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# 中外对话 chinadialogue

## 2016 最佳环境报道奖

## China Environmental Press Awards

年度最佳记者奖 | 最佳影响力奖 | 最佳绿色经济报道奖 | 最佳调查报道奖 | 最佳深度报道奖

总编　伊莎贝尔·希尔顿

英国人，国际新闻工作者，BBC资深主持人，《卫报》专栏作家，并曾为全球多家知名媒体撰稿。她是一位中国问题专家，同时担任英国皇家国际关系学会和英国皇家人文学会会员。2006年，她主持创立了“中外对话”（http://www.chinadialogue.org.cn）双语环保网站。

Isabel Hilton, editor and founder of chinadialogue.net, is a London-based international journalist, a former BBC senior broadcaster and a columnist for *The Guardian*.

She is an expert in Chinese affairs, a member of the Royal Institute of International Affairs and a Fellow of the Royal Society of Arts. In 2006, she set up the bilingual website (http://www.chinadialogue.org.cn) focusing on China's environmental issues.

## 关于“中外对话”

“中外对话”是一个独立的非营利性组织，以伦敦、北京、德里和圣保罗为中心开展工作。

“中外对话”的主要业务是其独特的完全双语网站，它通过发表精辟、原创的中外文章、评论和分析，促进世界理解中国崛起带来的全球性生态环境影响，进而共同寻求公平可行的全球环境问题解决之道。

“中外对话”在很多机构的资助下运作，其中包括英国环境、食品和农业事物部、壳牌（中国）以及许多基金会。

## 关于“中外对话”内部交流刊物及网站

《中外对话》内部交流刊物是“中外对话”网站文章的精华。我们从网站上精心挑选了趣味盎然而极富挑战性的深度报道以及展现科技进步的新闻信息，方便与您的交流。欲阅读更多精彩的文章，请您登陆“中外对话”网站（http://www.chinadialogue.org.cn）。

“中外对话”网站以中国前沿环境记者撰写的文章、对国际知名人士的访谈以及对全球重大问题的深入报道为主要内容，通过网站，您可参阅每日全球环境新闻、赏析高质量的文章和参与“零语言障碍”的讨论（双语发布）。

另外，通过全球双语志愿者的帮助，您还可以在线与英文读者顺畅进行跨文化交流。在那里，您可以提出疑问、挑战专家观点、贡献您的知识和了解他人独到的见解。

加入讨论您就走出了解决问题的第一步。

## What is *chinadialogue*

*chinadialogue* is an independent, not-for-profit organisation based in London, Beijing, Delhi and Sao Paulo.

*chinadialogue*'s primary vehicle is our website (http://www.chinadialogue.org.cn), a unique bilingual platform which promotes a global understanding of the environmental impact of China's rise by publishing informed articles, commentaries and analysis by writers from inside and outside of China. We aim to inform, educate, and contribute to building a global consensus on fair and workable solutions.

*chinadialogue* is now read in 208 countries and regions and in all regions of China.

## About our journal

Produced on a bi-monthly basis, our journal brings you the best articles and reports from *chinadialogue*. If you want to contribute to the discussion you can visit our website (http://www.chinadialogue.org.cn) to add your comments and thoughts. Join the debate and be part of the solution.


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# 中外对话“最佳环境报道奖”
# China Environmental Press Awards

“最佳环境报道奖”从 2010 年开始举办以来，已连续颁发 7 届。共有来自全国各大媒体和机构的 123 人次及团队获得奖项鼓励。

颁奖典礼举行的同时还会举办包括研讨会及讲座在内的系列相关活动，国内多家知名环保组织和新闻媒体均会出席。奖项得到诸多国际国内媒体的关注和报道。

2016 年第七届“最佳环境报道奖”由环保网站“中外对话”发起并主办，人民大学环境学院和新浪新闻中心合办，鼓励对中国环境问题进行专业、深入报道的个人与团队，推动全民关注环境保护，寻求解决方案。活动得到阿里巴巴公益基金会的资助。

The China Environmental Press Awards were first launched in 2010. A total of 123 reporters/teams have won the awards so far.

The awards exist to promote fair, objective and in-depth reporting and raise the standards of environmental journalism.

The prizes are presented at an annual awarding ceremony in Beijing, accompanied by side events including seminars and workshops.

The ceremony is attended by high-profile members of China’ s environmental and media circles.

The 2016 China Environmental Press Awards are jointly held by chinadialogue, Renmin University’ s School of Environment and Natural Resources as well as the news center of Sina.com. This year’ s awards are sponsored by Alibaba Foundation.

中外对话
chinadialogue



# 目　录
# CONTENTS

## 新　闻　奖　Press awards

# 中国与世界，环境危机大家谈

## China and the world discuss the environment




中外对话 chinadialogue

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# 2016 最佳环境报道奖
The China Environmental Press Awards

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## 获奖名单
WINNER'S LIST

**年度最佳记者奖：** 石毅 《澎湃新闻》
Best Reporter of the Year: Shi Yi The Paper News

**最佳调查报道奖：** 《天津爆炸事故系列报道》 涂重航等 《新京报》
Best Investigative Report: Tianjin explosion series Tu Chonghang and his team The Beijing News

**最佳影响力奖：** 《靖江毒地系列报道》 李显峰 《北京青年报》
Best Impact Report: Jingjiang toxic land series Li Xianfeng Beijing Youth Daily

**最佳深度报道奖：** 《你身边潜伏的化学危险源》 何林璘 刘星 卢义杰 《中国青年报闻》
Best In-Depth Reporting: Hidden chemical threats in your life He Linlin Liu Xing Lu Yijie China Youth Daily

**最佳绿色经济报道奖：** 《垃圾发电灰幕调查》 闫笑炜 《能源》
Best Reporting on Green Business: The dark side of garbage power generation Yan Xiaowei Energy Magazine

**年度最佳青年记者奖：** 空缺
Young Journalist of the Year: Vacant

**年度最佳自媒体奖：** 洪武(@湘潭小武哥)
Best Citizen Journalist: Hong Wu

**优秀报道奖：**

- 《临沂治霾选择题》 吕明合 《南方周末》
- 《被架空的环评》 刘伊曼 《南方都市报》
- 《环境指挥棒为何失灵》 孔令钰 《财新周刊》
- 《治霾资金再投千亿或将无功而返》 冯军 腾讯财经
- 《金沙江环境危机》、《青海湖垃圾危机》等 陈杰 《新京报》
- 《雾霾政治学》、《修复天津港》、《清华系》等 汪韬 《南方周末》
- 《十三五开启千亿热潮石墨烯产业：污染密集型？》 谭畅 《南方周末》
- 《北京假洒水车垃圾场运污水偷排市政井》 吴振鹏 张永生 尹亚飞 《新京报》
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# 颁 奖 词
# AWARD CEREMONY NOTES

## 年度最佳记者
## Best Reporter of the Year

• 石 毅 Shi Yi

•《新澎湃新闻》 The Paper News

新疆一地方为了发展矿业，多次缩小卡拉麦里野生动物保护区的面积，令珍稀野生动物面临生存威胁。澎湃新闻记者石毅对此事件做出系列报道，引起了中央政府的重视，习近平做出批示，中央办公厅调查组、中央巡视组明察暗访，新疆自治区书记张春贤赴卡拉麦里考察，做出暂停第六次调整的决定，2015 年年底，新疆正式撤销保护区的第六次调整方案。

在 2015 年，石毅还做出了其他出色的报道。在南部非洲国家纳米比亚，她调查非法象牙交易，伪装成购买者与非法野生生物制品销售者接触。作品刊发后，当地警方查抄了其中一处非法交易网点。这样的报道，直接加强了国际社会对大象盗猎现象的打击，同时显示出中国媒体提升了对国际问题的责任意识。

鉴于她在 2015 年的杰出表现，中国最佳环境报道评委会将“2015 年度最佳环境记者”授予石毅。

In recognition of her outstanding performance both in domestic coverage and international correspondence, the jury of China Environmental Press Awards hereby presents to Shi Yi the Prize of “Best Reporter of the Year”.

## 最佳调查报道奖
## Best Investigative Report


- **涂重航 等　Tu Chonghang and his team**
- **《天津爆炸道》系列报道　Tianjin explosion series**
- **新京报　The Beijing News**

天津 8 月发生的特大危化品仓库爆炸事故，是 2015 年最重大的新闻事件之一。新京报记者涂重航和同事们赶赴灾难现场，在一周之内，快速、连续刊发 6 篇调查报道，在短时间内将事故现场的危化品种类、爆炸原因、责任主体、环评、安评存在的问题、滨海新区监管体制漏洞等进行了全面揭示，包括最先披露 700 吨巨毒品氢化钠有泄露危险。

他们在报道重大突发事件中，做到了既快速又深入，为新闻业重新做出了表率。

Tu Chonghang and his colleagues bring immediacy and depth to breaking news coverage concerning large-magnitude incidents. Their work redefines professionalism and dedication for the industry.

## 最佳深度报道奖
## Best In-Depth Reporting

- 何林璘 刘星 卢义杰 He Linlin Liu Xing Lu Yijie
- 《你身边潜伏的化学“危险源”》 Hidden chemical threats in your life
- 中国青年报 China Youth Daily

天津港大爆炸，令不少港口城市的居民不安，自己是不是离危险化工产品仓库也很近？中国青年报特派记者刘星、何林璘、卢义杰赴上海、宁波、青岛这三个中国最重要的港口，历时一个月调查发现，相当多危险源突破了与居民区之间一千米的安全红线。这是一个重大的安全隐患，却一直被人忽略。中青报的报道分析了一千米安全红线没有落实的原因，并提出了制度上的建设性意见。

这些媒体人的工作，真正体现了普利策所说的记者的责任：“倘若国家是一条航行在大海上的船，新闻记者就是船头的守望者。他要在一望无际的海面上观察一切，审视海上的不测风云和浅滩暗礁，及时发出警告。”

The work of He Linlin, Liu Xing, and Lu Yijie on chemical factories in cities work truly embodies journalistic responsibilities as described by Joseph Pulitzer: “A journalist is the lookout on the bridge of the ship of state. He peers through fog and storm to give warning of dangers ahead. He is not thinking of his wages or of the profits of his owners. He is there to watch over the safety and the welfare of the people who trust him.”

## 最佳影响力奖
## Best Impact Report

• 李显峰 Li Xianfeng
• 《靖江毒地》系列报道 Jingjiang toxic land series
• 北京青年报 Beijing Youth Daily

2015 年 9 月底，在知情人网曝江苏靖江一养猪场地下填埋上万吨化工废料后，北京青年报记者李显峰第一个找到爆料人，获得一手证据资料，并在靖江当地封锁“毒地”的情况下，混进养猪场核实证据。

北京青年报与爆料人的独家对话，是这起事件的关键节点，令网络爆料转化为可信的主流媒体报道，引发连锁反应。环保部、公安部和最高检迅速介入，核实了爆料的真实性，并已着手处理这块毒地，挖出 4000 多桶危险废物。这是记者报道维护公众利益的绝佳体现。

Li Xianfeng's interview in the Beijing Youth Daily with the whistleblower of the Jingjiang soil pollution incident marked a turning point in public coverage of this affair. It transformed mere online exposure to creditable coverage on mainstream media, and prompted relevant authorities to investigate. The series fully demonstrated how journalistic reportage can defend the public interest.

## 最佳绿色经济报道奖
## Best Reporting on Green Business

• 闫笑炜 Yan Xiaowei
• 《垃圾发电灰幕调查》The dark side of garbage power generation
• 《能源》杂志 Energy Magazine

在环境领域，“垃圾发电”跟“大坝”、“PM2.5”一样，是一个敏感词，它让人联想到此起彼伏的抗议和邻避运动。但在产业界，它是一个金矿和“消纳城市垃圾、创造能源的循环经济解决方案”。对于正处于绿色转型中的中国来说，有必要对各种解决方案进行实事求是的辨别。环境媒体报道垃圾发电厂与居民的冲突很多，但很少有媒体能深入调查这个产业内部。

《能源》杂志闫笑炜做出了突破：他深入多个垃圾发电厂调查，揭示了这个产业灰色的利益链条和鱼龙混杂的潜规则。

Yan Xiaowei from the Energy magazine made remarkable breakthrough in covering the conflicts between waste-to-energy power plants and local residents. The in-depth investigations that he conducted at various waste-to-energy power plants shed light upon the complex hidden rules of the industry, as well as the murkier sides of its business interests.

## 最佳自媒体奖
## Best Citizen Journalist

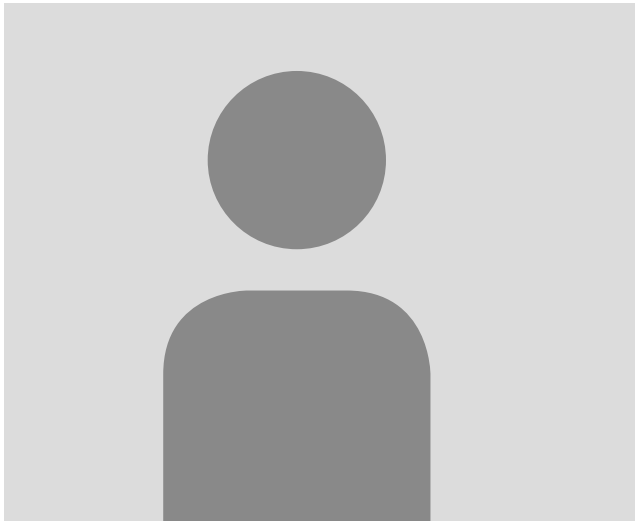
• 李洪武 , Hong Wu
• @湘潭小武哥

在微博热络的时代，他一个人管理着四五个微博，主阵地“@ 湘潭小武哥”至今已经发布了将近十万条信息，估计是中国环保公益的第一人。微信时代，他仍旧在延续这个强大的能力，一个人管理着好几个微信公众号。

更重要的是，他一直坚持民间的立场，致力于通过报道加倡导的形式，促进环境问题的解决。

Hong Wu uses his Weibo accounts to the resolution of environmental issues through reportage and advocacy; in doing so, he exemplifies the ethic of the citizen journalist.

## 年度最佳青年记者奖(空缺)
## Young Journalist of the Year ( vacant )



几年前，评委陈婉莹教授提议设立年度青年记者，以奖励从事新闻业不足三年的新人。在过去几年，我们奖励了不少突出的青年记者，有些获奖者甚至在从业第一年就凭着杰出的表现摘得大奖。2015 年，中国环境报道仍然佳作迭出，令人振奋，但评委会遗憾地发现，今年并没有发现突出的新人记者，令中国环境报道光彩夺目的，仍然是许多资深的老面孔，有许多这样的“老兵”今天在座。评委会决定今年此奖空缺，以候来年。

## 优秀报道奖
## Awards for Excellence



- **《北京假洒水车垃圾场运污水偷排市政井》**
  **Fake street sprinkler dumps waste water into Beijing's municipal pipelines**
- 吴振鹏 张永生 尹亚飞 Wu Zhenpeng Zhang Yongsheng Yin Yafei,
- 《新京报 》The Beijing News

记者连续几个夜晚蹲守、跟踪非法污水排放车，终令真相大白：北京六里屯垃圾厂的有毒液体，被偷偷排入市政管道。此文引起北京市全市排查。

Several days' worth of gumshoe reporting finally exposed how a Beijing garbage plant was stealthily dumping toxic waste water into the city's municipal pipelines. The article triggered a city-wide crackdown on such illegal practices.

- **《治霾资金再投千亿 或将无功而返》**
  **Wasteful investments on smog control**
- 冯军 Feng Jun
- 《腾讯财经》 finance.qq.com

冯军调查发现，超低排放的减排空间实则有限，成本巨大。此报道获得总理、副总理批示。

Feng Jun's reporting demonstrated that the potential for coal-fired power plants to reduce carbon emissions to minimal levels is limited, and the costs involved in doing so are massive. The Premier and Vice Premier noticed the report and issued corresponding directions.

**•《被架空的环评》**
**The usurped environmental assessment**
• 刘伊曼 Liu Yiman,
•《南方都市报》Nandu Media

刘伊曼多年追踪云南石化项目炼油基地，发现其未批先建，环评成为橡皮图章。

After years of intense monitoring and investigation, Liu Yiman found out that an oil refinery project funded by Yunnan Petrochemical had gone ahead without proper approval, and that the project's compulsory environmental assessment had functioned as a mere rubber stamp.

**•《环境指挥棒为何失灵》**
**China's anti-pollution strategy loses control**
• 孔令钰 Kong Lingyu
•《财新》Caixin

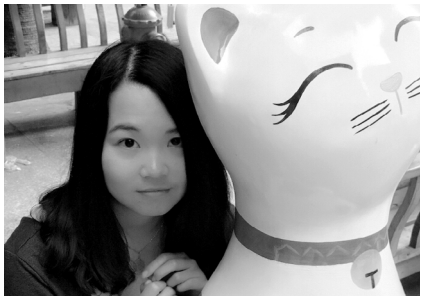
“总量减排”是中国过去 10 年最主要的环境治理办法，但这办法为什么失灵？ 上一年度的“最佳青年记者”孔令钰，将这一枯燥的问题，条分缕析地做出了解释。

“Total emission cuts” have been China's primary pollution control method in the past decade. But why the method is losing efficacy? Winner of Best Young Reporter Prize in 2015, Kong Lingyu offers the answer with coherent and logical analysis.

**•《临沂治霾选择题》 Linyi's smog dilemma**
• 吕明合 Lv Minghe
•《南方周末》 Southern Weekend

这是一篇引起重大争议的报道，体现了记者和编辑敏锐的洞察力。

The work of Lu Minghe and her editors on Linyi's smog problem showed perspicacity and insight and triggered nationwide debate.



**•《"十三五"开启千亿热潮石墨烯产业 :污染密集型?》**
**The graphene industry: pollution intensive or not?**

• 谭 畅 Tang Chang

•《南方周末》Southern Weekend

一个新产品所面临的潜在环境风险，由一位青年记者所提出。这是一篇有价值的预警性报道。

Tang Chang's work on the graphene industry offered a valuable early warning on the potential environmental risks associated with an emerging industry. A valuable early warning report for sure.

• 陈 杰 Chen Jie

•《新京报》the Beijing News

2015年的"年度最佳记者"，今年又做出一系列杰出摄影报道：天津大爆炸、金沙江环境危机、福岛核污染区、青海湖垃圾危机。其持续的创造力，令人赞叹。

The laureate of Best Reporter of the Year Award in 2015, Chen Jie never ceases his quest for excellence. His consistent efforts and creativity were on display in his coverage of a host of incidents: the Tianjin explosion, the Jinsha River environmental crisis, the Fukushima nuclear power plant meltdown, and many others.

• 汪 韬 Wang Tao

•《南方周末》 Southern Weekend

昔日"最佳青年记者"，在2015年以独到的视角，深入探索雾霾政治学、修复天津港、清华系等重要议题。作者已成为中国环境报道的中坚力量。

A one-time "Best Young Reporter Prize" winner, Wang Tao has become one of the leading voices of environmental journalism in China. Her stories on the politics of smog, the Tianjin harbour remediation, and the "Tsinghua Network" all demonstrate her skills as finding good angles and conducting in-depth analysis.


• 张细姣 @锅顶山的张细姣 Zhang Xijiao

他们是武汉锅顶山垃圾焚烧厂的污染受害者。他们是中国环境难民在维护权益时的杰出代表。

They are victims of heavy pollution originated from a Wuhan waste incinerator. They are outstanding representatives of China's environmental refugees fighting to defend their own rights.

• 李云帆 Li Yunfan
• "大自然野趣"公众号 MOTHER NATURE Wechat public account

在自媒体泛滥的时代，坚持以原创的精神做一件事，以民间独立的立场持续发布，必然会大有作为。

In an age marked by a surfeit of self-owned media, Li Yunfan never wavers his quest for originality and consistently publishes from an independent citizen journalist's perspective.

# 新闻业衰落中记者的担当

**在第七届最佳环境报道奖颁奖之际，刘鉴强点评**
**新闻业为什么比任何时候都更需要社会大众的支持**

□ 刘鉴强

中外对话北京办公室前总编刘鉴强在发言

人们已经习惯了中国新闻业的衰落。但突然有一天，灾难来临，比如说天津港大爆炸，逃出灾区的市民发现，逆着他们冲入灾区的，除了消防官兵，还有记者；公众发现，此时他们最信赖的信息，是职业记者从灾区发回的报道。

在过去短短几年间，中国新闻业发生了巨变。就连最乐观的观察者，都不得不承认新闻业在走下坡路。商业与政治的双重挑战，令传统新闻业举步维艰。

这里的“传统新闻业”，并不仅仅指传统的电视、广播、报纸和杂志等新闻媒介，而是指发表于包括网络媒体与自媒体在内的所有媒体、最能体现新闻业核心价值的、维护公共利益的报道。优秀媒体人的大批离职、深度报道部门的取消和揭露性报道的大量减少，已经令商业性媒体变成一门生意，而不是“铁肩担道义”的社会公共机构。

但灾难来临，社会需要真相时，总有媒体人在勇敢地担当其责任。

天津大爆炸发生于 8 月 12 日午夜，在第二天上午，已有大批记者赶到现场，《新京报》记者涂重航是其中之一。他赶到爆炸地点，辗转寻找，凭经验判断出现场指挥部所在，进入指挥部，并得到爆炸现场曾有 700 吨剧毒氰化钠的消息，独家发布了这个重大新闻。涂重航是《新京报》派到现场的 20 多位记者之一。在随后的 7 天里，《新京报》以数十个版面聚焦大爆炸。在调查报道方面，记者编辑们分成两路追踪两大问题：一是 700 吨剧毒氰化钠的下落，二是管理方瑞海公司的神秘背景，由此形成一系列独家调查报道，在危难时及时传播真相，为新闻界争得了尊严。

正如本届中国“最佳环境报道奖”评委展江教授所言，《新京报》的天津港爆炸系列报道“事件特别

重大，记者集团采访，秉持专业主义，报道全面客观，称雄各大媒体”。

今年，中国最佳环境报道评委会将“最佳调查报道”大奖授予涂重航与其同事们。他们在报道重大突发事件中，做到了既迅速又深入，在仓促之际，能冷静地做出独家调查报道，为新闻业重新做出了表率。

《中国青年报》也就爆炸事件做出深度报道。大爆炸令不少港口城市的居民不安，自己是不是离危险化工产品仓库也很近？《中国青年报》特派记者刘星、何林璘、卢义杰赴上海、宁波、青岛这三个中国最重要的港口，历时一个月调查发现，相当多危险源突破了与居民区之间1000米的安全红线，也就是说，造成重大人员伤亡和财产损失的危险化学品爆炸，有可能发生于其他大型港口。这是一个重大的安全隐患，却一直被人忽略。中青报的报道分析了1000米安全红线没有落实的原因，并提出了制度上的建设性意见。这些媒体人的工作，体现了普利策所说记者的责任：“倘若国家是一条航行在大海上的船，新闻记者就是船头的守望者。他要在一望无际的海面上观察一切，审视海上的不测风云和浅滩暗礁，及时发出警告。”

中青报同仁凭此系列报道，获最佳深度报道奖。评委会在评审2015年获奖作品时，发现一个令人振奋的现象：尽管专业新闻业整体下滑，但进入视野的、事关公共利益的调查报道，数量与水准不但没有下降，反而有提高。

新疆一地方为了发展矿业，多次缩小卡拉麦里野生动物保护区的面积，令珍稀野生动物面临生存威胁。澎湃新闻记者石毅对此事件做出系列报道，引起了中央政府的重视，习近平总书记做出批示，中央办公厅调查组、中央巡视组明察暗访，新疆自治区书记张春贤赴卡拉麦里考察。2015年年底，新疆正式撤销保护区的第六次调整方案。记者石毅在当年还做出了其他优秀报道，她因此获得了“年度最佳记者”之大奖。

2015年9月底，有知情人网上爆料，江苏靖江一养猪场地下填埋上万吨化工废料。《北京青年报》记者李显峰第一个找到爆料人，获得一手证据资料，并在靖江当地封锁毒地的情况下，混进养猪场核实证据。

李显峰与爆料人的独家对话，是这起事件的关键节点，令网络报料转化为可信的主流媒体报道，引发连锁反应。环保部、公安部和最高检迅速介入，核实了爆料的真实性，并已着手处理这块毒地，挖出4000多桶危险废物。这是记者报道维护公众利益的绝佳体现。记者李显峰获得了“最佳影响力”大奖。

“中国最佳环境报道奖”已连续7次颁奖，奖励了100多位中国优秀记者。在这6年中，我们亲眼看到新闻业的下滑，但也亲眼见证许多优秀记者逆行而上，传递着新闻专业主义与新闻理想的火炬，这两个潮流居然同时存在，令人惊讶。细想一下，又觉得不足为怪：新闻理想、记者风骨，本来就不是春天盛放的百花，而是寒冬的红梅。当寒冬来临，总有梅花怒放；而当你惊喜于梅花盛开时，那必是寒冬时候。

新闻业繁荣也罢，衰落也罢，灾难来临时，总有新闻人冲在前面。但灾难频频发生，不是媒体人希望看到的。希望社会能给记者空间，能让天津大爆炸、新疆保护区破坏、江苏毒废料被埋地下、北京有毒液体倒入市政管井等灾难发生之前，就报道出那潜在的危险，并由此免遭劫难。这才是记者工作的意义所在，这才是新闻之理想。

刘鉴强，中外对话北京办公室前总编。曾经是《南方周末》资深调查记者。

# China's environmental journalists shine despite dark times for local media

To mark the 2016 China Environmental Press Awards, Liu Jianqiang explains why supporting investigative reporters is more important than ever

□ Liu Jianqiang

It's a common view that standards in mainstream Chinese journalism have been deteriorating for some time now. But when disaster strikes – for example, as in the Tianjin explosions – it is not just firefighters rushing towards the scene. Journalists follow close behind. The public know that their most reliable source of information during these fast moving events are the reports filed from the scene by professional reporters.

China's news industry has seen huge changes in the past several years, and even the most optimistic of observers admit these have not been for the better. Commercial and political challenges have hindered traditional media doing its job.

And "traditional" here does not just mean television, radio and print media – it includes all reporting, including online and personal websites or blogs, which embody the core values of journalists and seek to protect the public interest. But many good journalists have left the industry as quality investigative journalism departments have been closed down, and the number of exposés has dwindled. Now, the commercial media is mainly a business rather than a public institution carrying out a moral mission.

But in times of disaster, when the public needs to know the truth, those working in the media bravely fulfil their duties.

The morning after the huge explosions in Tianjin last August, many journalists were already on the scene, including Tu Zhonghang of the *Beijing News*.

He had rushed to the disaster zone, and managed to get into the control room where the fight to contain the disaster was being supervised. From there, he was able to get a major exclusive, learning that 700 tonnes of highly toxic sodium cyanide had once been stored at the site.

Tu was one of over 20 reporters dispatched by the *Beijing News*, and in the week after the disaster he and his newspaper printed dozens of pages covering the explosion. Journalists and editors focussed their investigations on what had happened to those 700 tonnes of sodium cyanide; and the mysterious background of the site's owner, Ruihai Logistics. This led to a series of exclusive investigations, and by getting the truth out quickly at a time of crisis, the *Beijing News* earned new respect for the news media.

Coverage of the explosion involved "reporters working as a team on a huge story, maintaining professionalism and producing comprehensive and objective reports, and leading

"Now, the commercial media is mainly a business rather than a public institution carrying out a moral mission. But in times of disaster, when the public needs to know the truth, those working in the media bravely fulfil their duties."

all other major outlets," points out Professor Jiang, one of the judges for *chinadialogue*'s press awards.

This year Tu and his colleagues won the "Best Investigation" prize. Their reports on this major incident were both rapid and in-depth. Despite the time pressure they were able to deliver a series of scoops – a fine example to the rest of the industry.

The *China Youth Daily* also provided much fine detail on the same incident and their journalists are winners of the "Best In-Depth Report" award.

The explosion worried many residents of port cities – were they also living next door to a warehouse full of hazardous chemicals? The *China Youth Daily* dispatched reporters Liu Xin, He Linlin and Lu Yijie to three major ports: Shanghai, Ningbo and Qingdao.

During a month-long investigation, they found many hazardous sites were within 1,000 metres of residential buildings, in breach of a safety rule. The reporting team also identified the risk of a major chemical explosion causing numerous deaths and huge property damage could happen at other ports besides Tianjin.

Previously, this major risk has consistently been overlooked in the media. *Thepaper.cn* also investigated the reasons why the required distances between hazardous storage and residential property were not adhered to. It reported on how safety standards could be improved in other cities. The paper's work fulfils the responsibility Joseph Pulitzer spoke of: "A journalist is the lookout on the bridge of the ship of state… He peers through fog and storm to give warning of dangers ahead."

When judging this year's awards, the committee was surprised. Although the mainstream news industry overall has been in decline, the number and quality of investigative reports on matters of public interest had actually increased.

A particularly praiseworthy example of this focused on a remote, ecologically sensitive area of western China that won its author "Journalist of the Year".

The Kalamely Nature Reserve in Xinjiang has repeatedly been shrunk to allow for mining, putting rare wildlife at risk. Shi Yi, a journalist with *Thepaper.cn,* filed a series of reports on the issue, bringing the case to the attention of central government. A memo from Xi Jinping resulted in an undercover visit by Party Central Committee investigators, as well as a public visit by Zhang Chunxian, Xinjiang Party Secretary. At the end of last year, the plans for the most recent reduction in the size of the reserve were scrapped.

