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Environmental Protection Bureau Leadership at the Provincial Level in China: Examining Diverging Career Backgrounds and Appointment Patterns

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ABSTRACT This paper analyzes the career backgrounds of local government officials in provincial Environmental Protection Bureaus (EPBs) in China and explains appointment patterns of Chinese EPB bureaucrats. Using biographical information of provincial EPB heads and drawing on fieldwork conducted in Shanxi Province and Inner Mongolia, this paper finds that only one-fourth of provincial EPB heads were promoted through the bureau ranks within the EPB, while the remaining three-fourths were appointed from positions outside the environment field. Further, nearly all EPB heads' professional backgrounds and associated networks can be clearly categorized as environmental, business, provincial government, or local government oriented. The paper delineates these four types of Chinese EPB leaders and explains why an awareness of the different professional orientations is critical to understanding environmental regulation and protection in China. These findings have implications for inferring the unique characteristics of a province's EPB leadership, the implementation capacities of provincial EPBs, and the appointment preferences of provincial leaders.

KEY WORDS: Agency, environmental protection, policy implementation, networks, leadership, China^{*}

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Introduction

Previous research on China has focused on the institutional limitations of local Environmental Protection Bureaus (EPBs). These include studies in Guangdong (Lo & Tang, 2006; Sinkule & Ortolano, 1995), Shandong (Ma, 2000), Sichuan (Van Rooij, 2003), and Liaoning (Bauer, 2006). It seems uniformly acknowledged that EPBs are often understaffed, underfunded, and lacking in the necessary formal power to implement many environmental tasks assigned them. What is implicit in these studies is that if these EPBs were granted the institutional capacity to function efficiently and authoritatively in their localities, then EPBs would be much more likely to achieve their environmental protection objectives.

This paper evaluates the implementation capacity of EPBs through an alternative approach. It evaluates institutional capacity by analyzing the backgrounds of current provincial EPB heads and explains why some EPB heads are selected over others.¹ The EPB heads are often authoritative figures within the bureaus and have an overriding influence over the internal workings of bureaus' environmental protection efforts (Van Rooij, 2003). However, the EPB heads are themselves only one small part of an intricate network of government agencies, which rely on inter-departmental coordination and consensus building to achieve their bureau objectives (Sinkule and Ortolano, 1995). Bureau heads are promoted into their positions by provincial leaders and obey the explicit orders and implicit priorities of these leaders. As EPB heads are authoritative and influential figures within an EPB (Van Rooij, 2003; Bauer, 2006), the institutional capacities, relative to each other, of provincial EPBs can be to a large

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extent determined by the priorities and objectives of the current EPB heads. The overall capacities, or willingness, of the EPB heads to undertake strict environmental protection measures are heavily influenced by their relations to their superiors in the provincial government and their colleagues in other bureaus.

While previous research has analyzed leaders' backgrounds, they mainly study national and provincial level leaders, which include provincial Party secretaries and mayors (Li, 2000; Huang, 2002; Mei, 2009). Very little of this literature depicts provincial bureau heads as active agents. This article aims to fill this gap, providing insight into career trajectories and biographical data and the possible implications of these factors on environmental protection performance. Who are these departmental heads and what light can their backgrounds shed on the appointment preferences of provincial leaders and the workings and capacities of provincial EPBs? Do EPB heads share similar demographic characteristics and professional experiences across China? Specifically, an analysis of EPB heads' biographical information helps to achieve four important objectives: 1) reveal the career patterns of provincial leading bureaucrats in charge of environmental policy implementation; 2) exhibit the professional networks of these bureaucrats; 3) assess how career backgrounds and professional networks influence the implementation capacity and independence of local EPBs; and 4) infer appointment preferences of provincial Party committees and organizational departments in charge of appointing provincial EPB heads.

The analysis of EPB departmental heads' career patterns and institutional backgrounds demonstrates the variety of non-environmental career backgrounds, concurrent affiliations and professional networks. The paper argues that EPB leaders are highly embedded in their locality and in the local Party and government

organizations. This embeddedness is a double-edged sword. While it improves the implementation capacity of EPB leaders, it can also dilute environmental protection incentives. This implies that there is a delicate balance between professional networks that improve implementation capacity and relations that paralyze efforts to improve environmental protection in China. The study further shows that EPB leaders may be easily categorized by their career backgrounds. The distinct characteristics of these 'types' suggest that provincial leaders make important appointment decisions among clearly differentiated candidates. This may have implications for inferring appointment preferences of provincial leaders. The most desirable candidate for the EPB head position will likely be an official whose assumed networks and incentives will be favorably aligned with provincial priorities and with parochial interests of the provincial leaders. Appointing provincial leaders are more likely to opt for an EPB head with the strength to help them to meet their individual mandatory or 'hard' (ving xing 硬性) targets under the cadre responsibility system, amongst which provincial leaders identified some targets that are more difficult to meet than others. Thus, provincial leaders selecting the most able EPB head may not behave altruistically, but, ultimately, in their self-interest.

The analysis draws from biographical information of provincial EPB heads and interviews undertaken during 2010 and 2011. The author collected biographical data for departmental heads of provincial EPBs holding office as of February 2011 in China's 31 provinces (including centrally administered municipalities and autonomous regions). The majority of biographies of EPB heads are published on government websites. Where information was not available, inconsistent, or incomplete, additional information was sought in newspaper articles, government

reports, or the *baidu* online encyclopedia. The analysis also draws on 71 semistructured interviews conducted in Shanxi and Inner Mongolia in 2010 and 2011. While Shanxi, a province under external pressure to improve air pollution, selected a candidate with the skills and credentials to effectively implement environmental mandates, still-developing Inner Mongolia appointed a candidate who can balance economic growth and environmental protection concern. Interviews with local organization departments clarified how EPB heads get appointed and demonstrate the important role played by Party committees and organizational departments. Interviews with EPB heads and lower-level EPB officials provided an understanding of the responsibilities assigned to EPBs and the overall institutional capacities to complete the implementation tasks. Field research in Shanxi also offered the opportunity to interview the provincial EPB head personally to analyze his career background and networks.

A number of constraints for data collection limit the analysis. First, the study only analyzes the biographies of 31 EPB heads in office as of 2011 as information on EPB directors in earlier years (i.e., their predecessors) was not available online or was incomplete. Another limitation is that the analysis only examines reported professional affiliations and links, which differ from the full extent of actual links because they do not reflect intertwined informal connections. Some salient information might be also oversimplified, misreported (e.g., formal educational training), or not publically available. In addition, the analysis compared career backgrounds of EPB heads appointed (i.e., the 'successful' candidates) as no data on alternative candidates considered (i.e., the 'unsuccessful' competitors) were available. Additional interviews with the provincial leaders working in organizational

departments and Party committees would be necessary to understand why particular EPB heads were picked among the pool of candidates and if and how personal interactions, informal reports, and candidate interviews influence appointment preferences. Moreover, this paper categorizes EPB heads as environmental, business, provincial government, or local government oriented, based on their career path and networks. Of course, an EPB head's orientation is not only shaped by previous work experience and professional ties, but also by a mix of personal motivation, ideological beliefs, values, career ambitions as well as external circumstances. Additional analysis is also needed to link EPB head's orientation and actual performance as EPB directors. Despite these shortcomings, to the author's knowledge, this is the first bibliographic database tracking the career trajectories of EPB heads and as such, this study serves as a platform for further research.

