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I. Background

1.1 Incident Overview

The incident of excessive levels of benzene in tap water in certain areas of Lanzhou on April 11th refers to the incident of benzene in tap water exceed national limit in Lanzhou, Gansu province on April 11th, 2014 when the benzene level in water sample of ducts and output water of the water supply company of Lanzhou City—Lanzhou Veolia Water (Group) Co., Ltd exceeded limit and triggered the tap water contamination incident.

Oil spill of pipeline of Lanzhou Petrochemical Company, PetroChina years ago was identified as the source of the contamination. The spill seep into the water supply network and contaminated the ducts of the water supply company. The water sample test results indicated that the benzene level in water was up to 118 micro–grams per liter; in ducts up to 170 micro–grams per liter, which were far beyond the national limit of 10 micro–grams per liter.

After the benzene incident had occurred, Lanzhou Municipal Government issued a special tip that tap water was unfit for drinking within 24 hours after 11:00, 11th and another domestic water was not affected. Lanzhou citizens began to rush into supermarkets and shops to buy bottled water and beverages as much as possible. The city ran out of bottled water and barreled water once, and water supply of the city faced crisis.

1.2 Water Contamination Incident

It took four days from full–blown of the tap water contamination in Lanzhou on April 10th, 2014 to call off the emergency measure by Lanzhou Municipal Government on April 14th and tap water return to safe water. Detailed information are shown in following table:

①Duct: Pipelines that connects water factories. Water in duct flows along with topography instead of pump station.
<table>
<thead>
<tr>
<th>Date</th>
<th>Incident</th>
<th>Veolia’s Action</th>
<th>Government Measures</th>
<th>Public Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 10th</td>
<td>Benzene level in No. 2 water output of Veolia up to 118 micrograms per liter</td>
<td>Monitor quality of output water for three times in a row.</td>
<td>—</td>
<td>Drink tap water with an excessive level of benzene</td>
</tr>
<tr>
<td>April 11th</td>
<td>Fully stop the north line duct; activate low-pressure water supply in downtown and stop water supply in higher altitude area and marginal area of the city, and limit production water of the city.</td>
<td>Continue to monitor water quality and search for the cause of the incident.</td>
<td>Hold thematic meeting on disposal of &quot;4.10&quot; excessive benzene in tap water of the urban area of Lanzhou City and take relevant emergency disposal measures. urban</td>
<td>Buy-up barreled water and bottled water.</td>
</tr>
<tr>
<td>April 12th</td>
<td>Benzene level in tap water of certain areas decreases significantly. Lanzhou Municipal Government call off the emergency measures in Qingcheng District and Qilihe District.</td>
<td>Continue to monitor water quality and search for the cause of the incident.</td>
<td>Fire and sanitation authorities provide safe drinking water for citizens. Certain hospitals establish free registering and emergency windows for benzene poisoning.</td>
<td>Return to drink tap water.</td>
</tr>
<tr>
<td>April 13th</td>
<td>It is published that the direct reason is due to sewage with oil in the ducts of the tap water company.</td>
<td>—</td>
<td>Publish direct reason of the incident-sewage with oil in the ducts of the tap water company. The reason the sewage is in the ducts is due to an earlier oil leakage accident of Lanzhou Petrochemical Company, PetroChina nearby the duct. After handling of the accident, residual oil and fire wastewater seep into the ground and contaminated the duct.</td>
<td>—</td>
</tr>
<tr>
<td>April 14th</td>
<td>Tap water is restored to safe water. Emergency measures completely call off.</td>
<td>—</td>
<td>Fully call-off of emergency measures.</td>
<td>—</td>
</tr>
</tbody>
</table>
After discussion among relevant experts, the leading group for emergency disposal of the “4.11” excessive benzene in tap water of Lanzhou City incident called off the emergency measures within the whole city, and stopped free distribution of emergency transportation water, bottled water and barreled water. All Lanzhou citizens could drink tap water that has been restored to safe water.

On the following press release held by Lanzhou Municipal Government, Lanzhou Veolia Water (Group) Co., Ltd confirmed to the press that Veolia Water sampled and tested water quality back on April 2nd. However, comprehensive testing and analysis required time. It was not until April 10th that benzene level in tap water was identified as beyond limit and measures were undertaken.

By April 15th, tap water supply to Lanzhou citizens returned to normal.