In late September 2015 a source reported online that over 10,000 tonnes of chemical waste were buried under a pig farm in Jingjiang, Jiangsu, eastern China. *Beijing Youth Daily* reporter Li Xianfeng was the first to find that source and get first-hand evidence – and gain access to the now-sealed off farm to verify it.

His reporting is a fine example of reporting in the public interest, and it won Li our "Most Influential Report" award.

Li's exclusive interview with the source was key to the story – it took an online tip and developed it into a mainstream media story. That triggered rapid interventions by the Ministry of Environmental Protection, the Ministry of Public Security and the Supreme People's Procuratorate, which confirmed the veracity of the reports and are now managing the site, with 4,000 barrels of hazardous materials being removed.

Over 100 outstanding Chinese journalists have received prizes in the six years that our awards have been handed out. During this time we have seen for ourselves the decline of the news industry – but also seen many fine journalists bucking that trend by carrying on the baton of journalistic ideals and professionalism.

Journalism has never been an easy job, and those who possess the ideals and the strength of character of a good journalist will flourish even in the hard times – and it is perhaps the fact that these journalists have become so prominent that tells us we are more in need of quality journalism than ever.

Whether the industry is flourishing or in decline, journalists will always be among those first on the scene when disaster strikes. But they do not hope those disasters will occur. I hope society can give journalists the opportunity to report on the dangers of explosions in Tianjin, of harm to nature reserves in Xinjiang, of toxic waste buried in Jiangsu, of poisonous fluids in the Beijing water supply before those disasters actually happen and prevent them. That is the true value of journalism.

*Jianqiang is former Beijing editor of chinadialogue.*

# 记者就像消防员

《新京报》记者涂重航，作为 2016 年“最佳调查报道”获奖者，在颁奖仪式上，分享他的报道经验。

□ 涂重航

天津爆炸是一个特例，我们报社派了近三十名记者。做调查报道大概有将近十人。但想在当天或者是两天、三天之内能够找出天津爆炸是什么原因，这是非常困难的。我在去的时候是奔着调查报告去的，那些热点事件、现场联线什么的，我不需要去关注。去查环评报告，查相关的法律法规。

第一天的时间去了现场，因为我有一个习惯，不管是做调查还是做什么稿子，一定要去现场感受一下当地的事情，主体的方位，东南西北的朝向。它是一个什么样子，脑海里面有一个轮廓，去查相关的资料，一下能够看得懂。

第二天就开始网上查相关的资料，环保规定、法律规范什么的。后来发现天津爆炸的这个仓库需要相关部门去审批，首先是规划局、国土局还有港口，因为它是港口的一个仓库，还是要有交通部来审批，然后还有一些海事部门、安全生产部门，最后锁定了两个部门，就是港口管理局、港区管委会。

这两个地方应该是能够解答我们相关疑问的，后来拿到一份不对外公开的当时审批的仓库复印件，拿到这个，再去根据相关的法律法规一一去追踪，后期去对照相应的法规，看看到底为什么这个材料不能公开。是什么原因？然后发现这个审批的文件还有问题，所以在当天的时候发了第一篇的调查稿，后来连续四五天也在各个不同的层面去置疑这个仓库审批的问题。

《新京报》在头期的那天，我们总结了一下，总共发了五篇深度报告，这也是很罕见的，但我觉得天津这事还不是特别难调查的。调查新闻越来越难做，我现在做的几篇报道都只有空白信息。

当时发生爆炸是十点多钟，十一点钟我们记者去了。报社派的司机两辆车都到了天津。去的时候负责人、总编辑都叮嘱记者说保护自己，消防员在哪里，你就跟着消防员走，跟着救援人员，听从救援人员的指挥。

我现在也经常出入这些危险场所，有时候我们在给记者布置任务的时候，心里边也很纠结，我自己做稿子也很纠结，就是“危险跟记者的人身安全”怎么衡量？明知道去了可能对身体不好。我自己从天津爆炸现场回来之后，一星期后开始有鼻炎，开始有鼻息肉，这个事情我也没有跟别人说，我自己感觉也很巧合。后来三十多个记者到医院去做体检。报道现场有突发状况，很难要求记者不要去采访而要撤回来，从我们记者本人到管理层都没有下这个决定。记者要收集信息，报道这个事情的真相，在这个过程当中尽量保护自己。因为我们做的这个行业，就像消防员一样，不可能说我不去。可能当时心里也想着，我是一个记者，我的职业就是要去现场。

有的时候，我们做的调查报告，不是当下的热点。比如说今天李易峰出车祸了，大家都在关注。环境报道相关的却没有关注。

我自己算是年纪比较大，还在一线，自己的感受就是说，所有的选题都是跟公众利益有关，跟这个社会的体制运行有关，虽然与记者本人这个利益不是直接相关。因为尽管报社对这些调查记者提供相关的薪水，但是我做一篇调查报告，这个精力和时间，或者是面临的危险要比我做一个普通的报告要多得多。假如要是去做一个化工厂爆炸泄露的环境报道，比我们做环境政策的时政报道明显难得多。坚持下来还是需要心中有正义，或者说是浩然正气所在。尽管有一些记者离开，还是有一些记者坚守着这个行业。

中外对话根据涂重航演讲整理

# Journalists as firefighters

Tu Zhonghang, *Beijing News* journalists and winner of the 2016 Best Investigation award, spoke at the ceremony about his experiences

□ Tu Zhonghang

The Tianjin explosion was a one-off - our paper dispatched almost thirty journalists, about ten of them investigative reporters. It would be next to impossible to identify the cause of the explosion the same day, or even in the next two or three days. However, I went there to investigate: to check the environmental impact assessment for the site, and the relevant laws and regulations. The unfolding events, what was occurring on the scene, were not my concern.

But that first day I did visit the site, as is customary for me. Regardless of what I'm writing, I visit the scene of the incident to get a feel for what is happening and its layout. I need to have an idea in my head of what it looks like, so that I can understand the material I'll read later.

The next day I started an online search for useful documentation – environmental protection regulations, legislation and rules, so on. I found that the warehouse which had exploded would have needed approvals – from the planning bureau, the land bureau, the port authorities, and as it was located at a port, the transportation authorities as well. And then there were marine authorities and industrial safety authorities. Ultimately I set my sights on two bodies: the port management bureau and the port management committee.

Between them they should have had answers to my questions. Later I obtained a copy of a document from when the warehouse had been given approval, which was not then in the public domain. With that in hand I pored over the legislation to see why such a document could not be made public. I then found problems with the document itself and the very same day submitted a draft piece. The following four or five days I spent investigating various issues with the approvals process.


*Tu Zhonghang spoke at the ceremony about his experiences*

The *Beijing News* published five in-depth reports in those few early days – that's very rare. But I don't think this was a very difficult case to investigate. But Investigative journalism in general is getting more difficult – in each of several investigations I am currently working on, I have drawn a blank.

The explosion occurred after 10pm - by 11pm our journalists were en route, in two of our cars. Our senior staff and chief editor all told us to stay safe: stick with the firefighters and the other responders, and follow their orders.

I'm often working in dangerous locations like these, and often when giving reporters assignments, or when I'm at

work myself, I find myself at a loss as to how to balance the risks. I'm well aware of the dangers – a week after coming back from Tianjin I started to suffer from rhinitis and nasal polyps. I didn't mention it to anyone, thinking it was just a coincidence. Later, all thirty-plus journalists went for health checks. It's hard to tell journalists to leave the scene of a story, and none of us, journalists or managers, made the decision to do so. Journalists need to gather information and report the truth, and in the process keep themselves as safe as possible. In our line of work, we're like firefighters – you can't refuse to go. I'm a journalist, you might tell yourself, it's my job to go.

Sometimes our investigations aren't on the hot topics – for example today everyone's reading about Li Yifeng's car accident, so they're not reading anything about the environment.

I'm quite old for a frontline journalist, and I feel our topics should be chosen in the public interest, be chosen for relevance to how our society works, even if that isn't necessarily in the journalist's best interest. Because even if the newspapers pay us good salaries, our investigative reports take more time and effort, and maybe expose us to more danger, than an ordinary story. A report on an explosion at a chemical factory is obviously more dangerous than a current affairs piece on environmental policy. To keep doing this you need a sense of justice, of righteousness. And while some of us may have left, others remain at their posts.

*Compiled by chinadialogue based on Tu's speech*

获奖者故事

# 石毅：做记者是因为喜欢自由

**石毅，中外对话 2016“最佳环境报道奖”年度最佳记者。她在调查报道中所展现的勇气和优秀素质，和她淡泊恬静的气质形成了鲜明而有趣的反差。**

□ 张 春

几个黝黑壮实的盗猎者被警察按倒在地，利索地铐上手铐。

石毅坐在十米开外的车里，拿起相机仓促拍了两张，手竟然开始控制不住地发抖，掏出镜头盖准备收起相机，盖子在颤抖的手里没拿稳，哐的一声掉落在地。

前一刻和盗猎者谈买卖还很坦然的她，此刻却突然喉咙发紧肌肉僵直。因盗猎者被抓而兴高采烈的司机在一旁打趣她的样子，她却说不出话来，足足半小时，没有说出一句话。直到远在中国的同事收到她发的盗猎者伏法的照片，提醒她赶紧离开，她才反应过来，是的，要赶紧走。

这是南部非洲国度纳米比亚的一个偏远小镇，盗猎现象非常严重。2015 年 9 月，石毅受到南非 Oxpeckers 中心和南非金山大学中非报道项目的资助来到纳米比亚，就野生动物盗猎情况进行调查。不过现在，她已经暴露自己不是真的来买象牙的。在这个只有一个餐厅的小镇，一张亚洲面孔实在太过于扎眼，何况每一天每一顿，她都要到餐厅吃饭，继续待下去每一分钟都有被报复的危险。收拾行李，今天就走！

做了多年记者，算起来把自己置身于这种险境的时候还是少见。她自认为不是为着新闻理想一定要改变某些现状的人。非新闻专业出身的她，踏入这个行业，更多是出于喜欢不受约束的自由。不过，作为一个写完稿子都不追究是否发布的人，石毅大概自己也没有意识到，她低调淡泊的性格里，其实有着惊人的勇气，以及对人和自然发自内心的关怀。

甫到当地，就有人告知一头大象日前被猎杀了，随后又传来了盗猎者和中间商的消息。虽然知道盗猎者的存在，不过这么接近他们的时候，她开始紧张且犹豫起来：要不要和中间商去接触？去吧，真怕自己说漏嘴当场暴露，不知道会有什么结果不去吧，怎么写稿子呢？可是，一想到明天死去大象的象牙就可能出现在自己的眼前，不能做点什么心里真不是滋味。

最终，她去见了盗猎者，两个壮实的年轻男性。在入住的宾馆里，他们关紧了门窗。

她坦然地和他们论价，询问象牙的供应以及价格，表示想要买一些象牙的意思，然后约好了第二次见面正式交易的时间和地点。等待他们的将会是早就埋伏好的警察。

石毅文章里那种恢弘的气势，大概就是在这样的经历里锤炼出来的。上万字的文章里，节奏紧凑地铺排着详尽的调查，周密的逻辑，准确的数字，多方平衡的引证，对事实的披露常给人以震撼。第一次见到她本人的人，常感到意外，没想到是一个如此恬静清秀的女子竟然有如此胆识。

然而在外人看来惊险刺激的经历，却不是石毅最看重的。她谈起非洲此行最大的收获，竟然不是和盗猎者的交锋，而是了解到当地人对待狩猎截然不同的态度。

> “作为一个写完稿子都不追究是否发布的人，石毅大概自己也没有意识到，她低调淡泊的性格里，其实有着惊人的勇气，以及对人和自然发自内心的关怀。”

当前的舆论环境下，不该猎杀野生动物成了主流声音。但问及纳米比亚当地人怎么看待可能的禁猎制度，他们告诉她这并不是什么好事。第一次听人说禁猎不是好事，石毅感到十分诧异。

不过很快她就理解了。纳米比亚是少有的还保留狩猎制度的国家之一。因为降水稀少土地贫瘠无法发展种植业，狩猎是当地延续已久的生存手段。这些野生动物甚至时不时出现在自家后院里，吃掉牲畜或者种植物，人类也需要自我保护。传统上年轻男子的成年礼，就是猎杀一头狮子。

狮子，大象，犀牛等，每年都有一定的狩猎配额，分配给社区保护站。欧美国家来狩猎者最多。向狩猎者收取的费用，国家只抽成20%，剩下80%都会留给社区用来维持运转。普通人也依靠狩猎的肉来交易换取收入。人和动物，一直以这样的方式共存于这片土地之上，动物的种群也基本维持稳定。

问题出在盗猎。因为要维持种群的平衡，不能过度狩猎，盗猎者每盗猎一头动物，合法狩猎的额度就会少一头，影响了社区经济，当地人同样痛恨狩猎者。一刀切的禁猎，在那些旅游等其他产业已经发展起来的国家，不是大问题，但对于纳米比亚则影响深远。

虽然在写稿时呈现了支持禁猎者的观点，例如狩猎者常常选择壮年的猎物会破坏种群平衡，但石毅个人还是理解并支持当地人的。对和错的界限就是如此微妙，这大概也是为什么石毅并不执着于改变什么，尽管她的报道和参与的确改变了一些东西。

她享受的，是在每一件事情中特定的经历：在越南芹苴水乡看大规模城镇化之前原生态的景观；在青藏高原的帐篷里，等待猝然造访的暴风雪过去；在宁夏干黄的土地里，跟着取水的小男孩和疲惫的骆驼长途跋涉去水源；在长江滚滚的波涛里，看濒临灭绝的江豚被试图补救的人类转移到专门的保护地。

她做的新疆卡拉麦里有蹄类自然保护区被开发的调查，得到中央批示，新一轮开发暂停。当被问起进保护区有什么印象，石毅顿时两眼放光想都没想就说："那个地方真是太美了！我一定要分享几张照片给你看看！"

做调查记者，又苦又累又危险，不过舍不得这一路上的精彩——石毅刚加入上海报业集团下的英文频道"Sixth Tone"。"仍然忍受不了憋在办公室里，还是做记者。"她说。

张春，中外对话北京办公室编辑

Winner's story

# China's environmental journalist of the year

Shi Yi won the "Best Journalist" award at chinadialogue's 2016 Environmental Press Awards, delivering investigative reports that demonstrated tenacity, bravery, a keen eye for detail and an engaging, expertly-paced narrative

□ Zhang Chun

Several well-built poachers are held to the floor by the police and swiftly handcuffed.

Shi Yi, sitting in a car about 10 metres away, manages to take two photos before her hands start shaking uncontrollably. As she tries to replace the lens cap it slips from her hand and falls to the floor.

Moments ago she was calmly talking business with the poachers; now her throat muscles are taut with stress and tension. Her driver, delighted to see the poachers brought to justice, teases her but she is unable to respond. For the next half an hour she is silent. Only when a colleague back in China, receiving the photos of the arrests, reminds her to leave quickly does she recover. Yes, it's time to go.

This is a small town in Namibia. Poaching is rife in the southern African country, and in September 2015 Shi Yi received funding from the Oxpeckers Centre and the China-Africa Reporting project at the University of the Witwatersrand in South Africa to report on the problem.

But now her cover as an ivory buyer has been blown and her Chinese face is far too prominent here. There's a danger someone will seek revenge – time to pack up and get out fast.

Shi has been a journalist for many years, but it's rare for her to put herself in this kind of danger.

She doesn't see herself as one of those out to change the world through her reporting. Shi didn't major in journalism and came to the work for the freedom of movement and variety it offered. Her work shows evidence of genuine concern both for people and nature.

As soon as Shi arrived in northern Namibia, she was told the poachers had recently taken an elephant and given contact details for the poachers themselves and a middleman.

She felt nervous about dealing with the poachers directly – would it be better to talk to the intermediary? What if she gave herself away while talking with the poachers?

But how would she write her piece if she didn't? But then she thought about the ivory she'd be shown, and the elephant killed for it. She had to do something…

Shi went to see the poachers: two strong young men, the doors and windows of their hotel room tightly closed.

She stayed calm and talked business – the supply of ivory, how much it cost. She said she'd like to make a purchase and arranged a time and a place for the exchange. The poachers had no idea the police would be lying in wait.

Experiences like this come through in Shi's report. It is a long piece, but fast-paced and detailed, backed up with thought-provoking narrative and data the helps explain the scale of the problem. The reporter also threaded her story with multiple sources of evidence and often shocking revelations.

But what others might see as thrilling adventures aren't important to her. When she talks about that trip she says the most important experience was learning about the different attitudes to poaching the locals hold.

The mainstream opinion today is that wild animals should not be killed. But when Shi asked locals in Namibia what they thought about a ban on hunting they said it would

be bad news. Shi was surprised – this was not a view she'd heard before.

She soon understood: Namibia is one of the few countries to still permit hunting. With little rainfall and poor soil hampering agricultural development, hunting has long been a means of survival here. And sometimes these animals approach villages, killing livestock or eating crops – the locals need to protect themselves. It is a traditional rite of passage for young men to kill a lion.

There are annual hunting quotas for lions, elephants and rhinoceros handed out to community conservation stations. Numerous hunters from Europe and the US come here, with 20% of the fees they pay going to the government and the remaining 80% used in the community. Locals also make a living by hunting and selling the meat. Man and animal have long co-existed here in this manner and wildlife populations are generally stable.

The problem is poaching. Maintaining population balance and preventing over-hunting means that quotas are reduced for every animal killed by poachers. That affects the local community, and means the locals hate poaching. An outright ban on hunting isn't such a problem in countries with more diverse economic bases, but it would have a huge impact here in Namibia.

Although Shi showed support for a hunting ban in her piece – for example, pointing out that hunters often choose to shoot young healthy animals, causing more damage to the population – she personally understands and supports the locals. The boundary between right and wrong can be indistinct – perhaps this is why she isn't trying to change anything, even if her reporting and involvement did have some influence.

For her, the job is about the unique experiences: the chance to see the picturesque rural canals and water markets in the Vietnamese town of Can Tho before the onset of rapid urbanisation; hunkering down in a tent on the Tibetan plateau while waiting for a sudden blizzard to pass; trekking to a well across the dry yellow soil of Ningxia alongside a young boy and an exhausted camel; watching the endangered finless porpoise be removed from the rolling waters of the Yangtze to a reserve, in the hope this will save the species.

Her investigation into how coal mining had spoiled the Kalamely nature reserve in Xinjiang resulted in central government attention and the halting of the more recent plans. But ask her what she thought about the reserve and her eyes light up and she answers immediately: "It's just so beautiful! I'll have to show you some photos so you can see."

Investigative reporting is tough, tiring and dangerous, but Shi Yi can't give up the experiences it brings. She's just started work for Sixth Tone, an English language outlet owned by the Shanghai United Media Group. "I'll still be a journalist though," she says. "I can't stand being cooped up in an office."

*Zhang Chun is an editor in chinadialogue's Beijing office.*

获奖文章

# 来自纳米比亚的象牙：黑市卖一公斤240元，出国暴利40倍

**最佳环境报道奖的“年度最佳记者”石毅走进纳米比亚，揭露象牙黑市及中国人在其中所扮演的角色。**

□石 毅

从林里的枪声划破了黄昏的宁静，在非洲国家纳米比亚东北部的赞比西省，就在这一天的工作即将结束时，旅游和环境部（下称环境部）赞比西办公室的总巡视官Morgan Saisai接到了报警。

“又一头大象！”他的话里充满了无奈。在过去的4年里，无论警方和环境部如何努力，偷猎的警报总是不绝于耳。9月底，正是南部非洲旱季的尾声，算起来，这已经是该省今年发生的第37起大象偷猎案件，而这一次，它就在距离赞比西首府不远的村庄里。

这本该是一头很好的战利品狩猎猎物（战利品狩猎 trophy hunting 在纳米比亚是合法的，满足一定条件的大象为可狩猎的猎物，狩猎带来的收入是社区的主要收入之一），“偷猎者从不瞄准那些象牙小的大象。”Saisai对澎湃新闻（www.thepaper.cn）记者说。作为主管野生动物保护和利用的行政官，如今反盗猎已成了他的首要工作。

在国家版图上，赞比西犹如一只张开的手臂，笔直地伸向南部非洲中心地带。纳米比亚以极端干燥的气候和沙漠景观著称，但赞比西省是个例外，那里有赞比西河和它的一些支流，水网发达。

沿公路旅行看见野象的几率很高，那些自由的、没有被围栏限制在公园和农场的野生动物对游客来说，是极大的诱惑。

纳米比亚环境部的调查显示，有近一万头非洲象常年生活在赞比西省，是该国大象种群数量的一半。另外，赞比西还是非常重要的动物迁徙通道，旱季时，那里的水源能吸引邻国上万头迁徙的大象。


纳米比亚北部道路上的大象群

然而这个优势却也为盗猎者所利用。从2011年至今，纳米比亚有超过230头大象死于盗猎，其中90%以上发生在赞比西，在西南部和中部则有超过100头黑犀牛因犀牛角而被猎杀。除了这两个标志性的物种，涉及其他动物的盗猎和非法交易也层出不穷。

## “生意链”

在赞比西的首府卡蒂马穆利洛，通过中间人牵线，澎湃新闻记者认识了Booysen Kabula，一位30岁的本地人。据说他正在寻找买家，想要出手一张狮子毛，他还号称能弄到其他东西，包括象牙。

在纳米比亚，如果没有许可证，猎杀和持有受保护的野生物和制品是非法的，就算是发现了自然死亡的大象或狮子，也要报告，政府会将可利用的部分收归国有。为了获得Kabula的信任，澎湃新闻记者告诉他住在纳米比亚，平日里通过当地一些朋友收购野生物制品。

卡蒂马穆利洛是个只有约2万居民的边境小城，游客常将那里当做去赞比亚或博兹瓦纳的中转站。城中寥寥可数的几条商业街上，并排着中国人经营的杂货店。自纳米比亚1990年独立以来，稳定的政治环境吸引了越来越多中国人前去“淘金”。为了迎合当地的消费水平，那些店都售卖廉价日用品。小型的太阳能板也很受欢迎，在赞比西的乡村，人们住在传统的尖顶茅草屋里，那些村庄大多未通电，太阳能板就成了必需品。

周三中午，澎湃新闻记者与Kabula相约在城外一家旅店见面。他从一辆白色的四驱车上下来，笑着冲我打招呼，头上的白色的棒球帽拉得很低。车上还坐着一个比他更壮实的年轻人，他跟我说，那是他的“兄弟”。

随后澎湃新闻记者直接切入了正题，问他是否有他说的“物品”。

Kabula环顾了一下四周，指指身后的驾驶室，“它就在车里。”驾驶座后有一个黑色的大塑料袋。

澎湃新闻记者建议他们将狮子皮拿到预定的旅店房间，以检查它的品相。Kabula照做了，而他的“兄弟”则紧随其后，将房间门窗都关上。

他们从袋子里将那张狮子皮摊开，他蹲下去撸了撸它的毛说，这张皮剥自一只4个月大的雄狮，“这张皮很好，它的每个部分都很完整。”

澎湃新闻记者想知道这是不是他们第一次做这样的生意，很快，Kabula就表现出他的“老道”。他对澎湃新闻记者所住的旅店十分熟悉，不同房间的价格都记得很清。

“我有时候也会住在这里。你要做这种生意，显然不能在家。”他说。

“你还卖过给别人吗？”为了不让他起疑心，澎湃新闻记者赶紧补充，“我只是好奇。”

“上一次也是中国人，从赞比亚过来，一张1000美元（约6400元人民币）。”他想了想，轻松地一笑。而这一次，他开价8000纳元（约3800元人民币）。

Kabula说，如果需要象牙，得等几天，因为东西不在他手上。他还补充说，人们盗猎的都是象牙很长的大象，所以不会有小象牙给我，到时论重量卖，一公斤500纳元（约240元人民币）。

纳米比亚被认为是一个中等收入国家，但根据联合国开发计划署网站，230万总人口中，有31%的人生活在每日生活费1.25美元的贫困线标准下，主要集中在北部。澎湃新

狮皮

闻记者与不少在城镇打工的年轻人聊天，他们的月工资为人民币 350 元至 1200 元。Kabula 若能成功卖出那张狮子皮，他的收入就轻松超过不少人一年或数个月的收入。

今年 1 月，纳米比亚警署总监公开称，在该国，野生动物偷猎已经形成了跨国有组织犯罪，正严重威胁一些物种的生存。

一名专事打击野生物犯罪的警察告诉澎湃新闻记者，在这个“生意链条”上，常常有一名偷猎者、一名中间人，中间人雇佣偷猎者或是从偷猎者手中购来赃物，他们往往都是本地或者居住在邻近非洲国家的人，再由他们将非法所得转卖给买家。

Kabula 扮演的，也许正是这个中间人的角色。问他东西从哪来时，他只是说：“我会找我的朋友。你可以相信我。”

澎湃新闻记者同意了 Kabula 再等几天的建议，并借口说需要问问朋友那张狮子皮是否值这个价，请他随后一并带来。

两天之后，在约定的时间和地点，警方已经布下埋伏等着他们。

除了 Kabula 和他的“兄弟”，他们的车里还有一名同行。在发现被警察包围之前，他们看起来非常开心，一一跟我握手寒暄，像是马上有一场派对要举行。

Kabula 坐在车的后座，他的旁边放着那张用塑料袋包起来的狮子皮，他拍了拍它，轻轻地摇了摇头说：“哎，人们给我承诺了，但离着很远，如果你可以等到明天，你就能拿到（象牙）。今天只有这张皮。”

警察随后逮捕了他们。事发的第三天，检方指控他们非法持有野生物制品。Kabula 的身份被当地媒体披露，他过去是一名在卡蒂马穆利洛警局工作的警察，他的同伴则来自于赞比亚。一名参与逮捕行动的警察告诉澎湃新闻记者，Kabula 2012 年辞职，“那时他说要继续读书。”

Kabula和另外两人被警方逮捕

对于 Kabula 来说，这并不是他第一次与盗猎扯上关系。2014 年 10 月，他在赞比西偷猎一匹斑马时被巡护员发现，案子还未审结。

## 活跃的黑市

在南部非洲，纳米比亚一直被认为在野生动物保护上卓有成效，《纳米比亚社区保护》2013 年的报告说，截至当年年底，纳入各类自然资源管理体系的国土面积达到 43.5%。纳米比亚保护了全球近一半的非洲黑犀牛，大象的数量在 2005 年约为 16000 头，而现在，环境部宣布已经增长到 20000 头。

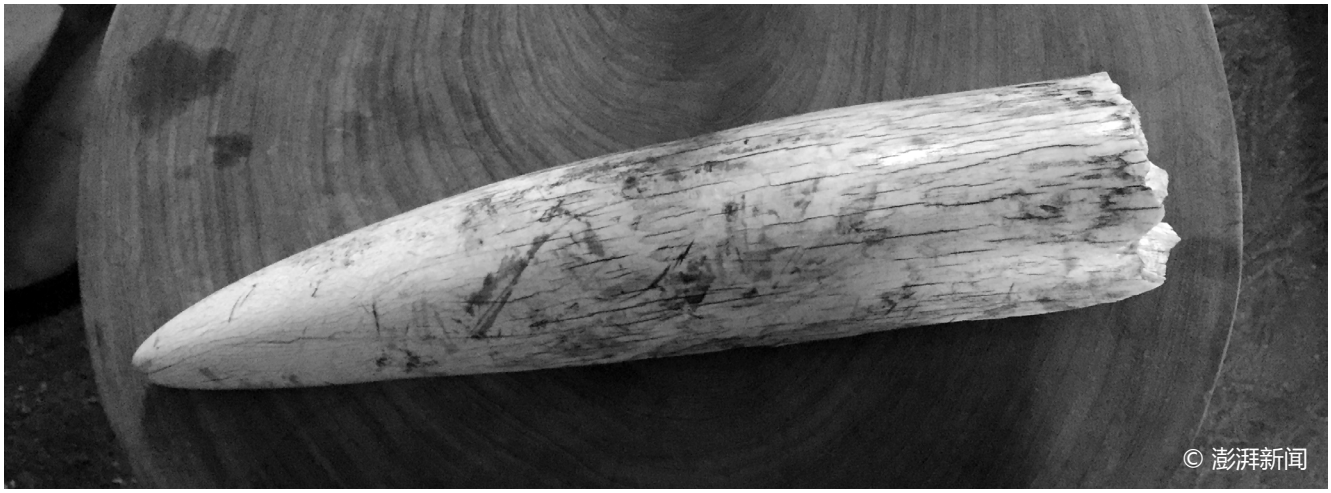
在独立数年后，纳米比亚的盗猎一直只是零星的案件，连新闻都极少提及。这种沉寂在 2011 年被打破。环境部公园和野生物管理部主任 Colgar Sikopo 告诉澎湃新闻记者，第一枪就是发生在赞比西省的大象偷猎，自此后盗猎数字不断上升，仅今年已抓获盗猎犀牛的嫌疑人为 44 人，盗猎大象的嫌疑人 17 人。

激增的偷猎行为席卷整个非洲。有分析认为，1979 年时曾有超过 130 万头大象在非洲游走，但如今非洲象可能已经缩减到那时的 1/3 左右。东非是非法象牙的最大来源地，但现在为了满足不断膨胀的市场需求，盗猎者开始将目光瞄准到非洲每一片大象栖息地。

濒危物种贸易公约（CITES）非法猎杀大象监测计划（MIKE）数据表明，2011 年是盗猎的最高峰，所有非洲象分布国的盗猎规模都在增长，对现有大象种群的生存构成直接威胁。

在 2013 年，根据大象贸易信息系统（ETIS）的记录，CITES 认为肯尼亚、坦桑尼亚、乌干达、中国、马来西亚、菲律宾、泰国和越南是象牙非法贸易链上的最关键的源头、中转和目的地国家。