The next section introduces concepts and arguments relevant to understanding the career patterns of provincial leading bureaucrats in charge of environmental policy implementation. The paper then analyzes previous work experience, concurrent affiliations, and professional networks of provincial EPB heads, showing that environmental leaders are highly embedded in their locality. The paper concludes by highlighting possible implications of EPB heads' policy orientation and by pointing out possible implications for environmental policy implementation.

Previous Literature and the Assumptions of this Study

This research is based upon a number of assumptions drawn from previous research on the cadre management system and environmental governance in China. These assumptions are: (a) environmental protection law enforcement and policy implementation is flexible and there is ample scope for agency to shape policy outcomes; (b) the EPB head is an authoritative and personally influential figure within the provincial EPB; (c) provincial EPBs operate in a complex system which places them under the local People's Government and the Communist Party Committee and alongside other bureaus. This high level of bureaucratic fragmentation necessitates coordination and consensus building between these various bodies; and (d) career paths and institutional backgrounds determine the professional skills, networks, factional ties, and incentives of government leaders and bureaucrats. In the following sections, these assumptions are used to address the questions of: (1) what specific work experience, networks, and incentives do Chinese EPB heads have? and (2) how do the experiences, networks, and incentives of EPB heads influence the implementation capacity and independence of local EPBs?

(a) Flexible Environmental Law Enforcement and Policy Implementation

Most China observers are well aware of the gap between stringent national level environmental laws and policies and their sometimes lackluster implementation at the local level. A number of studies have analyzed the implications of implementation flexibility at local levels for the pursuit of environmental goals. For example, a number of studies highlight the existence of 'local protectionism' in China and argue that local governments place more priority on protecting their economic interests than they do on environmental goals (Van Rooij, 2006; Kostka & Hobbs, 2013). While there has been recent progress in creating improved national environmental legislation (Xie, 2004; Stern, 2011) and increasing prioritization of environmental protection work and innovation (Li et al, 2011: 132; Wang, 1997: 23) aimed at ameliorating the

effects of such protectionism, such problems continue. Some argue that this is because national laws may lack local legitimacy (Bardach& Kagan, 1982; Van Rooij, 2006). Also, bureau leaders have long had substantial discretionary power in how they choose to punish violations of national laws (Davis, 1969) and this still holds true for environmental law. Environmental protection decisions lack internal and external checks and balances (Van Rooij, 2003) and therefore EPB heads, as the leader of the government bureau with primary responsibility for environmental protection, ² have the opportunity and often the incentive to dilute stringent environmental regulations to satisfy local interests.

(b) Authority and Personal Influence of an EPB Head

Previous studies emphasize the importance of individual leadership at the provincial, municipal and county levels. Studying the Sichuan provincial EPB, Van Rooij emphasizes that "the EPB is a centralist institution, and that its leadership has a final (direct and/or indirect) influence on almost all (except for their own positions) major personnel decisions" (2003: 46). Another field study in Liaoning attributes major environmental improvements in Benxi municipality to the interventions of a high profile and charismatic municipal EPB head who "contrasted sharply with former EPB Heads in Benxi, who had held little power" (Bauer, 2006: 37). Benxi's powerful EPB head even managed to capture the attention of national leaders, which laid the path for a major local pollution reduction program (Bauer, 2006: 39). These research findings allow us to characterize an EPB head as authoritative and influential within the EPB structure.

(c) Bureau Interdependence and People's Government and Communist Party Committee Authority

EPBs are dependent on the provincial authorities partly because provincial Party and government leaders have the authority over appointment of provincial EPB heads. The appointment of a provincial EPB director requires the approval of a provincial Party committee as no cadre can be appointed, promoted, or removed without the agreement of a specific Chinese Communist Party (CCP) committee and each appointment is subject to the authorization of the relevant organization departments (Landry, 2008). Thus, provincial Party committees and organization departments directly handle the appointments of EPB heads and, through their influence on personnel decision making, maintain "a firm grip on the EPB" (Van Rooji, 2003: 46).³ This is significant because, for provincial leaders, environmental protection is only one target alongside economic growth, employment, and social targets. As such, upper-level leaders are likely to appoint a provincial EPB head with views or background who can advance the province's overall development plan. This means that provincial Party and government leaders might often select EPB heads with a background in other areas in order to strengthen EPBs' linkage and ties to other bureaus or to ensure that provincial economic interests are not sacrificed for environmental protection.

In addition to appointment control, there is also a high degree of fiscal and administrative interdependence between the EPB and other government agencies. For EPBs to carry out their daily work and objectives, leading EPB officials depend on support from other departmental heads and local government leaders (Liu et al, 2012). EPBs receive funding for staff and projects from the provincial/municipal government

and EPB budgets are thus subject to approval from the provincial/municipal finance bureau (Bauer, 2006; Lo & Tang, 2006). Of course, this gives local governments a high degree of leverage over the work of the EPB. A county-level EPB head in Shanxi complained about the lack of upper-level government support:

For the past ten years, our bureau did not receive any additional staff despite rising environmental regulations and new responsibilities. We have continuously requested new staff trained as environmental specialists but the upper government did not send us any. It is frustrating because without qualified personnel we cannot do our work well.⁴

Another county-level EPB head in Shanxi illustrates the financial dependence:

In 2011, we could not expand the local central heating area as planned because our municipality faced severe financial pressure this year and the limited financial resources went to other projects. We will apply for national and provincial subsidies but even if we get the money, we need to match it with municipal funding, which is difficult to get at the moment.⁵

Insufficient financial resources also hinder some local EPBs from investing in necessary monitoring equipment. An EPB head in a resource-rich municipality notes: "We would like to control heavy metal pollution in waste water as we know that some companies pollute it but we cannot afford the monitoring equipment. We have pointed this out to the provincial leaders for many years but only got approval for it this year".⁶

In such an environment of uncertainty many EPBs therefore need to actively cultivate cooperative relationships and coordinate with other key departments and local leaders. Sinkule and Ortolano's study shows how the Shenzhen EPB employed both formal and informal means to link with other departments. One such formal tactic employed by the EPB, used only in extreme circumstances, is direct appeal to the city mayor to settle a conflict between itself and another department. More

commonly-used tactics are informal and consist of negotiation, bargaining, and consensus-building in order to influence other departments' actions (Sinkule & Ortolano, 1995: 153).

