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Once the garbage bags are full

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Abstract. The environmental challenge of the highlands in Xinjiang, a province that is located in the west part of China, has been drastically increasing. Littering caused local people and animals hard to survive in their homelands, but social workers could not help much on reducing the pollution drastically, leading to the environmentalists' goal of ensuring the continuous development of the environmental protection plan. Our group interviewed people from several different professions like social workers, local people, and even some customers who were interested in environmental protection. Additionally, we picked up trash from the highlands where livestock would live and learned about the harm they have encountered through human pollution, to have a deeper understanding on the reason why we should preserve the environment. Throughout the research, we found out that our hard work on protecting the environment could only make a subtle change. The most essential acts are making local residents understand the importance in protecting habitats and teaching them how to protect the wildlife in real world situations. Therefore, maintaining a good environment in longer periods.

Keywords: Muztagh Ata, pollution in nature, community-led environmental governance, sustainable environmental protection

1. Introduction

Mount Muztagh Ata lies on the Pamir Plateau in western Xinjiang, China. Known as "the Father of Ice Mountains", it is a highland place that many tourists like to visit. Tajik people, who make a living by herding livestock, have lived here for generations. Rare wild animals such as snow leopards and yaks also live here. According to Zhuo et al. [1], the Pamir Plateau has a high average altitude and a simple food chain. Wide grasslands and high mountains together form a beautiful landscape, and a weak but precious highland ecosystem.

However, over the past ten years, as tourism in southern Xinjiang has become more and more popular, an increasing number of tourists come to Muztagh Ata for visiting and hiking. As a result, waste produced by visitors has become a serious problem. Plastic bottles, food packages and disposable lunch boxes are thrown carelessly along roadsides or on grasslands. These not only ruin the natural sights of the plateau, but also have big impacts on people and animals living here.

In recent years, many volunteer teams came here to help protect the environment here, including us. We wanted to learn about the environmental problem the landscape there encountered, and effectively help them reduce the pollution. During the research, the author wanted to find out how effective these short-term

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operations are. Where did the garbage go after we cleaned up? And how could the protection people made for the environment there last a longer period?

During our research, we first visited a local workshop that focuses on creating leather carvings. We learned that under the guidance of Meng Lulu, a great woman who is an inheritor of leather carving, taught this skill to many local Tajik women, and those women have become financially independent by making hand-made decorations like bags using this skill. Moreover, when their work was put in shops, the salesman spread environmental ideas to tourists through hand-made works. Later, we went to a grassland where local yaks often feed to pick up rubbish. We saw plenty of plastic bags and food containers laying on the muddy grasslands, which made it difficult to pick up. Also, the teacher there told us that the trash plays a threatening role to yaks' life, since they would harm yaks and lead them to sickness or even death. Besides, we interviewed environmental community workers, local residents and tourists, collecting different thoughts on the environmental protection of highlands.

From the research, we clearly realized that neither the volunteering of environmental protecting activities nor the garbage-picking work can bring more than a subtle, temporary change. Relying only on outsiders to come and clean the rubbish repeatedly cannot solve the pollution from its root. To protect the highlands' environment for longer periods, the most significant thing is to help local people truly understand the importance of protecting their home and mastering environment protection methods that are suitable for their area. Therefore, they could become the main force of environmental protection. As the environmental community worker said: environmental protection aims to "make ourselves disappear". This means that environmental workers need to allow the local people to take the lead in environmental protection efforts, so that the protection can truly last.

2. Results

2.1. Not only grasslands are harmed by pollution, but also herder's yaks and livelihood

In the later of our research, we specially chose a grassland where local yaks often graze to collect rubbish. When we arrived, we found lots of plastic bottles, disposable snack packages and construction waste scattered in this land where herders graze cattle every day. Some rubbish was blown deep into grass, and some was stepped into mud, which made it really hard to clean. According to a paper written by Jiang and his co-workers [2], yaks have died from eating trash in many parts of Tibet, forcing herders to pick up waste on foot across the grasslands. Ma and other authors of a paper wrote [3] that many livestock die from eating plastic every year in plateau pastoral areas. Since their yaks usually come to eat grasses, they would accidentally swallow plastic wastes, which are hard for them to digest. When those wastes accumulate to a certain extent, yaks get sick or even lead to death in pain. Related materials suggest that on highland grazing areas in China, each herder family loses two to three livestock on average every year for this reason. An earlier paper written by Wang and his partners [4] state that white pollution in high-altitude pastoral areas has directly threatened herders' livestock livelihoods. A yak is very valuable for an ordinary herder family, worth over ten thousand yuan, losing one yak means a heavy economic loss for many families. Before this research, our understanding of plastic pollution was limited to "spoiling sights", but at Muztagh Ata, we truly realized that rubbish is not a faraway "environmental problem". It has directly entered local people's daily life. Yaks are the source of herders' income, and grasslands are their home. Rubbish damages not only the scenery, but also the foundation they depend on for survival for generations. For this reason, local people actually care more about environmental protection than any outside tourists, because environmental protection is closely connected with their life.