而就在 2015 年 9 月，中美双方达成关于打击野生动植物非法贸易




奥卡汉贾市场的象牙

的共识，两国承诺在各自国家颁布禁令，将几乎完全停止象牙进口和出口，包括明显且及时限制象牙狩猎纪念物进口，采取明显且及时步骤停止各自国内象牙商业性贸易。国际爱护动物基金会（IIFAW）评论说，中国和美国的领导人共同创造了历史。

在 Morgan Saisai 看来，黑市价格暴涨正是推动源头国盗猎频发的一大原因，在纳米比亚，几千上万元的纳元就超过当地许多人一年的收入，“一些人一心想着赚快钱，比别人有更多的钱。”

虽然在盗猎发生后，纳米比亚政府一再表示要加大查处力度，对盗猎和非法交易零容忍，但黑市仍然活跃。

经过几名中国商人的“指点”，澎湃新闻记者在距离首都温得和克一小时车程的奥卡汉贾市（Okahandja）露天市场就找到了这样的地方。

奥卡汉贾市露天市场是纳米比亚最大的手工艺品市场之一，那里的经营者多来自赞比西和临近的省份，北部以出产工匠著称。那是一个由几十位小贩组成的露天市场，设在游客出入温得和克的必经之路上。

澎湃新闻记者问了许多当地人和纳米比亚的动物保护机构，他们听说那儿有黑市时都表示很震惊。

在那里，澎湃新闻记者挑了路口的第一家铺子走进去。叫做 Kenny 的年轻人试探性地问“是不是中国人”，得到肯定回答后，他紧接着说：“象牙要吗？”

Kenny 似乎认为中国人都喜欢购买象牙，随即他就从店铺中一个不起眼的角落拿出了一根看似折断了一半的象牙，开价 8000 纳元。隔壁的几个小贩围在门口，希望澎湃新闻记者去光顾他们的铺子，而即便这样，Kenny 也不避讳与我谈论象牙买卖。


奥卡汉贾市场的象牙手链

“我还有一根，你要就回头来。”他说。

此后，澎湃新闻记者随便走进一家另一家铺子，看上两眼就问是不是有象牙。一个叫 James 的年轻人兴冲冲地跑出去，很快就带回来两串象牙手链，每串要价 300 纳元（约 145 人民币）。还有一名女商户，她从手袋里掏出来一串全是象牙珠子穿成的项链，叫价 500 纳元（约 240 人民币），还说这种珠子比较贵，怕人偷，所以都要藏起来。

即便是在旅游旺季，奥卡汉贾的露天市场也是门可罗雀。他们售卖的手工艺品以木雕的非洲兽类为主，而这在纳米比亚各处都能买到。

Kenny 的店铺是全家重要的经济来源，他说，那些手工艺品绝大多数都出自家庭成员之手，奥卡汉贾与他的家乡相隔千里，他很少能回去，即便是周末也不打烊。

澎湃新闻记者在 9 月中旬和下旬，分别去了奥卡汉贾两次，每一次都会遇上向我推销象牙制品的商贩。澎湃新闻记者以自己无法辨别真假

为由，离开了这个市场，不过将这些象牙制品拍下来，发给了当地警方和不同的反盗猎组织，他们都认为是真品，而非仿制。

如果错过了奥卡汉贾，有几位中国商人还告诉澎湃新闻记者，可以到温得和克的几大卖场去试试运气。“黑人可能就在门口问你要不要（象牙）。”居住在奥卡汉贾的一名中国年轻人说。

## 艰难的打击

当盗猎在纳米比亚赞比西省接二连三发生时，许多当地人将矛头指向了那里的中国人。报纸上零星的中国人涉案的消息，增加了当地人对中国人的猜疑。

澎湃新闻记者在当地所遇到的中国人中，不少已经在纳米比亚经商超过 10 年，他们在那里购置土地和房产，期待更长远的发展。但有的中国人说，想要留在非洲的还是少数，更多的人希望赚了钱能回国。

在一些城镇，中国人开的百货店是周末为数不多仍能购物的地方，到了晚上，他们在店里拉上一块布帘便有了自己的卧室。

在西北的城市奥普沃，一对年轻的中国夫妻说，他们在那里做了 5 年的生意，但却抽不出时间去旅游。妻子说：“就有一次我老公带着我在一个国家公园转了一圈。”唯一的一次旅游让她印象深刻。

除了不分节假日地工作，许多中国人还要担心被打劫。这对在奥普沃的中国夫妻就说，前不久他们的一位中国邻居遭到入室行窃，后来将店铺转租，回了中国。

尽管有诸多烦恼，但非洲的生活也让他们留恋。“国内发展太快了，回去都不适应。”妻子说。

许多中国人都有被当地的偷猎者找上门的经验，为了减轻风险，他们声称从来不保留他们的电话、不主动联系。

老张在纳米比亚做了近 10 年的生意，他说：“黑人拿来卖的什么都有，小的珠子坠子，甚至一整根象牙。”老张自己的店铺里就有一根象牙项链，不过他表示只是买来自己玩，“不像有的人收来倒到国内去，这玩意儿赚的是风险钱。”

一名姓航的年轻人强调，“最大的风险在中国海关，要是被查，数量不多顶多是被罚没。”他表示自己的象牙手链就被没收过一次。

另一名姓马的商人热心地提醒说，现在做象牙、犀牛角生意的风险大了，大家的兴趣就转移到别的风险相对较小的东西上，比如狮子爪，“镶上银和金，做成项链，这东西辟邪，国内都没有。”

在澎湃新闻记者以买家身份和 Kabula 见面时，他印证了一些人开始参与其他野生物制品交易、以躲避当局越来越严的反盗猎行动的说法。Kabula 并不知道他们收购狮子爪的用途，但他说不少买家都问过他，如果我需要他也可以提供，“我有超过 30 个。”

就在 Kabula 准备以约 240 元人民币每公斤价格向澎湃新闻记者销售象牙的时候，记者在微信上添加了几名象牙卖家。根据他们的报价，黑市上，一克象牙的价格为 10-15 元，一公斤象牙至少 1 万元。而国际爱护动物基金会（IFAW）在 2011 年的调查显示，当时黑市的价格约为每公斤 1.2 万元 -1.5 万元。一买一卖之间，差价 40 倍有余。

纳米比亚的赞比西和赞比亚、博兹瓦纳之间有着漫长的国界线，在很多地方，人们只需要游过赞比西河或是跨过一个村子便到了另一个国家。国境线上的检查站也是走私线上的薄弱环节。在那里，警察并不会对每一辆车都进行盘查，他们甚至没有像机场那样用来扫描的安检仪。Morgan Saisai 也承认，在没有围栏的国境线上，打击盗猎和走私难度极大。

国际社会在各方面加强了合作以打击盗猎。CITES 秘书处新闻官刘元说，由多国参与的打击野生动物贸易“眼镜蛇行动”近年来就取得了不少成果，而这项行动是在 2013 年由中国发起的。仅 2015 年，为时一月的行动抓捕了 139 位嫌疑人。

但是，比较每年递增的被偷猎大象数量，警方所能查获的只是冰山一角。一名要求匿名的纳米比亚警察跟澎湃新闻记者说，更多时候，他们对盗猎感到束手无策，走私客们开始使用更现代化的工具和精明的手法，而在地方警局，警察连电脑也没有，“我们的工作需要耐心等待，有时是好几年，一有机会，就给他们致命一击。”

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石毅，澎湃新闻记者，获2016中外对话“最佳环境报道奖”的“年度记者”奖。

Award-winning Article

# Namibia's secret ivory business

Clandestine reporting by Shi Yi uncovered the role of Chinese nationals in Namibia's poaching crisis

□ Shi Yi

**Shi Yi is a reporter with *Thepaper.cn* and is the winner of our China Environmental Press Awards "Journalist of the Year" Award. Last year she worked with Oxpeckers Investigative Environmental Journalism on a three-month environmental journalism fellowship investigating wildlife poaching in Namibia. Her series of articles on transnational wildlife crimes were supported by the Wits China-Africa Reporting Project. This article was originally published on October 19 last year by the China-Africa Reporting Project.**

Many locals and wildlife conservation institutions I talked to didn't even know about the existence of the ivory black market in Okahandja.

It was a quiet evening in Zambezi, until a herdsman heard a gunshot in the wilderness. By the time the police arrived, they found an elephant carcass – and the tusks had been taken.

"It could be a good trophy animal. Poachers never take small ones," said chief control warden Morgan Saisai at the Katima Mulilo office of Namibia's Ministry of Tourism and Environment (MET).

The carcass brought the number of elephants poached in Zambezi, in the far north-eastern region of Namibia, to 37 this year.

Namibia is known for its extremely dry climate and desert landscape, but Zambezi is an exception. With the Zambezi River and its tributaries flowing through lush wetlands, it is home to nearly 10,000 resident elephants and thousands of migratory elephants, according to MET.

Poachers take advantage of this. Since 2011, more than 230 elephants have been reported poached in Namibia, more than 90% of them killed in Zambezi.

In the southwest of the country, more than 100 black rhinos have been poached. In addition to these two iconic species, poaching of other animals such as lions and pangolins is also on the rise.

There are indications that Chinese are the buyers behind some of the cases. Despite the anti-poaching messages that can be seen at many places in Namibia, I was frequently approached by locals for illegal deals while I was travelling there.

## Deals with Chinese

In Katima Mulilo, the capital of Zambezi, I met Booysen Kabula, a 30-year-old resident, through an intermediary. He said he had been looking for a buyer for a lion skin for a while. He also claimed to be able to find any other wildlife products for his clients, including ivory.

According to Namibian environmental law, hunting and

possession of protected wildlife without a permit is illegal. Anyone finding the carcass of an elephant or lion must report it to the government. I wanted to see if Booysen had the lion skin and other things he claimed, so I told him I was a regular buyer.

Katima Mulilo lies on the border with Zambia, with 20,000 residents. After Namibia's independence a few Chinese started to look for business opportunities, with more and more Chinese following. Most of them find it's profitable to sell cheap goods such as clothes and old-fashioned stereos which are no longer popular in China.

Since poaching has occurred increasingly in Zambezi, locals point their fingers at the Chinese.

"It all started when more and more Chinese started flowing in," said John Kamwi, who works for a local environmental non-governmental organisation.

On a Wednesday at noon I met Booysen at a guesthouse. He got out of a white 4x4 vehicle and walked towards me with a smile. There was another guy in his car. "My brother," he said. Whereas Booysen is thin and tall, the other man is short and stocky.

I cut to the chase and asked if he could show me the lion skin.

Booysen looked around. Then he pointed to the driver's seat, behind which was a big black plastic bag. "It's in my car." He opened a corner of the bag.

At my request, Booysen took the bag to the hotel room I had booked. His brother shut the curtains and door.

Here it was, the skin. They took it out of the bag and unfolded it on the floor. Booysen was caressing the fur, then he looked into my eyes. "It was a four-month-old male lion. It's a very good one," he said.

I wondered if they had been doing this business for a while. Soon Booysen showed me that he was experienced. He was a frequent guest at my hotel. I was impressed that he knew the rate for every type of room. He said: "If you do this business you don't want to do it at home, huh? " He shook his head slightly.

"Have you sold anything to anyone before? How much?" I asked, "I'm just curious."

"Ah, last time I also sold a lion skin to a Chinese. He came from Zambia. That one was US$1,000 [9,558 yuan]," he said. For this one he wanted to charge me 8,000 Namibian dollars (N$), or US$600 (3,930 yuan).

According to the United Nations Development Programme's website, 31% of the 2.3-million people living in Namibia live on less than US$1.25 a day, and most of the poor live in the north. Some young people leave their village to look for jobs in towns where, they told me, it's normal for them to make US$50-200 a month.


*Elephants in northern Namibia*

Booysen comes from a village close to Katima Mulino and lives with his mother, a man from his village told me later. In the traditional villages of the Zambezi region, people live in thatched steeple-style homes, raising cattle and fishing for a living.

After showing me the lion skin, Booysen said if I wanted to buy ivory I'd have to wait for a couple of days since he needed to get the tusks from friends. "We weigh it, N$500 a kilogramme. Usually big ones, people don't poach small elephants," he said.

Lieutenant General SH Ndeitunga, the inspector general of the Namibian Police, announced earlier this year that criminal syndicates are recruiting locals to kill rhinos and elephants. He warned that sophisticated organised criminal syndicates are wiping out the country's wildlife.

A policeman combating wildlife crime told me there are poachers and middlemen on the supply chain. The middlemen, often found to be locals or from neighbouring countries, hire poachers or simply buy the goods from them, and then sell it to Asian buyers.

Booysen might be a middleman in the illegal trade. When I asked about his suppliers, he answered: "My friends get that stuff for me. You can count on me."

I agreed to wait two days for the ivory. I asked Booysen to bring both the tusks and the lion skin in two days. I told him I couldn't decide on the lion skin yet because I needed to consult my friends on the price.

The police were tipped off, and were waiting at the

agreed venue when Booysen and his friends arrived at the agreed meeting time.

Before he was arrested, Booysen was in a party mood as I shook hands with him and his friends in greeting. He pointed to the lion skin wrapped in a plastic bag next to him on the back seat of the car, and said regretfully: "Only the skin today. If you can wait until tomorrow, you can get everything you want."

On October 5, two days after the arrest, Booysen and his two companions were charged with illegal possession of wildlife products.

Booysen is a former Katima Mulilo policeman. His alleged accomplices are from Zambia.

An ex-colleague of Booysen's who participated in the arrest recognised him at the site of the arrest. "He quit in 2012 and said he was going back to school," he told me.

This was not the first time Booysen was implicated in poaching. In October 2014, according to the police, he shot a game ranger in the leg when he was stopped from poaching a zebra.

## The booming black market

Namibia's wildlife conservation efforts have long been considered a success story among southern African countries.

About half of the world's critically endangered black rhino population is under Namibia's protection. Today, the country's elephant populations have grown to 20,000 from about 16,000 in 2005, according to the MET.

To protect wildlife outside national reserves, the government has encouraged community-based conservancies where tourism and trophy hunting are endorsed by both the government and NGOs. The earnings derived from these activities are invested in wildlife conservation.

During the first decade after Namibia achieved independence in 1990, poaching was only sporadic and rarely mentioned in the news.

> "Booysen was caressing the fur, then he looked into my eyes. 'It was a four-month-old male lion. It's a very good one,' he said."

The peace was broken in 2011, however, when an elephant in the Zambezi region was shot for ivory. Since then, the number of poaching cases has been increasing.

In 2015, up until the end of September 2015, 44 suspects involved in rhino poaching and 17 in elephant poaching had been arrested, I was told by Colgar Sikopo, director of parks and wildlife management at MET.

The poaching surge has swept across Africa. Some analysts believe there were more than 1.3 million elephants in Africa in 1979, but now only about a third of that number still walk the continent.

In warden Morgan Saisai's opinion, soaring black market prices are among the main drivers of the local poaching crimes. A few thousand Namibian dollars easily exceeds many locals' yearly income.

"A lot of people want to make quick money, more money than others," he said.

The Namibian government has repeatedly pledged to intensify its efforts to investigate and prosecute poaching cases, and to adopt a zero tolerance policy against poaching as well as illegal traders, but some black markets are still active.

## Okahandja market

Upon the recommendation of a Chinese businessman, I found a contraband market in Okahandja, a town one hour's drive away from Windhoek. Although I was warned that the illicit gathering might not reveal itself to an unfamiliar face like mine, I decided to try my luck anyway.

Okahandja is one of the largest markets of arts and crafts in Namibia. The vendors are mostly from Zambezi and neighbouring regions. (Craftsmen from the north are known to be particularly good.) A couple dozen businessmen set up the market on the gateway to Windhoek.

Many locals and wildlife conservation institutions that I talked to didn't even know about the existence of the ivory black market in Okahandja.

In the first shop I walked into, I was approached by a young man called Kenny. He asked me if I was Chinese and, upon receiving an affirmative answer, he immediately asked, "Hey, I have this, a tusk."

Kenny obviously thought Chinese people would like to buy ivory. He took out a seemingly broken tusk from an obscure corner of his shop and asked N$8,000 for it. I noticed that Kenny wasn't shy to talk about his ivory business in the presence of the other peddlers, who were gathered at the doorway trying to solicit a sale from me.

"I have another one, smaller. Come back if you want it," Kenny said.

I gained confidence for penetrating this market after talking to Kenny. I walked into shops randomly and casually asked for ivory. At one shop, a young man named James excitedly brought me two ivory bracelets, asking for N$300 each. Another shopkeeper pulled out an ivory bead necklace from her handbag, asking for N$500. She said such beads were expensive, so she had to watch out for theft.

Even in tourism high season, Okahandja was quiet. The woodcarving handicrafts in the market can be found everywhere in the country.

Kenny's shop was an important source of income for his family, who were nearly 1,000 kilometres away from Okahandja. He told me most of his artefacts were handmade by his family. Kenny said he was rarely able to take the day off, not even for the weekend, because he didn't want to miss any business.

I went to the Okahandja market twice in mid and late September. Each time I was approached by ivory sellers.

I took pictures of the ivory products before I ended negotiations with the sellers, saying I doubted if they were real ivory. Sadly, judging from my photos, the anti-poaching organisations I talked to afterwards believed they were the real deal, not fake tusks.

Several Chinese people I spoke to said they had been approached for ivory deals in the centre of Windhoek. "Just go to shopping malls in the capital. Sometimes they come to you in front of the mall," one advised.

## Chinese buyers

A veteran Chinese businessman who has stayed in Namibia for 16 years told me that the tricky part was not buying the tusks, but delivering them to China.

"Tusks are worthless here if you can't ship them back to China," he said.

Recent exposure of Chinese involvement in these crimes has intensified locals' suspicions. I discovered that local police, environment protection organisations and community workers had all reached the conclusion that Chinese "fortune seekers" in Africa have accelerated the illegal hunting of wildlife.

> "He asked me if I was Chinese and, upon receiving an affirmative answer, he immediately asked, 'Hey, I have this, a tusk.'"

Since Namibia's independence, its political stability has attracted thousands of Chinese businessmen. They comprise the biggest population among Asian immigrants in the country, and run major wholesale and retail centres dubbed "Chinatowns" in Windhoek and Rundu in the north.

Some Chinese people who have been doing business for more than 10 years in Namibia have acquired land and property for long-term development. But I was told that the majority in the Chinese community wanted to go back home.

In some towns, a Chinese grocery store is the only choice on weekends. The Chinese shopkeepers live in their premises at night, transforming a store into a bedroom by using a curtain.

In the north-west town of Opuwo, a young couple complained to me that they had been there for five years yet they couldn't spare the time to travel. The wife recalled, "My husband showed me around a national park briefly once." And the short trip impressed her profoundly.

Working long hours overtime was nothing compared to home robberies. The couple in Opuwo told me that their neighbour, who was also Chinese, had closed up business and moved back to China after a break-in.

Despite the hiccups, Africa has them hooked. "Life in China is too fast, it is very difficult to adapt," said the wife.

## Lion nails

The locals' suspicions of Chinese involvement in poaching are not groundless.

In 2011, for instance, Chinese innkeeper Guo Yunhui in Katima Mulilo was arrested for illegal purchase of two tusks. He was fined N$20,000. The police have been notified that Guo Yunhui is still involved in similar illegal transactions.

In June 2014, New Era, a Namibian national newspaper, reported on Chinese businessman Hou Xuecheng's arrest. The police found four tusks and two cheetah skins in his car, according to the report. Shortly thereafter, the police found him in possession of stolen animal skins from a taxidermy that had allegedly been sold to him by two local bandits.

In Katima Mulilo, illegal transactions in the Chinese community are hardly a secret. When I asked them for some ivory products to take home as souvenirs, I was told

the situation was tense at the moment and the local police were using entrapment tactics.

"You may find black people at your doorway selling that stuff when the police aren't looking," advised one Chinese resident.

Many Chinese people have been approached by local poachers. But the Chinese told me that they didn't keep the poachers' phone numbers, and they took no initiative to contact the poachers.

"The local people have got everything, from small beads and pendants to tusks," said Zhang, who has been in Namibia for 10 years. He told me that he himself kept an ivory necklace for fun, but "I don't sell the stuff back to China because it's way too risky."

A Mr Ma who is in his 30s kindly let me know that because tusks and rhino horns had become too hot to handle, the focus had shifted to less risky things, such as lion nails.

"Lion nails will protect you from evil spirits. They can be made into gold or silver pendants. You won't find them in China," Ma told me.

I found dozens of lion nails in his store, which he said had already been reserved for clients. Ma said lion nails are sold at N$200-300 in Africa, but cost a lot more in China. The profit could be more than 10 times the purchasing price.

My dealer Booysen confirmed that Chinese had started to trade lion nails. He wasn't sure why Chinese wanted them, but said he had had inquiries from interested buyers. He also offered some to me: "I have more than 30 nails if you want."

## Transnational poachers

All the Chinese people I talked to were aware of the illegal nature of the trade in wild animal products, yet hefty profits have emboldened them.

In March 2014 three Chinese men were captured at the Windhoek International Airport trying to smuggle 14 rhino horns and a leopard skin. Many Chinese considered this arrest as a signal of strengthened law enforcement and heightened risk.

"Even two years ago, it was not too difficult to hide tusks in a container or in your luggage when departing Namibia," said Zhang.

Police evidence indicates that smugglers are taking advantage of the geographical location of Katima Mulilo to transport ivory products and other illegal items to neighbouring countries like Zambia, where wildlife law enforcement is relatively loose, and then ship the goods to China.

A policeman said he once investigated a smuggling case in which a Chinese man was suspected of shipping tusks to Zambia, disguising them as wood logs. But in the end the case was left unsettled because he couldn't catch the suspect in the act.

The Zambezi region is located next to Zambia and Botswana, and the three countries share a long borderline. People can swim across the Zambezi River or walk through a village to reach one of the other countries. Checkpoints on the borderline are the weakest link in combating transnational smuggling.

The border control police don't search every car, and they don't have scanner machines like in airports. Warden Saisai acknowledged that the lack of effective border control has been abused by the transnational poachers, and this posed great difficulties in combating poaching and smuggling.

Compared to the number of elephants and other wildlife that have died as a result of poaching, what has been discovered so far is clearly only the tip of the iceberg.

I was told by a policeman who asked to be quoted anonymously that the anti-poaching effort is being overwhelmed by poachers and smugglers.

*Editor's Note: This, and other outstanding reports by Shi Yi, won her the Journalist of the Year award. In the southern Africa country of Namibia she investigated the illegal trade in ivory, posing as a buyer to make contact with traders of illegal animal products. On publication of her report local police raided an illegal marketplace. Such reports bolster the international fight against poaching and demonstrate China's increased awareness of her international responsibilities.*

*Shi Yi is a reporter at Thepaper.cn and the winner of chinadialogue's 2016 China Environmental Press Awards "Journalist of the Year" prize.*

获奖文章

# 新疆卡山自然保护区因开矿6次瘦身，曾被喻为“观兽天堂”

为了给矿产开发等经济活动让路，卡山保护区在过去10年中一再被调整。

□石 毅

在新疆北部准噶尔盆地东北部，做动物行为学研究的中国科学院研究员杨维康曾经一次次与成群结队的蒙古野驴、鹅喉羚等有蹄类动物相遇。这片被卡拉麦里山、戈壁、沙漠和丘陵包围的地区，有着对人类生存来说极其严苛的自然条件，却是珍稀有蹄类的乐园，早在1982年就被划为新疆自治区级卡拉麦里山有蹄类野生动物自然保护区（简称卡山保护区）。

不过，为了给矿产开发等经济活动让路，卡山保护区在过去10年中一再被调整。澎湃新闻（www.thepaper.cn）近日从新疆自治区林业厅、环保厅了解到，自治区人民政府已于4月17日批复其第六次调减，原本总面积为18908平方公里的保护区，多次“瘦身”后调减为12825.35平方公里，削减了近1/3。

自2005年第一次面积调整开始，保护区北纬45°线以南准东地区成为西北的大型煤炭基地，已经有多项研究证实，随着开发进程推进，有蹄类动物在那儿已经难觅踪迹。

环保人士担心，伴随着第六次调整，新的工业园区会使动物栖息地进一步碎片化，让整个保护区步准东的后尘。


准东工业区准东铁路沿线一处野生动物的尸体。在远处铁路下方是规划为动物通行而设置的通道，但某些地段的通道“狼都不敢过”。

## 挤入保护区的工业区

卡山保护区正站在“十字路口”。今年2月16日至25日春节假期期间及前两天，新疆自治区环保厅在官网公示了该保护区第六次调整方案。

尽管不断有学者、环保组织和志愿者提出质疑，在4月17日，这一方案仍然获得新疆自治区人民政府批复同意，但此消息尚未在相关部门官网公布。


准东工业区准东铁路沿线一处野生动物的尸体。在远处铁路下方是规划为动物通行而设置的通道，但某些地段的通道“狼都不敢过”

在被称作五彩湾的地方，一条公路自戈壁中穿过，北面是卡山保护区，南面则是准东开发区耸立的厂房和冷却塔。

公路路基下每隔几公里便有动物通道，但新疆一位不愿具名的物种专家叹息说，据他多年的观察，由于南面人类活动愈加频繁，几乎没有动物会利用这些通道。

时间回溯 10 年，现在的准东还是无人定居的荒野，是卡山保护区最南边的部分。这个原本呈完整长方形的保护区，分别在 2005 年、2007 年、2008 年、2009 年、2011 年以及最近的 2015 年 4 月六次被调减。因地底下蕴藏的煤，如今，它北纬 45° 以南一块已经被建设为大型煤炭基地，北纬 45° 以北的区域中间被划出 3 块，更多的煤炭、黄金和被称作“卡拉麦里金”的花岗岩即将被开采出来。

卡拉麦里山是横亘于保护区中部的低山，保护区因此而得名。它的东部是砾石戈壁，西部则连着中国第二大沙漠古尔班通古特沙漠。

在那里大型有蹄类是标志性的生物类群，但凡在卡山保护区附近住过一阵子的人都知道，想要碰上它们并不难。翻开《卡山保护区综合科学考察》报告，仅仅哺乳动物一类，这里就有国家一级保护物种雪豹、普氏野马、蒙古野驴、赛加羚、和北山羊等 14 种，国家二级保护动物鹅喉羚、盘羊等 39 种。在这些哺乳动物中，列入中国濒危物种红皮书的有 9 种，其中野生种群灭绝的 2 种，濒危 4 种，易危 3 种。

正是这种将工业区置于保护区中间、人为隔断动物生境的调整方案遭到了质疑。作为环保厅组织的保护区调整评审专家组组长，杨维康给出的评审意见之一是，“（调整后）保护区将形成 3 个大窟窿，违背保护区建设原则，严重影响保护功能的实现。”

## 被挤占的栖息地

10 年以前，杨维康和他的团队在保护区调研，在准东，“3 天时间里能看到大大小小上百群鹅喉羚，2009 年以后（准东开发始于 2006 年），同样的季节，只看到两三群。”过多的人为干扰让杨维康感到失望，此后他便将研究转移到了其他地区。

一篇新疆环境监测中心站王德厚发表于 1993 年的论文如此记述过去的“盛况”：在一次调查中，目击 154 头野驴在桥木稀拜洼地水池中饮水以及玩耍的壮观场面；在火烧山一次调查中，在一个水坑旁边观察，从中午 12 时至下午 19 时，7 小时里见到来此水坑喝水的鹅喉羚 765 头、野驴 60 头（桥木稀拜和火烧山均为保护区内的地名）。

《中国国家地理》曾经将卡山保护区喻为“观兽天堂”。国道 216 几乎从原保护区的西南角贯穿至东北，即使是普通的游客，有时也能不费吹灰之力而看到动物成群结队迁徙的情景。根据保护区阿勒泰观测站的研究，冬季野生动物越过卡拉麦里山到南部的准东地区过冬，而在夏季，则根据水源地等情况，有东西向迁徙的习惯。

而如今，在准东，露天煤矿所堆砌的多处煤矸石山已经变得如楼房一般高，更多的煤矸石还在不断地倾倒出来。运煤的卡车日夜不停地在各个煤矿之间穿梭，扬起的烟尘让人误以为闯入了沙尘暴之中，也将整个戈壁染成黑色。

只有离开了准东才能想象那里被开发前的样子，在它的北面是一片长满了黄色、绿色、红色戈壁植被的荒原，不时能遇到野生动物的残骸，那上面还有被狼牙咬过的痕迹。


宝龙石材公司在卡拉麦里有蹄类野生动物自然保护区打下的界桩

新疆环境保护科学研究院王虎贤等人2015年发表的《卡山保护区野生动物适宜性生境变化》表明，由于受到公路、矿区、工业园区干扰和影响，卡山保护区的适宜性生境已经从2000年开始至今减少了45%，尤其是2007年以来呈加速下降趋势。《卡山保护区综合科学考察》报告亦证实，多年的观测表明，准东已经见不到有蹄类活动。

在杨维康看来，此次削减出去的主要区域位于216国道以东，是除了准东而外另一个重要的动物越冬场所，“这块凹地在冬季的平均气温比其它地区高，而且北风吹不进来，在它们失去准东的越冬地之后，如果再没有这一块区域，就是雪上加霜。”

来自中科院新疆生态与地理研究所的马鸣长期在卡山保护区进行猛禽研究。“别忘了卡山上还有众多的金雕、秃鹫，除了偷猎，开矿、采石的影响也非常大。”他对澎湃新闻说。金雕与秃鹫分别为国家一级和二级保护动物。马鸣的研究发现，自2004年开始，金雕的数量在卡山保护区不断下降，到了2012年，所有的巢穴都空了。在保护区调整的评审会上，这位专家不禁站起来拍桌子，因为本来是负责监督管理保护区的行政部门，都站在开发商的立场上说话。