(d) Appointment Decisions, Career Paths, Networks, Incentives

In addition to developing cooperative relationships with other departments and being locally embedded, awareness of underlying professional networks is also crucial for understanding EPBs' work and implementation capacities. It is for this reason that gaining an understanding of the career pathways of EPB heads is relevant to the study of localities' implementation capacity. Previous work has examined the career paths of leading government officials and tried to detect patterns in appointment and promotion decisions (Burns, 1987, 1994; Walder, 1995; Manion, 1985, 1993; Landry, 2008; Shih et al, 2010; Shih et al, 2012). While the true bases of personnel decisions remains something of a black box in China, formal criteria considered during appointment processes include qualification requirements—such as age, education and professional experience—as well as performance evaluation from previous positions, which evaluate cadres' political attitude and moral character. In these performance evaluations, cadre evaluation criteria such as 'both red and expert' (youhong youzhuan 又红又专) or 'having both integrity and competence' (decai jianbei 德才兼备) are often left purposely vague and are hard to match with operationalizable standards (Mei, 2009). This vagueness leaves ample room for appointing Party and government officials to define what characteristics of a candidate are desirable and which 'merits' are conducive for the organizational good 11

(Tullock, 1965). Appointment procedures are thus shaped by selectors' preferences and career incentives and the selection of particular candidates reveals something about the preferences of 'selectors' (Mei 2009). As such, the selection of a provincial EPB heads tells us something about the views of provincial Party and government leaders. A deputy head of an Organization Department explains the process through which EPB heads get appointed at the county-level:

First, local county cadres can fill in a democratic recommendation form to suggest suitable candidates for the EPB director position. Next, the [county] Party committee discusses and recommends one or multiple candidates from the recommended list. Afterwards, the [county] organization department picks one or more candidates based on their educational and professional background, administrative and management abilities, and assessment of individual integrity and behavior. We especially pay attention to administrative and management abilities gained during previous work positions because environmental expertise alone does not ensure that the candidate is also a good leader. As a next step, the county government officially announces the nominated candidate(s) and the standing committee of the county people's congress picks the final candidate through a vote. If a single candidate is nominated, a candidate needs to receive more than half of the votes; if multiple candidates are nominated, the candidate with most votes gets selected. Finally, the results will be shared with the municipal organization department. So long as the election was legal, the municipal organization department will approve the candidate.⁷

The above quote highlights the importance of previous work experience in appointment decisions. Provincial leaders can pick between candidates with generalist or specialist/technocratic networks (Shih, 2008). Generalist networks are those not limited to a particular issue area such as environment or economics, while specialized networks are much more limited to these areas. A candidate with generalist networks holds wide-ranging ties and relationships within the Party and government structures, both horizontally and vertically, while a candidate with specialist/technocratic networks holds ties vertically concentrated within a bureaucratic system (xitong 系统) (Shih, 2008).

Many informal selection criteria and 'soft factors' also influence appointment decisions. Li's (2010) empirical analysis of the provincial secretaries and mayors reveals that career promotions based on family ties (largely the domain of princeling, known as *taizi* 太子) or on patron-client relations (personal assistants, known as *mishu* 秘书) continue to be prevalent in China. Other studies have emphasized the importance of factional ties in Chinese politics formed on the basis of being born in the same province (*tongxiang* 同乡), attending the same school (*tongxue* 同学) and sharing common work experience (*tongshi* 同事), with the latter being the focus of this study (see for example, Li, 1994; Pye, 1995; Shih 2008; Hillman, 2010; Shih et al, 2010). The networks of an EPB head from previous work experience may shape his or her incentives and policy preferences.

The next section turns to analysis of the bibliographic data and career trajectories of China's 31 provincial EPB leaders holding office as of February 2011 and shows what kinds of professional networks and links EPB heads hold.

Biographical Characteristics of Current EPB Heads

As discussed, EPB heads, to a large degree, determine the relative capacity and roles of local EPBs. Given EPBs' fiscal and administrative dependence on local Party and government organizations, an EPB head's preferences and leadership capacity are determined largely by the quality of their relations to other actors in the locality. In addition, EPB leaders' network resources and skills are shaped by their previous work experiences. Because the relationships and work experience of EPB heads are determined largely by career path, this section analyzes the biographical information of China's 31 EPB heads. It addresses the question: what specific work experience, networks, and incentives do Chinese EPB heads actually have?

Basic Characteristics

Although basic characteristics did not correlate with other factors such as time in office or career background in statistical analysis, they are provided here as background information on EPB heads' demographics and education. All EPB heads currently serving as EPB director or Party secretary are male. In addition, the vast majority are ethnically Han and between the ages of 46 and 60. The average age is 51.6 years. As shown in Table 1, nearly all EPB heads are nearing retirement, which is mandatory at the age of 60 in China, and are likely to have developed large professional networks over their careers.

From Table 1, we see that most EPB heads claimed to have 4-year college degrees or higher, and several held Ph.D. degrees. As is often the case for Chinese bureaucrats, many of the EPB heads received degrees or professional training while in the civil service. Their academic fields are diverse but the majority of EPB leaders studied engineering, economics, and management. Strikingly, just three leaders majored in environmental sciences (EPB head in Tibet) or law (EPB heads in Guizhou and Sichuan).

< Insert Table 1 here >

Figure 1 shows the ages of EPB heads at the time of their appointments to their current positions and their average tenure times in office. The average age of appointment for current EPB heads is 47.6. 23 EPB directors (74%) had spent 4 years or less in their position, 2 directors (7%) had spent between 5-6 years, while a minority of EPB directors (19%) has served 7-9 years, and none more than 9 years. The average time served in the current position as EPB head is 4.0 years. By comparison, average time served as head of a provincial Developmental Reform Commission and as head of a provincial Construction Bureau was 3.56 years and 4.60 years, respectively.⁸ This is in line with other studies showing that leading Party and government officials serve on average 3 to 4 years before moving on to their next assignment, 1 to 2 years shorter than the recommended five-year tenure time for civil servants in leadership positions.⁹ EPB directors who have served in their positions for longer than five years are the heads of EPBs in Hebei, Shaanxi, Guangdong, Hunan, Yunnan, Tibet, and Chongqing. The longest-serving head is the EPB head in Beijing, who took office in July 2002. Heads of EPBs in Hebei, Shaanxi, Guangdong, Hunan, and Tibet were all appointed in 2003, at the beginning of the Hu-Wen administration.

< Insert Figure 1 here >

Changing EPB leadership at four-year intervals affects environmental policy implementation and regulation in numerous ways. Short tenure cycles can result in leading officials prioritizing short-term projects that deliver tangible results within their own tenure over projects with a longer time-frame (Eaton and Kostka, 2012). Therefore, newly appointed EPB heads might have a strong interest in selecting environmental projects that will bear fruit quickly and tacitly sideline policies with a longer time to maturity. For instance, EPB leaders may opt to temporarily shut pollution-intensive companies to fulfill annual sulfur dioxide targets while putting off the more difficult tasks of either closing down the business permanently or developing long-term solutions, such as offering training or devising incentive mechanisms for technological advancements. High turnover in EPB leadership can also frustrate environmental policy implementation in more prosaic ways since newly appointed EPB heads, the majority of whom are not familiar with environmental regulations and policies, must spend considerable time in getting to know the lay of the land, which can result in damaging discontinuity in environmental initiatives (Eaton & Kostka, 2012). Finally, short tenures of EPB directors also offer provincial leaders more frequent chances to appoint replacements, thereby enhancing the political control of organization departments and Party committees (Huang, 2002; Landry, 2008).

Career Paths and Institutional Backgrounds

This section summarizes the previous positions and career backgrounds of EPB heads, respectively. Table 2 lists the positions the current EPB heads held immediately prior to their appointments. From this table, we see that only 8 EPB heads were promoted within the EPB, while the remaining three-fourths came from positions outside the environment field. Almost one-third of the current EPB heads were appointed from

municipal level positions such as municipal mayor, deputy mayor, Party secretary, or vice Party secretary.