2.2. Picking up trash only solves short-term problems, it would not last long

Wang and other co-writers mentioned in their paper [4] that many plateau scenic areas now rely on regular volunteer cleanup campaigns to carry away trash through concentrated actions. From the garbage-picking activity we participated in, my clearest feeling is that the land becomes clean right after rubbish is removed. For example, in the grassland we cleaned, the grass returned to its original state after we picked up rubbish, no obvious waste could be seen, so yaks would be much safer when grazing here. However, this clean state would not last long. As long as people keep throwing rubbish carelessly, new plastic bottles and harmful packages will appear on the grassland soon. Bloch and his partners wrote [5] that it is necessary to strengthen trash management during mountaineering activities on Muztagh Ata and reduce pollution at the source. This also indirectly proves the limitation of relying only on end-of-pipe cleanup. The rubbish we took away only kept this small valley clean for a short amount of time. For the whole Muztagh Ata area, it was just a tiny change. Many highland scenic spots now depend on volunteers to hold regular garbage-cleaning activities and carry rubbish away through their actions, but volunteers are just temporary teams and will leave once activities end. They cannot stay in mountains to pick rubbish every day, even if volunteers come once a month, their cleaning cannot keep up with the speed rubbish is produced. This research helped us understand slowly that "rubbish collection" is actually the last step in environmental protection. It can only deal with rubbish that has already been produced instead of stopping new rubbish from appearing. It is just like a leaking water pipe in a room. If you keep mopping the floor without repairing the pipe, the floor will never stay dry. Picking rubbish is like "mopping the floor", it only deals with the mess at present time and cannot solve the basic problem of where rubbish comes from. Therefore, simply filling rubbish bags over and over cannot bring long-lasting cleanliness to the natural habitats there.

2.3. Tajik women's leather carving put environmental protection into daily life and handcrafts

Compared with short mountain-cleaning activities, the local leather carving workshop showed another effective way of environmental protection. We visited Meng Lulu's leather carving studio. In Liu and Kang's paper [6], Meng Lulu is an inheritor of Xinjiang intangible cultural heritage leather carving. She came to the Pamir Plateau and taught local Tajik women leather carving skills face to face. Many women, who used to stay at home doing housework, learned skills here and got steady income by making hand-made decorations. They could support their families with their own hands. Their leather pendants, leather bags and decorative paintings are popular among tourists as special souvenirs. Interestingly, most of their works carry symbols of local Muztagh Ata features. Meng herself mentioned in her paper [7] that they have carved symbols such as strong snow leopards, powerful eagles, local horses, and Muztagh Ata sceneries. While tourists choose these handcrafts, the ladies in the workshop will tell them stories about these animals, and the harmful living situations they have experienced, in order to explain to the visitors the importance of reducing pollution and wastes. This is an effective way of environmental protection. Primarily, it provides local women with steady income. They would not give up on this income to do other things. Instead, when we visited one of the women's homes, her daughter said that she would be very likely to also join the workshop in the future. This means that future generations of them would possibly join to create handcrafts as well, leading to a sustained development to protect the environment. Also, with better living conditions, it will be more possible for them to protect their hometown. Secondly, those sellers communicate with tourists every day, every sale of a work is an effective environmental lesson, which has greater influence because when customers use or look at the handicraft they bought, they think about the lesson, and would do real actions in life. When they mix environmental protection into their daily life and traditional handicrafts, environmental protection is not an

extra task, it is closely linked with their daily life and culture. This kind of environmental protection can last long in the future.

