

論文の英文要旨

論文題目

An anthropological study on the desertification of Inner Mongolia
—A case study of Qorchin sandy land

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"Yellow sand phenomenon" in capital Beijing in China has been a social issue recently. It is assumed originating in the desertification of Inner Mongolia, and the desert expansion of Inner Mongolia has gathered attention. Especially, as one of the origin of the yellow sand, the desertification of the Qorchin sandy land is studied actively in the field of natural science. In the surrounding area including the Qorchin sandy land, the best grassland was cultivated rapidly and the farming village was made by the Chinese farmer who started to immigrate into this region from the middle of Qing dynasty, and became full scale in end of the Qing dynasty, and continued to Republic of China. Because the rangeland has been reduced, a lot of Mongol also came to make a living by farming. Despite such "Farmland expansion", there are a lot of natural science researches about the desertification of this region making the cause of the desertification to "overgrazing". I doubt, though the possibility that the "Farmland expansion" certainly caused the "Overgrazing" is high, up to now, only the point that the desertification happened because of the "Overgrazing" has been emphasized, and the "Farmland expansion" was not seen as a problem so much. And I conducted an anthropology site research centering on the region where the stock raising was actively done in the past. The present study aims to clarify the mechanism of the desertification from the field site of the desertification by analyzing the data obtained by the fieldwork after examined the society and the history background of the desertification progress. Especially, I focused on the point of the four times political and social changes have given a big load on the natural environment, and analyzed it.

The present study is composed of eight parts, and the content and the clarified points are as follows. In the "beginning", introduced the aim, outline and the composition of this test, and also introduced the common belief and the previous studies of the desertification.

In chapter One, I introduced overall condition of Inner Mongolia and the study region as a background of the fieldwork, and analyzed the status of the population increase, the changes in the average yearly temperature and the annual rainfall, and examined what influence it gave to the deterioration of the natural environment. The population of Inner Mongolia increased to ten times or more in 100 years of the 20th century, because of the Chinese farmer immigration policy of the Qing dynasty, the Republic of China and the People's Republic of China. The population increasing more than the load of the natural environment is one major cause of the land degradation. As a result of analyzing the meteorological data of the fieldwork region, the average yearly temperature rise little by little. Although the average annual rainfall was not have

notable change, extremely little year is increased after the 1980's. The temperature rise, and the big difference and the instability of each year rainfall amount are also one of the causes of the land degradation.

In chapter two, I examined the Chinese farmer's immigration and reclamation, and its influence on the natural environment, which is the first and the biggest change that the Qorchin sandy region have experienced. At the first, the Qing dynasty strictly prohibited the Chinese enter the Mongolian region. However, from the middle of Qing dynasty, in Eastern inner Mongolia, the Chinese farmer's immigration has increased because of The Qing dynasty's "Leased Land and Feed People" Order(jie di yang min), and also Mongol royalty and titled nobility leased land to Chinese farmer for earning land tax. In the late Qing dynasty and in subsequent Republic of China period, the immigration and reclamation of Chinese farmer went into a full scale, and the area where the soil quality is good, like the banks of the river, the humid location, was almost formed as a farming zone by Chinese farmers. Because of the population of Inner Mongolia increased rapidly by a large amount of immigration cultivation of Chinese farmer, the artificial activity was exceed the environment load, and made up the natural environment degradation. And also because of farmland expansion, the land with little precipitation and thin topsoil, like Qorchin sandy land was cultivated, and lost the topsoil, and the sand under the topsoil flied up, and a fixed dune is transfigured to the flow dune. As a result, it fell into the vicious circle that the flow dune expanded further, and it caused the desertification.

In chapter three, it clarified how the Mongol had lived in the very limited natural environment, and what influence had given to the natural environment after they driven from the good quality rangeland by the Chinese farmer's immigration and the farmland expansion, and escaped into the fieldwork region of this study. According to my fieldwork, after escaped into this region, they still managed the stock raising. But because of limited environment, they stopped nomadic grazing and pasturing a small number of cows. And in summer and autumn pasturing in rangeland and in winter and spring change to the pasture land. It avoided pasturing a long term in one place, and the rangeland had enough recovering period. Moreover, because nearly did not cut the grass, the bud of the sprout is early, and the topsoil was protected. Although making Mongolian traditional patch which called 'Namag Tariy-a', because did not cultivate the patch and also have no irrigation, there have not occurred topsoil destruction and excess utilization of the water resource. As the fieldwork result, it was clarified that the Mongol's life nearly had no load to the environment in that time. In the surrounding grassland zone of Qorchin sandy land, they practiced a nomadic grazing, mainly pasturing small livestock in large numbers, and pasturing big livestock in reasonable numbers, using the vast grassland as a rangeland, and moving every season. Although a large amount of small livestock were pastured, it is thought that the grassland was recovered enough because they moved four times or more a year.

