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General Description of the Mogami Districts

Ken-ichi TANABE

In this chapter, a general survey of the Mogami Districts will be given in order to offer a preliminary knowledge of the areas, and to be easily accessible to the geographical problems which the following treatises dealt with. The synthesized conclusion of this study will be given in comparison with the other basins in the Tohoku district which are planned to be investigated, and will be informed in this series of Science Reports in future.

The Mogami basin group consists of 3 basins, called respectively, Shinjō, Obanazawa, Mukaimachi basins. (1) The Shinjō Basin is situated about the middle of a row of fault basins which form the western lowland zone of the northeastern Japan, but the fault topography is less distinct in comparison with that of each basin ranging to the south or north. The basin is surrounded, on the west and north, by the Dewa Mountains and the Ōu Mountain Range, both of which are maturely dissected. The bottom is fringed by hills and consists of the narrow strips of alluvial plain along the rivers, many pieces of terraces\(^{(1)}\) of various heights and the incomplete fans in the eastern part. On the south-west, it is bordered by Gassan Volcano and Hayama Volcano. The River Mogami flows into the basin from the south and runs through it towards WNW. A greater part of the basin is drained by the River Sake and its tributary, the drainage of the Dozan and the Tsunokawa occupying the south-western part of the Mogami. (2) The Obanazawa Basin may be regarded as a part of the Shinjō Basin, which is combined with the latter by a belt of hills and is drained by the Rivers Nibu\(^{(2)}\) and Oboroke. (3) The Mukaimachi Basin is one of the intermontain basins found in the Ōu Mountain Range and is situated to the east of the Shinjō Basin, being connected with the southern part of the latter basin by the River Oguni. (Index-map and Fig.1 topographical division.)

Climatologically speaking, it is noteworthy that the northern part of the Shinjō Basin is generally suffered from a low air temperature and much rain; that they have too much snow in the southern part and in the Mukaimachi and Obanazawa Basins, and that the shortage of sunshine, especially a low tem-

\(^{(1)}\) Yoshiro TOMITA: Surface Geology and Correlation of River Terraces.

\(^{(2)}\) Fujio ÓUCHI: A Study of the Hydrological Geography of the Obanazawa Basin.
temperature in spring, and frequent lower temperature and much rain in summer prevail throughout these districts. A heavy rain-fall attacking the northern and eastern mountain areas, often causes the flood of every river.\(^{(3)}\) Such floods without doubt give severe damages to the arable land, and low temperature, having a close relation with later thawing, has a bad influence upon the rice crop\(^{(4)}\), making the temperature of irrigation water lower. A low air temperature and much rain in summer cause serious cooling damages to the rice crop. That is to say, the districts may be correlated to those situated farther north and show the climate peculiar to the far north, even though the basins are located in the middle part of the Tōhoku Region\(^{(4)}\).

The narrow strips of alluvial deposits and the terraces cut in pieces and showing the difference in height prevent the districts from drawing in their irrigation water and from being exploited.\(^{(5)}\)(\(^{(6)}\)) These handicaps, mingled with the unfavorable climatic conditions, which favor the forestry to the contrary, also make the development backward in every industry as well as in the agriculture\(^{(5)}\) and a conspicuous retardation can be observed in the cultural phenomena.

The Obanazawa Basin is involved in an administrative unit in the northern part of the Yamagata Basin and it is divided into minor administrative sections. But the Shinjō and the Mukaimachi Basins are historically included in the same administrative unit as well as at present. The former consists of 16 minor

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\(^{(3)}\) Kiyofumi Takeuchi: The Floods and their Damages on the Sake River.

\(^{(4)}\) Hiroshi Shitara: The Climate of the Shinjō Basin viewed from its Rice-Plant Seeding Season.