< Insert Table 2 here >

Table 3 categorizes the career backgrounds of EPB heads. The EPB heads were coded according to the government level or type of bureau in which they spent the largest portion of their careers. 28 out of 31 EPB heads spent from ten to twenty years on a particular career path. Three EPB heads are not easily categorized because their careers did not follow a 'standard' career path.¹⁰ For example, the Tibet EPB head began his career as a researcher and aid worker in the environmental field before joining the civil service as the deputy head of the Tibet EPB. From Table 3, we see that 16 EPB heads (52%) spent most of their career at the provincial level, 7 within the EPB (23%), 5 in lower level governments (16%), and 2 with a state-owned enterprise (SOE) (6%). The majority of EPB heads built their careers in political positions at the provincial governments or Party Committees, provincial non-economic departments, or municipal governments. Next to long political careers, many EPB heads spent their careers in economic or business positions, either in an economic bureau career or in an enterprise career.

EPB leaders who rose through the EPB ordinarily began as environmental protection researchers or pollution control specialists. They were promoted through the bureau ranks until reaching the position of EPB head. Leaders with careers in provincial economic bureaus started out as cadres in provincial economic bureaus and were rotated among the different provincial government economic agencies. EPB

heads who originated from municipal governments spent nearly all of their careers in a single locality, gradually climbing the bureaucratic ladder. EPB heads with prior careers in non-economic bureaus ordinarily spent the majority of their careers rising through the ranks in a single bureau before eventually being rotated through leadership positions in other provincial non-economic bureaus. Two of three leaders who worked in provincial governments or Party committees were promoted through the Communist Youth League system. There are two SOE career EPB heads who began as workers in industrial enterprises and rose to upper management positions in a SOE before being appointed to positions in the government late in their careers.

< Insert Table 3 here >

Interestingly, EPB leaders with environmental and other non-economic backgrounds are most commonly appointed to urban municipalities. All four province-level municipal governments appointed EPB leaders with careers in environmental protection or non-economic bureaus such as labor and social security, urban planning, or construction.

Figure 2 analyzes EPB heads' previous work experience in state-owned enterprises. 19% of all EPB heads (or 6 out of 31) worked at some point for a SOE. Three EPB heads worked for enterprises in heavy industry (iron and steel, metallurgy, and chemicals), which could be especially useful work experience for an EPB head. For example, the Jiangxi EPB head worked his entire career in a provincial chemical SOE, beginning as a factory assistant and eventually rising to chairman of the board. The Gansu EPB director also spent the majority of his career in an enterprise, rising from technician to deputy CEO. The high share of EPB heads with previous work experience in SOEs is partly the result of organizational departments' control over personnel appointments across SOEs and government and Party organizations, making cross-postings easier and more widespread.

< Insert Figure 2 here >

Concurrent Affiliations and Cross-Postings

Of the 31 provincial EPB profiles analyzed here, seven EPB heads list outside affiliations and cross-postings on their CVs (Table 4). Three EPB heads hold National People's Congress (NPC) delegate positions (Sichuan, Shanghai, Anhui), which are very prestigious titles, and two EPB heads hold Provincial People's Congress (PPC) delegate positions (Guizhou, Hebei). One EPB Head is cross-posted as the Head of the Nuclear Safety Management Bureau (Sichuan). Two EPB heads have affiliations with local universities, one as a Ph.D. adviser (Shandong) and another as a professor (Hunan). The number of affiliations of EPB heads is likely to be understated. For example, it is common for a bureau director to serve as a PPC delegate, perhaps often enough that many EPB heads do not list it in their short bios published online. In addition, EPB heads may not publicly reveal their affiliations with local enterprises to avoid the appearance of bias.

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How to Interpret Previous Work Experiences and Career Backgrounds

This section addresses the question: how do the experiences, networks, and incentives of EPB heads influence the implementation capacity and independence of provincial EPBs? As the *guanxi* and network ties of an EPB head from his or her previous work experience may shape the incentives of EPB heads, these links and networks can be used to assign 'types' to each of the provincial EPB heads. Each type can be inferred to come with a possible orientation or slant towards the interests of his corresponding networks and factional ties.

As previously stated, these 'types' are based on the career backgrounds of EPB heads, most of whom spent the majority of their careers working in a particular area. Table 3 in the preceding section categorized EPB directors by the institutions in which they spent the majority of their careers. From this table, it is clear that most EPB heads fall into one of four career background categories, and are nearly evenly split among them: careers in EPBs; in provincial governments, Party committees, or non-economic provincial bureaus; in local governments as municipal mayors or Party secretaries; or in economic bureaus or SOEs. Here these career backgrounds are assigned the following types: 'environmentally-oriented' for career EPB bureaucrats; 'provincial governments, Party committees, or non-economic provincial bureaus; who spent most of their careers in provincial governments, Party committees, or non-economic provincial bureaucrats who spent most of their careers in provincial governments, Party committees, or non-economic provincial bureaus; 'locally-oriented' for bureaucrats with careers in local government; and 'business-oriented' for career economic bureaucrats and SOE managers. Figure 3 presents the different career background categories.

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If existing networks based on career backgrounds influence EPB implementation capacities and priorities, then the selection of a provincial EPB head with a certain background can have a significant impact on local environmental protection. Since EPB heads can be relatively easily categorized by their work backgrounds, we can infer that provincial leaders seem to prefer particular types of politically- or economically-embedded officials when considering bureaucrats for promotion to EPB head. In the appointment process, provincial leaders can be expected to weigh the benefits of EPB head candidates' professional networks, skills, and incentives. Given limited available information on the candidates under consideration, provincial leaders will likely consider a candidate's profile carefully and initially use a candidate's career background, institutional affiliations, and previous performance evaluations as an indicator for their preferences and abilities. Career paths can also convey a great deal of information to the appointing officials on the candidate's professional networks, factional ties, skills, and incentives. As argued below, the 'best' candidate may not, in all cases, be the person with the greatest ability and credentials but rather be the person who best supports the political position of the appointer. The following section introduces the characteristics of these EPB head orientation categories and explains how each category of background may influence EPB implementation capacities and priorities in different ways.

Environmentally-oriented EPB Heads

Environmentally-oriented leaders are departmental heads who were promoted entirely within the EPB structure. Leaders belonging to this category have developed ties to other local EPBs and actors closely linked to EPB-related work. Over the years, these government officials have accumulated in-depth environmental knowledge and expertise at the sub-provincial and provincial levels. Their technical and environmental expertise combined with an awareness of local implementation practices may make them effective leaders in tackling difficult environmental challenges, but only if they are given sufficient support from the provincial government and other bureaus. Having worked the majority of their careers as environmental specialists, drafting or carrying out national and provincial environmental regulations, these leaders are likely to have large networks in the environmental protection field yet may lack extensive connections to other nonenvironmental actors. This relative lack of networks beyond the EPB may hinder their ability to capitalize on their specialized knowledge on environmental protection methods as they may be less effective in establishing and coordinating working relations with other departments.

Provincially-oriented EPB Heads

Provincially-oriented EPB heads spent the majority of their careers at the Provincial People's Government or Party offices or in non-economic bureaus such as urban planning, construction, or labor and social security. The interests of these provincially-oriented EPB leaders are likely to be aligned with the province's policymaking level. Their behaviors will be the most in keeping with the policy objectives and priorities of the provincial government and Party committee because of previous

work experience which provides the networks and factional ties to the province. In contrast to environmentally-oriented cadres, provincially-oriented EPB heads with career backgrounds at the provincial level are more likely to have a wider range of networks with other provincial departments. Bureaucrats from the provincial government or Party committee will have overseen the work of many provincial bureaus. Non-economic bureau leaders are regularly rotated among provincial level bureaus once they have reached the peak of their careers, and often have accrued a great deal of inter-bureau work experience by the time they are appointed EPB head.