II. Interpretation of the Reasons of the Water Contamination Incident

The incident of excessive levels of benzene in tap water on April 11th alarmed the water supply of Lanzhou City once again and thorough interpretation of the reasons for the incident exhibited the water supply crisis of Lanzhou City to the public.

2.1 Direct Reason

Due to excessive service of the No. 3 and No.4 ducts of Lanzhou Veolia Water (Group) Co., Ltd, the impermeable material in the expansion joints of the ducts cracked, as a result of which, the oily waste-water of Lanzhou Petrochemical Company precipitated over decades, seeped into the ducts and contaminated the water transportation body with excessive benzene, causing benzene exceeding the limit in certain areas.

Lanzhou Veolia Water (Group) Co., Ltd has a total of four ducts, among which No.1 and No.2 are for industrial water while No.3 and No. 4 are for tap
water. The tap water contamination incidents occurred in duct No. 4. This duct is located in the flood plain of the Yellow River where the river turns round from west to east, with a gentle slope and Lanzhou Petrochemical Company, PetroChina is located in the south part of the duct. Back in 1980s, Lanzhou Petrochemical Company had an oil spill accident, after which some organic material seeped into underground water and flew with the groundwater from the high area to low the area.

The No. 4 duct is located in the lower reaches of Lanzhou Petrochemical Company with 4–5 meter depth buried under it, which blocked the movement of underground water, as a result of which, a downgrade flow area formed above the No. 4 duct. According to its design, the duct has already expired so far. The duct is constructed of cement with some expansion joints in a “chain” of “lids”. These aging expansion joints just blocked the movement of underground water with residual waste–water from the accident. Thus, it is preliminary identified that the contaminated flow got into the duct through the expansion joints and caused contamination of drinking water.

2.2 Indirect Reasons

Lanzhou Veolia Water (Group) Co., Ltd didn’t take its main responsibility and delayed in reporting of lacking of maintenance to its ducts.

The ducts of Lanzhou Veolia Water (Group) Co., Ltd are covered drains and were constructed in 1959 with reasonable design and a 50–year service life. However, the ducts have been utilized for 60 years, exceeding ten years comparing with
its service life. The contamination incident on April 10th was on one hand due to aging of No. 4 duct and on the other hand due to seeping of oiled underground water into the duct. However, the testing center of water supply company didn’t carry out detailed analysis of the water samples of April 2 and failed to report in time to relevant authorities, when they knew about the excessive benzene tested in tap water on April 10th. It was not until the early morning of April 11th that the water supply company reported to relevant authorities.

Professor Li Chunhui of hydrology and water resources at Beijing Normal University states, “testing results of the water supply company should be published once per day. If there is contamination in the water–intake or there is anything wrong with water quality, the information should be published and emergency measures should be activated before the water goes out of the outlet pipe. The state supervises safety of drinking water and should timely publish and activate early warning if anything is wrong.” He thinks that the water supply company has abdicated its responsibility. Professor He Bing, China University of Political Science and Law, described this incident as the water contamination incident that harms society, and the incident should be announced publicly at once, and emergency measures should be taken.

As a matter of fact, it is clearly identified in many official documents of Gansu province and Lanzhou City that “upon environmental emergency, the responsible agency, person and supervising agency should report within one hour of the onset of the emergency”. The <Lanzhou City Contingency Plan on Sudden Environmental Pollution Accident> promulgated in June 2006 stipulates that reporting of sudden environmental pollution accident includes an initial report, the follow-up report,
and result report. Among them, the initial report should be made within one hour after finding of the accident and could be made to the phone directly. Although the contingency plan has been developed, it is hard to say if it is implemented in accordance with system and process. “Since the water is contaminated, the backup water resource should be enabled and current water supply should be terminated. If you continue to use the contaminated water resource, it is making fun of the public’s health.” Pro. Li Chunhui thinks that delayed reporting of the water contamination incident in Lanzhou City fully indicates deficiency of an emergency mechanism of local government. Take the water contamination incident of Songhuajiang River in 2005, for example, relevant authorities enabled the backup water resource immediately upon warning by the downstream.

Lanzhou Petrochemical Company didn’t thoroughly investigate and solve its environmental risks and hidden problems.