为保护区调整而提供决策的《卡山保护区科学考察》报告中说，保护区内的保护动物在准噶尔盆地广泛分布，即使保护区调整，动物的种类不会明显变化。这份报告还说，这次范围和功能区调整，最大限度地保持了原有生态系统的完整性，最大限度保存了野生动物原有栖息地，因此它主要是使动物的分布发生较大变化，其它的影响则较小。

## 默许的开发

事实上，不论保护区调与不调，矿产勘查、采石等活动都早已存在。

3月29日，新疆自治区林业厅网站上连续公开了“同意卡拉麦里1号金矿勘察项目工程等数个金矿勘察进入原有保护区”的批复。1号金矿的位置，正是落在第六次调减出保护区的范围中。

澎湃新闻实地走访，发现在5月底，项目实施地，工人的生活区和金矿的一些基础设置已经建成。一名自称是金矿副矿长的工人告诉澎湃新闻，金矿的建设自2014年就开始了。

在从保护区调整出去的另一部分，黄黑色的巨大花岗石已经被开采出来堆放在一旁，地面留下众多几十米深的大坑。

在杨维康看来，如果说让保护为涉及重大民生的项目如能源让步还可以商榷，那么花岗岩的开采则让他无法理解。“新疆的花岗岩分布较广，为什么就一定要占用保护区呢？”

国家《自然保护区条例》规定禁止在自然保护区内进行开矿、采石、挖沙等活动，但是，法律、行政法规另有规定的除外。卡山保护区阿勒泰保护站在答复环保组织“让候鸟飞公益基金”关于保护区内的开采是否涉嫌“未批先建”时说，部分开采拿到了行业主管部门的审批，但在保护区正式调整前，按照《自然保护区条例》，不合法的开采项目已经清除。

但是，2015年2月27日新疆自治区环保厅上报给自治区人民政府的卡山保护区面积调整审查意见透露，从2008年到2015年，在此次调整的区域内已经设置矿权36个，投入勘探开发经费1.2亿元，引进了山东招金集团、招远昌林实业有限公司等。这份意见还说：“以上区域采矿权和探矿权已成事实，该区域已不适合野生动物栖息，实际上已失去保护功能。”

参与评审的另一位专家新疆环保老科教工作者协会马志成对此说：“调整就是手续上合法化。”他向环保厅提了19条书面意见，认为保护

区调整总体上是不合适的，但是开发已经成为现实，考虑到虽然多块区域被缩减，但保护区北边又增加了一块区域，南边一旦更深入地开发，动物只能向北迁徙，最后他签字表示了同意。

## 被质疑的评审委员会

在卡山保护区，上演的依然是经济发展和生态保护相冲突的剧本。保护者担心，新削减的区域将会成为下一个准东，有蹄类将被迫迁徙。

“一个保护区前后被调整了6次，全国大概没有第2个。“马鸣说。

卡山保护区所在区域分属于新疆昌吉州和阿勒泰地区，而此次调整的区域则主要在阿勒泰地区富蕴县行政区划内。

推动此番保护区调整的主要力量正是当地政府。富蕴县发给自治区林业厅《关于卡山保护区功能区面积调整的承诺函》说，富蕴县近年来引进的一些重大投资项目都位于卡山保护区内，为此该县承诺在削减了保护区面积后，将保护区北部界线延伸，以弥补一些“损失”。澎湃新闻还了解到，在自治区环保厅召开的专家评审会上，富蕴县所属的阿勒泰地区行政公署专员对参与评审的专家说：“阿勒泰只有一个经济增长点（指矿产）……所以这个资源必须合理的利用，合理的保护，促进当地经济的发展。”

富蕴县推动保护区进行第6次调整始于2013年。新疆自治区林业厅自然保护区和湿地管理办公室李爱华对澎湃新闻说，林业厅分别在2013年和2014年组织了2次专家评审，因为最初的调整方案削减面积太大，只有1位专家表示同意，随后方案返回修改，削减面积减少，才在第2次评审中获得绝大多数专家同意。“作为主管部门，我们对保护区的感情更深，也不愿意看到它调减。”她说。


该区域石材有一个美丽的名字叫卡拉麦里金，底色为浅黄色，黑色色调匀缀其中，美观而又素雅是很好的饰面花岗岩资源

调整方案在林业厅获得通过后，于2015年2月进入新疆自治区环保厅自然保护区评审委员会的评审。在那一次有32位专家参与的评审会上，仅仅有4人投了反对票，其余28人表示赞成。

不过，评审委员会的组成却受到来自内部的质疑。马鸣说，绝大部分专家都来自于行政部门，如自治区环保厅、自治区林业厅、自治区发改委、自治区国土资源厅、自治区建设厅、自治区财政厅。一位不愿具名的评审专家给记者发来短信说，目前还是行政决策等说了算，专家是陪衬。马鸣还表示，卡山保护区的多次调整只有最近的第6次增加了专家评审环节，过去连评审都没有。

在质疑此次调整的环保组织“让候鸟飞公益基金”工作人员田阳阳看来，整个决策过程缺乏公众参与，一项酝酿了2年的保护区调整，只在最后时刻做了公示，而且公示期的大部分时间为春节假期，这份公示能有多少人看到就打上了问号。

中国社会科学院法学研究所教授常纪文在接受澎湃新闻采访时说，由当地政府选出来的评审专家不可避免会出现为当地政府说话的情况，在决策过程中引入公众参与是必要的，“在当前经济不景气的情况下，环保为经济让路的情况有所抬头，值得警惕。”

石毅，澎湃新闻记者，获2016中外对话“最佳环境报道奖”的“年度记者”奖。

Award-winning Article

# China's mining industry damages 'wildlife paradise'

How coal mining caused the disappearance of animal species and destruction of precious habitats in western China

□ Shi Yi

In the north-east of the Junggar Basin in China's western Xinjiang province, Yang Weikang, a zoologist with the Chinese Academy of Sciences, once watched herd after herd of Mongolian wild asses (also known as Khulan), goitered gazelles and other hoofed mammals. They were once commonplace in a region that is hemmed in by the Kalamely (Kalamali) Mountains deserts and hills.

And while humans struggle to survive here, it is a paradise for those animals. So in 1982 the Xinjiang Kalamely Mountains Ungulate Wildlife Reserve was formed.

But over the last 10 years the size of the reserve has shrunk to accommodate mining and other development. Weikang recently learned from the Xinjiang forestry and environmental authorities that a sixth reduction was approved by the Xinjiang government on April 17. The reserve, originally 18,908 square kilometres in size, has shrunk by almost one third over the years.

Since the first adjustment in 2005, a major coal mining project has got underway in the reserve at a section called Zhundong. Multiple pieces of research have shown that as that development has proceeded, many species have disappeared.

Environmentalists worry that the new industrial zone to be built after this sixth reduction will further fragment animal habitats, opening up the entire reserve to mining, much in the way Zhundong has been.

## Mining rules the roost

The Kalamely Reserve stands at a crossroads.

Between February 16 and 25 last year – over the Chinese New Year holiday – the Xinjiang environmental authorities published their proposal for further shrinking the size of the reserve.

Despite repeated questioning from academics, environmental groups and volunteers, the Xinjiang government approved the plan on April 17 – although that news was not updated on its official website.

At a place known as Wucaiwan, a highway runs out of the Gobi Desert between the reserve to the north and the factory buildings and cooling towers of the Zhundong Development Zone.

Passageways have been built every few kilometres under the highway to allow animals to cross safely. But one Xinjiang zoologist, who preferred to remain anonymous,

"Since the first adjustment in 2005, a major coal mining project has got underway in the reserve at a section called Zhundong. Multiple pieces of research have shown that as that development has proceeded, many species have disappeared."

said that in many years of observation he'd almost never seen animals use those routes – there's just too much human activity on the south side of the road.

Around a decade ago, Zhundong was desolate and uninhabited, the very southern end of the Kalamely reserve. Originally rectangular in shape, the reserve was reduced in size in 2005, 2007, 2008, 2009, 2011 and most recently in April 2015.

The southern section is rich in coal and is now a major mining centre, while three sections have been carved out of the reserve further north, where more coal, gold and granite are to be extracted.

The Kalamely Mountains, from which the reserve is named, are low-lying and run across the centre of the reserve.

The east of the reserve is a stony desert, the west connects with the sands of the Gurbantünggüt, China's second largest desert.

The large herds of gazelles and other animals are a symbol of the reserve, and anyone who lives nearby knows how easy they are to spot. The Scientific Survey of the Kalamely Reserve lists 14 Schedule I protected mammals, including the snow leopard, Przewalski's horse, the Mongolian wild ass, the Saiga antelope and the Alpine ibex.

It also lists 39 Schedule II protected animals such as the goitered gazelle and argali. Nine of these are included in China's red list of endangered species, with two being extinct in the wild, four endangered and three at risk.

Zoologists and campaigners have been strongly critical of the permits issued to industrial areas within the reserve and the reduction of habitats.

Yang Weikang, head of the committee put together by the environmental authorities to evaluate the proposals, said in his findings that after the change "the reserve will create three voids in the reserve, going against the principle on which the reserve was founded and severely impacting its functioning."

Ten years ago in Zhundong, Yang and his research team "saw over 100 large and small herds of goitered gazelles over three days, but after 2009 (development in Zhundong started in 2006) we only saw two or three at the same time of year." Yang became disappointed by excessive human interference left, and he moved his research elsewhere.

> "but after 2009 development in Zhundong started in 2006 we only saw two or three at the same time of year."

*Chinese National Geography* once described Kalamely as a paradise for wildlife watchers. The G216 highway runs from what used to be the south-western corner of the reserve to the north-east, and without much effort, tourists can sometimes spot huge herds of animals.

Research carried out at the reserve's Aleitai Observation Post found that in winter the animals crossed the Kalamely Mountains to spend the colder months in Zhundong, while in summer they would move east and west depending on where water could be found.

But today Zhundong is strewn with open-cast mines and piles of coal tall as buildings. Trucks drive back and forth day and night, and the dust is as thick as a sandstorm, turning the desert black.

To get a sense of what Zhundong once looked like, you have to go to similar areas elsewhere, if you are to have any chance of picturing its former appearance. To the north is a stretch of desert vegetation, yellow, green and red, scattered with animal bones scratched by the teeth of predators.

In 2015 Wang Huxian and others from the Xinjiang Academy of Environmental Protection Sciences published a report on changes in the Kalamely habitats, finding that the impact of roads, mines and industry had resulted in a 45% reduction in suitable habitats since 2000, with the drop particularly pronounced after 2007.

The Scientific Survey of the Kalamely Reserve also reported that despite years of observations, hoofed mammals were no longer found in the Zhundong area.

According to Yang Weikang, the area removed from the reserve on this occasion, which lies mainly to the east of the G216 highway, is another important winter habitat. "The temperatures here are warmer than elsewhere, and it's sheltered from the north wind. Removing this will just add to the damage already done in Zhundong."

Ma Ming of the Chinese Academy of Sciences' Xinjiang Institute of Ecology and Geography studies birds of prey in the reserve and has drawn attention to the harmful impacts of extractive industries on habitats.

"Don't forget the reserve is home to many golden eagles and vultures – these are affected by mining and quarrying as well as poaching." Those two birds are Schedule I and Schedule II protected species respectively.

In his research, Ma found that golden eagle numbers in the reserve started falling in 2004, and by 2012 all the nests were empty. At a committee meeting on the impacts of

mining, he became aware that government body originally meant to oversee and manage the reserve was now speaking on behalf of the developers. Ma responded by thumping the table with anger.

The Scientific Survey of the Kalamely Reserve, which was referred to in making the decision, says that as wild animals are widely distributed within the Junggar Basin, the changes wouldn't make much difference to the populations within the reserve.

## Development on the quiet

But even before the changes, prospecting and quarrying were underway.

On March 29 last year, the Xinjiang forestry authorities published licences for a number of gold prospecting studies to be carried out within the reserve, for the Kalamely No. 1 Gold Mine. That gold mine is to be sited on land to be removed from the reserve under the most recent changes.

In late May 2015, Thepaper.cn visited the site and found that workers' accommodation and some infrastructure has already been built. One man, who said he was the deputy mine boss, told us that work had started in 2014.

At another location, also formerly part of the reserve, blocks of granite are being stacked up next to a quarry dug dozens of metres into the ground.

Yang Weikang says that even if it is necessary for major energy projects to take priority over conservation, he said he still couldn't understand why the granite quarry is needed. "You can find granite all over Xinjiang.Why do they have to take over part of the reserve?"

State rules on nature reserves forbid mining or quarrying – but other laws or regulations can override this ban. In a letter responding to questions from Let Migratory Birds Fly, an environmental group, as to whether quarrying had gone ahead prior to obtaining approvals, staff from the Aleitai Conservation Post said that some quarrying had been approved by the industrial authorities, and was therefore in accordance with the law.

However, staff from the conservation post added that there had been quarrying which was illegal under nature reserve regulations prior to the adjustment of the boundaries.

In the Xinjiang environmental authority's submission to the Xinjiang government on the changes to the reserve, it was revealed that 36 mining licenses had been issued in the area affected between 2008 and 2015, with 120 million yuan (US$18.3 million) spent on prospecting and development by investors, including the Shandong Zhaojin Group and Zhaoyuan Changlin Industries.

That document took the rather cynical view that "mining and prospecting rights already exist in this area.It is no longer a suitable habitat and has no further conservation purpose."

Ma Zhicheng, a former environmental science teacher who was also on the evaluation committee for resourced projects, said "the changes were just a matter of making it legal."

He submitted 19 written opinions to the environmental authorities, saying that the changes were overall unsuitable. But as development was already a reality and a new area was to be added to the reserve in the north, which would be the animals' only refuge if development continued in the south, he voted in favour of changes to the reserve.

## Experts called into question

Yet again the struggle between economic growth and conservation is playing out, this time at Kalamely Reserve. Conservationists worry that as was the case with Zhundong, animals will be forced from their habitats.

"I don't think there's one other reserve in China which has been reduced in size by six times," said Ma Ming. The reserve lies in the Changji and Aleitai areas of Xinjiang, but the parts of the reserve affected by the most recent changes lie mainly in Fuyun county in Aleitai.

It was the local government that was the main proponent of the changes. In a letter to the forestry authorities, the county said the reduction at the south of the reserve would be compensated for with an expansion in the north.

Thepaper.cn also learned that a government official told


*A stone field near State Road 216. Stones there are buried in shallow ground and cost less to extracted.*

the evaluation committee that "there's only one source of economic growth in Aleitai [referring to mining], so we need to make reasonable use of these resources for local economic development."

Once the plan was given the nod by the forestry authorities, it was passed on to the expert committee put together by the environmental authorities in February 2015. Only four of the 32 experts opposed it, with all others voting in favour.

But even some of those on the committee questioned its make-up. Ma Ming pointed out most of its members came from government bodies – the forestry authorities, the environmental authorities, the development and reform commissions, the land and resources authorities and the construction authorities. One expert who did not wish to be named sent a text message saying experts were just there to provide cover for a government decision. Ma added that previous changes to the reserve were made without reference to any experts.

## Counterweight

Tian Yangyang of Let Migratory Birds Fly is sceptical about the changes and complains of a lack of public participation – the whole process took two years but was only publicised at the last minute, over the Chinese New Year holiday, when many people are unlikely to have seen it.

Chang Jiwen, a professor at the Chinese Academy of Social Sciences' Institute of Law, said in an interview that it is inevitable a committee chosen by local government will take the side of local government, and that public participation is essential as a counterweight. "The weak economy means there are signs that environmental protection is being put in second place, which we should be wary of."

*Editor's Note: Thepaper.cn journalist Shi Yi filed a series of reports on this issue, bringing the case to the attention of central government. A subsequent memo from Xi Jinping resulted in an undercover visit by Party Central Committee investigators, as well as a public visit by Zhang Chunxian, Xinjiang Party Secretary, during which plans for the most recent reduction of the reserve were halted. At the end of 2015 the plans were scrapped for good.*

*Shi Yi is a reporter at Thepaper.cn and the winner of chinadialogue's 2016 China Environmental Press Awards "Journalist of the Year" prize.*

获奖文章

# 为了生存，告别长江：江豚保种计划全纪录

当长江江豚不得不离开长江的时候，一个古老物种又进入了灭绝倒计时。最佳环境报道奖的“年度最佳记者”石毅在 2016 年的又一深度报道。

□ 石 毅


2015年3月19日，湖面上发现两头母子豚。江豚数量已经极度濒危，估计种群数量1040头，比大熊猫的数量还少

**2015**年 3 月底，8 头鄱阳湖的长江江豚被迁到 500 公里外的湖北荆州。新家位于长江故道，与人来船往的长江是两个世界，被视为长江江豚的“诺亚方舟”。

这是一场为延续濒危种群而进行的“迁地保护”，更是一次无奈的“保种”计划。在农业部主持下，数家长江江豚研究和保护机构与渔政部门参与其中。

中国科学院水生生物研究所调查，2012 年江豚种群约 1040 头，不到大熊猫的 6 成，它们极可能在未来 5-10 年内灭绝。

长江是世界第 3 长的河流，曾是中国的“亚马孙”，为中国生物多样性最集中的地区之一。作为“原住民”，江豚是长江生态系统的旗舰物种，它的命运直观反映了长江的健康状况。

“它们都处于食物链的顶端，最容易受到人类活动的影响，白鳖豚走了，紧接着江豚走了，那么多米诺骨牌效应下，最后一个倒下的可能就是我们人类自己。”中科院专家王丁说。

## 白鳖豚遗憾

3 月中的鄱阳湖上，枯水期尚未过去，19 艘船在湖面一字排开，渔民们在远处发现了黑色的长江江豚，指挥船打出旗语，其余的船慢慢地向着同一个方向靠近。

长江江豚只生活在长江和通江湖泊洞庭与鄱阳湖中，它们是水中的哺乳动物，每隔几分钟就要浮出水面呼吸。人们利用它们的回声定位系统驱赶它们，并在湖中的浅滩将它们围捕上来。

此情此景让参与行动的高道斌想到了白鳖豚。退休前他是天鹅洲长江豚类国家级自然保护区副主任。这个成立于 1990 年的保护区现在是全国唯一一个长江江豚迁地保护的成功典范，它最初是为了拯救白鳖豚而建立，但让人遗憾的是，只有一头白鳖豚在那儿短暂居住过。

令高道斌耿耿于怀的是，当年实施白鳖豚迁地保护计划时，正是他带队围捕，“明明看见好几头豚了，但当地政府不让，说他们自己也能保护，后来我们到别的地方去，只捕来一头，结果这一头就孤零零地死在保护区。”

2007 年，科学家宣布白鳖豚功能性灭绝。

中科院水生所研究员王丁也时常在各种场合回忆白鳖豚。2006 年夏天，包括他在内的一组多国专家联合考察团为了寻找白鳖豚，耗时一个多月，从湖北宜昌到上海，江中往返 3000 多公里，却无功而返，随后他亲口向媒体公布了这一消息。对于一位做了 20 来年鲸类研究的科学家，这无疑是沉重的。他回忆说，一位美国专家当时说白鳖豚“No more made in China( 不再产于中国）”，让人落泪。

有两种鲸类动物生活在同一条河中是极其少见的，放眼全球，只有亚马孙河可以相比，那里是侏形海豚和亚河豚的栖息地。现在，长江江豚成了长江中唯一的水生哺乳动物。

虽然缺乏历史数据，但科学家普遍认为，白鳖豚的数量是从 1950 年代开始急速下降的，伴随着长江中越来越频繁的人类活动，到了 1990 年代末，只有不到 20 头白鳖豚，任何的努力都已经太晚了。

面对长江江豚的处境，科学家和保护者们选择了“迁地保护”这个有着妥协意味的方案。20 世纪 90 年代初，水生所的科学家们估算长江江豚有约 2700 头，到了 2012 年，科考显示总群数骤降到了约 1040 头。

根据王丁的研究，如果不采取措施，基于目前种群数量及下降速率，江豚极可能在未来 5-10 年内灭绝，已经到了要想方设法保种的阶段。

“它们都处于食物链的顶端，最容易受到人类活动的影响，白鳖豚走了，紧接着江豚走了，那么多米诺骨牌效应下，最后一个倒下的可能就是我们人类自己。”王丁说。

## 登上“诺亚方舟”

位于湖北石首的天鹅洲保护区，是最早接收长江江豚“移民”的地方。1990 年，科学家们不敢贸然将数量已经极少的白鳖豚迁去，于是迁了 5 头江豚作实验。

第一批“移民”很快适应了故道环境，它们成长为约 40 头模样。根据保护区最新的调查，天鹅洲每年出生的江豚都在 3-6 头，总计出生了 30 多头。与长江及两湖江豚栖息地比起来，它是唯一一个种群保持增长的地方。

天鹅洲和何王庙都属于长江故


2015年3月19日，工作人员用特殊的担架将江豚运至体检船

道，有其天然的优势，站在故道旁的河堤上看，水色天光与3月底的油菜花，就像是莫奈笔下的画作，与忙碌又繁华的长江及沿岸比起来是两个世界。这也正是王丁在考察时所看中的。3年前，世界自然基金会提出以何王庙故道建立第2个迁地保护的想法，在对水质和渔业资源做了长期监测后，人们发现除了渔民捕鱼外，那里没有工业污染，故道保持了自然状态下的样子，另外，故道与长江保持季节性相通，有长江水补给，只要维护得当，就足以维持一个约100头江豚种群的生存。

仅仅有天鹅洲一个迁地保护区并不够。2008年南方普降冰灾，天鹅洲河面冻上足足30厘米厚的冰，江豚为了游出水面呼吸，用头部冲撞冰层，高道斌回忆，等他们巡视发现的时候，6头江豚已经因伤口溃烂而死。谁也没想到南方的河水也会结冰，“鸡蛋不能放在一个篮子里”，他说。

王丁同样认为，在一个保护区里，随着种群扩大，近亲繁殖、流行病暴发等因素会增加，气候变化所致的极端天气也会对江豚带来不利影响甚至是致命影响，寻找合适的故道建立迁地保护网络是不二选择。

2012年，农业部召开全国长江豚类保护工作会，与会的专家及沿江的渔政管理人员一致认同长江干流生态环境难以短时间内得到根本改善。会后，农业部委托水生所起草了《长江江豚拯救行动计划》，其中重要的内容就是在长江中下游流域挑选合适的栖息地，建立新的江豚迁地保护区。王丁进一步解释，目前的设想是利用10年的时间在长江沿岸的故道建立5-10个迁地保护区，涵盖长江中下游，故道之间能通过人工干预适时交换个体，保持种群的遗传多样性。

江豚迁地保护行动随即启动，8头“身强力壮”的年轻个体在今年3月被挑选出来，分别送到何王庙与天鹅洲。它们四雌四雄，年龄在2-5岁间，被寄予厚望。

## “死亡之水”

作为长江中的“原住民”，江豚的命运系于长江。但在理想与现实间，保护者们选择了向现实妥协。

“它们（长江江豚）在长江里头、在两个湖里头生活得好好的，我们何必把它迁出来？长江包括洞庭湖这种环境，我们预期很难逆转，很难向好的方面去改善。”中科院水生所研究员王克雄说。

作为世界第3长的河流，长江也曾是中国的“亚马孙”，是中国生物多样性最集中的地区之一。众多研究表明长江中的鱼类有300多种，特有的鱼类大约一半，不过，它们中有约1/3生存受到威胁。

2013年，世界自然基金会和农业部长江流域渔业资源管理委员会共同发表的一项报告警告说，长江上游渔业资源濒临崩溃，特有物种消失了一半，而过度的水电开发、违法捕捞等人为因素是导致这一后果的直接原因。另外，多家科研机构的长期监测数据表明，长江中“四大家鱼”鱼苗量急剧下降，由上世纪50年代的300多亿尾降到现在不足1亿尾。

高强度的人类活动正在将长江变成“死水”。中国已经确立了将长江开发为“黄金水道”，并以此为依托建设长江经济带的战略。一位江豚保护工作者私下里说，“上面提的是加强迁地保护，不放弃就地保护，但对后面一句话，很多人是悲观的。”

从长江中游开始，自1990年代初，各地已经在干流及洞庭、鄱阳两湖建立了大大小小8个长江江豚保护区，这包括国家级保护区湖北天鹅洲、湖北洪湖新螺段及安徽铜陵，另外，省、市级自然保护区有5个，即洞庭湖、鄱阳湖、安庆、镇江、南京长江豚类保护区，如此算起来长江干流的保护面积是中下游总长的近1/3，但根据2012年的科学考察，干流的江豚种群数量下降速度却是所有江豚栖息地中最快的，达13.7%。

究其原因，农业部长江流域渔政监督管理办公室主任李彦亮说，长江不同于陆地上相对封闭的保护系统，人们不能将长江的某一段隔离起来，江中涉及许多重大的国家项目分属于不同的部门管辖，各部门的沟通协调也是管理的难点。

将长江江豚迁走并不是让它们永远搬家，王丁说，“期待以后长江的生态环境好转之后，它们还能够再回到长江，回到它自己的家园。”

石毅，澎湃新闻记者，获2016中外对话“最佳环境报道奖”的“年度记者”奖。

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Award-winning Article

# why China relocated the Yangtze finless porpoise

Shi Yi reports on how Chinese scientists have started relocating an endangered species that will be wiped out if it remains in the polluted Yangtze River

□ Shi Yi

The countdown to save an ancient species from extinction has started: the Yangtze finless porpoise can no longer survive in the Yangtze River.

In late March 2015, eight of the porpoises were moved from Poyang Lake, which lies on the Yangtze, to Jingzhou, a city 500 kilometres away in Hubei province.

Long ago, the river flowed through Jingzhou, but nowadays the river course is calm and quiet, unlike the turbulent Yangtze. Jingzhou is intended to be a refuge for the porpoises.

This relocation is the last resort in efforts to conserve an endangered species. The programme, supported by China's Ministry of Agriculture, backs institutions and organisations investigating and protecting the Yangtze finless porpoise and the fishery authorities.


*Scientists prepare the endangered finless Yangtze porpoise before relocating to a lake which is less polluted*

A 2012 survey by the Chinese Academy of Sciences' Institute of Hydrobiology found that the number of finless porpoise had shrunk to 1,040 in the wild – less than 60% of the remaining numbers of China's giant panda population. Extinction within the next five to ten years seemed certain.

The Yangtze is the world's third longest river, and was once "China's Amazon" – a place of great biodiversity. A native of the Yangtze, the finless porpoise is a symbol of the river. Its fate reflects the river's health.

Chinese Academy of Sciences expert Wang Ding commented that "these animals are at the top of the food chain, and so most likely to be affected by human activity. The baiji has gone, the finless porpoise is soon to follow – the last domino to fall may be humans ourselves."

## Other extinctions

Water levels on Poyang Lake are still low in mid-March. Nineteen boats are lined up on the water – the fishermen have spotted a finless porpoise and the lead boat is using flag signals to direct the others towards it.

The finless porpoise lives only in the Yangtze, occupying two lakes on the river, Dongting and Poyang. An aquatic mammal, the porpoise needs to breathe at the surface every few minutes. Once spotted, the fishermen use their sonar

systems to herd the porpoises into the shallows.

The scene reminds Gao Daobin of the baiji, one of the world's four species of freshwater dolphins that used to dwell in the Yangtze.

Before taking retirement, Gao was deputy director of the Tian'ezhou Yangtze Dolphin Nature Reserve. Founded in 1990, the reserve is the only place in China to have successfully found a new home for a finless porpoise. It was originally set up to save the baiji, but tragically it only saved one.

Gao recalls with sadness a trip he led to capture baiji for the reserve. "We saw several, but the local government wouldn't let us catch them, claiming they could protect them. So we went elsewhere, but we only caught one, which died alone in the reserve."

In 2007 scientists declared the baiji functionally extinct.

Wang Ding, a researcher at the Institute of Hydrobiology, also often refers to the baiji. In the summer of 2006 he was part of a multinational team that spent months searching a 3,000-kilometre stretch of the Yangtze, from Yichang to Shanghai, in vain.

Wang made the announcement to the media personally – a sad task for a man who had spent two decades researching cetaceans. He recalls a US expert saying that the baiji was "no longer 'made in China' ".

It is very rare for two cetacean species to co-exist on one river – the only other instance is on the Amazon, where both the Amazon river dolphin and the tucuxi live. Now, the finless porpoise is the Yangtze's sole aquatic mammal.

Despite a lack of historical data, scientists commonly believe that baiji numbers started to plummet in the 1950s, when human activity on the river increased. By the end of the 1990s there were only 20 left, leaving no hope of saving the species.

In the 1990s the Institute of Hydrobiology estimated there were 2,700 finless porpoises. In 2012 a survey found the population had dropped to 1,040. Faced with this, scientists and conservationists settled on a solution: to relocate the animals.

Wang Ding's research found that if no action was taken, then the current rate of population decrease would very likely mean extinction by 2025. This prompted an action plan on how to save the species.

## On board Noah's Ark

The Tian'ezhou Reserve in Shishou, Hebei, was the first to receive relocated porpoises. In 1990 scientists didn't want to risk moving baiji, which were already very rare, without any experience. So they experimented with five finless porpoises.

The migrants took to their new surroundings quickly, with the group of five expanding to 40. The latest survey by the reserve shows that three to six porpoises are born every year, with a total of 30 porpoises at the Tian'ezhou Reserve. This is now the only population of the finless porpoise that is growing.

