

The effectiveness of the tsunami evacuation map by creating "nigechizu"

New tools for considering the tsunami evacuation plans

In the wake of the Great East Japan Earthquake, people recognized the limitations of the administrative and Importance of mutual assistance. To reduce the damage from the tsunami, it is necessary to the development of tsunami evacuation plan by the regional cooperation. Under these circumstances, Map called "nigechizu" to consider the evacuation plan by the PDCA cycle has been attracting attention

Actual activities in Shimoda

We have created the "nigechizu" in Shimoda, Shizuoka Prefecture [Fig.1] We have verified the effectiveness of the tsunami evacuation plans using advantage of the "nigechizu".

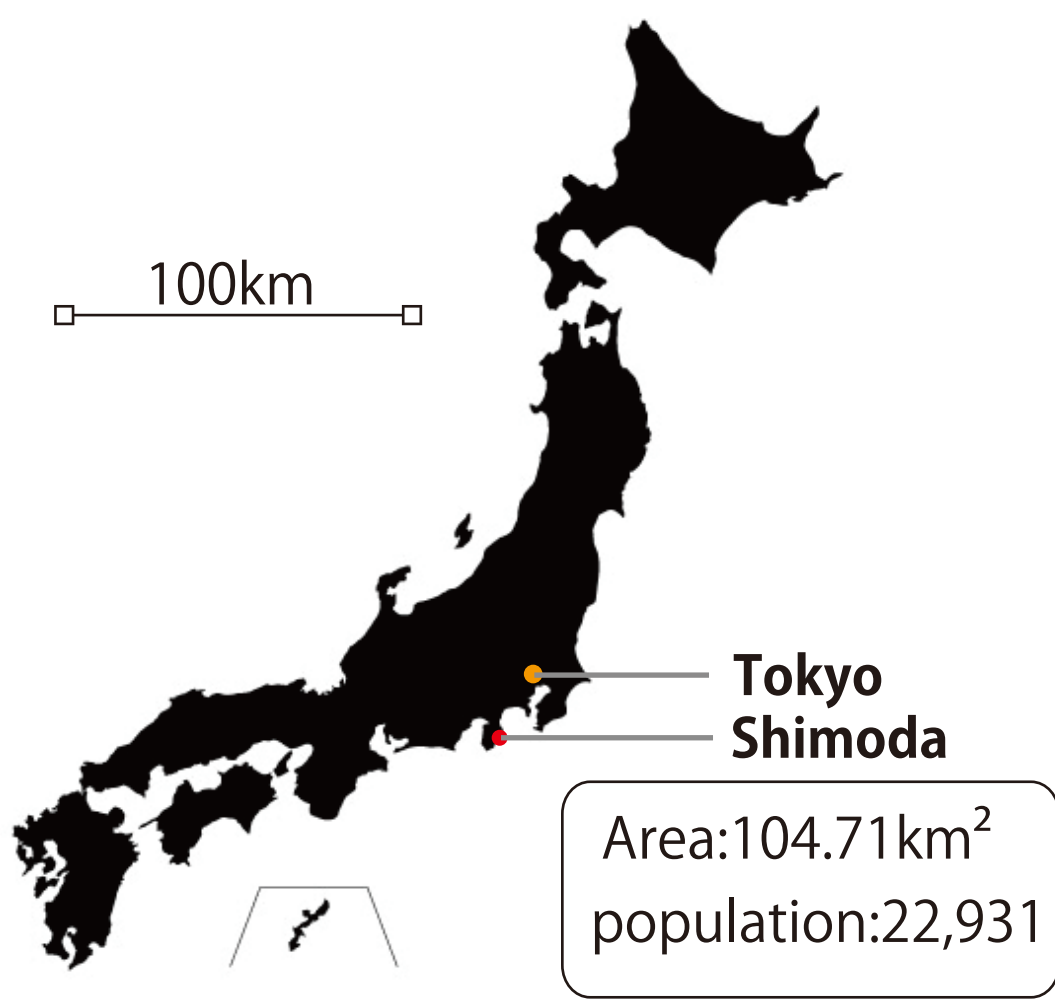


Fig.1 Site map



Fig.2 State of the workshop

How to create “nigechizu”

“nigechizu” is the evacuation maps which included the history of past tsunami and expressed the time to safe places by classification by color [Fig3] . As well as to visualize the time it takes to evacuate, to produce a risk communication among residents. Firstly we recruited residents participants of about 20 people to the elderly of 80's from junior high school students in Shimoda, Shizuoka Prefecture. Secondly, we have separated the residents into four groups, created a” nigechizu” By performing "nigechizu Workshop".