As the largest petrochemical company in western China, Lanzhou Petrochemical Company, PetroChina is located in the watershed area for drinking water of Lanzhou City and is very close to Lanzhou Veolia Water (Group) Co., Ltd. Because of its impractical layout, Lanzhou Petrochemical Company was identified as a major risk source unit during a risk screening-out among petrochemical industry organized by former the Environmental Protection Administration. Given Lanzhou Petrochemical Company’s major environmental hazard, Lanzhou Municipal Government put forward relocation solutions for this company for many times but failed to implement due to expensive relocation cost and multiple obstacles.

In the recent ten years, Lanzhou Petrochemical Company had at least six security incidents. Residual oil leaked during these incidents, seeped into the soil without effective handling, contaminated the nearby underground water, and then seeped into the ducts of water supply company, which led to the break-out of the city’s water crisis.

Relevant government agencies didn’t fully undertake their responsibilities and didn’t supervise and inspect the polluting enterprises as well.

Lanzhou City decided to invest RMB150 million Yuan on thorough clean-up of ducts and removal of more than 80000 square meters of illegal buildings within
protected watershed area. However, officials haven’t given clear answers to how much money was invested and what facilities were transformed so far. Government is responsible for water security for the city. However, it only cares about its public image and reputation projects, ignores the underground projects. There was no security supervision mechanism after the water supply project was transferred to foreign capital company, as a result of which, security measures were not fully implemented, and contamination incidents frequently occurred, and ultimately hampered health and safety of Lanzhou citizens.

After the “4.11” excessive level of benzene in tap water incident, Ministry of Environmental Protection explicitly pointed out that this incident is related with insufficient supervision of Lanzhou Municipal Government to tap water. Lanzhou Municipal Government also admitted its “insufficient supervision.”

III. Methodology and Purpose of the Research

Lanzhou citizens are investigated through methods of questionnaire and interviews during development of this report. It is hoped that Lanzhou citizens’ attitudes towards the “4.11” excessive level of benzene in tap water incident and their views on safe drinking water could be truly and objectively reflected through targeted and professional research.

Among all the two research methodologies, the questionnaires are distributed through internet, street interviews and a total of 89 valid questionnaires were collected. Among all people who participated in the questionnaire survey, most of them are working staff aging 26–45, accounting for 81.82% of all participants. The rests are students and retirees. Interviews mostly focus on villagers of Chaijiatai Village, living within the first class protected watershed area. However, impacts on residents are not obvious because this contamination incident is due to residual oil that seeped into ducts years ago.
IV. Research Result and Analysis

4.1 Questionnaire and Results

1. Do you know about the tap water contamination incident happened on April 11th in Lanzhou?
   All respondents indicated that they were aware of this incident.

2. Did you notice that tap water quality was abnormal on April 11th this year?
   54.55% of the respondents noticed abnormal of tap water quality, and 45.45% of respondents didn’t notice abnormal of tap water quality.

![Pie Chart: Whether to Notice Abnormal of Tap Water Quality]

- Noticed: 54.55%
- Didn't Notice: 45.45%

3. What’s your reaction when you noticed abnormal of tap water quality? (Only for those who noticed abnormally of tap water quality)

   81.82% of the respondents who noticed abnormally of tap water quality said that they chose to drink other water. Only 18.18% of respondents said that they stopped drinking water and report to related agencies. None of the respondents continued to drink tap water after noticing abnormally of tap water quality.

![Pie Chart: Reaction to Abnormal Tap Water]

- Drink other water: 81.82%
- Stopped drinking tap water and reflected to related agencies: 18.18%
4. What was your drinking water source before the water contamination incidents?

76.40% of respondents indicated that their drinking water source was tap water, and 21.3% of respondents use barreled water and 2.24% use other water sources as drinking water and mostly are purified water.

5. What was the drinking water source for your family after the water contamination incident?

The percentage of respondents who chose tap water decreased to 40.45%; 41.57% of respondents chose barreled water and 15.73% of respondents chose bottled water and the percentage of respondents who chose other water resources (mainly purified water) was still 2.24%.

Drinking Water Sources Before and After the Contamination Incident

6. How do you think about the water contamination situation of Lanzhou City?

All respondents thought that water of Lanzhou City is seriously contaminated; 45.45% of respondents thought that water of Lanzhou City is severely contaminated.