Tian'ezhou and Hewangmiao are both former courses of the Yangtze. Stand on the bank looking over the sunlit river and fields and you might think you were standing in a painting by Monet – this is a completely different world to the bustling Yangtze, which is why Wang Ding was drawn to the spot.

Three years ago the World Wide Fund for Nature (WWF) offered to fund two relocation sites in the river at Hewangmiao. After lengthy monitoring of water quality and fisheries it was concluded that apart from fishing activity there were no sources of pollution and the river remained in its natural state.

The river here is also connected to the Yangtze at certain times of year. If well-looked after, a population of 100 porpoises could survive here.

But the Tian'ezhou Reserve alone is not enough. In 2008 southern China suffered freezing weather conditions that left a 30-centimetre sheet of ice over the river. The porpoises had to smash holes in the ice with their heads to breathe.

Gao Daobin recalls finding six that had died from festering wounds as a result. Nobody had ever expected a river that far south to freeze, but as Gao points out, this shows the need for more reserves.

Wang Ding agrees – as the population increases

"Wang Ding's research found that if no action was taken, then the current rate of population decrease would very likely mean extinction by 2025."

inbreeding and disease will become a greater problem, and the extreme weather events caused by climate change may have a negative, perhaps even fatal, impact on the porpoise population. The only option is to find more river stretches to establish reserves on.

In 2012 the Ministry of Agriculture held a national meeting on the protection of dolphins and porpoises, at which both experts and fishery managers agreed there is little hope of near-term improvements to the Yangtze environment.

After that meeting, the ministry commissioned the Institute of Hydrobiology to draw up a plan to save the finless porpoise. An important part of that plan was identifying suitable alternative habitats in the Yangtze basin for new reserves.

Wang Ding explained that the current intent is to establish five to ten such reserves throughout the Yangtze basin over the coming decade. Individual animals will be moved between the locations in order to maintain genetic diversity.

The plan got underway, with eight healthy young porpoises selected for relocation to Hewangmiao and Tian'ezhou in March this year. There are high hopes for these animals – four male, four female, and all between two and five years of age.

## "Dead water"

The finless porpoise is a native of the Yangtze, and ideally this is where it will stay, but conservationists have had to opt for a practical compromise.

Wang Kexiong, a researcher at the Institute of Biology, explains: "They were living happily in the river and the two lakes, so why did we have to move them? Because we think it very unlikely that the river and lake environment will improve."

There are 300 species of fish living in the Yangtze, half of which are not found anywhere else. One-third of these species are under threat.

In 2013 the WWF and the Yangtze Fishery Resources Commission issued a joint warning that fisheries on the upper reaches of the river were close to collapse and that half of species unique to the river had disappeared.

Human activity – overdevelopment of hydropower and illegal fishing – were the cause. Also, long term monitoring by a number of research institutions has found that the annual number of newly hatched farmed fish have plummeted from 30 billion a year in the 1950s to less than 100 million today.

Intensive human activity is killing life in the Yangtze. China already has plans to develop the river into a "Golden Waterway" economic belt. One conservationist said privately that: "The authorities have told us to do more to relocate animals, but not to give up on conservation on the Yangtze. But many people are pessimistic about that second part."

Since 1990 eight reserves have been set up along the Yangtze and the Dongting and Poyang lakes. These include national reserves at Tian'ezhou and Honghu Xinluo in Hubei and Tongling in Anhui province.

There are also five local porpoise reserves at Dongting, Poyang, Anqing, Zhenjiang and Nanjing. These reserves combined protect one third of the middle and lower reaches of the Yangtze. But the 2012 survey found population numbers were dropping faster on the Yangtze proper than on its tributaries, by 13.7%.

Li Yanliang of the Ministry of Agriculture's Yangtze Fisheries Management Office says that unlike on land, it is not possible to isolate a river reserve. There are major projects underway on the river, with each managed by different government departments, and coordination and communication between these groups is a problem.

Wang Ding says that the relocation of the porpoises doesn't have to be permanent: "Hopefully after the environment on the Yangtze improves they can return back to their home."

*Editor's Note: Thepaper.cn journalist Shi Yi filed a series of reports on this issue, bringing the case to the attention of central government. A subsequent memo from Xi Jinping resulted in an undercover visit by Party Central Committee investigators, as well as a public visit by Zhang Chunxian, Xinjiang Party Secretary, during which plans for the most recent reduction of the reserve were halted. At the end of 2015 the plans were scrapped for good.*

*Shi Yi is a reporter at Thepaper.cn and the winner of chinadialogue's 2016 China Environmental Press Awards "Journalist of the Year" prize.*

获奖文章

# 与危险为邻

**消防官兵面对大量集装箱时不清楚里面有何物品，事发公司危化品经营许可疑已过期，最佳环境报道奖的“最佳调查奖”涂重航报道。**

□ 涂重航

据天津警方通报，12 日 23 时许起火爆炸企业，为天津东疆保税港区瑞海国际物流有限公司（以下简称瑞海国际），该公司装有危险品的集装箱起火爆炸。

## 身份不明的爆炸物

昨日，瑞海国际一名副总经理腿上、头上打着纱布现身爆炸现场，事发当晚他在公司值班时被爆炸所伤。据其称，该公司总经理当天也在事故中受伤，目前仍在重症监护室，未脱离危险。

据了解，瑞海国际公司货场占地 4.6 万平方米，由综合办公楼、2 个危险品仓库、中转仓库、堆场、消防泵房、检查桥、废水收集池组成。最开始发生爆炸的就是危险品仓库的一个，随后再次爆炸，两个危险品仓库均被夷为平地。

昨日，记者在现场看到，该公司货场南部的办公楼仅剩框架，办公楼前有一大片空地和一个大坑，据称为当时爆炸点的位置。

据这名不愿透露姓名的副经理称，最初发生爆炸的是存放硝酸钾、硝酸钠、硝酸盐等化学物质的库房。据现场专家介绍，硝酸类物品属于易爆品，遇热、碰撞都会引发爆炸。

该公司工作人员称，事发时货场内的中转仓库存放着大量危化品。存放在中转仓库中的化学品都是暂时性的，报关后，很快就会来船运走，不会在货场长时间停留。瑞海国际货场发生爆炸后，现场多名工人受伤，另有部分员工被惊吓后四散，以致消防官兵到达现场后，集装箱堆积如山，也不清楚里面都存放有什么物品。

该名副总因此昨日从医院里打着绷带回到现场，现场打电话向员工核实理清货场内的危险品。

> “他想着要下雨了，准备关窗。还未走到窗口，一声巨响，他被冲击波推倒在地，起身发现自己脸上、胸口插满了玻璃碴。”

据上述工作人员介绍，目前货场里至少还有 4 种危险品，分别为：烧碱、碘化氢、硫氢化钠、硫化钠，其中烧碱无法用沙土填埋来处理。

昨日 14 时 45 分许，消防官兵正使用干粉对火点施救时，突然又发生爆炸，掀起一个罐装物的盖子，并伴随刺眼鼻的黄烟。据工作人员称，发生爆炸的是存放在那里的 21 吨硫氢化钠。

此次爆炸前，记者在现场看到，消防官兵向现场喷射水柱灭火。但爆炸后，用水灭火的方式暂停，一律改为沙子、细土和水泥填埋。

## 与危险为邻的小区

事发时，隔着窗帘，天津市民梁辉看到外面的“闪电”，整个天空都亮了。他想着要下雨了，准备关窗。还未走到窗口，一声巨响，他被冲击波推倒在地，起身发现自己脸上、胸口插满了玻璃碴。

梁辉居住的小区是万科清水蓝湾，两公里外正是此次爆炸事故的

“从爆炸现场周边地图上显示的距离来看，轻轨东海站距离该公司也不足1000米。在事故中，轻轨东海站被摧毁，轨道两旁的护栏被冲击波扭成了麻花状。而瑞海物流中心危险品存放地距离居民区也不足1000米。”

核心地带——瑞海国际物流中心。而在周围，分布了逾 11 处住宅小区，分别为万科、万通、中交、合生等品牌房企开发、管理的项目。其中，万科海港城距离爆点直线距离不足 1000 米，中交启航嘉园距爆点直线距离约 800 米。

在这次爆炸事故中，万通、万科海港城楼盘 70% 的楼房均受损，门窗玻璃被震碎。直至 13 日下午，楼上的玻璃还在跌落，小区里的行人走路都拿一块硬物顶在头上。

在爆炸地点周边分布这么多住宅小区，是否合规？

据新京报记者调查，《危险化学品经营企业开业条件和技术要求》要求，大中型危险化学品仓库应与周围公共建筑物、交通干线（公路、铁路、水路）、工矿企业等距离至少保持 1000 米。但瑞海国际占地面积 46226 平方米，属“大型仓库”。

从爆炸现场周边地图上显示的距离来看，轻轨东海站距离该公司也不足 1000 米。在事故中，轻轨东海站被摧毁，轨道两旁的护栏被冲击波扭成了麻花状。

而瑞海物流中心危险品存放地距离居民区也不足 1000 米。

据记者了解，瑞海物流中心项目兴建时间晚于万科等社区项目。在此情况下，天津环境保护科学研究院为瑞海物流中心项目做了环评报告。

2013 年 5 月，该院发布的一份《天津东疆保税港区瑞海国际物流有限公司跃进路堆场改造工程环境影响评价第二次公众参与公示》（以下简称公示）中提出，对公众发放调查 130 份，收回 128 份，调查结果表明，“百分之百的公众认为项目选址北疆港区内，选址合适”。

但万科集团一位负责人告诉记者，万科海港城（清水蓝湾）楼盘项目 2010 年之前拿地，2010 年 4 月开始预售，一年以后，瑞海公司注册，2013 年提出要做仓储项目，万科未从任何部门获悉该项目为危险品仓库的情况，“我们的业主以及万科方面也未接到天津环境保护科学研究院发放的调查表。”

新京报记者走访了中交启航嘉园、万通新城国际等楼盘的多位业主，均表示未听说过公示，也未接到环评调查表。

记者多次拨打天津环境保护科学研究院电话，均无人接听。记者致电瑞海国际董事长李亮，其手机一直关机。瑞海国际公开电话则无法接通。

## 仓储业务曾明确不含危化品

瑞海国际工作人员称其具备存储危险化学物品的资质，并称目前整个天津东疆保税港区仅有瑞海国际、中化的两家公司具备危险品存储资格。

据该公司官网介绍，该公司成立于 2011 年，目前是天津口岸危险品货物集装箱业务的大型中转、集散中心，是天津海事局指定危险货物监装场站和天津交委港口危险货物作业许可单位。目前公司主营业务包括经营危险化学品集装箱拆箱、装箱、中转运输、货物申报、运抵配送及仓储服务等，占地面积 46226.8 平方米，由两个危化品库房和中转仓库等组成。

据悉，瑞海公司曾多次进行危化品事故演练。去年 8 月公安部门曾对该企业进行了多方面检查。

根据一份 2014 年 9 月的《天津东疆保税港区瑞海国际物流有限公司跃进路堆场改造工程竣工环境保护验收拟批复公示》，该堆场改造后设计危险品年周转量 5 万吨左右，普通货物年周转量 2 万吨左右，用于电石、硅钙合金、氰化钠、甲苯二异氰酸酯（TDI）、烧碱、硫化碱、氩气、甲乙酮、乙酸乙酯、硝化纤维素、硫磺、硝酸钾、硝酸钠、甲酸、磷酸、甲基磺酸、压缩天然气等危险品和 PVC、天然橡胶等普通货物进出口的暂存。

但该企业工商资料显示，公司在成立初期的许可经营项目为“在港区内从事仓储业务经营”，明确表示“危化品除外”。

去年，该公司的许可经营项目做出变更，由前面明确为“危化品

除外”，改为“在港区内从事仓储业务经营（以津交港发 [2014]59 号批复第二项批准内容为准，有效期至 2014 年 10 月 16 日）”。

这份津交港 59 号的批复文件记者未在网上查到，据悉，文件中，港区明确瑞海国际具备存储危化品的资质。但即使按照这份文件，从事危化品仓储的有效期也只是到去年 10 月 16 日。

## 化工围城被诟病

2011 年，时任天津开发区党组书记、管委会主任何树山曾表示，“十二五”期间，天津南港工业区将拥有世界水平的石化专业投资环境。

当年 5 月，滨海新区范围内的南港工业区签署 26 个项目投资协议，其中包括中俄 1300 万吨炼油、中石油、中石化原油储备基地等 26 个项目。当地媒体称：“到 2015 年，天津将形成 3500 万吨原油储备、3500 万吨炼油、300 万吨乙烯和百万吨级 PTA、百万吨级 PVC、百万吨级聚乙烯、百万吨级聚丙烯等一批石化产品基地。”

南港工业区位于滨海新区东南部，规划区面积约 200 平方公里，陆域油气开采区面积约 14.5 平方公里，陆域规划建设用地面积约 147.5 平方公里。官方资料显示，工业区“以发展石油化工、冶金装备制造为主导，以承接重大产业项目为重点，以与产业发展相适应的港口物流业为支撑，建成综合性、一体化的现代工业港区”。

“2015 年到了，石化产品基地的梦想完没完成不知道，却出了这么大一个事故。”天津开发区一位基层官员告诉新京报记者。

即便之前，天津化工行业事故也是接连不断。

2014 年 6 月 17 日 21 点左右，位于滨海大港凯旋街石化园区的金伟辉二期工程的旧罐发生爆炸，该公司主要生产汽油、溶剂油等产品。据网友描述，“看到很高的火苗，半边天都染红，22 点时曾传出闷响。爆炸的地方没有居民区，10 多辆救火车赶到扑救控制住火势。”

2014 年 7 月 12 日 16:40 分，天津石化化工部芳烃车间 H-401 加热炉发生闪爆事故。

天津某高校一位城市规划专家告诉新京报记者，之所以造成化工区域临近住宅区的情况，是因为在建设工业区的同时，会考虑到社会职能，为工业做配套，但却忽视了存在的隐患，“这种发展理念老了”，该专家表示。

涂重航，《新京报》记者
新京报记者安钟汝、邓琦、赵毅波、刘素宏 、金彧，实习生张笛扬对本文亦有贡献

Award-winning Article

# Danger next door

The inside story of how the chemical warehouse at the centre of last year's huge explosions in Tianjin was permitted close to apartment blocks, in breach of regulations.

□ Tu Chonghang

**Editor's note: Tu Chonghang is the winner of chinadialogue's China Environmental Press Awards "Best Investigation" prize.**

**The explosion at a hazardous chemical warehouse in Tianjin was one of the biggest stories of 2015. Beijing News journalist Tu Zhonghang and his colleagues rushed to the scene and within a week had produced six investigative reports, revealing the types of chemicals involved, the cause of the explosion, who was responsible, related environmental impacts and safety assessments for the site and problems with local regulations – including a scoop on the risk of 700 tonnes of sodium cyanide leaking. Their reporting was both rapid and in-depth, setting a new example for the industry.**


*Apartment building close to the Tianjin explosion*

The explosion occurred at the premises of Ruihai International Logistics in Tianjin's Dongjiang port area at around 11pm on August 12, 2015, according to local police, after containers of hazardous materials caught fire.

A deputy general manager from Ruihai appeared on the scene the next day, clad in bandages covering wounds to his head and legs sustained in the explosion. He said the company's general manager had also been injured and was in intensive care.

The company's yard covered 46,000 square metres and contained an office building, two warehouses, a transfer depot, an outside storage area, a block housing fire hydrants, an inspection gantry, and a waste water pool. The first explosion occurred inside one of the hazardous materials warehouses that contained hazardous materials; the second flattened both of them.

Yesterday, only the steel frame of the office building to the south of the yard remained standing. All that is left at the actual explosion site is a crater and a stretch of empty ground.

The deputy general manager, who did not give his name,

> All that is left at the actual explosion site is a crater and a stretch of empty ground.

said that the initial explosion was in a warehouse that stored chemicals, including potassium nitrate, sodium nitrate and nitrate salts. According to an expert on the scene, all are highly explosive – heat or even a sharp impact can ignite them.

A company employee said that the depot, used as a temporary store for materials to be moved onwards after customs formalities, was also full of hazardous materials.

Many employees were injured in the explosion while others fled. Firefighters arriving at the scene were faced with stacks of burning containers and no idea what was inside.

The deputy general manager phoned an employee at the scene to establish what chemicals had been stored. The above employee reported that there were at least four different types: sodium hydroxide, hydrogen iodide, sodium hydrosulphide and sodium sulphide. Of these, sodium hydroxide cannot be disposed of by burial.

At about 2.45pm yesterday another explosion occurred as firefighters were spraying powder onto fires. A barrel lid flew into the air, followed by a plume of pungent yellow smoke. According to one employee, explosions were still being caused by the 21 tonnes of sodium hydrosulphide on site.

Prior to the second explosion, I saw firefighters spraying columns of water onto the site. Subsequently they stopped using water and attempted to smother the flames with sand, soil and concrete.

## Homes in danger

Liang Hui, a nearby resident, thought the flash of light from the explosion was lightning. Thinking it might rain he went to close the window, only to be thrown to the floor by the blast, his face and torso peppered with broken glass.

Liang lives at Vanke Bay, just two kilometres from the Ruihai International site. There are 11 apartment complexes near here, all built and managed by well-known property developers. The closest include Vanke Haigang, less than a kilometre from the site of the blast, and Zhongjiao Qihang Jiayuan, about 800 metres away.

In the explosion 70% of the apartments at Wantong and Vanke Haigang were damaged, as glass doors and windows shattered. On the afternoon of August 13, glass was still falling as people walking below covering their heads for safety.

Do current regulations allow the construction of so many residential buildings in this area?

Our investigation found that rules for companies handling hazardous materials say that medium or large storage sites should be: at least one kilometre from public buildings; transportation infrastructure (roads, railways and shipping channels); and industrial or mining sites. At 46,226-square metres in size, Ruihai's premises were classed as a large storage site.

A map of the local areas shows that the Donghai light rail station was less than one kilometre away. The station was destroyed in the blast, and the fencing lining the railway torn to shreds.

And residential buildings were less than a kilometre's distance.

The storage facilities are understood to have been built later than the apartment complexes. It was under these circumstances that Tianjin Academy of Environmental Sciences (TAES) carried out an environmental impact assessment (EIA) for the company.

In May 2013 TAES reported on a second round of public consultation on the EIA process for the site, saying that 128 of 130 surveys issued had been returned. The results indicated that, "100% of the public say the site chosen is within the Beijiang harbour area and is suitable."

An official with the Vanke Group said that the Vanke Haigang site had been purchased before 2010, with off-plan sales of apartments commencing in April 2010. Ruihai International Logistics was formed a year later, and in 2013 proposed building the storage site – but Vanke was never informed that this would mean storing hazardous materials.

"Nor did we or any of the apartment owners receive a survey from the Tianjin Academy of Environmental Sciences," said the Vanke official.

Many apartment owners also said they had not been aware of any public consultation or received any survey.

Repeated attempts were made to phone TAES, but calls went unanswered. Ruihai chairman Li Liang's phone remains turned off, and the company's office phone cannot be reached.

## Storage operations

A Ruihai employee said the company was one of only two companies in the bonded area of Dongjiang port, the other being Sinochem.

> Ruihai International Logistics was formed a year later, and in 2013 proposed building the storage site – but Vanke was never informed that this would mean storing hazardous materials.

According to Ruihai's website the company was founded in 2011 and acts a hub for the transfer and distribution of containers of hazardous materials. It is permitted to handle hazardous materials by both the Tianjin Maritime Administration and the Tianjin Transportation Commission.

Currently the company's operations include the loading, unloading and transfer of containers of hazardous materials; handling customs declarations, distribution and storage. Its site is 46,226.8 square metres in total.

The company is understood to have carried out a number of emergency drills, and in August last year the public security authorities carried out a full inspection.

According to EIA documents from September 2014, changes made to the site were designed to allow annual throughput of 50,000 tonnes of hazardous materials, and 20,000 tonnes of normal goods. Hazardous materials included: calcium carbide, calcium-silicon alloys, sodium cyanide, toluene-2,4-disocyanate, sodium hydroxide, argon gas, methyl ethyl ketone, ethyl acetate, nitrocellulose, sulphur, potassium nitrate, sodium nitrate, formic acid, phosphoric acid, methane sulphonic acid and compressed natural gas. Other goods included PVC and rubber.

However, documents with the industrial and commercial authorities show that when founded the company was authorised to undertake "storage business within the port area" – with the storage of "hazardous materials" specifically excluded.

Last year the company's scope of business was adjusted, with that exclusion removed and reference made to a list of permitted materials issued by the Tianjin Transportation Commission. That authorisation expired on October 16, 2014.

That list could not be located online, but is understood to cover hazardous materials. However, that was also only valid until October 16 last year.

## Chemical cities

In 2011 He Shushan, then Party secretary of the Tianjin Development Zone and head of the zone's management committee, said that "during the 12th Five Year Plan period Tianjin Nangang Industrial Zone will acquire a world-standard petrochemical investment."

In May of that year the industrial zone approved 26 investment agreements falling within the Binhai New District, including a 13 million tonne Sino-Russian refinery and crude oil storage facilities for Sinopec and Petrochina.

According to local media: "By 2015 Tianjin will have storage for 35 million tonnes of crude oil; be refining 35 million tonnes of oil; and producing three million tonnes of ethylene and one million tonnes each of purified terephthalic acid, PVC, polyethylene and polypropylene."

The Nangang Industrial Zone lies to the south-east of Binhai New District and covers 200 square kilometres, with plans for an oil and gas field covering 14.5 square kilometres and buildings covering 147.5 square kilometres. Official materials show that the zone will focus mainly on the petrochemical industry and the manufacturing of equipment for the metallurgy industry and will undertake major projects to support the development of the port and create a comprehensive and integrated modern industrial port."

One junior official with the Tianjin Development Zone commented that "I don't know if all that actually happened, but this explosion certainly did."

And this is just one more in a series of chemical industry incidents that Tianjin has seen.

On June 17, 2014, an unused tank at the Jinweihui site in Binhai exploded. The company produces petrol and solvents. One Internet user described the scene: "I saw huge flames, half the sky was red. At about 10pm there was a huge bang. Nobody lives near the explosion. Over ten fire engines arrived to put out the fire."

At 4.20pm on July 12, 2014, there was an internal explosion in an oven at Tianjin Sinochem's aromatic hydrocarbons workshop.

One planning expert from a Tianjin university said that residential buildings are built close to industrial zones such as this to provide homes for workers while the associated risks are ignored.

"It's an outdated way of doing things," he said.

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获奖文章

# 养猪场地下的秘密

**江苏养猪场“地下藏毒万吨”，将中国的土壤污染问题再次推上风头浪尖，最佳环境报道奖的“最佳影响力奖”李显峰报道。**

□ 李显峰

唐满华死了，死前一直住在自己的养猪场里。他身后留下了1.4万吨化工废料的接收单，而现在，没有人说得清这些毒物去哪了。如果不是云南商人周建刚在网上举报，也许江苏省靖江市侯河村地下埋着的东西将永远成为秘密。

9月下旬，云南商人周建刚在网上公开举报养猪场“地下藏毒万吨”。养猪场的前身是侯河石油化工厂，经营者就是已经死了的唐满华，他在十余年间，接收农药类企业的废渣废液。隐情曝光后，环保部于9月28日召开专题会并成立调查组，联合江苏省环保厅督办此案。江苏省公安厅食品药品环境犯罪侦查总队也赴靖江展开调查。有化工专家担忧，如果“埋毒万吨”的情况属实，土壤修复将会付出高昂代价。

## 接手养猪场后的遭遇

“在长江水源边，有这样一个地方，江苏省靖江市马桥镇侯河村，这里有一个曾经的侯河石油化工厂，现今是已经倒闭的华顺生猪养殖场，就在这样一个不起眼的村庄，却埋藏一个惊天阴谋，一个灭绝人性的非法填埋化工危废场地……”

9月22日，云南商人周建刚用他的新浪微博账号发出上述博文。随后两天，他发布更详细的实名举报信，呼吁官方迅速展开调查。在靖江当地，养猪场地下埋毒的消息一石激起千层浪，而周建刚却在9月25日关掉手机，“消失了”。

9月27日晚，北京青年报记者在云南见到周建刚，他讲述了发现华顺生猪养殖场“地下埋毒”的经过。

周建刚的老家在江苏泰兴，与养猪场所在地块靖江侯河村仅隔着一条20多米的界河。周于2014年看上这块地，准备改造成物流仓库。今年2月8日，他与华顺生猪养殖场达成《转让协议》。3月5日，周建刚带领工作人员正式入驻，然而仅过了10天，他全身皮肤出现严重病变，表皮硬化、溃疡、瘙痒。

周建刚马上赴上海就医，医生确诊为银屑病性关节炎，俗称牛皮癣。周建刚说自己那时意识到，他20多年前就得过的病又复发了。周建刚之所以少年时期离家出走远赴云南，也与此病有关。他15岁那年，因为皮肤病饱受歧视，但当他定居云南之后，这个病竟然自己痊愈了。

这次复发的病状却比年幼时更严重。上海的医生分析，正常情况下，五六年才会发展成这样的程度，如果仅十多天内暴发，很可能是受环境刺激，建议回去后注意观察，远离化工区。

4月初，周建刚回到靖江，继续对养猪场进行改造，也就是在这个

“这次复发的病状却比年幼时更严重。上海的医生分析，正常情况下，五六年才会发展成这样的程度，如果仅十多天内暴发，很可能是受环境刺激，建议回去后注意观察，远离化工区。”

过程中，他发现了养猪场的秘密。

养猪场紧邻界河而建，北岸是泰兴市广陵镇。养猪场整体呈长方形，东西长约 370 米，南北宽约 50 米，面积 1.8 万平方米，猪舍由彩钢板搭建而成。在养猪场东南角的空地上，有一个积满淤泥长宽各约三米的水塘。周建刚发现，这里的农药味最浓。

养猪场的员工老商拿了一根钢管，挑起水塘里的淤泥，周建刚看到“像那种石油渣渣一样的，黑色泥炭状的东西，一捞上来，熏得人直恶心”。老商告诉他，这些废渣都是扬农化工（江苏扬农化工股份有限公司简称）的化工垃圾。

## 养猪场地下埋着什么

养猪场里竟然有化工垃圾？周建刚很惊讶，他一个劲地追问“有没有毒”，老商却说没有，还提到“下面到处都是”。

“当时我就觉得奇怪。因为我要盖房，要打地基。老商说盖房子不行，（地下）全部都是虚的，打桩要打下 10 米才行。我问为什么要这么深？他说地下全是坑，全是早年用挖掘机挖开的，然后把这些东西（垃圾）倒进去。”周建刚说。

老商再三强调“垃圾”没毒，周建刚将信将疑。为了探明地下的虚实，他用钢管自制类似“洛阳铲”的钻孔工具，在养猪场的空地和猪圈内外到处打孔。

“打孔的时候觉得奇怪，因为混凝土太厚了，25 厘米左右，有的地方厚度有 30 厘米，即便修水泥路面也用不了这么厚。有的地方还有钢筋，扎着‘钢筋篓子’。当时我就奇怪，就算有钱也不能这么花吧？打个猪圈还要搞钢筋混凝土，为啥？”

周建刚说，混凝土钻开后，他当场惊住了，“一铲子出来，渣土像浸了煤油一样，墨黑墨黑的，往下 2 米全是油状物。一闻，臭得不得了，全是农药味。”

第二天，周建刚让员工弄来一根 4 米长的钢管接着打孔，“打到 3 米深时，我以为是到底了，但是再往下打，土又软了。3.3 米到 4 米深度，全是像炭粉一样的黑渣。”

周建刚一共打了 25 个孔。每孔间隔五六米或一间房。其中 20 个孔显示的情况相同，挖出的都是黑渣。他指挥员工用塑料袋全部取样。

刚开始，周建刚跟老商合计，要盖房只能扒开地面，重新换土进去。但老商反对：“扒掉不行，这些东西会出问题，扒掉后你拿到哪里去？”

老商最后跟他道出了实情：这片“厂房”有两个片区，地底下遍布大坑，其中一个片区主要用于填埋扬农化工的化工垃圾，另一个片区填埋的化工垃圾，主要是江苏长青农化股份有限公司（简称长青股份）的。

这个养猪场地下到底埋着多少这样的化工垃圾？

老商说，他不知道。

## 万吨化工废料单据

养猪场 2012 年建立，前身是侯河石油化工厂，对于侯河村八圩组的村民来说，早在 2000 年时，人们就闻惯了厂区里飘出来农药味。即便后来变成了养猪场，人们在经过那片厂房时，还不得不掩上口鼻。

侯河石油化工厂成立于 1987 年，老板是如今已经去世的唐满华。

侯河村村民孙军（化名）介绍，唐满华是本村人，曾在孤山煤矿上过班，后来当个体户，开办化工厂，做着倒卖柴油、机油之类的买卖，对周建刚吐露了养猪场埋毒秘密的老商，就是早年唐满华招的第一批员工。

据孙军介绍，大约在 2000 年左右，化工厂开始接收农药厂的化工废渣废液，其最主要的货源是扬农化工和长青股份两家公司。

证据就在养猪场的办公室里。上了锁的铁柜中，塞满了合同和各种单据。这些最后全部落到了周建


周建刚用钢管打入地下4米，混凝土下，墨黑的渣土像浸过煤油一样，散发着浓重的农药味

> 单据上那1.4万吨化工垃圾哪去了？没有人能说得清。只知道‘进化工厂的油罐都是满的，出去的车拉的几乎都是空罐’。那些散发农药味的废渣废液哪去了？孙军说，唐满华‘叫人埋了’。