\(^{(5)}\) Hideo Fukui: On the Adjustment of Rice Cultivation to the Physical Environment in the Backward District.
units and the latter of two. Alluvial plains are prevalent in Mamurogawa and Toyosato sections along the River Sake in the Shinjo Basin and in the sections of Ōishida and Obanazawa in the Obanazawa Basin, but 22 sections except the above, include the mountains, hills, terraces and alluvial plains in them and accordingly, are not controlled by the same topographical condition. (Fig. 2, Table 1, administrative division)*

The land for agricultural use shows a very low ratio against the average in the whole prefecture (15.69%) the average in Mogami Gun being 7.98% (the Shinjo Basin 8.45%; the Mukaimachi Basin 5.83%). But it is much higher in the Obanazawa Basin (14.01%) than the other two basins. In Mogami Gun, Shinjo, Kaneyama and Hagino show larger areas (23.21 km², 15.52 km² and 15.90 km² respectively). As Fig. 3 shows, Yamuki (20.1%), Toyosato (18.3%), Mamurogawa (14.1%) and Tozawa (11.3%) along the R. Sake and Shinjo (20.8%), Hagino (16.2%), Funagata (12.2%) in the eastern part show comparatively higher ratios, while the other villages and towns indicate lower ones and Araki (4.6%), Nozoki (3.3%), Furukuchi (3.2%) and Tsunokawa (2.9%) in the south-western part are especially low in ratio. When the ratio of the paddy fields, dry fields and others (grassland and pastures) are read next, the paddy-field ratio is higher than 65% in every area except Nozoki (56.7%), Hagino (34.2%) and Higashi-oguni (57.3%), Nishi-oguni (72.5%) and Shinjo (77.4%), come to the top in ratio and next come Horinouchi, Tozawa and Sakegawa, all of which are higher than 70%. The dry-field ratio is 10-20%, and Hagino (47.2%) and Higashi-oguni (31.6%) show exceptionally higher ratios. In respect of the ratio shown in the other land use, it is high only in Araki (32.2%), Hagino (17.7%) and Nozoki (17.0%), and lowest is Horinouchi (3.7%), others showing as low as 10.4%.

From above, it can be easily extracted that in this district they lay stress upon the paddy field to cultivate in such a small area of cultivated land. That is to say, the rice-growing agriculture peculiar to Japan can be found in this district as well. Furthermore, on a greater part of the fans and terraces, 800 chō of paddy-fields and 750 chō of dry fields were newly cultivated between Meiji and pre-War, the ratio of the former showing 11% to the whole paddy-fields of Mogami Gun, and that of the latter being as high as 34%. But in 1946 (just after the War) quite a large area of cultivable land still remained as grassland because of the difficulty in getting the irrigation water, and after then the exploitation was rapidly developed, urged by the urgency-reclamation-plan of the government. In the latter period, 619 farms settled in this area till 1952, even though they have a very tiny, if any, paddy-field to manage. This process also suggests the retarded stage of the agriculture of Mogami Gun.
The sole dependence on the paddy-fields, together with the grassland and pastures which must have shown high ratios in the past, caused the horse Keeping of the farms. This is because the climate pressed the district to till the fields in spring and gather in the crops in autumn as quickly as it could and because the district needed the stable manure which was fermented quite speedily.

Mogami Gun has a population of 126,747 in total, showing 9.3% of that of the whole prefecture, and the density is very low, having the ratio of 59.9/km² to 146/km² that of whole Yamagata Pref. shows. When the distribution of the population density in every administrative unit is read in Fig.4, the area along the Mogami and the Sake, shows a high density—Shinjū City (279/km²) ranks 1st and Yamuki (164/km²), Mamurogawa (132/km²), Toyosato (129/km²) and Funagata (120/km²) succeed. And Machi and Mura including the hills around the basin, indicate considerable low ones:—Tsunokawa (26/km²) and Ōkura (27/km²) come last in order.

The dispersion of the lands, low and cultivated, causes the population to be scattered. The most densely populated area is Shinjū City whose population is 31,000 and which controlled Mogami Gun as a citadel in former times, and has only two towns Kaneyama Machi and Mamurogawa Machi as its dependent ones, involving the Mukaimachi Basin under its sphere of influence as well.

The Obanazawa Basin has a population of 49,164, and is a densely populated area (103/km²) including two Machi of Obanazawa and Ōishida in it. And this basin belongs to the sphere of influence of Yamagata City situated south.

Whole Mogami Gun is under the influence of Shinjū City but the dispersion of the population due to the complicated landform diminishes the characters of Kaneyama and Mamurogawa Machi as its sub-centres even in the same basin. Surveyed generally, the urban service is in its lower stage and a backwardness can also be discerned in this respect.

*Table 1. Administrative Division


(7) Ken-ichi Tanabe: Progression of Stock Keeping in Mogami Gun.
(8) Reiko Fujimoto: Shinjū City and Two Small Towns.
(9) Yoshiro Watanabe: The Service Pattern in the Shinjū Basin.