7. What do you think is the main reason for water contamination of Lanzhou City?

54.55% of respondents chose industry pollution, and 9.09% chose domestic sewage, and 36.36% chose poor government regulation.
Main Reason for Water Contamination

8. Do you think the water quality of Lanzhou City has improved or not so far?

36.36% of respondents thought that water quality remained the same; the percentage of respondents who thought that contamination and water quality got worse and those who thought that contamination situation improved were the same: 18.18%; and 27.27% of respondents indicated that they had no idea.

Does the Tap Water Quality Change Before and After the Contamination Incident

9. Do you think the tap water you use in daily life is safe?

59.55% of respondents thought the tap water is unsafe, and 40.45% of respondents indicated that they didn’t know. No one thought the tap water is safe.

10. Do you think that your daily life is affected by the water contamination?

86.52% of respondents indicated that their life was severely affected, and 13.48% of respondents indicated that this incident caused them some inconve—
nences.

11. Do you know about the current national drinking water criterion?

20.22% of respondents indicated that they knew about the criterion, and 44.94% of respondents knew little about it and 34.83% knew nothing about it.

12. Do you think there is the relationship between you or people around you feeling unwell and quality of the tap water?

46.07% of respondents thought it has a lot to do with quality of the tap water; 39.33% of respondents thought it has little to do with it; and 14.6% of respondents didn’t know whether they are related to each other or not. It is worth noting that no respondents think that feeling unwell has nothing to do with the quality of tap water.

13. What do you think are effective measures to reduce water contamination?

90.91% of respondents chose strengthening legislation and shutting down polluting enterprises. Besides, 81.82% of respondents think enhancing environmental awareness and openness of water quality monitoring information are effective approaches to reducing tap water contamination; and 54.55% of respondents thinks that it will effectively reduce tap water contamination if the government could take back the water service and run the business by itself; and 18.18% of respondents thinks that enhancing public supervision is also an effective approach to reducing tap water contamination.

14. How do you think about the government’s emphasis on the water contamination incident?

36.36% of respondents thinks the government’s emphasis on the incident is
enough, and 54.55% of respondents believe it is not enough and 9.09% of respondents think the government has no emphasis on the incident at all.

**How do you think about the government’s emphasis on the water contamination incident?**

![Pie chart showing emphasis levels](chart1.png)

15. **How do you evaluate relevant agencies’ measures on the tap water contamination incident?**

42.70% of respondents think that government information is not timely disclosed, and 33.71% of respondents think that post-processing of the incident is hasty; and 13.48% of respondents think that government is lack of supervision beforehand, and only 10.11% of respondents think that government measures are effective and timely.

**How to evaluate relevant agencies’ measures on the tap water contamination incident**

![Bar chart showing evaluation levels](chart2.png)
16. What do you think are the main measures for the public to know about water quality?

87.64% of respondents identify with media reports; 78.56% of respondents identify with disclosure of government information; 56.18% of respondents identify with regular announcements of water supply company and 39.32% of respondents identify with self-testing.

**Measures for Public to Know about Water Quality**

![Bar chart showing percentages of respondents identifying with various measures for knowing about water quality.]

17. What aspects do you think that the water company should improve?

Most percentages of respondents, about 89.89% thinks that the water company should improve water quality; 84.23% of respondents thinks that the quality of water equipment should be improved; 73.03% of respondents thinks that wastewater treatment should be improved and 28.09% of respondents thinks that water price should be reduced.

**Aspects that Water Company Should Improve**

![Bar chart showing percentages of respondents identifying with various aspects that need improvement.]

• 13 •
18. Do you know about water privatization?

55.06% of respondents indicates that they know about it; 23.06% of respondents indicates that they don’t know about it; and 21.34% of respondents indicates that they’ve heard about it but don’t know about the detailed information.

19. Regarding water privatization, which of the following terms? Do you agree?

53.93% of respondents thinks that water supply is closely related to public health and state-owned enterprise should take this responsibility; 31.46% of respondents thinks as long as it could provide safe water, nature of the enterprise doesn’t matter; and 14.67% of respondents thinks that water supply could be market-based, but supervision should be strengthened.

Attitude towards Water Privatization

4.2 Analysis of Research Results

1. Industrial pollution is the main cause for poor quality of tap water of Lanzhou city

It is indicated by the research results that respondents generally think that water of Lanzhou city is seriously contaminated, and over half of respondent think that the tap water they use every day is not safe and target the source of what? pollution? at industrial production.