However, leaders in this group who spent nearly their entire career at the provincial level may have limited awareness of local implementation difficulties and practical concerns. Also, leaders with provincially-oriented careers in non-economic bureaus may lack strong networks to economic bureaus or enterprises. They may, thus, have less practical knowledge of business and fewer incentives to support provincial business interests except when there is an overall welfare benefit to the provincial government such as tax revenue. From a professional skills angle, on the other hand, certain non-economic bureau heads may have increased implementation capacity because they share some characteristics with environmentally-oriented leaders. Given their backgrounds in urban planning, construction, and labour, leaders in this category could effectively help provincial leaders to meet particular cadre targets. For example, an EPB leader with a bureau background in construction or urban planning is likely to be especially adept in enforcing national guidelines and devising provincial standards to lower energy usage in the local construction industry or addressing rising pollution in large urbanized cities. Yet, this may be very dependent on the level of provincial support for these policies.

Locally-oriented EPB Heads

Locally-oriented leaders refer to EPB heads that spent the majority of their career working in county and municipal governments and agencies. Many officials in this cohort of EPB leaders worked most of their career in one or two localities before being promoted to the post of provincial EPB head. They are likely to retain tight links to their home localities. These ties likely provide a platform for informal feedback, which may improve provincial implementation polices. Of course, such cosy relationships might also result in favoritism and exception-granting. Lacking necessary networks and influence at the provincial level, locally-oriented leaders might also be less effective in gaining buy-ins from other provincial players and enterprises.

Beyond these considerations, during their many years spent at the local level, these leaders likely develop a political sense of how to balance competing priorities in the policy implementation process. This is particularly relevant to environmental protection. The ambitious approach to environmental protection in national and provincial policies and the pragmatic economic and social concerns of government agents and business interests at the local level make implementation of these policies especially contentious. Awareness of local implementation practices and knowledge about existing policy loopholes gives these leaders an advantage when enforcing environmental mandates that are highly dependent on municipal support.

Business-oriented EPB Heads

Finally, the EPB leaders categorized as business-oriented have worked previously in provincial economic bureaus or state-owned companies. An economic bureau background ensures that a leader is well situated in the provincial policy-setting, while an enterprise background signals familiarity with implementation practices at the enterprise level. The business-oriented 'type' can draw on wide range of economic and business-related contacts in forming business-government alliances or breaking down enterprise opposition to stringent regulations. Existing networks to other economic bureaus and enterprises likely extends the reach of the EPB, thus possibly strengthening it. However, highly business-oriented leaders might also sacrifice strictly enforcing environmental protection laws and policies in favor of provincial economic growth or individual business interests. For example, while working in a SOE, an EPB leader might have inherited business contacts, potentially giving rise to a conflict of interest. Also, simply having work experience in a SOE does not imply that a leader understands or has contacts with other enterprises. Having worked predominantly at the provincial level on economic issues, leaders in this category may also lack expertise in environmental matters and local policy implementation.

In summary, there are different types of EPB heads based on their integration into provincial politics (policy level vs local level) and existing networks based on career backgrounds (generalist vs specialized networks). Delineating different types of EPB leaders helps to understand provincial EPB leadership and the implementation capacities of provincial EPBs, along with the appointment preferences of provincial leaders.

Discussion: Appointment Decisions and Typology Preferences of Provincial Leaders

The above documentation of the diversity of types among EPB heads is surprising. EPB leaders' career backgrounds may differ vastly, ranging from environmental bureaucrat, SOE business manager, political strategist, to implementers. What can explain these differences among appointed EPB leaders? This begs the questions of what are provincial governments or Party leaders considering when appointing a local EPB head. Do appointment patterns tell us anything about the needs of a province as perceived by the provincial government or Party? Or do they reflect leaders' career and political incentives?

A number of studies have highlighted the Chinese Communist Party's ability to select government and Party leaders in a rational manner (Burns, 1987, 1994; Huang, 2002; Manion, 1985; Walder, 1995). The findings of these studies indicate that the selection of bureau leaders is rarely random or haphazard. Candidates are selected through a rigorous evaluation process which considers a wide number of factors, such as past work experience and performance. The 'best' candidate is not necessarily the candidate who will most thoroughly enforce environmental regulation laws or even achieve the most progress in environmental protection. Provincial leaders and organization departments, when appointing a provincial EPB director, consider both overall provincial preferences and personal incentives. From the possible typologies, provincial leaders will need to select one 'type'. The most desirable candidate for the EPB head position will likely be an official whose assumed networks and incentives suggest to provincial leaders that, under the new leadership, EPB's practices will be favorably aligned with provincial priorities and with parochial interests of the

provincial Party secretary and mayor. The implications of these preferred backgrounds are examined in the remainder of this section.

Provincial Priorities and Cadre's Career Incentives

When assessing bureaucrats for promotion to EPB head, provincial leaders will consider the overall provincial context and weigh potential trade-offs, balancing considerations of the need for economic development and the complexity of environmental pollution problems. Provincial governments have different economic and environmental priorities, depending on the province's level of economic development (rich/poor), the level and complexity of environmental pollution (high/low) and the required level and type of implementation (locally/provincially; coordinated/uncoordinated). Provincial leaders may therefore seek out different types of environmental leadership and appoint a candidate who balances a certain mix of environmental or business expertise, provincial or local networks, and high or low career ambition. These factors may heavily influence the capacity of an EPB head, and consequently strengthen or weaken the environmental protection institution itself.

In addition to considerations related to the overarching provincial interest, personal preferences and career incentives of provincial Party secretaries and mayors are at least equally important, if not more so. A number of personal incentives may influence appointment decisions, including potential of appointees to affect a leader's ability to meet targets, receive annual bonuses, and be promoted, along with personal favoritism, but the most important of these is the desire for promotion. Rationally, cadres will evaluate candidates based on whether they help them to advance, or at least safeguard, their own careers.

For example, because Party secretaries and mayors have signed individual Cadre Responsibility Contracts, outlining economic, social, environmental and political targets and goals necessary for their annual evaluation, candidates that will help them meet these goals, particularly those of mandatory or 'hard' (ving xing 硬性) targets, are likely to be found on the top of the candidate list. For environmental policy implementation, provincial leaders have clearly defined environmental protection targets, some of which are mandatory such as energy intensity reduction targets. Amongst the many different targets, provincial leaders may have identified some that are more difficult to meet. If a particular problem is significant, provincial leaders are likely to appoint an ambitious candidate who will go out of his or her way to ensure (mandatory) targets are met. For example, if it is challenging to meet provincial energy efficiency targets, provincial leaders may opt for an EPB head with the strength or expertise to turn the wheel around. If, by contrast, economic targets are comparatively harder to meet, a business-oriented EPB leader might be more appropriate. Adjustments in cadre evaluation criteria, or signals from Beijing of impending adjustments, along with changes in career incentives and the overall political climate, further affect the EPB selection preferences.

Examples of appointed EPB heads in Shanxi and Inner Mongolia show how selecting a business-oriented or locally-oriented candidate can help to address a particular provincial concern and/or can assist provincial leaders in meeting particular cadre evaluation targets.