2.4. Environmental protection community worker's core goal is to make them 'disappear'

When we interviewed the environmental protection community worker, one of his words left a deep impression on me. He said that for their environmental work, the final goal is to make themselves 'disappear'. It means outside charity groups and volunteers should not stay here forever to do environmental work for local residents. Instead, they need to teach local people useful methods and inspire their enthusiasm. When local people can take action actively and manage the environment of their hometown on their own, outside helpers can gradually step back. As our research went further, we increasingly believed this idea makes great sense. Muztagh Ata is not a tourist spot where visitors stay for a short time. It is the home where local people have lived for generations. They know every mountain and grasslands here best. They know clearly where rubbish is likely to pile up, where yaks look for food, and what is harming this land. Outsiders can bring money and new ideas, but they are unable to take the place of local people to guard this place in the long term. However, the environmental protecting communities could not step back now because local people still need their help. Fortunately, we can feel that local residents already have the wish to protect their hometown. Herders know rubbish may kill yaks, so they pick up rubbish when they see it while grazing. The ladies making leather carvings with beautiful scenery attracts more tourists, and sellers could tell more tourists about environmental knowledge on their own. This sincere willingness is the most valuable driving force for environmental protection. Outsiders helped them light this power, and they are going to maintain it.

3. Conclusion

Our research in environmental protection at Mount Muztagh Ata has helped people break away from the simple idea that "picking up rubbish could help environmental protection". We have gained a more complete and deeper understanding of the real approaches and long-term logic of plateau environmental protection. During the whole research, we visited the Tajik leather carving workshop led by Meng Lulu, went deep into grasslands where yaks frequently feed to carry out rubbish cleaning, and conducted multiple interviews with community environmental workers, local people, and tourists. We gradually confirmed three key research findings.

First, rubbish pollution on the highlands is far more than a surface problem of "ruining the scenery". It has deeply entered local production and daily life, directly threatening the survival of yaks and other livestock and seriously damaging herders' family livelihoods. When we picked up rubbish in the grazing areas, we saw with our own eyes that many plastic bags were stepped deep into the mud and hard to clean up. We also learned from community workers that several yaks die every year after eating plastic by mistake. This made us realize that for people who have lived here for generations, environmental protection is not a distant public welfare slogan, but a practical issue related to their income and survival.

Second, short-term clean-up activities represented by volunteering rubbish clean-up actions do have practical value. They can quickly remove existing rubbish in nature in a short time and improve local environmental quality. Meanwhile, they can raise more people's attention to the highland environment through activity promotion. However, we also clearly see that such activities are essentially treatments that will be done in the end of the protection with clear limits in effect. They can only deal with rubbish that has already been produced, but cannot change tourists' behavioral habits or keep managing the environment daily forever.

As long as the source of rubbish production has not changed, the cleaned areas will soon pile up with rubbish again, making it hard to support long-term ecological protection.

Third, local residents themselves are the most essential and lasting force for environmental protection. We saw in the leather carving workshop that many Tajik women have become financially independent by learning traditional leather carving skills. At the same time, through their handicrafts, sellers could tell stories of snow leopards and yaks to passing tourists and spread the idea of highland environmental protection. This model, which closely links environmental protection with ethnic culture and family livelihood, makes environmental protection no longer an extra burden but a part of their lives. Therefore, it has unmatched sustainability compared with volunteer activities.

Based on these findings, we can say that long-term environmental protection in highland areas cannot rely on continuous input from outside forces, and it cannot be maintained by repeated community rubbish clean-ups. The fundamental solution lies in developing local governance capacity and making local residents the true leaders of environmental protection.

The concept of "make ourselves disappear" put forward by environmental community workers clearly shows the right position of environmental support. Outside volunteers and public welfare organizations are not permanent, but they give guides and support. Their main task is not to solve all problems for local people, but to help them master environmental protection methods, open up channels for increasing income and build independent management on environmental protection. Compared with outside forces, local governance has natural advantages. Local people live on this land all year round. They can carry out all-time and all-area daily management, making up for the blind spots of volunteer activities in time and space. Meanwhile, the emotional bond with their hometown and direct personal interests also give them a lasting motivation to take action. Only when environmental protection can bring real, sustainable economic benefits and improvement in the residents' lives, they will act more actively and continuously engage in it. Then, environmental protection will not stop with the leave of volunteers.

This conclusion has universal reference value for environmental protection practices in similar highland tourist areas in China. At present, many highland scenic spots take volunteer trash clean-up as their main environmental measure, but ignore the importance of local communities and the stimulation of internal motivation. They often fall into an inefficient cycle of "cleaning, pollution rebound, and re-cleaning". The leather carving workshop in Muztagh Ata offers a new idea. To deeply integrate environmental protection with ethnic culture and tourism economy, allow residents to share development benefits while protecting the environment, and realize a positive cycle between environmental protection and people's livelihood improvement.

After all, "once the garbage bags are full" is never the end of environmental protection. It is the starting point for a truly long-term solution. The garbage that is transported away can only bring about temporary tidiness. Only when the people who live on this land take the initiative to step forward and turn protecting their homeland into a daily habit, can the cleanliness and vitality of Muztag remain beneath the mountain forever.

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