刚手里。

周建刚提供给北青报记者部分合同原件照片。这些合同显示，自2000年起，侯河石油化工厂先后与长青股份、扬农化工两家公司签署协议，处理两家公司的危险废物。这些资料有《协议书》，还有大量《危险废物转移联单》，多张注明“加工费”的《发票存根联》和《江苏省危险废物交换、转移申请表》。

周建刚向北青报记者透露，除了扬农化工和长青股份，侯河石油化工厂还处置了江苏常隆化工有限公司、盐城市利民化工厂等企业的化工废料，而上述公司都不在靖江市辖区内。根据现存票据统计，从2000年到2011年，侯河石油化工厂接收的化工垃圾总量超过1.4万吨。

11年间，万吨化工垃圾运进侯河村，在村民们记忆中留下深刻印象。孙军的家就在化工厂南面200米，中间隔着稻田和菜园。他回忆，最多的时候，大货车一天有七八趟往化工厂拉货，少时一天也有两三趟。这些车上都满载着“大油罐”，每次车辆经过，一路农药味熏得人直犯晕。这些车偶尔会有废液遗洒，总被洒到的地面一度不长草。

车上的大油罐，一只重达数百斤。货多时侯河石油化工厂的工人忙不开，附近村民常被招来卸货。“搬运工一天能挣个四五十元。卸完货之后，油罐归司机处置，那些年，光靠卖空罐，司机也能挣不少钱。”

不过，搬油罐的小利并没有让村民忘记化工厂对他们的伤害。

在侯河石油化工厂西面约200米是七圩组，村民数十户，南面是八圩组，村民20多户，北面的界河边上则住着泰兴市广陵镇的几户村民。“一到夏天臭得不得了，门窗都不敢开，晚上睡不着觉。就连广陵镇的人都跑过河来抗议。”

附近村民找唐满华闹过，堵过化工厂大门，但唐满华总能想办法平息。有据可查的是，唐满华每年会向村小组和村委会支付赔偿费，金额数千元至数万元不等，也有村民直接找唐满华要补偿。

孙军说，他们也打过市环保局的举报电话，但环保局的车“转一圈就走了”。就这样，侯河石油化工厂和农药厂之间的生意持续了十来年。直到2012年，唐满华决定将化工厂改为养猪场。

## 环保部门称此前不知情

单据上那1.4万吨化工垃圾哪去了？没有人能说得清。

孙军回忆，2000年前侯河石油化工厂的主要业务还是“废油净化”，那时还能看到有货拉出厂门。再后来，只知道“进化工厂的油罐都是满的，出去的车拉的几乎都是空罐”。那些散发农药味的废渣废液哪去了？孙军说，唐满华“叫人埋了”。

在厂区内，唐满华指挥员工挖了许多大坑，坑深约3米。废液可利用部分与原料油混合稀释后出售，不可利用部分和残渣直接填埋在厂区内的大坑外，最后这些大坑上面被浇上了厚厚的混凝土。厂区外的一个鱼塘也被填平，鱼塘边一直种有庄稼。

中国循环经济协会高级专家、化工行业资深研究员曲睿晶指出，农药类生产企业的废渣废液含有很多有毒物质，有些剧毒、高毒，直接填埋将造成生态破坏，污染环境，对周边土壤、地表水、地下水和农作物造成危害，进而影响周边人畜的健康生存，这种私埋行为严重违法。

侯河石油化工厂非法填埋化工垃圾长达十余年，监管部门是否知晓？周建刚的举报让当地立刻成为舆论关注的焦点。靖江市环保局局长朱靖近日就此事接受《人民日报》记者采访时称：环保局此前多年对此一无所知，直到周建刚举报方知，该局当即派员至现场调查。目视有一部分危废品在场区内，立即请来泰州环境监测中心采样检测，初步预算该地块地下填埋有危险废物3吨以上，随后该案因涉及环境违法犯罪被移交至公安机关。

一位知情人称，9月29日晚，有关部门拉走了最后50多头猪，“拿去检测”。

周建刚告诉北青报记者，他早在今年7月就将此事举报给靖江市环保局。周提供了一张拍摄于7月10日的照片，画面中他两手各举一个档案袋，站在靖江市环保局门口。周建刚说，两个月过去了，此事依然没有结果，最终他决定在网上公开举报。

靖江市环保局局长朱靖对《人民日报》称，侯河石油化工厂第一次获得处置危废品的资质是2005年9月，第二次是2006年，有效期至2011年，2011年开始未正常经营，随后许可证被注销改建成养殖场，但对《人民日报》提出的“化工厂改做他用时是否需要环境评估”则避而不谈。

即使在2005年后获得许可，实际处置的“危废”数量则远超许可范围。环保部门2005年9月颁发给侯河石油化工厂的“危废品经营许可证”显示，该厂可以处理“菊酯残液（农药企业产生的废液）每年200吨”。而周建刚提供的部分票据显示，仅2003年到2004年，长青股份供给侯河石油化工厂至少10批化工废料，共计971吨；2005年供货11批，共计1361吨。

曲睿晶分析，涉事企业是2005年取得危险废物处理资质的，在此之前，其接收任何化工废料的行为都是违法的，不论这些废料有没有进行无害化处理。另外，化工废料绝不可以直接填埋到地下，而应该采取安全焚烧等工艺处理。

## 环保部已成立调查组

侯河村的污染事件曝光后，逐渐开始引发连锁反应。

9月28日至30日，涉事的扬农化工和长青股份两家上市公司受影响，股价大幅波动。两家公司均发声明称与此事无关。

9月28日，国家环保部召开专题会并成立调查组，联合江苏省环保厅督办此案，而江苏省公安厅食品药品环境犯罪侦查总队也赴靖江展开调查。连日来，泰州市环境监测中心站和环保部南京环境科学研究所的工作人员正在事发地块开展监测和取样工作。

9月29日，北青报记者隐藏身份进入养猪场。负责看场的老商说，政府部门交代他，不让闲杂人等进入。此时的养猪场内，东面的一个长宽约3米的大坑已被塑料布覆盖，北面不远处有一处水泥地面凹陷，整个养猪场弥漫着浓重的农药味。而在养猪场北侧的界河里，水面泛着冒泡的油污。

9月30日上午，在养猪场外填埋过废渣的鱼塘上面，已有工作人员开始打孔取样。

据靖安市政府官方微博“靖江发布”9月28日消息：根据现场调查情况和监测结果，该养殖场内（占地15.34亩）土壤及坑内确实存在疑似有害物质，环保部南京环科所土壤污染防治研究中心等权威机构正加紧检测该物质对周边土壤及环境的影响，靖江环保部门已进一步抓紧落实安全处置方案。

截至目前，靖江官方尚未发布土样检测报告和被污染土壤的总量。据周建刚称，9月14日，靖江市环保局监测大队应队长电话告知他，7月份的土样检测结果已出，检出有毒的有机物，此案属环境污染刑事案件，警方会介入调查。

靖江当地环保部门已开始调查取证

## 土壤中的毒物是什么

今年4月24日，周建刚将两份土样送到浙江中科院应用技术研究院分析测试中心，5月18日出具的报告显示，土样的有机部分挥发性

化合物含量约为3%，在这35种有机物中，甲苯占20.66%；1,3,5-三氯苯占10.35%。

在看过检测报告后，曲睿晶表示，土壤中含有氯苯类高毒物质，甲苯和甲基苯等有毒的半挥发性有机物含量更高，“超标多少倍已经不重要，这些东西土壤中根本不应该有。有多少就超标多少。”

沈阳化工大学教授李庆禄也关注到这起养猪场埋毒事件，他对北青报记者表示，涉事地块周边水系发达，这些化学废弃物的危害很难控制，被污染的土壤应该挖出来，全部进行无害化处理，如果单据显示的1.4万吨危险废物全都这样直接填埋了，那么土壤修复将会付出非常高昂的代价。

李庆禄看过周建刚的检测报告后表示，该报告中所含有机物质绝大多数都有毒，这些毒物会通过地下水、地表水扩散污染，周边较近的庄稼和蔬菜都不能吃，当地政府部门应赶紧告知周边村民，并安排体检。

相比于化工专家的担忧，侯河村的村民却显得很淡定。侯河村村民表示，目前他们的饮用水来自自来水厂。虽然不少村民在养猪场南面有耕地，但那块地上种出的粮食，村民们心照不宣，大家都不吃，而是拿去卖。

2010年起，侯河村不断有人患癌去世。

最著名的死者是侯河石油化工厂的厂长唐满华，鼻癌9年，死于2014年，其生前长期居住在厂区里。最近去世的是褚小平，男，50岁，食道癌，死于今年8月26日。褚家在侯河石油化工厂正南方向，只隔着200多米远的一片稻田。

李显峰，《北京青年报》深度部首席记者

Award-winning Article

# The secret under a Chinese pig farm

The dumping of highly-toxic chemicals underneath a Jiangsu pig farm illustrates the breathtaking extent of China's soil pollution crisis.

□ Li Xianfeng

**Editor's Note: This report was written by Li Xianfeng of Beijing Youth Daily and published on October 3, 2015. It is the winner of the 2016 China Environmental Press Awards "Most Influential Report" prize.**

**Li's exclusive interview with the source was key to picking up mainstream media interest, which triggered rapid interventions by the Ministry of Environmental Protection, the Ministry of Public Security and the Supreme People's Procuratorate, culminating in the removal of 4,000 barrels of hazardous waste. This is a fine example of reporting in the public interest, and Li is therefore awarded the Most Influential Report award.**


Tang Manhua lived on his pig farm right up to the day he died. Amongst his possessions were receipts showing he had received deliveries of 14,000 tonnes of chemical waste – but nobody knew where he'd put them. If it hadn't been for Yunnan businessman Zhou Jiangang posting about the case online, the secret of what lay under the pig farm in a village

in Jingjiang, Jiangsu, may never have been uncovered.

In late September Yunnan businessman Zhou Jiangang posted online about "10,000 tonnes of chemical waste" being buried under his pig farm. The site had previously been home to the Houhe Petrochemical Factory, which had been run by Tang Manhua, now deceased. For more than 10 years Tang had disposed of waste for fertiliser manufacturers.

Once the situation came to light in September last year, the Ministry of Environmental Protection formed an investigation team to work with the provincial environmental authorities on handling the case.

A food, drug and environmental case team from the provincial public security office also opened an investigation. Chemical experts worry that if the reports are true, then the cost of cleaning up soil (known in the jargon as remediation) will be enormous.

## Outbreak

On September 22 Zhou posted the below message on his Weibo account. "This is happening next to a river that flows into the Yangtze, in Houhe village in Jingjiang. It used to be a petrochemical factory, now it's a closed-down pig farm in an ordinary village, but hidden underneath it there's an illegal dump of chemical waste…"

Two days later he published a letter under his own name giving more details, calling for a rapid official investigation. The news caused a stir locally and on September 25, Zhou "disappeared", his mobile phone turned off.

On September 27 last year, a Beijing Youth Daily reporter met with Zhou in Yunnan and he spoke of how he found what was hidden underneath the farm.

Zhou is originally from Shaoxing in Jiangsu, just over the river from the village of Houhe. In 2014 he decided the site of the pig farm would be a good location for a logistics warehouse, and on February 8, 2015, he signed a deal to take it over. The following month, he turned up at the site with a team of workers – and over the next ten days his skin broke out in scales, ulcers and rashes.

Zhou rushed to Shanghai where the doctors diagnosed psoriasis. Zhou recalled having the same problem some 20 years earlier: his skin disease meant he was looked down on at home so at the age of 15 he'd moved to Yunnan, where it had cleared up.

And now the skin disease was back, but worse than previously. The doctor said normally it would take five or six years to develop to such severity, and something in the environment may have triggered an acute outbreak. They suggested that he keep his eyes open and avoid any chemical plants.

In early April he returned to work on the former pig farm. And during that process he discovered a secret.

The pig farm lies very close to the river, just over from the town of Guangling in Shaoxing. It is rectangular in shape – 370 metres long, but only 50 wide, covering 18,500 square metres. The pig pens are built of sheet steel, and at the south-east corner there's a muddy pond three metres wide. Zhou noticed a powerful smell of chemicals there.

One of the pig farm employees, Shang, used a steel pole to scoop up a clump of the mud. Zhou described it as "like crude oil residue, black and sticky, with a nauseating stench." Shang told him this was chemical waste from the Jiangsu Farm Chemicals plant.

Zhou was shocked and repeatedly quizzed Shang as to whether or not it might be toxic. No, Shang insisted, adding that "it's the same under the whole farm."

"I realised this was a problem, as I wanted to build here, I needed to lay foundations." Zhou went on: "Shang said I couldn't, the ground wasn't solid, I'd need to dig down 10 metres. I asked why, he said it was all holes underground, they'd dug them out year ago with excavators so they could dump the waste in there."

Shang kept on saying the waste wasn't toxic, but Zhou wasn't sure. To test the ground he improvised a drilling tool from steel pipe and started investigating.

"It was strange, because the concrete was really thick, up to 30 centimetres in places. You don't use that much concrete to build a road. In some places it was reinforced with steel. Even if you had the money, you wouldn't waste it like that. Why use reinforced concrete to build a pig pen?"


*Zhou Jiangang dug four metres deep into the ground, which released a strong chemical smell*

“Finally Shang came clean: There were two areas under the farm, one used for burying waste from Jiangsu Farm Chemicals and one for chemical waste, mainly from Jiangsu Changqing Agricultural Chemicals.”

Zhou was left stunned by what he found. “The tool came back up covered in oily mud, black as pitch and two metres deep. And it stank, like fertiliser.”

The next day Zhou had his employees use a four-metre pole to keep investigating. “We got three metres down and I thought that was the bottom, but with a bit more effort, the ground softened and it kept going. Between 3.3 and four metres down it was a kind of black ash.”

Zhou drilled 25 holes, each separated by five or six metres. 20 of them found the same thing – black sludge. He had his employees took samples in plastic bags.

Initially he talked with Shang about removing that top layer and bringing in new soil before building. Shang objected: “You can’t do that, this stuff’s hard to handle and where would you put it?”

Finally Shang came clean: There were two areas under the farm, one used for burying waste from Jiangsu Farm Chemicals and one for chemical waste, mainly from Jiangsu Changqing Agricultural Chemicals. So just how much chemical waste was buried under the farm? Shang said he didn’t know.

## Paper trail

The farm was founded in 2012, but prior to that this was the site of the Houhe Petrochemical Factory. The locals had been used to a smell coming from the plant since 2000, and even when it became a pig farm they covered their noses as they passed. The petrochemical factory was founded in 1987, by the now deceased Tang Manhua.

Local villager Sun Jun (not his real name) explained that Tang was a local who had worked at the Gushan coal mine, then gone into business for himself, setting up the factory and trading in diesel and engine oil. Shang, who had told Zhou the truth about the farm, was one of the earliest employees, no?

According to Sun, around 2000, the factory started to accept deliveries of chemical waste from fertiliser factories, mainly from Jiangsu Farm Chemicals and Jiangsu Changqing Agricultural Chemicals. And the proof was in the farm office. A locked cabinet was found stuffed with contracts and receipts, all of which came into Zhou’s possession.

Zhou provided images of some of the contracts.They showed that, from 2000 onwards, Houhe Petrochemical Factory was signing agreements with Jiangsu Farm Chemicals and Jiangsu Changqing Agricultural Chemicals to handle hazardous waste.

There are agreements, transfer notes for hazardous waste and numerous receipts for “processing costs,” as well as applications for approval to transfer hazardous waste from the provincial authorities.

Zhou told the Beijing Youth Daily that waste from Jiangsu Changlong Chemicals and Yancheng Limin Chemicals was also accepted here, neither of which are in Jingjiang.

According to the documentation the factory accepted over 14,000 tonnes of waste between 2000 and 2011.

The villagers remember this well. Sun Jun lives just 200 metres away from the south side of the farm, separated only by fields. He recalls that at the busiest times seven or eight truckloads were arriving a day, and even at quieter times there were two or three a day.

They were all loaded with barrels and left a stench as they drove past. Sometimes some kind of liquid would drop from the truck and kill the grass where it landed.

Each barrel weighed hundreds of kilogrammes. When the factory’s own staff couldn’t cope the villagers would be taken on to help.

“You’d get 40 or 50 yuan for a day’s work shifting barrels. The driver would keep the empty barrels though, back then you could make quite a bit selling the empty ones.”

But the money they earned doesn’t mean they can overlook the harm they’ve suffered. Thirty households live near the site, and over the river there are several more in Guangling.

“As soon as summer arrives it just stinks, you can’t open the doors or windows, you can’t sleep at night. Even the folk from Guangling have come over to complain.”

The locals confronted Tang Manhua and tried blockading the factory gate, but he always managed to smooth things over. But there is proof that he made annual compensation payments to the village government and Party group, worth from several thousands of yuan to several tens of thousands of yuan. Some villagers also received direct payments.

Sun Jun said that they had phoned the city environmental protection bureau to complain, but all that happened was "they had a drive round and left." And so the arrangement between Tang and the chemical plants went on for over 10 years, until 2012 when he decided to turn his business into a pig farm.

## Environmental authorities plead ignorance

So where did those 14,000 tonnes of waste go? Nobody knows.

Sun Jun recalls that prior to 2000 the factory was mainly involved in "recycling old oil", and back then you would still see goods leave the factory. But later all he can say is that "the barrels went in full and almost always came out empty." Where did all the foul-smelling sludge go? Sun says Tang had it buried.

Tang ordered his employees to dig out three-metre deep trenches with an excavator. Some of the waste could be recycled by mixing with a base oil; what couldn't be recycled was dumped into a trench. Finally the trenches were covered with a thick layer of concrete. A fish pond outside the factory was also filled in, and crops are planted next to it.

Qu Ruijing, a senior expert with the China Circular Economy Association and experienced chemical industry researcher, pointed out that waste from the fertiliser industry contains a range of toxic substances, some very dangerous.


*Equipment used to investigate the soil pollution*

Burying these without treatment damages the environment and causes pollution; threatens the nearby soil, surface water, groundwater and crops; and has a subsequent impact on the health of livestock and humans. Such illicit dumping is illegal.

This went on for over 10 years – did the authorities know? Zhou's exposure of the case put the local government under the spotlight. Zhu Jing, head of the Jingjiang Environmental Protection Bureau, said in an interview with the People's Daily that the bureau had been entirely unaware until Zhou reported the case, at which point it promptly dispatched staff to investigate.

On seeing some of the waste at the site, they immediately asked Taizhou Environmental Monitoring Centre to take samples for testing and made an initial estimate that there were at least three tonnes of hazardous waste buried under the farm. The case was later transferred to the public security authorities for possible prosecution.

One informed source said that on September 29, the authorities took 50 pigs away for "testing".

Zhou told the Beijing Youth Daily that he made a report to the bureau in July. He showed a photo taken on July 10, showing him standing at the gate to the bureau holding two large files. Zhou said that after two months with no result he complained online.

Zhu Jing told the People's Daily that the Houhe Petrochemical Factory was first licenced to handle hazardous materials in September 2005, and then again in 2006, with the licence valid until 2011. After 2011 it was unlicenced, the permit was cancelled, and it became a pig farm. However he avoided the question of whether an environmental impact assessment should have been carried out for that change.

And even if it did have a licence, the site was handling far greater quantities than permitted. The permit issued in 2005 allowed for the handling of 200 tonnes of pryrethrin residue. But evidence supplied by Zhou indicates that in 2003 and 2004 alone Jiangsu Changqing Agricultural Chemicals delivered 10 batches of waste weighing a total of 971 tonnes, and in 2005 a further 11 batches weighing 1,361 tonnes.

According to Qu Ruijing, the company was only licenced from 2005 – any handling of hazardous waste prior to that was illegal, regardless of whether it was properly disposed of or not. Also, chemical waste cannot just be buried – it needs to be incinerated or otherwise treated.

The Ministry of Environmental Protection set up an

investigation team and the revelations about pollution in Houhe prompted a chain reaction. Between September 28 and 30 the share prices of the two chemical firms involved plummeted. Both issued statements denying any involvement.

That same month, the Ministry of Environmental Protection held a special meeting and formed an investigation team to work with the provincial environmental authorities in handling the case. The food, drug and environmental cases unit of the Jiangsu public security authorities also dispatched a team to the site. For days, the Taizhou Environmental Monitoring Centre and the Ministry of Environmental Protection's Nanjing Institute of Environmental Science have had staff on site monitoring and taking samples.

On September 29 a Beijing Youth Daily reporter approached the site by stealth. Shang, who was guarding the site, said that the authorities had told him not to let anyone go inside. Within the farm, towards the east, a three metre pit was covered with plastic. Not far to the north, there was a hollow in the concrete floor, and the entire farm stank of chemicals. An oily foam could be seen on the river to the north. On the morning of September 30, workers were drilling for samples at the fish pond outside the farm, which had also been used to dump chemicals.

According to a message posted on the Jingjiang government's official Weibo account on September 28, hazardous materials had been found on the farm, so the Ministry of Environmental Protection's Nanjing Institute of Environmental Science and other authoritative bodies carried out urgent tests of the impact on the soil nearby, with the city environmental bureau already implementing a plan for safe handling of the incident.

To date, the city has not published details of what monitoring has found. Zhou said that on September 14 the head of the bureau's monitoring team phoned to say that results of his samples submitted in July had been received: organic toxins had been identified, making this an environmental crime, and so the police would investigate.

## What's in the soil?

On April 24 this year Zhou sent two samples to the Chinese Academy of Sciences' Zhejiang Institute of Advanced Technology for analysis. The report returned on May 18 showed that 3% of the organic matter in the sample was made up of 35 different volatile compounds, with 21% of this being toluene and 10% 1,3,5-trichlorobenzene.

After reading that report Qu Ruijing commented that the soil contained high levels of toxic semi-volatile substances such as chlorobenzenes, toluene and mesitylene. "It's not a question of what the safe levels are, these simply shouldn't be there. Any amount at all is in breach of regulations."

Li Qinglu, a professor at Shenyang Chemical Univeristy, has been following the case. He told the Beijing Youth Daily that proximity to the river means it will be difficult to control the damage caused by the chemicals, and that the contaminated soil should be removed and made harmless. If all 14,000 tonnes of chemical waste referred to in the documents were just buried, the cost of soil remediation would be enormous.

After seeing the soil analysis obtained by Zhou Jiangang, Li said that the majority of the contaminants were toxic and would spread through ground and surface water. The local government should therefore immediately tell the locals not to eat food grown nearby and arrange for health checks.

But the villagers are less worried – their water comes from a treated supply. While many have fields to the south of the pig farm, the villagers know not to eat anything grown there – those crops get sold onwards.

But since 2010 the village has seen a series of deaths from cancer.

The most prominent of these was the boss of the Houhe Petrochemical Factory himself, Tang Manhua, who lived on the factory site and suffered from nasopharyngeal carcinoma for nine years, died in 2014.

The most recent death was that of Chu Xiaoping a 50-year-old man who died of intestinal cancer on August 26. He lived 200 metres to the south of the site, separated only by fields.

*In late September 2015 a source reported online that over 10,000 tonnes of chemical waste were buried under a pig farm in Jingjiang, Jiangsu province in eastern China. Beijing Youth Daily reporter Li Xianfeng was the first to find the source, gather first-hand evidence and gain access to the, now-sealed off, farm to verify it.*

*Li Xianfeng is chief reporter at the Beijing Youth Daily's investigative desk.*

获奖文章

# 垃圾发电灰幕调查：排放普遍造假 沦为圈钱工具

垃圾发电被认为是城市废弃物“变废为宝”的最优方案，但其中却充斥着各种假象与骗局。本文获得最佳环境报道奖的“最佳绿色经济报道”奖。

□ 闫笑炜


垃圾发电引发的争议在中国愈演愈烈，一方面被质疑恶意套取国家垃圾处理补贴资金，另一方面，也因环保问题被屡次推向舆论风口浪尖

垃圾发电，被认为是城市废弃物“变废为宝”的最优循环经济解决方案。但这个看似美好繁荣的“循环经济”外衣下面，充满着各种假象与骗局。

从东莞出发，沿环城路西行约30分钟，即可经过小镇横沥，继续行驶约5公里，则可看到一座封闭的厂区。在微风中，黄蓝双色的司旗伴随国旗猎猎作响；厂区门口，烟尘、二氧化硫等排放信息滚动播放，厂区的锅炉烟筒冒着烟气，来往的垃圾车卸料时发出的轰鸣，打破厂区特有的宁静。

这里就是珠三角最大垃圾发电项目——横沥垃圾焚烧发电厂所在地。它隶属于粤丰集团的东莞市科伟环保电力有限公司，今年9月，这里刚刚完成循环流化床升级水冷振动炉排炉的改造。

上世纪80年代末，从深圳落成

第一家垃圾发电厂开始，国内垃圾发电的淘金序幕被缓缓打开。伴随着日益增长的垃圾和填埋场的逐渐饱和，垃圾发电渐渐被认为是最具前景的垃圾处理方式。从那时起，垃圾似乎多了一个身份——一方面它是城市里急需处理的固体废弃物；另一方面，它是循环经济，放错了地方的资源，能以最经济、直接的方式，源源不断的提供电力。

但似乎任何一个产业都摆脱不了的命运，经历了约十年的黄金时期，围绕垃圾发电的争议也愈演愈烈，披着“循环经济”外衣的垃圾堆场，一方面被质疑恶意套取国家垃圾处理补贴资金，另一方面，也不断因环保问题被屡次推向舆论风口浪尖。

11 月下旬，《能源》记者赶赴国内多处垃圾发电项目调查得知，真实的垃圾发电产业，正如位于横沥镇的垃圾发电厂一般，美好的外表下，掩盖了灰色的利益链条和鱼龙混杂的潜规则。

## 公关潜规则

11 月上旬，张铭源（化名）的一个重要行程是前往西安参加位于国际展览中心的环境博览会，向展台参观者介绍公司的业绩和技术实力。

张铭源是一家垃圾发电公司的董事长，除了参加展会外，他来到西安的另一个目的，是参加即将开始的垃圾发电项目招标，角逐当地垃圾发电入场资格。

不久前，西安市政府释放出兴建 5 座垃圾焚烧发电厂的消息。根据陕西环保集团的数据统计，西安日平均产生生活垃圾 7000-8000 吨，夏季甚至可以达到 9000 吨。但大多数生活垃圾均以填埋处理，由于填埋场的日益饱和，西安市政府打算以垃圾焚烧发电项目以替代传统填埋场。如果以平均处理量 2000 吨的填埋场来看，西安市至少需要 5 个垃圾焚烧发电厂，才能满足生活垃圾处理需要。

> “与传统的生物质发电相比，垃圾发电原料收集更稳定，而且技术实现了市场化。在高额的垃圾补贴的诱惑下，从业者只要保障原料充足，就掌控了稳定的收益，这使得越来越多的投资者们沉迷于垃圾处理补贴和售电带来的暴利机遇。”

近些年，由于环保行业的由冷至热，不断增长的垃圾量和填埋场的日趋饱和，垃圾焚烧发电的境遇也随即改变。相对于动辄上亿，蜂拥而上的风力发电和光伏发电项目，垃圾发电具有更小的经济规模；与传统的生物质发电相比，垃圾发电原料收集更稳定，而且技术实现了市场化。在高额的垃圾补贴的诱惑下，从业者只要保障原料充足，就掌控了稳定的收益，这使得越来越多的投资者们沉迷于垃圾处理补贴和售电带来的暴利机遇。

张铭源旗下的公司，早在上世纪末建成了东莞第一座垃圾发电厂，在不少业内人士看来，他算是垃圾发电行业的元老人物，不过，和当初的踌躇满志相比，他们似乎对成功中标西安项目并未抱太大希望。

“我已经多年没有从事垃圾发电新项目的投资了，相比之下我们并没有太大竞争优势。”张铭源向《能源》记者坦言。

近些年，由于地方保护，他手中拿到项目越来越少，但另一方面，每一次角逐垃圾发电，对他来说都意味着一次巨额支出。

不久前，他曾参加湖南永州日处理 1400 吨项目竞标的垃圾发电项目。从项目前期调研到参与竞标，各项花费加起来有 800 万元之多，除了制作文件、项目调研外，很大一部分，还是用来打通各层政府关系。

“记得当时，当地环卫局领导家有喜事，我们给他们随礼，现在查的严，随礼都不敢署名，关系不好，甚至都不敢收你的随礼。而且，随完分子马上得走，根本不能留下吃饭。”张铭源给《能源》记者爆料。

即使如此，张铭源仍然未能中标永州垃圾发电项目，该项目最终被一家国企背景的竞争者所获得。

此外，这几年，张铭源感觉投标中的‘绑架’氛围也越来越浓。由于看到了垃圾发电的盈利前景，许多拥有政府关系的商人也纷纷涉足垃圾发电。他们大多没有业绩，不具备投标资质。

一位不愿具名的业内人士曾表示：“决定是否中标有三个因素：关系、价格和技术。现在，技术已经拉不开距离，关系和价格是最重要的。”

一般来说，投标垃圾发电都会

有一个准入门槛，投标企业必须有运营 500 吨 / 日处理量的垃圾发电厂才能投标，这表面对竞标公司起到规范作用，但招标文件中，却隐含了不少猫腻。

“假设符合资质的企业有 6 家，没有资质的企业也想参与投标，政府在招标的时候，会注明‘允许联合投标’，然后暗中要求具备资质的企业带着没有资质的企业联合投标，中标后，联合投标企业会享有‘干股’坐享收益。这些项目，可以对外说是自己的业绩，其实不少企业的业绩就是这么来的，有了业绩以后，可以到其它地方光明正大跑马圈地了。这其中，有不少公司都是政府亲戚朋友介绍过来的。”张铭源告诉《能源》记者。