Selection of a Business-Oriented EPB Head: Shanxi

Shanxi faced increasing national and international media coverage for its severe air pollution in 2005 and 2006,¹¹ which put air pollution issues on the front burner for provincial leaders. In 2006, the provincial leaders picked a 'strong' and highly authoritative candidate with a large business-related network able to take drastic steps and deal with media pressure. The candidate selected by the province, who remains the head of Shanxi Province's EPB as of March 2012, started his political career as the Deputy Secretary of the First Business Bureau in Taiyuan City in 1985 and later worked as Party secretary of Shanxi Province Supply and Marketing Cooperative Council. Prior to joining the civil service, Shanxi's EPB head was in the military and also worked as a television editor and journalist. He claimed to use his military experience to get 'respect' from other leaders and environmental protection workers.¹² As for the media experience, within the Shanxi EPB, he was known for being particularly adept at handling media attention and obtaining media coverage for the province's significant environmental progress since his appointment in 2006.¹³ Over the last six years in office, this 'strong' EPB head made substantial progress in reducing emissions, particularly SO2 emissions, and enforcing overall environmental protection standards, partly because he had a clear mandate from the provincial government following the National Development and Reform Commission's introduction of hard targets in emissions reduction and energy savings for provincial leaders. One of his first actions as a newly appointed EPB director was to temporarily revoke some county EPBs' right to conduct environmental evaluations (quyu xianpi 区域限批) to punish them for turning a blind eye to coal and coking operations without approved environmental impact reports.¹⁴ This drastic measure effectively blocked counties' ability to approve new industrial projects. This was the first time a 29

provincial EPB director had made use of this severe penalty and the ensuing media glare put the affected county leaders under extreme pressure (Eaton and Kostka, 2012) and was "an effective warning to other counties".¹⁵ The EPB head also devised new incentive mechanisms to motivate local EPB heads by, for example, promising a financial award from the provincial EPB to the municipality that could first be removed from the list of the nation's most polluted cities. Yangquan municipality was first to clear its name, in 2008, and was awarded 2 million RMB by the province.¹⁶

Selection of a Locally-Oriented EPB Head: Inner Mongolia

While provinces like Shanxi, which was under external pressure to improve air pollution, may select a candidate with the ability and credentials to effectively implement environmental mandates, still-developing regions may appoint a candidate who can balance economic growth and environmental protection concern. Inner Mongolia, for instance, selected a candidate who lacked career incentives and large business-related or provincially-oriented networks that facilitate the forming of bridges between different government agencies. The head of the Inner Mongolia EPB as of February 2011 belongs to the Mongol ethnic minority, a contrast to the majority of departmental heads in Inner Mongolia who are ethnically Han. He has a two-year college degree in a non-environmental science field and was promoted to the office close to retirement at the age of 55, much later than the average appointment age of 47.6 years. Prior to appointment as the EPB head in 2006, he worked in the Inner Mongolia Provincial Economic and Trade Commission and later as a mayor in Baotou municipality, one of Inner Mongolia's fastest-growing and most resource-rick

municipalities. In contrast to the EPB head in Shanxi, he held no previous nongovernmental work experience. Given his previous work experience on economic issues, he might be a candidate who gives way when pressured by the Inner Mongolian provincial leaders to prioritize commercial interests over more strict environmental enforcement.

Reported environmental data of the previous years confirms poor provincial environmental performance. Between 2005 and 2009, per capita CO₂ emissions rose faster in Inner Mongolia than in any other province in China and by 2009, Inner Mongolia had the highest per capita CO₂ emissions among all provinces (i.e., 12.85 metric tons of CO₂ per capita) (Du et al, 2012: 374). In September 2010, three months before the end of the 11th Five-Year Plan evaluation period, leading provincial officials in Inner Mongolia further indicated during interviews that the province was far from meeting its energy saving and emission targets.¹⁷ Provincial leaders saw environmental protection and economic growth as a contradiction (maodun 矛盾) and did not want to miss out on provincial growth that had picked up rapidly since 2006 due to large incoming foreign investments. Even officials working within the EPB repeatedly stated that the province could not prioritize energy saving and emission reduction targets at the expense of economic development. A local EPB official summarized this prevailing attitude as follows: "we are doomed to 'pollute first, manage later' [xian wuran, hou zhili 先污染后治理] because we need to accumulate enough money and technology before we can afford to protect the environment."¹⁸ Without strong leadership in the EPB and support by provincial leaders, environmental policies were implemented only halfheartedly. An official in charge of

pollution control shared his perception that the provincial EPB had little enforcement power:

In 2009 we started to move polluting enterprises in Hohhot beyond the 2nd ring road and outside of Hohhot. But the progress is very slow. There is very little we can do as an EPB because the EPB only plays a supervisory and reporting role in the process. We do not have the authority to order electricity or water companies to cut off utilities to these enterprises. If we would do so, we would get sued.¹⁹

By contrast, in Shanxi the provincial EPB head widely advertised the 'cut electricity, cut water' (*duandian duanshui* 断电断水) policy that could be implemented because the provincial EPB head had successfully coordinated with local state-owned electricity and water companies to cut off a company's access to utilities.

Candidate Selection and Selection Preferences: Provincial-level Municipalities

In contrast to a somewhat prevalent government-enterprise coordination approach to policy implementation in provinces and autonomous regions, there is evidence that urban provincial-level municipal leaders in Beijing, Shanghai, Tianjin, and Chongqing prefer EPB candidates with environmental expertise or specialized networks to other non-economic bureaus. All four centrally administered municipalities appointed EPB leaders with careers in environmental protection or non-economic bureaus such as labor and social security, urban planning, or construction. In addition, EPB heads in all four municipalities are young, with leaders in Beijing, Shanghai, and Chongqing being appointed to their positions at the age of 45 or younger. Since younger EPB heads are likely to have smaller networks, and EPB heads with environmental protection or non-economic bureau backgrounds will

have backgrounds which complement EPB work, it suggests that provincial-level municipal leaders prioritize environmental expertise and networks to other provinciallevel departments over a business network-based implementation capacity of EPBs. Provincial-level municipal leaders may also prefer a relatively independent, professionally skilled EPB head.

Conclusion

This paper has examined career backgrounds and institutional backgrounds of local government officials in provincial Environmental Protection Bureaus (EPBs) in China. EPB leaders' career backgrounds differ vastly, ranging from environmental bureaucrat, SOE business manager, political strategist, to implementers, despite EPB heads assuming seemingly similar environmental protection and law enforcement tasks. Based on their career backgrounds and their associated networks, EPB leaders fall into the following four typologies, and are nearly evenly split among them: environmentally-oriented, business-oriented, policy-setting/provincially-oriented, and implementation/locally-oriented EPB leaders. The analysis of EPB heads' career backgrounds shows that only one fourth of provincial EPB heads were promoted within the EPB, while the remaining three-fourths came from positions outside the environment field. These findings have implications for inferring the unique characteristics of a province's EPB leadership and the implementation capacities of provincial EPBs.

The distinct characteristics of these different 'types' of EPB leaders show that provincial leaders make important appointment decisions among clearly differentiated candidates. This may have implications for inferring appointment preferences of 33 provincial leaders. Provincial mayors and Party secretaries and leaders in the provincial Organization Department, when appointing EPB heads, balance different overall provincial and personal preferences. A certain candidate 'type' and career background might be more suitable to meet these different preferences. When assessing bureaucrats for promotion to EPB head, provincial leaders will consider the overall provincial context and weigh potential trade-offs, balancing considerations on the need for economic development, the complexity of environmental pollution, and required implementation practices. Rationally, provincial leaders select an EPB head who will act in the best interest of the province as a whole as perceived by these leaders, while also helping provincial leaders to bolster their own political careers.

