

Desired Functions of Parks and Green Space in Reconstruction Plan from the Great East Japan Earthquake in Miyagi Prefecture

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1. Purpose and Background

In recent years, many natural disasters have been taking place across the world. In 2011, the Great East Japan Earthquake struck Japan, and many of these affected municipal governments developed reconstruction plans to direct their restorations. Town development has been progressing based upon these plans. In this article, Miyagi Prefecture, which was severely affected by the Great East Japan Earthquake, has been selected as a study subject. Desired functions of parks and green space in the reconstruction plan are identified, and their roles in town development which anticipates natural disasters are discussed.

2. Methods

Reconstruction plans of Miyagi Prefecture and its municipal governments including cities, towns, and villages, are collected and analyzed with the following methods.

(1) Clarify the situation of reconstruction plan development and each government's location and damage incurred.

(2) Extract descriptions of parks and green space in the reconstruction plans and identify their desired functions.

(3) Compare desired functions of parks and green space in the prefecture and those in local municipal governments, and those in coastal areas and those in inland.

3. Results

(1) Among the 35 municipalities in Miyagi Prefecture, 21 developed reconstruction plans. Fifteen of these 21 municipalities are located in the coastal area, and six in the inland. All municipalities in the coastal area had reconstruction plans developed. This is assumedly due to the Tsunami causing severe damage to the coastal municipalities. Miyagi Prefecture also prepared a reconstruction plan.

(2) Among the 22 reconstruction plans, 15 types of desired functions of parks and green space have been extracted. The five most frequently listed functions are as follows. "Disaster prevention", such as coastal forest and disaster prevention parks, appeared in 17 plans, which was the most frequently mentioned function. Next, functions around "natural environment", such as recovery of biodiversity, was mentioned in 13 plans. Functions as "urban infrastructure", such as reconstruction of parks as a public facility, was noted in 12 plans. Among the rest, "sports and recreation" appeared in 11, and "memorial and a symbol of reconstruction" and "landscape" in 10 plans.

(3) The largest number of functions described in one plan was 11, and the average was 5.8. In the coastal area, all municipalities mentioned "disaster prevention" and a majority "natural environment" and "memorial and a symbol of reconstruction". On the other hand, municipalities in the inland did not touch on these functions much, and "urban infrastructure" was often mentioned. The functions which Miyagi Prefecture specified were six including "disaster prevention". It has been observed that municipalities planned desired functions of parks and green space according to each of their situations, regardless of the functions that the prefecture demanded.

4. Considerations

In Miyagi Prefecture, the damage conditions were different between the coastal area and the inland; therefore, the number of reconstruction plans and the desired functions of parks and green space

were different, depending on their locations. A tendency was detected that the diverse functions were desired with parks and green space in the coastal area which suffered from a severe damage. As discussed above, based on the reconstruction plans, parks and green space are expected to perform as a resource of town development with diverse functions, with disaster prevention being a main function. Upon furnishing parks and green space even with anticipation to manage natural disaster, it should be expected to create diverse contributions to town development without limiting their function to disaster prevention.

Keywords: The Great East Japan Earthquake, Reconstruction Plan, Parks and Green Space, Disaster Prevention, Miyagi Prefecture

