by the World Resources Institute (WRI) and the Access Initiative (TAI), the index is based on the tenth principle of the Rio Declaration on Environment and Development. This declaration was initiated at the Earth Summit in 1992 and, along with the Aarhus Convention 1998, established as a legally-binding instrument for public participation in environmental issues (World Resources Institute 2015).

The core of this principle consists of three major legal statements: namely information, participation and justice. Firstly, environmental issues should be handled with the participation of all of the citizens concerned to ensure that they all have access to information on the environment and its condition, as well as on hazardous substances. Secondly, citizens should have the chance to participate in the decision-making process. Thirdly, access to judicial and administrative procedures has to be granted (UN 1992). The background is the fact that major discrepancies between the laws and their implementation currently still exist. Countries that have signed the Aarhus Convention basically have stricter laws and better legal protection of democratic rights in the environmental field. The index thus presents the first platform on which countries can be assessed in terms of their progress towards promoting transparency and public participation in environmental decision-making. The protection of these rights, particularly of marginalized and vulnerable groups, represents a first step towards the promotion of equality and fairness in the field of sustainable development (World Resources Institute 2015).

75 legal indicators and 24 qualitative practice indicators are aggregated in the index. The legal indicators include internationally acknowledged standards, which were developed by the United Nations Environmental Program (UNEP). The practice indicators provide insights into the current state of implementation. To evaluate the individual indicators the experts and lawyers responsible for assessment will find a selection of options available that allows them to assess the relevant indicator regarding the implementation of the law or the environmental regulations. They use a scale from three to zero with three meaning the law is fully implemented and zero if the law is silent regarding the topic. In addition, there is the possibility of commenting on the annual number of credit points for each country. The index currently considers 70 countries. These are countries

that are members of the Access Initiative or the Open Government Partnership. The latter represents a multi-lateral initiative to promote transparency and participation, as well as to reduce corruption (Open Government Partnership 2016). Exceptions to date include most Western European countries, North Africa, countries of the Middle East and Central Asia.

Countries like Lithuania, Latvia and the United States occupy the top places in the index (as of July 2015). In all three categories (information, participation, justice) Lithuania and Latvia are among the top ten countries (see Figure 1b and DICE Database 2016b). According to WRI, there is a correlation between a country's EDI score and its prosperity. Some less developed countries, however, are among the upper third, including Panama, Colombia, Indonesia, India and El Salvador. Generally there is a substantial backlog in the field of public participation laws. Almost 80 percent of the participating countries do not have adequate measures for public participation (World Resources Institute 2015). This means that those countries score lower than 1.5 points on the participation category on a scale of three (best) to zero (worst). For the other categories the overall picture is better. In terms of both information and justice, only 40 percent of countries score lower than 1.5 points (DICE Database 2016b). The weak performance in the information category is illustrated by the fact that only half of the countries provide data on the air quality of their capital cities on the internet.

Relation between EDI and EPI

The EDI attempts to measure the strength of the rights of civil society in environmental issues, whereas the EPI assesses the environmental performance of a country. Assuming that a high degree of informed public and enforceable rights leads to better performance in a policy field, it can be assumed at first glance that there is a strong relationship between those two indicators. Correlations show that there is a positive relationship between the two indices ($r = 0.62$).

To classify the strength of this relationship we check how the EPI is correlated with a broader democracy index, such as the “Freedom in the World Index”¹ (Freedom House 2016). The relationship between EPI

and the “Freedom in the World Index” is equally as strong ($r = 0.61$) as the relationship between EPI and EDI. This suggests that there is a positive relation between opportunities to participate in environmental issues and overall ecological performance. This relationship, however, is no stronger than the relationship between the existence of general civil liberties and overall ecological performance. Strong civil liberties affect the performance in a lot of policy fields, as well as in environmental issues.

As an index aimed especially at environmental topics, the EDI should perform better than the broader “Freedom in the World Index”. However, for methodological reasons the EDI is based on the de-jure state, i.e. the situation in the legal texts. The de facto observation seems to be more important to evaluate the environmental performance of a country because legal systems do not perform equally well in all countries. Therefore, extensive rights to participate in environmental issues do not automatically lead to a good result in terms of environmental balance.

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¹ The “Freedom in the World Index” has existed since 1978 and evaluates political rights and civil liberties like freedom of expression and belief, political pluralism as well as the functioning of the government in 210 countries. To measure these aspects, 25 indicators are used that can score between zero (worst) and four (best), so the index ranges between zero and 100.