This paper further argued that a leader's local networks and relationships likely improve the implementation capacity of EPBs, but also at times weaken incentives to strictly enforce environmental protection laws and policies. This implies that there is a delicate balance between networks which advance implementation capacity and those which paralyze environmental protection efforts in China. EPB heads that are well connected to other key departments and enterprises are more likely to be successful in creating cross-sectoral and cross-departmental coalitions. However, the professional networks which may improve environmental protection capacity in a province through coordination and consensus-building also further decrease the already limited autonomy of local EPBs. Highly embedded leaders with limited independence may place priority on commercial, economic, or political interests over environmental protection, and turn a blind eye to polluting enterprises or illicit practices by other government bureaus.

References

- Bardach, E. & Kagan, R. A. (1982). Going by the Book: The Problem of Regulatory Unreasonableness (Philadelphia, PA: Temple University Press).
- Bauer, J.R. (2006). Forging Environmentalism: Justice, Livelihood, and Contested Environments (New York: M.E. Sharpe).
- Burns, John P. (1994). "Strengthening Central CCP Control of Leadership Selection: The 1990 Nomenklatura." *China Quarterly*, no. 138, pp. 458-91.
- Burns, J. (1987). "China's Nomenklatura System", *Problems of Communism*, 36(5) (September-October 1987), pp. 36-51.
- Central People's Government's Official Information Website http://english.gov.cn/official/2010-09/10/content_1700448_11.htm, Accessed on 28 August 2012
- Chen, G. (2009). *Politics of China's Environmental Protection Problems and Progress*, Singapore: World Scientific Publishing, Series on Contemporary China Vol. 17, p. 25.
- Davis, K. C. (1969). *Discretionary Justice: A Preliminary Enquiry* (Urbana, IL: University of Illinois Press).
- Du, L., Wei, C. & Cai, S. (2012). "Economic development and carbon dioxide emissions in China: Provincial panel data analysis", China Economic Review, no. 23, pp. 371-384.
- Eaton, S. & Kostka, G. (2012). "Does Cadre Turnover Help or Hinder China's Green Rise? Evidence from Shanxi Province", Frankfurt School Working Paper Series No. 184, *Frankfurt School of Finance and Management*, January 2012.
- Hillman, B. (2010). Factions and Spoils: Examining Political Behavior within the Local State in China. *China Journal*, no. 64, pp. 1-18.
- Huang, Y. (2002). "Managing Chinese Bureaucrats: An Institutional Economics Perspective", *Political Studies*, no. 50, pp. 61-79.
- Kostka, G. & Hobbs, W. (2013). "Embedded Interests and the Managerial Local State: the Political Economy of Methanol Fuel-Switching in China", *Journal of Contemporary China*, no. 22(80), forthcoming.
- Kostka, G. & Yu, X. (2012). Local Leadership in China: Examining Career Patterns and Cadre Mobility, Frankfurt School Working Paper Series, *Frankfurt School of Finance and Management*, September 2012.

- Landry, P. (2008). Decentralized Authoritarianism in China: The Communist Party's Control of Local Elites in the Post-Mao Era (Cambridge NY: Cambridge University Press).
- Lee, S. (2006). *Water and Development in China: the Political Economy of Shanghai Water Policy* (London: World Scientific Publishing).
- Li, C. (1994). "University Networks and the Rise of Qinghua Graduates in China's leadership," *Australian Journal of Chinese Affairs*, no. 32, pp. 1–30.
- Li, C. (2010). China's Midterm Jockeying: Gearing Up for 2012 Part1-3. *China Leadership Monitor*, no. 31, no. 32, no. 33.
- Li, Y.W., Miao, B. & Lang, G. (2011). "The Local Environmental State in China: A Study of County-Level Cities in Suzhou", *The China Quarterly*, no. 105, pp. 115-132.
- Liu, L., Bing, Z. & Bi, J. (2012). "Reforming China's multi-level environmental governance: Lessons from the 11th Five-Year Plan," *Environmental Science & Policy*, no. 21, pp. 106-111.
- Lo, C. W. H. & Tang, S. Y. (2006). "Institutional Reform, Economic Changes, and Local Environmental Management in China: The Case of Guangdong Province," *Environmental Politics*, no. 15, pp. 190-210.
- Ma, X. & Ortolano, L. (2000). Environmental Regulation in China: Institutions, Enforcement, and Compliance (Oxford: Rowman & Littlefield Publishers).
- Manion, M. (1985). "The Cadre Management System, Post Mao: The Appointment, Promotion, Transfer and Removal of Party and State Leaders", *China Quarterly*, no. 102, pp. 203–233.
- Manion, M. (1993). Retirement of Revolutionaries in China: Public Policies, Social Norms, Private Interests (Princeton, N.J.: Princeton University Press).
- McGregor, R. (2010). The Party The Secret World of China's Communist Rulers (London: Penguin Books).
- Mei, C. (2009). Brings the Politics Back in: Political Incentive and Policy Distortion in China (Doctoral Thesis, University of Maryland).
- Persson, P. & Zhuravskaya, E. (2012). "Elite Influence as a Substitute for Local Democracy: Evidence from Backgrounds of Chinese Provincial Leaders", Working Paper SSRN, Version August 2012.
- Pye, L. W. (1995). "Factions and the Politics of Guanxi: Paradoxes in Chinese Administrative and Political Behaviour," *The China Journal*, no. 34, pp. 35–53.
- Shih, V. (2008). *Factions and Finance in China: Elite Conflict and Inflation* (New York: Cambridge University Press).
- Shih, V., Shan, W. & Liu, M. (2010). "Gauging the Elite Political Equilibrium in the CCP: A Quantitative Approach Using Biographical Data", *The China Quarterly*, no. 201, pp. 79-103.
- Shih, V., Adolph, A. & Liu, M. (2012). "Getting Ahead in the Communist Party: Explaining the Advancement of Central Committee Members in China", *American Political Science Review*, Vol. 106, No. 1, pp. 166-187.
- Sinkule, B. J. & Ortolano, L. (1995). *Implementing Environmental Policy in China* (Westport: Praeger Publishers).
- Stern, R. (2011). "From Dispute to Decision: Suing Polluters in China," *The China Quarterly*, no. 206, pp. 294-312.

Tullock, G. (1965). *The Politics of Bureaucracy* (Washington, DC: Public Affairs Press).