Through discussion with residents living in the watershed area, we learn about the information that surrounding enterprises and factories have been relocated or shut down, and protective railings are established along the Yellow River in protection of the watershed area. Random dumping of agricultural waste and household garbage have been eliminated.
2. Ineffective handling of the water contamination incident by government and Water Supply Company

In regard to handling of the water contamination incident, interviewed citizens consider the most notorious problem are untimely release of information and insufficient attention to the incident. Weak emergency management capacity of relevant agencies lead to the serious result that Lanzhou citizens continue to drink the tap water with an excessive level of benzene after 18 hours of the incident.

3. The public is concerned about water safety but lack of effective supervision channels

It is indicated from the research results that although the respondents realize that water safety is closely related to their health, they don’t have effective approaches to supervising water quality. They passively rely on media to get related information.

4. It is government and W.2 Analysis of Research Results

1. Industrial pollution is the main cause for poor quality of tap water of Lanzhou city

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3. The public is concerned about water safety but they do not have effective supervision channels. It is indicated from the research results that although the respondents realize that water safety is closely related to their health, they don’t have effective approaches to supervising water quality. They passively rely on media to get related information.

4. It is government and Water Company’s responsibility to provide safe water to the public. The measures to effectively reduce water contamination, including strengthening of legislation and law enforcement and enhancement of information disclosure that the respondents choose are related to responsibilities of the government and water company. Besides, as the provider of this public service—water supply, government and Water Supply Company should take solemn responsibility.

5.1 Main Body for Water Test

Although the “4.11” excessive benzene in tap water of Lanzhou City incident has been solved, questions of related system raised from “citizens have drunk the tap water with excessive benzene for at least eight days” are far from ending. How did the testing of water quality of Lanzhou city operate? How did the responsibilities divide among Water Supply Company and related government agencies? Was there a third party involved in routine testing of water quality? Did water privatization bring success or woe? People start to think about these neglected questions after the water contamination incident.

V. Questioning of Related System

5.1 Main Body for Water Test

How is the excessive level of benzene in the water contamination incident tested?

Yan Xiao Tao, Vice President of Lanzhou Veolia Water (Group) Co., Ltd. Indicates that excessive level of benzene this time is found through random testing by the company instead of routine testing. Testing staff received the sample on April 2nd and got testing result on April 10th. Benzene is found exceeding level during the 106 testing items for water quality.

According to what? Rules, 106 testing items for water quality should be conducted every half year. Some Lanzhou citizens reported that tap water has peculiar
smell in early March and around March 7th Lanzhou Veolia tested water quality in line with the 106 indicators according to <Sanitary standard for drinking water> and testing results met national standards. By regulations, next testing should be a half year later, which is September. The reason why the company conducted another test was because the laboratory of Lanzhou Veolia has a provincial project and should conduct 106 testing for tap water of all cities (prefectures) of Gansu province and no matter how many samples they have, the same laboratory equipment will be consumed. Thus, Lanzhou Veolia tested tap water in its pipe network in convenience and tested result indicated that benzene level exceed the national level. Benzene is a kind of colorless, liquid with special fragrant smell. If it were not tested timely, Lanzhou citizens wouldn’t know even if they have drunk the polluted water for half a year, and they may probably say that the water has a fragrant smell.

Before the water contamination incident, all testing results of water quality came from Lanzhou Veolia Water (Group) Co., Ltd. As the supplier of public product–tap water, the company is testing its product. In the field of water safety, self–testing is a general situation.

Pro. Wang Jinn, Environmental and Resource \Protection Law, Peking University introduced that currently the water supply company normally conduct self–testing by itself and health sector takes the responsibility of daily supervision and monitoring. “Their supervision and monitoring method is sample testing. In certain time of each month, they monitor certain basic indicators such as germs in a large intestine and PH value.” This is quite different from testing standards of water quality. It is worth pondering whether self–testing of enterprise could assure water quality and safety.

5.2 Emergency Treatment of Contamination Incident

Why let citizens drank dirty water 18 hours after the contamination was identified?

According to media reports, related government agencies of Lanzhou city got the water contamination report at 05:00 am, April 11th; terminated water supply at 11:00 am; and held press release at 16:30 pm to publish the water contamination incident and launched emergency measures. The whole process took 11 and a half
hour. Lanzhou Municipal Government was criticized by media for a time that the emergency measures were launched too slowly.