由于垃圾发电的业主一般是政府环卫部门，垃圾发电招标结果往往是政府意志的体现，尽管形式上中标公司由评标委员会决定，评标委员主要成员由招标公司从专家库中抽选。但在现实操作中，评标委员会对结果影响有限。其一在于招标公司对专家具有选择权，“不合作”专家下一次则不会被邀请。其二在于专家需根据政府制定的招标文件打分。一位以循环流化床为主要技术的垃圾发电从业者对《能源》记者表示：“有时候，政府关系的企业采用水冷振动炉排炉，那么招标文件中，干脆就把以流化床为主的一些企业排除在外”。这样环卫部门利用手中的自主选择权，确立招标细则，进而按照自己意志来选择 BOT 公司。

对于此次西安招标状况，张铭源摇摇头，不愿多谈，但他表示：“参与投标一共有 20 家单位，要和当地企业竞争还是很难。”

这些潜规则，若不是张铭源爆料，目前仅在行业内部流传。然而，即便一些企业千辛万苦最终获得路条与核准批文后，垃圾是否真如一些行业人士所期望的，能够成为一座待挖掘的宝藏？事实似乎并非如此。

## 盈利谜团

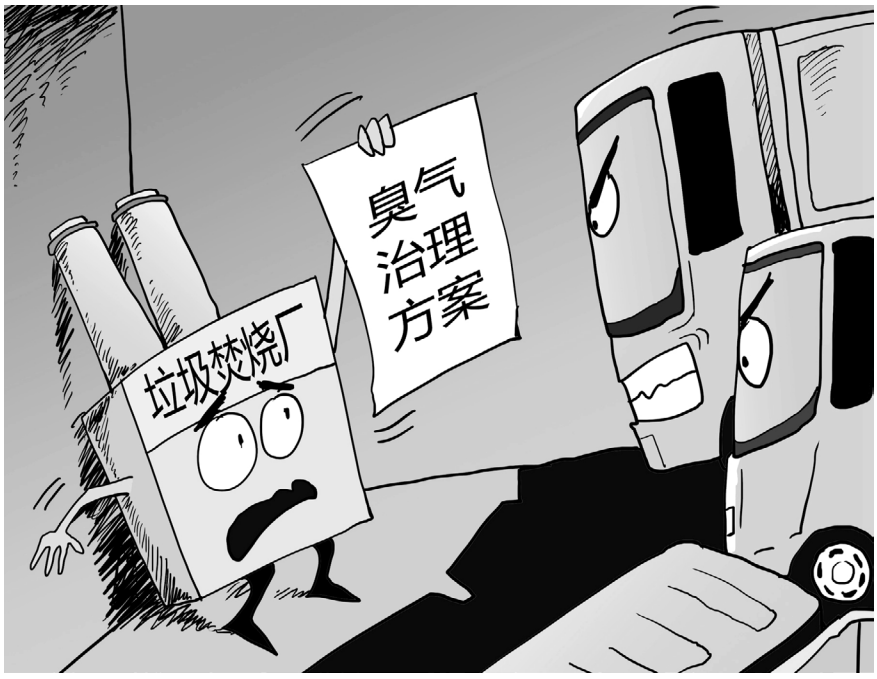
贵州兴义市垃圾发电厂内，白底蓝条的专用密闭垃圾清运车载着垃圾，顺着栈桥进入全密闭且微负压的卸车大厅，20 吨垃圾“哗哗”倒入垃圾池。

据了解，该项目由鸿大环保电力公司设计运营，生产的电力最终并入兴义电网，炉渣可用于制作建筑材料。一期项目，其垃圾处理量被设计为 700 吨 / 日，并网后的项目每年生产电能约 1.4 亿千瓦时。

据透露，这一满载设计 700 吨的垃圾发电厂，当时日处理量只有 500 吨左右。

一位不愿具名的业内人士曾为《能源》记者做过一笔测算：“垃圾发电，收入主要来源于上网电价和垃圾处理补贴。而承担的成本，主要包含设备购买维护、人员等，这些基本是固定成本。但其收益则与垃圾处理量息息相关。一般来说，日处理 600 吨垃圾，其补贴与上网电价收益才能达到垃圾发电收支平衡点。但由于不同地区垃圾热值，燃烧条件以及所采取的技术路线不同，部分专家认为这个收支平衡点应当在 1000 吨 / 日上下。从数据来看，鸿大环保日处理量在 500 吨，处在盈利平衡点之下。”

另一方面，决定垃圾发电项目盈利能力和项目所在地有很大的关系。粤丰集团科伟环保电力总工程




二恶英的主要物质是固体颗粒物，而活性炭具有较好的吸附能力，环保部门检测二恶英的主要手段是使用活性炭，使用了多少活性炭，成为检测垃圾发电厂排放是否达标的参照

师李德明告诉《能源》记者："早期的垃圾发电项目基本集中在发达地区，一般来说，长三角、珠三角地区，垃圾资源充足，垃圾热值较高，加上政府资金充裕，垃圾发电厂满负荷运行，盈利状况都很好。例如，粤丰集团旗下东莞日处理2000吨项目，改造投资6个亿左右，但8年即可收回成本。"

在沿海地区之外，项目盈利情况有所不同。锦江集团副总经理任光惠曾向外界表示："山东菏泽锦江垃圾电厂为例，因为发电规划不周，电厂出产运转率仅为35%；垃圾发电本钱为0.397元/度，而其施行的暂时电价仅为0.285元/度；加上政府许诺垃圾燃焚的补贴迟迟不能到位(每燃烧1吨垃圾，索取10元补助)，招致其临时亏损。"此外，业内人士透露，由于一些项目盈利能力不佳，锦江集团最近在考虑将其出售。

早期以轻纺业起家的锦江集团，由于电力供应不足，并购了嘉兴一带的自备电厂。当时，自备电厂成本低廉，进行流化床改造后，这些自备电厂可以以垃圾取代燃煤作为发电原料。这无意中的收购，为锦江集团创造了巨额财富。然而，在锦江集团走向内地时，情况就不一样了。项目所在地不同，政府的财政状况也有所差异，各地上网电价和垃圾垃圾处理费不同，以及政府的补贴是否到位都决定这一个项目的盈利状况。

锦江集团并非个例，国内另一垃圾处理龙头企业光大集团，其长三角、珠三角地区的项目有着良好的盈利能力，但走向内地，也面临着垃圾处理量不足，上网补贴等困境。

"由于垃圾处理量决定着项目收益，因此政府对垃圾的规划很关键。"张铭源表示。

例如，昆明的垃圾发电规划饱受业内人士诟病。作为最早招标垃圾发电的内地省会城市之一，昆明早在2008年即开始垃圾发电的项目招标。根据规划，2020年全市四城区的城市生活垃圾产生量将达到7000吨/日，昆明市计划兴建5座垃圾发电厂，最终中标的包括当地企业云南环能电力、锦江集团、中德环保等。

"当初我们是根据政府的规划制定的可研报告，以为垃圾收集完全没问题，结果项目投运才发现实际垃圾产量远远没达到这个数字。由于项目多垃圾少，一些设计指标为1000吨/日发电厂日处理量只有500吨左右，处在盈亏平衡线之下。"一位当地垃圾发电从业者告诉《能源》记者。

虽然不少二三线城市也开始考虑以焚烧发电的形式处理日益增长的生活垃圾，但多名业内人士均认为适合做垃圾发电项目的地方越来越少。

相比之下，企业的策略截然不同。据一位不愿具名的业内人士透露："光大集团作为国企，有发改委资金支持，再加上上市公司的背景，完善的产业链，其战略也是将垃圾发电作为产业来做，并不会考虑某个项目盈利问题，但以盈利为目的锦江集团，会考虑出手一些盈利能力较差的电厂，而业务中心会逐步转向其氧化铝产业。"

## 沦为圈钱的工具

几家欢喜几家愁。一些企业谨慎前行的同时，却有一些企业快马加鞭的跑马圈地，在《能源》记者调查了近些年落成的垃圾发电项目后发现，跑马圈地的企业以上市公司居多。

一般来说，垃圾补贴决定着一个垃圾发电厂的收支平衡，补贴高，投资回报周期短。但有些企业甚至以飞蛾扑火之势，不惜以极低的垃圾处理补贴竞标。今年8月，绿色动力环保集团股份有限公司以26.8元/吨的垃圾处理补贴费中标安徽省蚌埠市生活垃圾焚烧发电BOT项目，刷新了内地BOT建设运行炉排炉垃圾焚烧发电垃圾补贴费最低记录。而不到两个月后，天津泰达以26.5元/吨再次中标江苏高邮垃圾发电项目，将记录再次刷新。

这种现象从本世纪初就初露端倪，2001年，国内第一个采用BOT建

> 2001年，国内第一个采用BOT建设运行的山东菏泽生活垃圾焚烧电厂，当时定的垃圾处理费是8元/吨，其后还有一批生活垃圾焚烧发电厂生活垃圾处理费定为20元/吨，30元/吨以及40元/吨。到现在，价格战已成常态，在实际的招投标中，政府指导价只是一纸空文，并无人执行。

近些年，企业也越来越聪明了，不少企业甚至学会了倒逼政府涨价，一些企业把项目拿到手后，项目盈利状况较差，烟气排放也不达标。后来通过媒体曝光，使政府面临压力，最后政府出资改造烟气处理设备，并提高生活垃圾处理补贴费。

设运行的山东菏泽生活垃圾焚烧电厂，当时定的垃圾处理费是 8 元 / 吨，其后还有一批生活垃圾焚烧发电厂生活垃圾处理费定为 20 元 / 吨，30 元 / 吨以及 40 元 / 吨。到现在，价格战已成常态，在实际的招投标中，政府指导价只是一纸空文，并无人执行。“正常中标价能达到指导价 50% 就不错了，极端情况下中标价甚至仅为指导价一成。”张铭源告诉记者。

相比非上市公司，这些企业资金链充裕。但跑马圈地的背后，企业诉求鱼龙混杂。

据不愿具名的企业负责人爆料：“不久前，国内一个国内知名国有企业，刚刚成立垃圾发电事业部，他们联系到我说有没有垃圾发电项目可以卖，由于急需业绩，当时要的很急，说哪怕年处理量 400 吨的项目，不盈利也都买了。对于国企来说，买了就有业绩。对于拿到项目的企业来说，这又是一笔暴利。”正是看中了这点，不少企业在获得项目后，做起了“二道贩子”。

在中国城市建设研究院总工程师徐海云看来：“对于上市公司来说，垃圾发电，是很好的公众热衷炒作概念。一些选择错误技术路线的投资方，通过手握 25 年或 30 年的特许经营协议，可以轻而易举地卖掉项目或者推倒重来，改建机械炉排炉生活垃圾焚烧发电厂。这一过程投资方不仅没有损失，还可以把损失转嫁给政府或国有企业，由于政府过度保护投资者利益，往往投资方有恃无恐。此外，社会诚信缺失，助长投机行为。资本市场上，只要能够讲故事，股价就得到追捧。”

张铭源告诉记者：“近些年，企业也越来越聪明了，不少企业甚至学会了‘倒逼’政府涨价，一些企业把项目拿到手后，项目盈利状况较差，烟气排放也不达标。后来通过媒体曝光，使政府面临压力，最后政府出资改造烟气处理设备，并把生活垃圾处理补贴费一次性提高到 120 元 / 吨。”

但倒卖项目，只是其一，此外，也有不少上市公司靠着充足的资金链条，中标后，以“邻避效应”为由，搁置 3 年不建设。

“现在的问题，不是技术问题，而是你中标后投不投运的问题。只要运营良好，包括尾气处理，都是没有问题的，其实，兴建一个垃圾发电项目，对于周边百姓来说，能带来非常多的隐形收入，譬如环境补偿，征地补偿等等，但如果经济补偿不到位，老百姓会抗议，形成所谓的‘邻避效应’。”一位不愿具名的业内人士告诉《能源》记者表示。

邻避效应，对政府来说是巨大的压力，但企业却获得了正当理由搁置项目。一般来说，企业只要拿到路条，就可以申请补贴，补贴一旦申请下来，就可以申请银行贷款，但许多企业拿到贷款以后，转而做别的项目。“昆明一共中标了 4 家公司，其中某个德国上市公司到现在项目拖着都不建设，转而投向房地产项目去了。”某位业内人士爆料。

在中国城市建设研究院总工程师徐海云看来，政府对恶性竞争的宽容，是造成恶性竞争、跑马圈地的根源。在日益饱和的垃圾填埋场中，环保诉求已成为垃圾发电的更大推动力，也是决定一个项目能否顺利实施的首要因素。但环保诉求带动的产业，却屡屡因环保问题被推向风口浪尖，这又隐藏了什么秘密？

## 排放造假：普遍规律

11 月 19 日，在东莞市科伟环保电力有限公司现场总指挥陈峰的带领下，《能源》记者参观了这座新建的垃圾发电项目。与臭气熏天的垃圾填埋场相比，这里的空气闻不到一丝异味，厂房内充斥着显眼的环保口号，墙壁上，氮氧化物、二氧化硫的信息每隔 5 秒钟滚动刷新。临行时，陈峰特地在记者面前的喷泉处洗了洗手。陈峰告诉记者，这些景观用水，都是厂区循环处理，处理结果达到了实现了零排放。

2014 年，环保部出台了《生活垃圾焚烧污染控制标准》（GB18485-2001），不少垃圾发电厂开始着提标

改造。这些改造确实立竿见影，在显示屏上的各项数据中，二恶英的指标达到了 0.1ngTEQ/$m^3$，这已是欧盟排放标准。

但结束参观时，已临近午饭时间，随行专家仍然建议记者选择远离垃圾发电厂的地域用餐。

“这些数据有水分。”一位从事垃圾发电 20 余年的业内人士向《能源》记者透露：“别说他们了，我做垃圾发电厂总经理的那几年，有些事我都干过。当然并不是说二恶英什么的处理不了，主要是它检测起来非常困难。”

由于生活垃圾组分十分复杂，即使同一垃圾发电厂，来自同一地区的垃圾，在不同的气候条件下，其组分也有所差异。在雨季，其含水量较高，燃烧不够充分，排放物残渣可能较多，而旱季就有所不同，因此，根据垃圾组分测算排放几乎不可能实现。通常，环保部门检测二恶英的主要手段是通过活性炭吸附，由于二恶英的主要物质是固体颗粒物，活性炭具有较好的吸附能力，因此，使用了多少活性炭，成为了检测垃圾发电厂排放是否达标的唯一参照物。

“这里面就有很大猫腻了，比如，环保部门来检测前几天，我们再上活性炭，这样活性炭用量也不是很大，完全符合环保部门的标准。”这名人士告诉记者。

一些企业，甚至在厂区旁边修建环保部门的办公大楼，在上级领导来检查时，显示自己的环保。由于垃圾发电厂牵扯了太多利益在其中，环保部门有时也睁一只眼，闭一只眼。

不光是二恶英检测中的猫腻，另一大难题——垃圾发电后的飞灰处理问题也渐渐浮现出来。

不久前，光大集团在江阴的 1400 吨 / 日垃圾发电项目因飞灰处理等难题遭遇投诉，体现了垃圾发电飞灰处理面临的囧境。

由于飞灰的成分以不可燃烧的重金属居多，在我国《危险废弃物名录》中，飞灰已赫然在列。从技术角度来看，目前，飞灰主要工艺流程是先通过袋式除尘法收集，再用水泥进行固化，最终填埋，但随着垃圾填埋场的逐渐饱和，这一方法也备受质疑。

据陈峰介绍：“飞灰处理难题主要在于技术和成本，我们也一直在探索，但是当前，我们的模式是将它外包给威立雅，主要是为了避免飞灰处理不当造成的社会效应，至于威立雅怎么处理，这是他们的事。”

披着“循环经济”外衣的垃圾堆场，一方面被质疑恶意套取国家垃圾处理补贴资金，另一方面，也不断因环保问题被屡次推向舆论封口浪尖。

闫笑炜，新浪能源杂志记者，
原文刊登于新浪能源杂志，中外对话转载编辑

Award-winning Article

# The waste-to-power reality: faked emissions data and huge profits

It is seen as the ideal solution for dealing with urban waste but fraud and untruths lie behind this major industry

□ Yan Xiaowei

**Editor's note: Yan Xiaowei is the winner of chinadialogue's 2016 China Environmental Press Awards "Best Green Economy" prize.**

**Power generation can a sensitive topic in the environmental sector, along. As with "dams" and "PM2.5", it brings to mind protests and "NIMBY" activism. For the industry, "the ideal solution for dealing with urban waste is to incinerate it and produce and electricity." But as China becomes greener it must discriminate carefully between its different options. The environmental press has often written about local protests against waste-to-power plants, but it is rarer to see an in-depth investigation into the industry as a whole. Energy Magazine's Yan Xiaowei gained access to a number of such plants and revealed the shady interests and unwritten rules at work.**

Drive half an hour west on the city ring road from Donghuang and you pass the small town of Hengli in southern China's Guangdong province. Five kilometres further on you reach a walled-off industrial site, where a yellow and blue company flag snaps in the breeze alongside the Chinese flag. A screen on the wall updates constantly with the latest dust and sulphur dioxide data, while smoke pours from chimneys behind the walls. And all is silent, apart from the sound of trucks of waste being unloaded.

This is the largest waste-to-energy plant in the Pearl River Delta – the Hengli Waste Incineration Plant. It belongs to Donghuang Kewei Environmental Electricity, a subsidiary of the Canvest Group. In September this year the plant was upgraded from a circulating fluidised bed (CFB) boiler to use water-cooled vibrating gate technology.

The waste-to-power gold rush has been developing since China's first such power plant was built in Shenzhen in the late 1980s. With increasing quantities of urban waste to deal with and rapidly filling landfill sites, waste-to-power was seen as the best prospect. Waste took on a new role - not just a problem to be got rid of, but a part of a less wasteful 'circular economy', a new resource which could supply constant electricity in the simplest and most cost-effective of ways.

But no industry can escape its fate. After 10 years, controversy is raging about the waste-to-power sector. Despite their status as part of the circular economy, these facilities are accused of fraudulently obtaining government waste disposal subsidies and have repeatedly come in for criticism over environmental concerns.


*Waste disposal companies in China are accused of fraudulently obtaining government subsidies*

In November 2015, an investigation by Energy Magazine of a number of Chinese waste-to-power projects found that, like the Hengli plant, there are complex vested interests and unwritten rules at work.

## Rules of the game

In early November Zhang Mingyuan (not his real name) made an important trip – to an environmental exhibition held at Xi'an's International Exhibition Centre. There, he spoke to visitors to his stand about his company's record and technology.

But Zhang, the chairman of a waste-to-power firm, had another reason to visit Xi'an – bidding for a local waste-to-power project was soon to start, and he wanted to ensure his firm was classed as a qualified bidder.

Not long previously Xi'an had announced it needed five new waste-to-power plants. According to Xi'an Environmental Protection Group, the city produces an average of 7,000 to 8,000 tonnes of urban waste daily – up to 9,000 tonnes in summer. Most of this is buried in landfill sites, but these are becoming full and the local government plans to use waste-to-power plants as an alternative. Five such plants, incinerating an average of 2,000 tonnes of waste per day, would be needed.

The expanding environmental protection industry, increasing quantities of waste and shortage of landfill capacity have brought changes for the waste-to-power sector.

Waste-to-power plants are much less expensive than the myriad wind and solar power projects already underway, which can easily cost 100 million yuan; and unlike traditional biomass power generation, there is a stable source of fuel and easily available technologies. Generous government subsidies for waste disposal have provided an incentive to plant operators to ensure that an ample supply of fuel and income is guaranteed.

An increasing number of investors have been lured by the opportunity to profit both from those subsidies and the sale of electricity.

Zhang's company built Donghuang's first waste-to-power plant in the late 1990s and he is regarded by many in the industry as a senior figure. But unlike in earlier more confident days, his firm has little hopes of securing a contract in Xi'an.

"It's been years since I invested in new waste-to-power projects – we don't have the competitive advantage anymore," he admitted.

Over the years local protectionism has meant fewer and fewer contracts – and just bidding for the contract is hugely expensive.

Not long ago he bid for a 1,400 tonnes-per-day waste-to-power project in Yongzhou, Hunan. The entire process, from initial research to submitting a bid, cost over eight million yuan. Alongside preparing documentation and carrying out research, another major expense is establishing the right relationships with different levels of government.

"I remember at the time someone in the family of one of the heads of the local environmental bureau was getting married, and so we gave them a gift. There's a crackdown on that kind of thing now, so you can't put your name on it, and if they're not sure of you they won't even accept it. And once you've handed it over you can't even stay for the meal, you need to leave right away."

Despite all that, his company did not win the contract – it went to a competitor with a background in state-owned enterprises.

He also feels that tenders are now more likely to already be sewn up in advance. The profits on offer have lured businessmen with existing links to government – despite having no experience and so not being qualified bidders. One industry insider who preferred to remain anonymous said that "there are three factors that determine whether you win or not: your connections, your technology, your price. There's not much difference in the technologies nowadays, so it's mainly down to your connections and price."

Bidders for a new project are generally required to

already be operating waste-to-power plants disposing of at least 500 tonnes of waste per day. This appears to ensure all bidders are up to standard, but there are loopholes.

Zhang explained how it works: "Say you've got six qualified bidders, and 10 unqualified companies that also want to bid. When the government is issuing the bid they'll add a note allowing joint bids, then quietly tell a qualified bidder to team up with one of the unqualified ones. Once the bid is won the unqualified bidder shares in the profits and can claim that project as their own – that's how a lot of the existing companies got started, once they have that project to their name they can go and get other contracts elsewhere. Many of those companies are brought in by friends and relatives of government officials."

The project owner is often a sanitation company owned by local government, and the outcome of the bidding process is usually in line with government preference. It may look like the winner was selected by an evaluation committee, but the experts on that committee are carefully selected and have limited impact on the outcome. Anyone who is uncooperative won't be invited to participate in the future, and the experts need to make their choice according to criteria set by the government.

One company that operates CFB waste-to-power plants said that "sometimes there might be a company with government links that's using water-cooled vibrating gate technology, so the government specifies that technology must be used to exclude all the firms using CFB." Thus the government authorities ensure their favoured company is chosen to win the build-operate-transfer contract.

Zhang shakes his head when asked about the Xi'an contract and is unwilling to say much. "A total of twenty firms participated, and it's very hard to compete with the locals."

If it wasn't for Zhang speaking out, these unwritten rules would be known only to the industry. But even if a company does win a contract, will the waste they need to burn to make profits actually arrive as promised? Perhaps not…

## Shady interests

At the waste-to-power plant in Xingyi, Guizhou, blue and white trucks carrying 20 tonnes of waste each drive into a huge hall to unload.

This plant is designed and operated by the Hongda Environmental Electricity Group. Power generated here is fed to the city's supply, while ashes from the incinerators are used to make building materials. The first stage of the project was designed to dispose of 700 tonnes of waste daily and generate 140 million kilowatt hours of electricity a year.

But rather than its designed capacity of 700 tonnes of waste a day, it is only handling about 500 tonnes.

An industry insider, preferring to remain nameless, helped with the calculations "Waste-to-power profits come from electricity sales and waste disposal subsidies. Costs include the purchase and maintenance of equipment and staff. Those costs are basically fixed, but income depends on how much waste you process. Generally you need 600 tonnes a day to break even. Some experts say that should be 1,000 tonnes, as in some places the waste is different, it contains less energy or doesn't burn so well, or different technologies are used. But looking at the numbers, at 500 tonnes a day Hongda isn't breaking even."

There are other factors which mean location is crucial to profitability. Li Deming, chief engineer with Canvest Group subsidiary Kewei Environmental Electricity said that "early waste-to-power plants were all built in developed areas, the Yangtze and Pearl River deltas, where there's plenty of waste with a high heating value and well-off local governments. Plants operate at full capacity so they're very profitable. Our plant in Donghuang burns 2,000 tonnes of waste a day. We invested about 600 million yuan in upgrading it, but we'll get that back in eight years."

But profitability is a different matter further inland. According to Ren Guanghui, deputy general manager of the Jinjiang Group, "using the waste-to-power plant at Heze in Shandong as an example: planning for energy demand is weak so we're only generating power 35% of the time.Generating power from waste costs 0.397 yuan per kilowatt hour and there's a temporary price in place of only 0.285 yuan. Add in the fact that promised government

> "there are three factors that determine whether you win or not: your connections, your technology, your price. There's not much difference in the technologies nowadays, so it's mainly down to your connections and price."

waste disposal subsidies are late (10 yuan should be paid for each tonne of waste incinerated) and that means temporary losses." Industry insiders have also revealed that the Jinjiang group is considering selling off unprofitable projects.

The Jinjiang Group originally produced textiles, but bought a power plant to supply its own needs during an electricity shortage. The plant was bought cheap and then upgraded with CFB technology so it could use waste as fuel. This accidental purchase resulted in huge profits for the Jinjiang Group. As it expanded inland things changed, however – local governments aren't so well-funded, electricity prices and waste disposal subsidies are different, and those subsidies may not be paid on time. This all affects profitability.

Nor is the Jinjiang Group unique. Guangda Group, another leading waste-to-power operator, has profitable plants in the Yangtze and Pearl deltas, but further inland it suffered from problems with the supply of waste and payment for electricity.

Zhang commented that "how the government handles waste is crucial, as this determines profitability."

For example, waste-to-power arrangements in Kunming have been criticised by the industry. Kunming was one of the first to run a waste-to-power tendering process, in 2008. Under the plans the city's four districts would be producing 7,000 tonnes of waste daily, with five waste-to-power plants needed. Contracts went to local firm Yunnan Huanneng Electricity, the Jinjiang Group and Zhongde Environmental Protection.

One local industry insider explained: "We did our planning based on the government figures, assuming there'd be no problem with acquiring waste, but once we were up and running we weren't getting anywhere near those figures. There are too many power plants and not enough waste – some with capacity for 1,000 tonnes of waste per day are only getting 500 and running at a loss."

Although many second and third tier cities are considering using waste-to-power plants to dispose of increasing quantities of waste, those in the industry think the number of suitable locations is shrinking.

But different firms take different approaches. One insider, preferring to remain anonymous, pointed out that "the Guangda Group is state-owned and gets financial backing from the State-owned Assets Supervision and Administration Commission. It also has listed subsidiaries and a complete industry supply chain, so it doesn't worry about whether one particular project is profitable or not. But Jinjiang is profit-driven, so it might think about selling off some less profitable operations, and its business is gradually shifting towards the aluminium sector."

## The money pile

So while some companies are taking a cautious approach, others are expanding as fast as they can. Energy Magazine found that those expanding fastest in recent years have been listed companies.

Generally, waste disposal subsidies determine the balance for firms between revenues and costs. If subsidies are high, firms recoup their investments quickly. But some rush in even when subsidies are low. In August the Dyangreen Group won a build-operate-transfer (BOT) waste-to-power contract in Bangbu, Anhui, by proposing a subsidy of 26.80 yuan per tonne of waste incinerated – a new low for a BOT grate furnace project. And less than two months later another new low was set, of 26.50 yuan, when Tianjin Taida won a contract in Gaoyou, Jiangsu.

The first signs of this trend appeared in the early 2000s. In 2001 the subsidy for the Heze plant in Shandong, the first such BOT project, was set at eight yuan a tonne. Later subsidies of 20 yuan, 30 yuan and 40 yuan were set for other projects. There is currently an ongoing price war, with government-proposed subsidies in tender documents ignored. "You're doing well in most bids if you get 50% of the guide price. In extreme circumstances it can be as little as 10%," Zhang explained.

The listed firms, in comparison to their non-listed

"In 2001 the subsidy for the Heze plant in Shandong, the first such BOT project, was set at 8 yuan a tonne. Later subsidies of 20 yuan, 30 yuan and 40 yuan were set for other projects. There is currently an ongoing price war, with government-proposed subsidies in tender documents ignored."

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counterparts, have an ample supply of funds. But there are various motivations for the expansion.

One anonymous industry insider revealed that "not long ago a well-known SOE formed a waste-to-power department and got in touch to ask if we had any projects we could sell them. They were in real rush, as they wanted to have a plant that would allow them to qualify to bid for other projects. They said they'd even taking something only incinerating 400 tonnes a year and making a loss. For the state-owned enterprises it just means they can bid on other projects and make huge profits there." This is why many firms which win contracts then sell them on at higher prices.

Xu Haiyun, chief engineer at the China Urban Construction Institute, says that "waste-to-power is something the public is currently keen to invest in, which is good for the listed companies. Some investors who've chosen the wrong technology can easily sell off 25 or 30-year operating licences or just start all over again with new waste-to-power incineration technology.

"The investors don't suffer any losses; they just pass the losses on to the government or state-owned firms. They know the government is going to look out for investors, so they're not worried. There's also a lack of social trust, which aids speculation. As long as you've got a story to tell on the capital markets, your share price goes up."

Zhang said that "the companies have been getting smarter, with some even learning how to force the government to raise subsidies. Say they've got a plant that isn't profitable and isn't meeting emissions standards. They arrange for media coverage, which puts the government under pressure, forcing it to pay for equipment to clean up emissions and temporarily increase waste disposal subsidies to 120 yuan a tonne." Selling projects on is one approach. One other used by many listed firms with good funding is to win a project and then fail to carry out construction, citing local opposition.

According to one anonymous industry insider, "the question now isn't one of technology, it's whether or not you actually go into operation once you've won the bid. If you run the plant well there won't be any problems, including with emissions. A waste-to-power plant can mean a lot of hidden benefits for the locals – environmental compensation, compensation for land, etc. But if those payments aren't made they'll protest."