In chapter four, I studied the life form change in people's commune period which is the second big change for Qorchin sandy land, and try to clarify the influence of this change that given to the natural environment. Through the fieldwork, it has known, in people's commune period, in Qorchin sandy land area, the

rangeland was taken for farmland reclamation and constructing government-owned facility, such as state-owned forest farms. As a result the farm land was expanded, and the rangeland was reduced. Also for constructing government-owned facility, such as dam, a large amount of virgin forests in the surrounding area were deforested. Because of these activities the topsoil was destroyed, and the fixed dune was transfigured to the flow dune, and it became the cause of the progress of the desertification. In the surrounding grassland zone of Qorchin sandy land, the Mongolian herders were incorporated into the people's commune, and forced to settle down. Some parts of the pasture were taken up free of charge for the construction such as the open-air coal mine. Because of that the moving time was reduced, and the grazing time in one place became longer, and the damage to the grassland was increased, and it became taken more time to recover.

In chapter five, I try to clarify what changes occurred in the politics, society, and life in the privatization which is the third big change for Qorchin sandy land, and what load it had given to the natural environment. The concrete appearance of the privatization in the livestock region of Inner Mongolia is livestock privatization and a distribution of the land-use rights. Especially, the distribution of the land-use rights gave significantly adverse impact on the natural environment. The land-use right was distributed, and the government encouraged the enclosure of the pasture land. So, the fenced pasture land was increased, and the grazing land was narrowed more and more. The farmland that reduced for a certain period of time after the people's commune collapses has been expanded again, because the grain trade became free such as corn, and the price was increased. Moreover, according to the fieldwork, some regions distributed the entire land, but a lot of regions only distributed the land where the soil quality was good, and not distributed the dune. As a result, the pasturing frequency is increased in the dune area, and also in the common land and the land not enclosed with wire fence. So, the difference arose in the land use of the entire region. Because of an increase in the usage frequency of the dune area, the chain reaction that a fixed dune is transfigured to the flow dune and the flow dune spreads out further occurred. In the surrounding grassland zone of Qorchin sandy land, it became impossible to grazing besides distribution area after the land-use right is distributed, and the moving time was reduced further, and the grazing period in one place became longer and longer.

In chapter six, I considered the fourth big change for Qorchin sandy land of the "prohibition of grazing" executed under the name of the environmental policy in recent years, and examined the influence that "Prohibition of grazing" has exerted on natural environment now, and also examined the negative environmental impact that can occur in the future. As a part of the environmental policy "Reduce Livestock, Return Grasslands" that holds off the land deterioration, the "Prohibition of grazing" is severely executed in the previous livestock region of the Qorchin sandy land. The pasturing was prohibited neither a small domestic animal nor a large-scale domestic animal, during half a year or all the year around, and became to "enclosed pastures". Although because of the prohibition of the grazing, securing the feedstuff of the livestock is becoming a large burden to the local people, the support policy that eases it is insufficient, and own cultivation is encouraged for securing such as feedstuffs. The ratio of the stock raising of the livelihood decreases as the limitation to the stock raising becomes severe, and tries to supplement the

income decreased amount from the farming which is not severely limited too much, and most of the relatively good quality land of the previous pasture land and rangeland was cultivated, and the expansion of the farmland became an unprecedented scale. The area of the land without the topsoil increases because of a rapid expansion of the farmland. By the fieldwork it clarified that the dryness of the surface water source and the decrease of underground water supplies became remarkable by the spread of the irrigation agriculture, and caused the dryness of the entire region. In the surrounding grassland zone of Qorchin sandy land, due to the prohibition of grazing the small livestock, most households stopped a small livestock, and came to keep only the cow. The household that do not move has increased, and the movement in summer only, and the period was shorted. The cultivation of the fodder was encouraged, and the forage crop field came to be cultivated widely in the winter camp. The fieldwork clarified that the herders move four times a year, and the domestic animal's grazing pressure was shared in four places in the past, now it is pushing the reducing rangeland in the winter camp one place only, and the deterioration of the rangeland of the winter camp has become serious.

At the end, summarized the discussion from "In the beginning" to "The chapter six", and as the conclusion, this study presented the recommendation for the improvement of the desertification progress. The result of considering the mechanism of the progresses in the previous livestock region of the Qorchin sandy land from the artificial side is, the desertification has progressed by a lot of factors such as the population increase, the farmland expansion and land use difference etc, caused by the big political, social changes which occurred from middle of the Qing dynasty to recent year's environmental policy of the People's Republic of China. Though the climate change such as the temperature rise and the instability of the precipitation in the Qorchin sandy land region is one cause of the progress of the desertification, the fieldwork clarified that the main cause of the rapid progress of the desertification at a short period of tens of years was the artificial destruction. As a proposal of the improvement of the desertification, it is necessary to review all structure first. The first problem is to control the population increase, and reduce the negative environmental impact. This test also warned about the risk that if the irrigation farming relied on underground water supplies kept expanded, the underground water supplies dried up, and the land will be deteriorated and become unusable land. And also indicated it is necessary to reduce the irrigation agriculture and improve the ideal way of the land use, before the underground water supplies dried up. The water resource is the most important resource for this region, whether the natural environment can be recovered or not is depending on how to protect the water resource and use it appropriately in the future. Assistance measures of the government are indispensable when limiting the occupation activity by executing the environmental policy to execute the policy effectively.

In the fieldwork region of this text, the surrounding situation of the people's life and the natural environment have been changing remarkably. As future tasks, I will continuously observe the fieldwork region, and transmit the message for building a better relationship between human and the nature.