As a matter of fact, Lanzhou Veolia sampled output water early on April 2nd. Eight days later, at 17:00 April 10th, the benzene level was tested to be up to 118 micro–grams per liter in the output water sample of Lanzhou Veolia. The company tested water quality for three times in a row after finding the unusual data.

At 05:00 am April 11th, after four rounds of testing; Lanzhou Veolia confirmed that tap water of the outlets of No.2 water factory of No. 4 duct and No.2 water factory contained excessive benzene. Then the company reported this information to Lanzhou Municipal Government.

Six hours later, at 11:00 April 11th, the water supply company finally launched the control valve and terminated water supply in No.??Duct.

This means that during the 18 hours after the water sample was tested to contain excessive benzene, Lanzhou citizens were drinking tap water with an excessive level of benzene. Lanzhou citizens have been drinking this water for eight days in a row without their acknowledgement. How could this emergency treatment not be criticized by media and questioned by the public?

Lanzhou Veolia Water (Group) Co., Ltd. explained that it required time to confirm the benzene in tap water after it was tested. The company reported to urban construction sector and environmental protection agencies the first time they knew about the situation. The company couldn’t publish results to the public immediately before re–check. However, according to Professor Li Chunhui, Hydrology and Water Resources, Beijing Normal University, testing results of the water supply company should be published once a day. If there is contamination in the water–intake or anything wrong with water quality, the information should be published, and emergency measures should be activated before the water goes out of the outlet pipe.

The water supply company—Lanzhou Veolia takes abdicated responsibility for the fact that Lanzhou citizens drink tap water with an excessive level of benzene for 18 hours.
5.3 Establishment of Third Party Testing Mechanism

So far, there is no unified independent third-party testing mechanism for testing tap water except for administrative departments and tap water factory, neither was third-party testing mechanism promoted in China.

Direct impact from the absence of third-party testing is that public doubt about truthfulness, accuracy and objectivity of the indicators even through all testing indicators published by water factory meet standards. Meantime, water factory conducts testing in accordance with its timeframe. Thus, water cannot be tested timely and effectively. Take this incident, for example, the excessive level of benzene in tap water of Lanzhou city are probably found until the 106 testing half year later if not for the testing project of Gansu province.

5.4 Effectively Avoid Tap Water Contamination

Aside from the third-party testing system above mentioned, effective supervision of the enterprises that are located around watershed and are potential pollution sources should be a fundamental approach to avoid tap water contamination. During the incident, several voices called for reconsideration of relocation of Lanzhou Petrochemical Company from the watershed area, which is an important aspect of the title.

As a matter of fact, there are sufficient statutory provisions related to water contamination, such as <National Emergency Preplans for Emergency Environmental Accidents>, <Interim Provisions for Emergency Preplan Management of Emergency Environmental Accidents> and <Water Pollution Prevention Law>, etc. Administrative department’s supervision responsibility for safe water is mentioned in these provisions. However, taking into consideration of economic benefits, local governments usually make an exception for the polluters, as a result of which, there came up with endless water contamination incidents. Lanzhou city and even China obviously have a long way to go before it breaks the current system of water safety.

5.5 About Water Privatization

The incident of excessive levels of benzene in tap water in certain areas of Lanzhou on April 11th once again aroused public’s blame for this foreign capital water company—Lanzhou Veolia.
With speeding up of urban development and deepening of public utility reform, local governments lack funds for infrastructure construction. Water service belongs to capital intensive industry. Marketization and privatization of water service naturally become the most simple and convenient choice of the government when there is no more effective measure to solve the problem. Since 2000, the Chinese Government commenced large-scale water sector reform in cities. The reform went through a series of measures such as breaking up the monopoly, opening-up of the market, introducing of competition and permitting of concession. Ministry of Construction issued <Comments on Accelerating the Process of Marketization of Municipal Utility Industry> in December 2002 to encourage social funds and foreign funds to participate in construction of municipal utility in the form of sole proprietorship, joint venture and cooperation. Thus, large-scale foreign capital and private capital began to get involved in water market and raised “the first round of wave” of the water sector reform. Foreign giants such as Veolia and Sino-French Water Development invested in joint ventures with national water company.