Protests put local governments under huge pressure, but give companies a good reason to shelve projects. It's usually the case that having won a contract, the company can apply for subsidies, and once approved can obtain bank loans. Many companies get those loans, then spend the money on other projects. "Four companies won contracts in Kunming, but one listed German company has just put off construction and is now a property developer," said one insider.

Xu Yunhai thinks that the government is tolerating excessive competition and expansion. And the lack of landfill capacity is also driving the waste-to-power sector and determining whether projects will be smoothly implemented. Yet why are these firms, which rely on the demand to protect the environment, often criticised on environmental grounds?

## Emissions misreporting is common

On November 19 we were given a tour of Kewei Environmental Electricity's newly-built Donghuang plant by site director Chen Feng. The air here carries on unpleasant odours, unlike the stench of a landfill site, and environmental slogans adorn the walls. A screen is updated every five seconds with the latest nitrogen oxides and sulphur dioxide monitoring data. Just before we start Chen makes a point of washing his hands in a fountain, telling us the water is recycled from the factory and is perfectly clean.

In 2014 the Ministry of Environmental Protection issued a standard for pollution from the incineration of domestic waste, prompting many firms to upgrade their facilities. The results were immediate. The screen shows dioxin emissions are at 0.1ngTEQ(nanograms of dioxin toxic equivalent) per cubic meter – meeting even EU standards.

But when we finish our tour and are deciding where to eat, one of the experts in the group still suggests eating somewhere away from the plant.

"The numbers are often manipulated," said one industry insider with twenty years of experience. "Never mind what they're up to, I managed a plant for years and I've done it all. It's not that you can't remove dioxins, it's just that they're very hard to detect."

The make-up of the waste received is very variable – waste sourced from the same location and incinerated at the same plant can be affected even by the weather. Wet weather means wetter waste and less efficient incineration, and so more emissions and ash, than in dryer times. This means you can't calculate emissions based on what's being burned. Often the environmental authorities use active carbon to measure dioxin levels – the material absorbs dioxin particles well. So the only way to determine if a waste-to-power plant is meeting emission standards is to look at how much active carbon it's using.

And that's where the trick is," said the same source. "In the days prior to their visit we use more active carbon – it means we don't have to use too much of it, but we can meet the environmental standards."

Some companies even build nearby offices for the environmental authorities to that when higher-ups visit they can show how environmentally friendly they are. And because of the vested interests involved with the plants, the environmental authorities sometimes turn the other cheek.

Dioxins aren't the only issue – handling of ash from the incinerators is also becoming a problem.

Not long ago complaints were made about ash from the Guangda Group's 14,000 tonnes-per-day waste-to-power plant in Jiangyin, demonstrating the problem this issue causes.

The ash has high levels of heavy metals, which are not burned during incineration, and for this reason ash is listed as a type of hazardous waste. The main method of disposal currently is to collect the ash, mix it with concrete, and then bury it. But given decreasing landfill capacity, this approach has been called into question.

Chen Feng explained that "the problem is one of technology and cost, and it's something we've always been working on. But currently we outsource disposal of the ash to Veolia, to avoid any problems if we don't deal with it properly. As to what Veolia does with it, that's their affair."

Waste-to-power plants claim to be part of the circular economy, but are suspected of fraudulently obtaining state subsidies and have repeatedly been criticised on environmental grounds.

*Yan Xiaowei is a reporter at Sina Energy.*

获奖文章

# 争议一千米安全红线

天津港爆炸事故后1000米安全红线的规定受到了普遍关注，最佳环境报道奖的“最佳深度报道奖”何林璘、刘星、卢义杰报道。

□ 何林璘 刘星 卢义杰

天津港爆炸事故后，大中型危险化学品仓库应与周围公共建筑物至少保持1000米安全红线的规定受到了普遍关注。

实际上，这条由2001年《危险化学品经营企业开业条件和技术要求》确定的强制性标准，在出台后不久便被弱化、突破，而1000米规定本身的科学性、合理性，也一直遭到质疑。

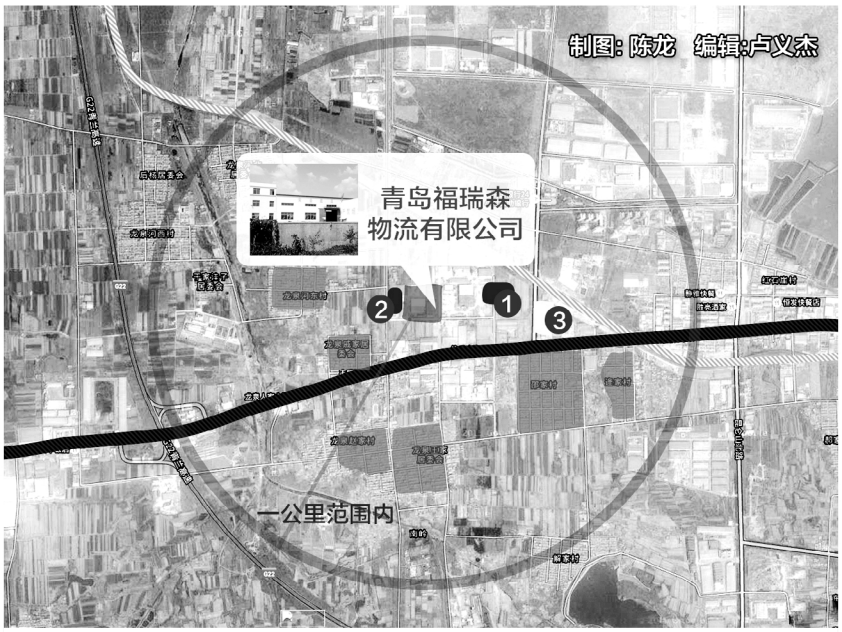
## 一千米红线的立与破

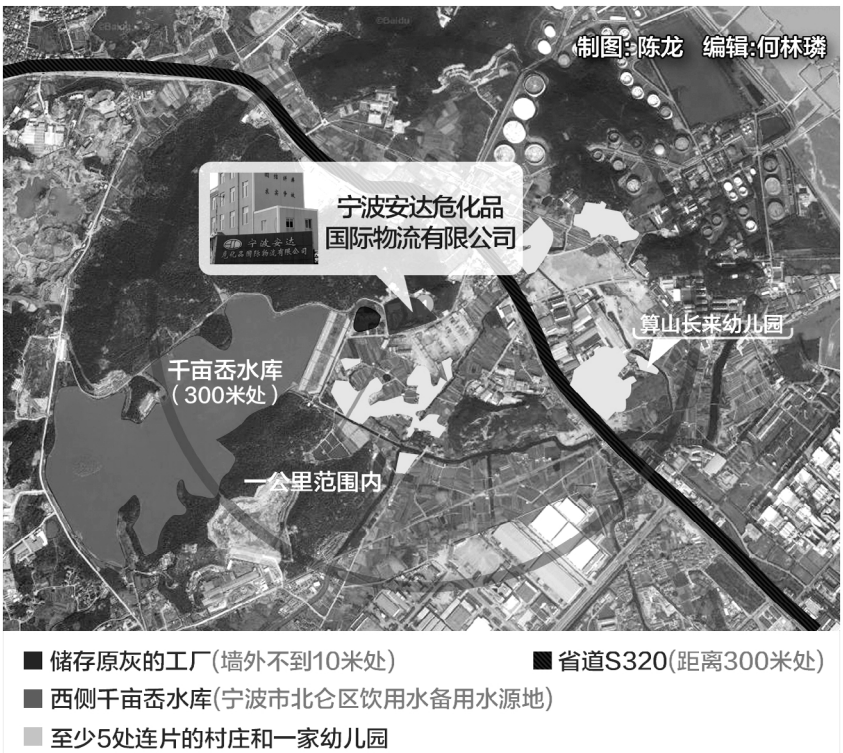
所谓1000米的安全红线规定，出自2001年5月1日开始实施的GB18265-2000《危险化学品经营企业开业条件和技术要求》第六条，要求“大中型仓库与周围公共建筑物、交通干线（公路、铁路、水路）、工矿企业等的距离至少保持1000m以上。”该标准的前言指出，“本标准的全部技术内容为强制性”。

当时，我国对危化品的储存管理尚处于起步阶段。1987年的《危险化学品安全管理条例》和1992年的《化学危险物品安全管理条例实施细则》均未提到危化品储存与周边距离的问题，1995年《常用危险化学品贮存通则》开始提及此事，原则性提出“仓库不准建在城镇”，并提到仓库“还应与周围建筑、交通干道、输电线路保持一定安全距离”，但并未明确相关距离。

2001年实施的标准由当时的国家内贸局提出，中国五金交电化工商业协会及天津裕华经济贸易总公


注：该公司共有三处危化品仓库，均对一公里红线有相当突破，天津港爆炸后三处仓库已搬离原址，迁入芦潮港地区




司负责起草。国家内贸局前身为国内贸易部，1998 年国务院机构改革，被改组为国家内贸局，交由国家经贸委管理。

当时的国家经贸委下辖多个与危化品行业相关的国家局，如 2001 年挂牌负责安全生产的国家安全生产监督管理局，另外，1998 年成立的国家石油和化学工业局，前身之一即负责化工企业管理的化学工业部。

从 2001 年开始，在国家经贸委的牵头下，危化品企业的管理开始逐渐规范。2002 年，国务院出台了新的《危险化学品安全管理条例》，明确“工厂、仓库的周边防护距离符合国家标准或者国家有关规定”，而国家经贸委在随后出台的《危险化学品经营许可证管理办法》中更是明确将规定了 1000 米红线的《危险化学品经营企业开业条件和技术要求》列入危化品企业开业的前置条件，并列为安全评价审查内容。

然而，所谓的“强制”标准很快被突破。2003 年机构改革，国家经贸委被撤销，职能分别整合到新设立的国资委、国家发展和改革委、商务部等部门。而国家安全生产监督管理局则独立出来，成为国务院直属的国家局。

2003 年 4 月，国家安全生产监督管理局颁布了至今仍通行的《危险化学品经营单位安全评价导则(试行)》，导则详细规定了安全评价的各项要求，是安全评价的重要依据。这份导则中虽然引用了《危险化学品经营企业开业条件和技术要求》，但 1 千米的安全红线规定却被突破。

导则先将安评现场检查项目分为 A、B 两类，其中 A 类为否决项，必须合格，B 类为非否决项，如 B 类

项目不合格数量少于五项，且不超过 B 类项目总数的 20%，则可视为基本合格。1000 米安全红线的要求就属于 B 类，因此即使不满足，也能得出安全条件合格的评价结论。

此外，导则中对 1000 米红线的描述也有改变，为“大中型仓库与周围公共建筑物、交通干线、工矿企业等的距离应在 1000m 以上，也可采取措施满足安全防护要求”。即可以通过“采取措施”弥补安全距离的不合格。

到 2012 年，在国家安全生产监督管理总局颁布的新版《危险化学品经营许可证管理办法》中，《危险化学品经营企业开业条件和技术要求》不再被明确列为危化品开业的条件及安评审查内容，只笼统规定，“储存设施与相关场所、设施、区域的距离应符合有关法律、法规、规章和标准的规定”。

至此，规定了 1000 米红线的这份文件，成了只在《危险化学品经营单位安全评价导则 ( 试行 )》中列出的一个条目。

## 被争议的红线

虽然《危险化学品经营企业开业条件和技术要求》将距离统一规定成最严格的 1000 米，但规定与现实却有较大差距。

据工信部部长苗圩 8 月 29 日在全国人大常委会第十六次会议联组会议上的介绍，各省在天津爆炸事故后都纷纷上报了本地危险化工企业搬迁改造的计划，共涉及一千多个化工企业，总搬迁费用 4000 亿元。

长期研究危化品运输管理，并参与了上海化工企业外迁的上海交通大学中美物流研究中心教授赵来军告诉记者，2014 年，他曾被北方一座城市的安监部门邀请讲了一场危化品行业管理的课，交流时，当地安监部门告诉他，当地几乎没有几家危险品仓库符合严格意义上的 1000 米红线要求。

南方一家安评企业的负责人也向中国青年报记者表示，当地土地指标紧张，在实际审核中不会过于拘泥 1000 米的要求。

实际上，1000 米的标准本身，一直也就有颇多争议。

2008 年，在国家安监总局危化司与公安部消防局的指导下，中国仓储协会、中国化学品安全协会、公安部天津消防研究所，以及 1000 米红线标准的起草方中国五金交电化工商业协会曾组成联合调查组，发布了一份《我国危险品仓储业现状调查报告》。

报告提到，调研组现场调查的 12 个危化品仓库中，除一个罐区仓库外，其他 11 个仓库都不符合 1000 米标准。

这份报告认为，《危险化学品经营企业开业条件和技术要求》中的 1000 米红线与“零售业务店面与繁华地区，人口稠密地区保持 500M 以上距离”两个规定“与客观实际情况相差甚远”，并称很多企业家认为这两个规定定得有些“离谱”。

报告还指出，宁波、上海两地安监部门的同志也认为本条款难以落实，定得不客观。即使新建危化品仓库、新建危化品店面网点，也难于找到符合这种标准的地址。

调查组称，为了弄清楚 1000 米红线的由来，他们找到了当年标准的主要起草人，对方表示，1000 米安全红线是针对大型爆炸品仓库与周边设施距离而言的。该调查组的一位成员告诉中国青年报记者，不同的危化品种类肯定要做区分，1000 米的规定不够具体。这位成员同时表示，“虽然说原意是针对爆炸品仓库，但是没在标准里提出来也没用啊，标准里是统一规定 1000 米”。

这位参与者称，现在业内对 1000 米的标准也有很多争议，“我们搞研究的也在讨论修订的事”。

## 模糊的强制标准

除去 1000 米的安全距离是清晰而具体的，强制标准在其他方面的规定却都相当模糊。

首先，标准对危化品仓库的区分仅按照库房面积计算：550 平方米

“《危险化学品经营企业开业条件和技术要求》中的 1000 米红线与‘零售业务店面与繁华地区，人口稠密地区保持 500M 以上距离’两个规定‘与客观实际情况相差甚远’，并称很多企业家认为这两个规定定得有些‘离谱’。”

到9000平方米均为中型仓库，9000平方米以上为大型仓库，1000米红线的要求是针对大中型仓库。

但实际上，危险货物共有九大类，危险系数并不同。《危险化学品重大危险源辨识》中，有的危化品仅存储0.75吨即被界定为重大危险源，有些高达200吨以上的存储量才会被界定为重大危险源。相比之下，安评中需要参考的另外一项国家标准，《建筑设计防火规范》则是按照储存物品的性质和可燃物数量等六个条件划定五类仓库进行管理，并有相应的细致规定。

“1000米的要求对一些存储货物危险系数较低、不存爆炸品、剧毒品等高危化品的企业来说过于严格，所以很难落实。一些危险系数较高的企业也可能会以此为借口浑水摸鱼。”一家安全评价机构负责人说。

赵来军教授则指出，550平方米到9000平方米的范围太大、太模糊，统一执行1000米不够科学。

此外，1000米红线是针对“周围公共建筑物、交通干线、工矿企业等”，其中并未提及居民建筑，而何为公共建筑，交通干线、工矿企业的界定标准也均未提及。相比之下，同为国家标准的《民用爆破器材工程设计安全规范》则依据建筑内药量不同，规定了不同的防护标准，且具体规定了防护距离的人口密集程度，公路的级别等。

这样模糊的规定使得一些企业在测量危化品仓库与居民区的距离时，使用《建筑设计防火规范》中，甲类仓库与高层民用建筑、重要公共建筑之间的防火间距为50米的防火标准进行审批，规避1000米红线。

赵来军教授表示，防火标准主要针对火灾，是从火灾预防与扑救的角度来考虑的，没有考虑到危化品行业的特殊性，包括危化品的泄露、污染等，这些都决定了危化品行业不能简单的套用防火距离。

他表示，虽然标准没有提到居民区，但对公共建筑本身就是考虑对密集人群的伤害，居民区的人口只会更密集，当然应该更严格。

南开大学研究城市公共安全和风险分析教授刘茂也认为，不能简单套用防火标准，“安评机构、安监部门等应对不同类别危化物赋予不同权重，进行具体重大危险源风险距离分析，爆炸品、剧毒品等危害较大的危化品应加大权重，要求距离更远”。

刘茂表示，危化品行业的安全防护距离应该进一步细化，“规定得含糊，就会让企业有漏洞可以钻”。

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Award-winning Article

# How Chinal's confused safety laws contributed to Tianjin disaster

Poorly-defined laws on hazardous materials put nearby residents in danger

□ He Linlin Liu Xing Lu Yijie

**Editor's note: After the Tianjin explosion Lu, He and Liu travelled to, respectively, the port cities of Shanghai, Qingdao and Ningbo. Their investigations were compiled by He Linlin into a series of articles examining safety zoning for chemical storage facilities, and how companies handling such materials operate overseas. Liu Xing was in charge of overall planning and coordination.They are the winner of chinadialogue's China Environmental Press Awards 'Best In-Depth Report' prize.**


*This photo shows a damaged apartment building near the site of the Tianjin explosions*

Regulations require a 1,000-metre gap between large or medium-sized stores of hazardous materials and public buildings. The explosion at the Tianjin chemical warehouse has focused attention on the implementation of this rule.

The rule was clear and binding when it came into effect in 2001 as part of the Requirements and Technical Standards for Hazardous Chemical Firms. However, it was subsequently weakened, and the reasons for setting the limit at this distance called into question.

> "Although the Requirements and Technical Standards for Hazardous Chemical Firms set a single and tough standard of 1,000 metres, in reality this is rarely applied."

## The safety zone

The rule came into force on May 1, 2001, in Article 6 of the Requirements and Technical Standards for Hazardous Chemical Firms (GB18265-2000), which read:

"There must be a distance of at least 1,000 metres or more between large and medium sized stores of hazardous chemicals and public buildings, major transportation (road, rail and shipping) routes and industrial or mining companies."

"All technical content of this standard is mandatory," stated the document's introduction.

At the time, China was just starting to regulate the storage of hazardous chemicals. Rules on the safe handling of hazardous chemicals issued in 1987, and more detailed instructions for implementation of those rules issued in 1992, made no mention of a required safety zone.

The first document to touch on the issue was a 1995 circular on the safe storage of hazardous chemicals, which said that in principle such materials should, "not be stored in cities," but at a safe distance from "public buildings, major transportation routes and power lines." However, no specific distance was set.

The 2001 standard was issued by the then National Domestic Trade Bureau after drafting by the China National Hardware Electric and Chemical Products Commercial Association and the Tianjin Yuhua Economy and Trade Corporation. (The National Domestic Trade Bureau was formerly the Ministry of Domestic Trade – in State Council reforms in 1998 it became a bureau under the State Economic and Trade Commission.)

At the time there were a number of bureaus with responsibility for chemical industry standards. For example, the China Administration of Work Safety, founded in 2001, was responsible for workplace safety; and the State Oil and Chemical Industry Bureau, established in 1998 and formerly the Ministry of the Chemical Industry, was responsible for the management of chemical companies.

The State Economic and Trade Commission led efforts to standardise management of chemical firms. In 2002 the State Council issued new regulations on the safe handling of chemical products, stating that "safety distances around factories or warehouses must meet national standards or the relevant regulations".

The commission later issued its Management Method for Licensing Hazardous Chemical Operations, in which the 1,000-metre distance was specifically referred to as a precondition for setting up such a firm, and as a part of safety assessments.

But holes in this "mandatory" system soon appeared. Reforms in 2003 saw the State Economic and Trade Commission dissolved, with its work parcelled out to the new State-owned Assets Supervision and Administration Commission, the National Development and Reform Commission and the Ministry of Commerce. The China Administration of Work Safety was retained, becoming directly subordinate to the State Council.

In April 2004, the China Administration of Work Safety issued its Guiding Principles for Safety Assessment of Work Units Handling Hazardous Chemicals (Trial), which remains in effect today.

This provides a detailed list of items to be checked during safety assessments, and though the document refers to the previous requirements, a loophole regarding the 1,000-metre safety zone was introduced.

The guidelines divide items to be assessed into two lists: A and B. Requirements on List A must all be met, otherwise the assessment is failed. But an assessment can still be approved if a minimum of List B requirements are met. The 1,000-metre safety zone is on List B, so even if that requirement is not met a project can still be regarded as passing its assessment.

The description of the safety zone is also adjusted, with the addition of language that allows for also "taking

measures to ensure safety" if the distance is less than 1,000 metres.

In a 2012 revision of the China Administration of Work Safety's Management Method for Licensing of Hazardous Chemical Operations, it was no longer specifically necessary for new firms to meet the Requirements and Technical Standards for Hazardous Chemical Firms. There was now more general language: "the distance between storage facilities and relevant sites, infrastructure and areas shall meet the requirements of the relevant laws, regulations, rules and standards."

So at this point the document setting the requirement for a 1,000-metre safety zone was mentioned in only one article of the Guiding Principles for Safety Assessment of Work Units Handling Hazardous Chemicals.

## Safe enough?

Although the Requirements and Technical Standards for Hazardous Chemical Firms set a single and tough standard of 1,000 metres, in reality this is rarely applied.

Miao Wei, Minister of Industry and Information Technology, said at the 6th Meeting of the Standing Committee of the National People's Congress that, after the Tianjin explosion, China's provinces had submitted plans for relocating of changing the operations of firms handling hazardous chemicals. These plans affected over 1,000 firms and would cost 400 billion yuan (US$61 billion).

Zhao Laijun, a professor at Shanghai Jiaotong University's Sino-US Global Logistics Institute, researches the management of transportation of hazardous chemicals. He said that in 2014 he was invited to speak on management of the hazardous chemicals sector by the safety authorities in a northern Chinese city, where he learned that hardly any local warehouses were observing the 1,000 metre requirement.

One safety assessment official from southern China told China Youth Daily that local land shortages meant the 1,000 metre requirement was not taken seriously, and that the limit itself had always been controversial.

In 2008 the State Administration of Work Safety's Hazardous Chemical Department and the Ministry of Public Security's Firefighting Bureau formed a joint investigation group composed of a Chinese association of warehousing and storage, the China Chemical Safety Association, the Ministry of Public Security's Tianjin Fire Research Institute and the China National Hardware Electric and Chemical Products Commercial Association, one of the original drafters of the 1,000 metre standard.

The group produced a report, The Current State of Hazardous Materials Storage in China.

The group visited 12 hazardous chemicals warehouses. Only one, in a tank storage facility, met the requirement for a 1,000-metre safety zone.

According to the report, the 1,000 metre requirement and another for a 500-metre distance between outlets selling hazardous chemicals and "busy areas and densely populated locations," are widely breached. It concluded that business owners regarded the two rules as unreasonable.

The report said that safety officials in Ningbo and Shanghai found it hard to meet these requirements, which they regard as unrealistic. Even new storage facilities or retail outlets struggle to find locations which comply with the rules.

The group met with one of the drafters of the original rule to find out why. He said the 1,000 metre rule was intended to apply to facilities storing large quantities of explosives. One member of the investigation group told the China Youth Daily that there should be different standards for different types of chemicals – the 1,000 metre rule is not specific enough.

"Although it might have been intended for stores of explosives, it's not much use if you don't say that in the standard. What's in the standard is a single 1,000 metre rule," he said.

According to the same source, there is a lot of debate over the rule within the industry.

## Fuzzy standards

The 1,000 metre rule is at least clear and specific – but other standards are fuzzier.

> "In some cases the 1,000 metre rule isn't tough enough, but where explosives and toxic materials aren't involved it may be too strict and is therefore hard to enforce. And some companies may use this as an excuse to ignore the rule."

First, storage facilities are only classified by size. Anything between 550 and 9,000 square metres is classed as medium in size; and anything over 9,000 square metres, as large. The 1,000 metre rule applies to all these.

But hazardous materials fall into one of nine categories, each with a different level of danger. According to a national standard document identifying risks associated with hazardous chemicals, only 0.75 tonnes of some chemicals represents a major risk, while others can be stored in quantities of up to 200 tonnes before the same level of risk is reached.

Meanwhile, fire prevention assessments identify five different categories of warehouse, according to the nature and flammability of materials stored.

"In some cases the 1,000 metre rule isn't tough enough, but where explosives and toxic materials aren't involved it may be too strict and is therefore hard to enforce. And some companies may use this as an excuse to ignore the rule," according to one safety assessment official.

Professor Zhao Laijun pointed out that it is too vague and unscientific to have a single 1,000 metre limit for storage facilities ranging in size from 550 to over 9,000 square metres.

Also, the 1,000 metre rule applies to "public buildings, major transportation routes and industrial and mining companies". None of these are defined, and residential buildings go unmentioned. By contrast, a standard for the storage of demolition materials sets different rules according to quantities stored, density of nearby populated areas and the class of nearby roads.

This lack of clarity means that some companies can pass safety assessments by using rules in fire prevention standards which allow a distance of only 50 metres between a Category A warehouse and a high-rise residential building, thus avoiding the 1,000 metre requirement.

Professor Zhao pointed out that the fire prevention standard does not take into account the nature of chemical risks, such as leaks or pollution, which means those documents should not be applied when assessing the safety of chemical storage.

He added that although residential buildings are not mentioned, these will be more densely populated than public buildings, and so standards should be even tougher.

Liu Mao, a professor at Nankai University researching urban public safety and risk analysis, says that fire prevention standards should not be used in these cases.

"Safety assessment bodies and the safety authorities should treat different chemicals differently, analysing the safe distances for various types of risk. Safe distances should be higher for explosives or more toxic materials."

Liu added that there should be more detailed rules on safe distances.

"If the regulations are vague the companies will find loopholes to exploit," he said.

In late September 2015 a source reported online that over 10,000 tonnes of chemical waste were buried under a pig farm in Jingjiang, Jiangsu province in eastern China.Beijing Youth Daily reporter Li Xianfeng was the first to find the source, gather first-hand evidence and gain access to the, now-sealed off, farm to verify it.

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*Liu Xing is a reporter at China Youth Daily.*
*Lu Yijie is a reporter at China Youth Daily.*

# 2016
# 最佳环境报道奖颁奖典礼

China Environmental Press Awards Ceremony


获奖者和嘉宾合影
Group photo gathering the prize winners, jury members and special guests.

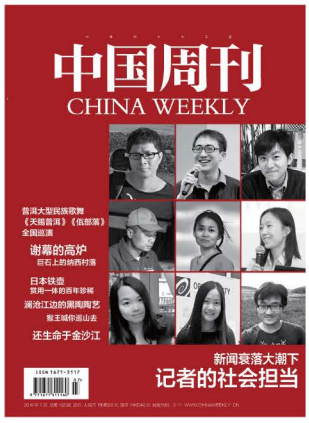

澎湃新闻记者石毅凭借其出色的表现成为环境报道“年度记者”
Reporter of the Year: Shi Yi, thepaper.cn

香港大学新闻与传媒研究中心原总监陈婉莹教授为“最佳调查报道奖”获得者新京报记者涂重航颁奖。
Prof. Yuen Ying Chan, former director of Journalism and Media Studies Center of Hong Kong University, presents the certificate to Tu Chonghang, winner of the Best Investigative Report from the Beijing News.

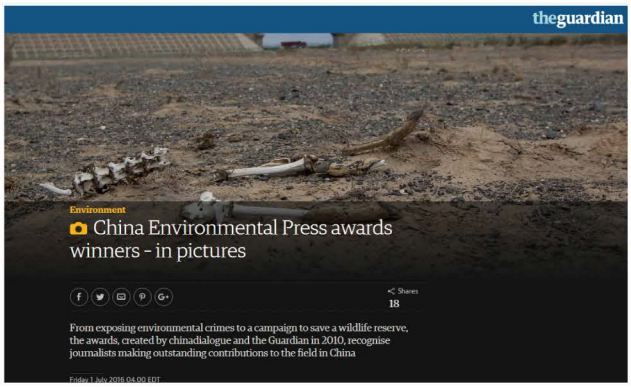

研讨会探讨新闻业衰落中记者的能力建设和责任担当
The symposium focuses on reporters’ capacity building and journalistic responsibilities, against the backdrop of a declining media sector.

# 中外媒体聚焦

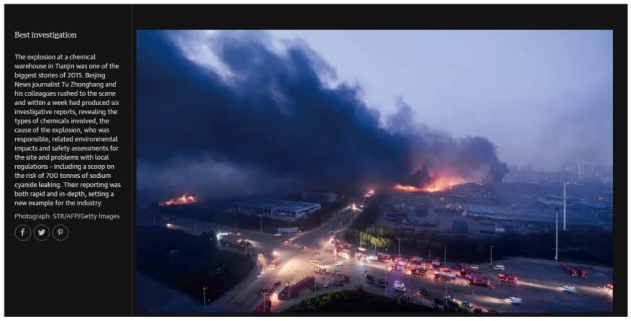
## Environmental Press Awards in Focus













中外媒体专题聚焦 2016 年“最佳环境报道奖”及其创办机构“中外对话”。如，官媒《中国周刊》报道获奖者及其作品，并向中国读者介绍“中外对话”的创办历程；中国知名门户网站新浪等图文并茂报道颁奖盛典；英国《卫报》则以图片形式专题报道获奖作品。中外对话“最佳环境报道奖”发掘和奖励了一大批优秀环境报道作品，7 年来，超过百位获奖者获奖。

2016 China Environmental Press Awards have been under extensive coverage on Chinese and international media. China Weekly magazine introduces the prize winners and their works. Renowned Chinese news portal sites cover the awarding ceremony in well-crafted texts and images. Global Investigative Journalism Network and The Guardian' s photo feature introduce the prize-winning pieces.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