- Van Rooij, B. (2003). Organization and Procedure in Environmental Law Enforcement: Sichuan in Comparative Perspective. *China Information*, 17 (2), pp. 36-64.
- Van Rooij, B. (2006). Implementation of Chinese Environmental Law: Regular Enforcement and Political Campaigns. *Development and Change*, 37 (1), pp. 57-74.
- Van Rooij, B. & Lo W. H. C. (2010). "Fragile Convergence: Understanding Variation in the Enforcement of China's Industrial Pollution Law", *Law & Policy*, 32(1), pp. 14-37.
- Walder, A. G. (1995). "Local Governments as Industrial Firms: An Organizational Analysis of China's Transition Economy", *American Journal of Sociology*, 101(2), pp. 263-301.
- Wang, Y. (1997). "Quanmian Jiaqiang Huanjing Fazhi Jianshe Quebao Kua Shiji Huanbao Mubiao De Shixian" ("Overall Strengthening the Establishment of the Environmental Legal System in Order to Guarantee the Realization of the EP Goals When Moving into the Next Century"), *Environmental Work News Report*, no. 12, pp. 16–24.
- Xie, Z. (2004). "Shuli He Luoshi Kexue Fazhanguan Tuidong Huanbao Gongzuo Zai Xin Taijie" ("Establishing and Implementing a Scientific Development Doctrine to Promote Environmental Work onto a New Level"), *Huanbao Gongzuo Ziliao Xuan (Selected Materials on Environmental Protection Work)*, 4(4), pp. 4–14.
- Zhong, Y. (2003). *Local Government and Politics in China: Challenges from Below* (Armonk, N.Y.: M.E. Sharpe).

		EPB Heads	Percentages (%)
		(Number)	
Gender	Male	31	100
	Female	0	0
Ethnicity	Han	21	84
	Minority	4	16
	Information not available	7	-
Age Range*	56-60	7	23
	51–55	11	35
	46–50	11	35
	41–45	2	6
	Total	31	100
Educational	Ph.D.	5	18
Level	Master's Degree	12	43
	4-Year College	9	32
	2-Year College	2	7
	Total	28	100
	Information not available	3	
Academic	Environment	1	4
Majors	Economics /Management	9**	32
	Politics/Public	2	7
	Adminstration		
	Engineering	9	32
	Law	2	7
	Chinese	3	11
	Others	2	7
	Total	28	100
	Information not available	3	

Table 1: Basic Characteristics and Educational Backgrounds of EPB Heads

Notes: *Average age of EPB heads is 51.6 years. ** Includes two EPB leaders with degrees in engineering and management.

	EPB Heads (Number)	Percentages (%)
Within the EPB	8	26
Within another provincial department	7	23
Economic	3/7	
Other	4/7	
Provincial People's Government (PPC)/Party committee	4	13
Municipal mayor (deputy)/Party secretary (vice)	10	32
State-owned enterprise	1	3
County level Party secretary	1	3
Total	31	100

Table 2: Position Prior Appointment to the EPB Head

	EPB Heads (Number)	Percentages (%)
Career Backgrounds*		
EPB	7	23
Provincial level	16	52
Government/Communist Youth League	3/16	
Economic bureau	8/16	
Other bureau	6/16	
Municipal level	5	16
Enterprise	2	6
Total	31	100

Table 3: Career Background

Note: * Refers to the majority of time spent over EPB heads' career in the civil service.

Table 4: Concurrent Affiliations and Cross-Postings*

	EPB Heads (Number	Percentages (%)
Affiliation to National People's Congress (NPC)	3	10
Affiliation to Provincial People's Congress (PPC)	2	6
Affiliation to university	2	6
Cross-postings	1	3
No affiliation reported**	25	81
Total	31	100

Note: * Listed affiliations only refer to reported affiliations on government websites. **There are six EPB heads with concurrent affiliations or cross-postings because two EPB heads had more than one concurrent affiliation or cross-posting.



Figure 1: Other Characteristics - Appointment Age and Time in Office

Notes: *Average age of appointment: 47.6 years old. **Average time in current position as EPB head is 4.0 years.

Figure 2: EPB Heads' Enterprise Experiences* (100% =31 heads)



Note: *Experience refers to temporary placements, concurrent affiliations, previous jobs, or rotating positions in state-owned enterprises.

Figure 3: Orientation of EPB Heads* (Number of EPB Heads; Percentage); 100% =31 heads



Notes: * Categorization based on analysis of three previous work experiences. Policysetting/provincially-oriented category combines leaders with government and non-economic provincial bureau careers. The business-oriented category combines leaders with careers in provincial economic bureaus and enterprises.

A comprehensive review of cadre appointment processes is beyond the scope of this article. For further details on cadre appointments and the role of the Chinese Communist Party's organizational departments, see Manion (1985, 1993), Burns (1987, 1994, 2010), and McGregor (2010, pp. 70-103).

⁴ Interview, September 2011, Shanxi, county EPB head

⁵ Interview, September 2011, Shanxi, county EPB head

⁶ Interview, September 2011, Shanxi, municipality EPB head

⁷ Interview, September 2011, Shanxi, deputy head of county Organization Department

⁸ The source here is the author's database consisting of biographic information for 124 departmental heads of provincial EPBs, development and reform commissions, economic commissions, and construction bureaus in China's 31 provinces.

⁹ For example, Persson and Zhuravskaya (2012: 56) show that average tenure on the job for 755 provincial Party secretaries during 1980 and 2005 was 3.29 years. Kostka and Yu (2012) collected data for 898 Party secretaries at the municipal level and find that while in the 1990s the average tenure length was 4.2 years, the average tenure length dropped to 3.3 years between 2002 and 2011. Landry's work on 2058 municipal mayors in office during 1990 to 2001 also suggests that tenure times steadily decline from an average of 3.2 years in the 1990s to 2.5 years by 2001 (2008: 90).

¹⁰ The three exceptions to the patterns of local political or economic careers are the EPB heads in Jiangsu, Anhui, and Tibet. The Tibet EPB head, the youngest provincial EPB leader, began his government career as deputy head of the Tibet EPB only three years before being appointed the EPB head. He was 29 when he left Beijing to do aid work in Tibet in 1998 after spending most of his twenties studying for his Ph.D. in environmental protection and after working briefly at the Beijing Environment Science Institute. His career background was categorized as 'EPB'. In Anhui, the head of the provincial EPB spent a nearly equal amount of time, over ten years each, in both provincial economic departments and in lower level government positions, but spent slightly more time in provincial economic departments. He was also categorized as 'economic'. The Jiangsu EPB head held for six years the position as a vice secretary (fu mishu 副秘书) in the provincial government, but served the majority of his earlier career in different economic government bureaus. He was categorized as 'economic'.

¹¹ See for example, 'Rivers Run Black in Shanxi Province', *China Daily*, 17 July 2006, available at http://www.china.org.cn/english/environment/174874.htm; Watts, J. and Rameesh, R., "Fighting for Air: Frontline of War on Global Warming", The Guardian, 26 March 2007, available at

http://www.guardian.co.uk/environment/2007/mar/26/globalwarming.china#article_continue

- ¹³ Interview, July 2010, Shanxi, government official at the provincial EPB
- ¹⁴ Interview, July 2010, Shanxi, provincial EPB head

¹⁵ Interview, July 2010, Shanxi, provincial EPB head

¹⁶ Interview, July 2010, Shanxi, provincial EPB head

¹⁷ Interview, September 2010, Inner Mongolia, government officials at the provincial Economic Commission and EPB.

¹⁸ Interview, September 2010, Inner Mongolia, county EPB head

¹⁹ Interview, September 2010, Inner Mongolia, government official in the Pollution Control Office

¹ EPB 'head' refers to the EPB Director (juzhang 局长) or the EPB Party secretary (dangzu shuji 党组 书记), which are positions almost always held concurrently.

² The main role of the EPB is to enforce environmental protection laws by regulating and monitoring pollution in water bodies, air, noise, solid waste, and soil. For a more detailed description of the role of EPBs, see Lee (2006: 82).