Veolia is one of the three water resource groups internationally, with 11 research centers globally and providing services for more than 100 countries in the world. Veolia started its business in China in 1994. So far, it has business in nearly half of cities in China and has gained high market share. According to statistics of China Water Sector, by the end of 2013, Veolia’s water-processing ability is about 13.22 ton per day, ranking the second in China.

Lanzhou Water Supply Group was established in 1955 and was a large-scale urban water supply enterprise established during national “First Five-Year Plan”. Through a joint venture with Veolia Water (Yellow River) Investment Co., Ltd., Lanzhou Veolia Water (Group) Co., Ltd. was established in 2007. State-owned Assets Supervision and Administration Commission owns 55% and Veolia Water (Yellow River) Investment Co., Ltd. owns 45%.

Promoted by Lanzhou Veolia Water (Group) Co., Ltd., pipe network of Lanzhou city was transformed and new project such as construction of two major roads for the “West-East” Water Diversion Project was smoothly completed. Although the construction of the water conveyance system provided convenience for
production and the living of Lanzhou citizens, Veolia should be blamed for the frequent tap water contamination incidents.

During the water contamination incident, Lanzhou Veolia is blamed by the public for the aspects of providing safe water, information release and emergency treatment, which reflected deep drawbacks brought by water privatization.

1. Rising of Water Price and Marketization of Public Service

Lanzhou Veolia announced that due to increase of water supply cost, resident water price of Lanzhou city rose from RMB2.25 Yuan (sewage treatment fee included) per cubic meter to RMB2.55 Yuan per cubic meter, among which RMB0.8 Yuan per cubic meter for sewage treatment fee and RMB1.75 Yuan per cubic meter for residents living water.

Before the water price rose, although relevant department held resident water price hearing, cost introduction of Lanzhou Veolia was not accepted by residents and specialists participating in the meeting. Rising of water price is considered to be an inevitable result of the acquisition of Lanzhou Water Supply Group by Veolia at a high premium, and also the embodiment of chasing of profit after marketization of public service.

2. Low Cost Operation and Difficulties to Ensure Water Safety

Take this water contamination incident, for example, the contaminated duct was installed during 1950s, made of cement and has exceed ten years comparing with its service life. However, Lanzhou Veolia didn’t maintain or clean the duct that has served for decades. Aging equipment and old technology finally led to the spill during an oil spill accident of Lanzhou Petrochemical Company seeped into the duct and contaminated tap water.

Aging of water system infrastructure and poor emergency control system is corollary of low-cost operation of Lanzhou Veolia. Low-cost operation increased profit of the water supply company but reduced water quality. Lanzhou citizens are victims of low-cost operation of water service.

3. Difficulties to Effectively Supervise and Water Quality and Service Quality

<Analysis on Operation and Profit Pattern of Oversea Water Enterprise into Chinese Market>, He Ninghua
Reduces Constantly

During the water contamination incident, due to delayed reporting of Lanzhou Veolia, Lanzhou citizens drank tap water with an excessive level of benzene for 18 hours.

Safety and efficiency are basic requirements for the water industry. Public monitoring and government supervision should be strengthened. However, marketization of water supply model of Lanzhou city obviously could not offer effective supervision channels for the public. The public are difficult to use their rights of monitoring; regulation from government is poor. The monitoring and supervision totally rely on self-discipline of water companies. Thus, water safety and water service is difficult to be ensured.

After the incident of excessive levels of benzene in tap water in certain areas of Lanzhou on April 11th, Lanzhou Municipal Government immediately arranged repairing and laying of contaminated pipelines. Before the replacement of contaminated pipelines was completed, Lanzhou Veolia, Environmental Protection Bureau of Lanzhou City and Lanzhou Disease Control Center take joint responsibility and test benzene content once a day and notify the public each month. Environmental Protection Department of Gansu Province also issued <Notice on Further Strengthening of Environmental Protection Work in Source of Drinking Water>, clearly stipulated testing of water quality and information release in source of watershed area, required to conduct routine monitoring for concentrated watershed area of each city and prefecture once each month and conduct total analysis monitoring once a year, and also required to release to public water quality exactly and timely in case of emergency environmental incidents.

This water contamination incident also put construction of second water source of Lanzhou city on agenda. Second water source construction project of Lanzhou officially commenced in October, 2014 and is expected to be completed by the end of 2016. Construction of the second water source will relieve Lanzhou’s problem of only having one water source. The second water source is expected to provide safe and high-quality water for Lanzhou citizens.
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