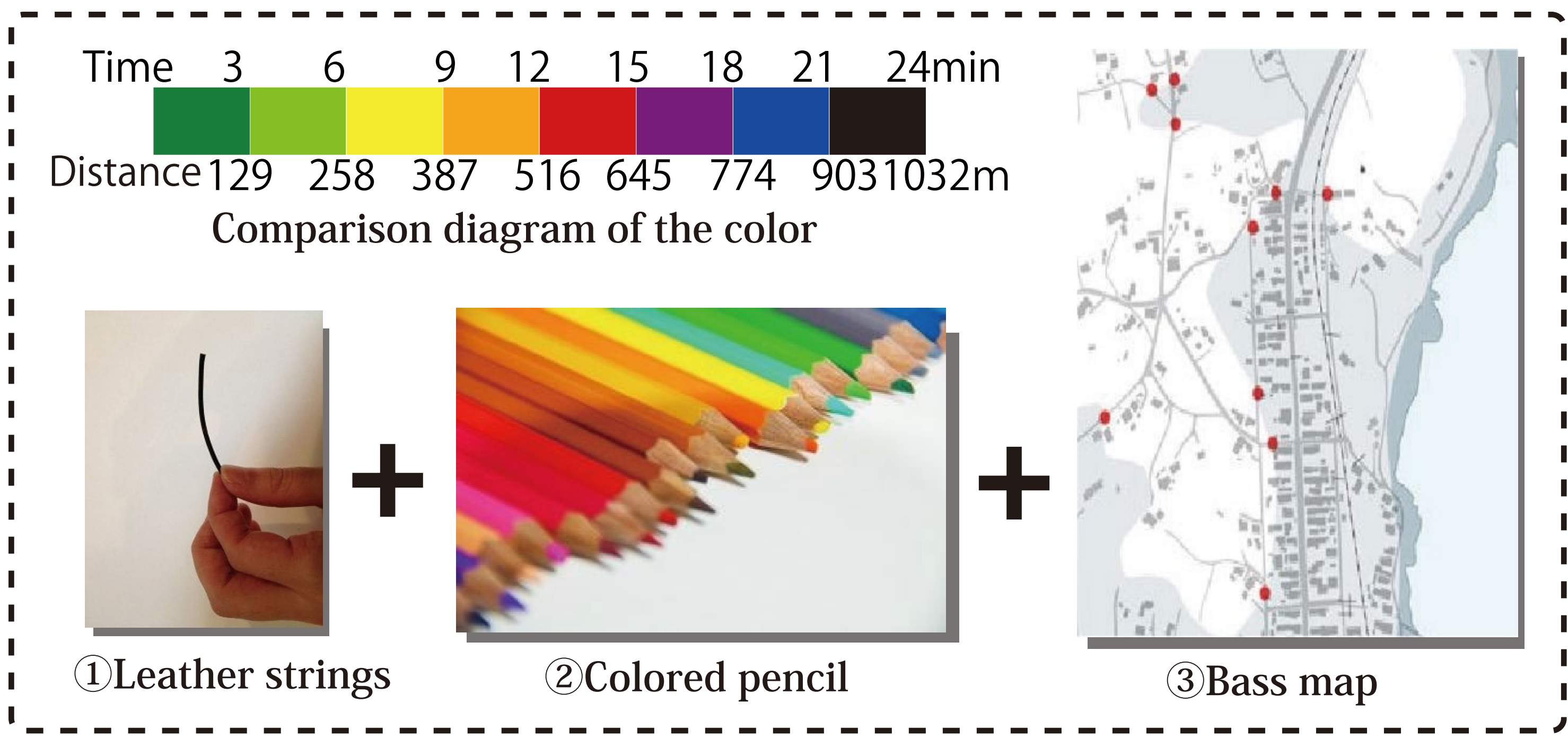
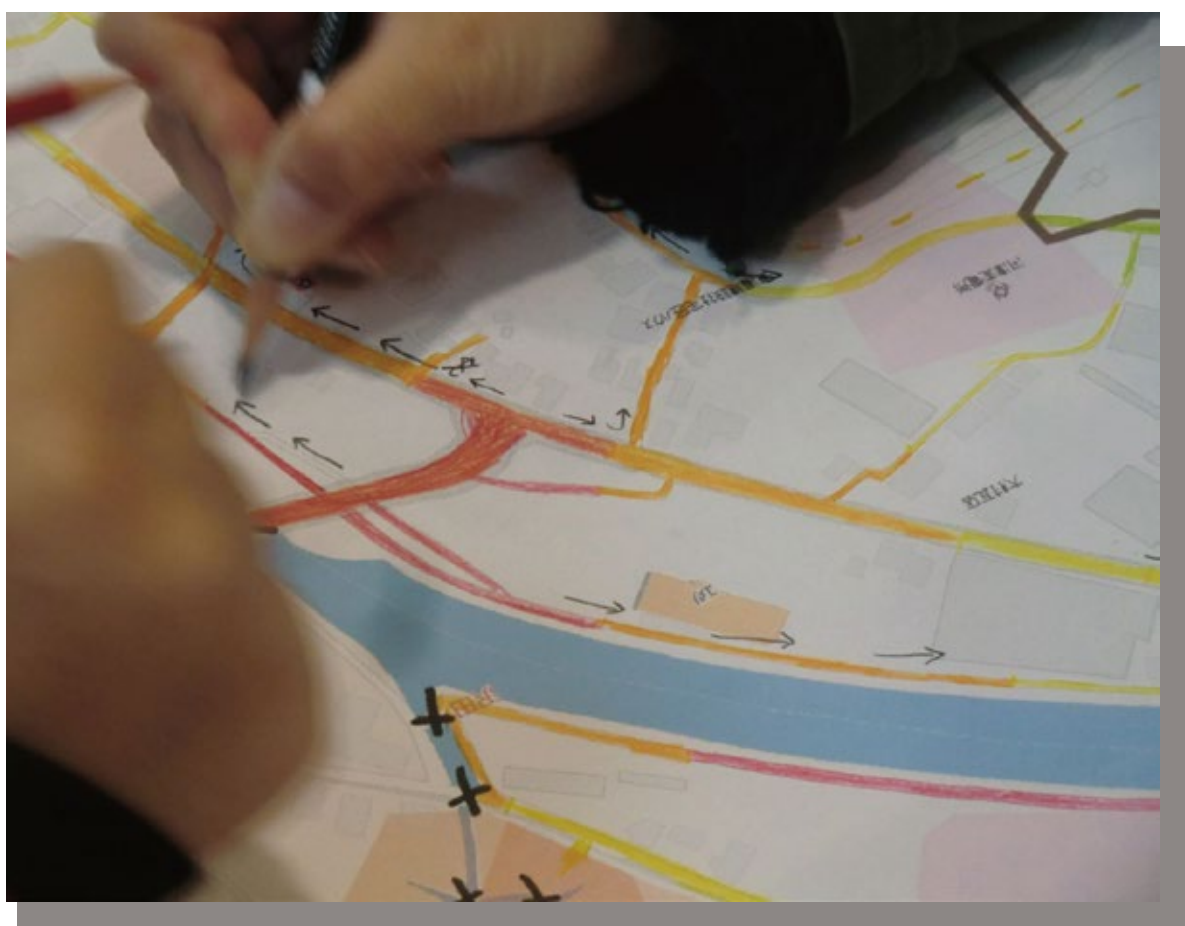


Fig.3 How to make “nigechizu”



color for each 129m using the leather strings.
※ 129m = walking distance of elderly in 3min



created nigechizu

Outcome of creation “nigechizu”

“nigechizu” it was becomes possible to clarify where is the area a risk of tsunami being flooded is high and the area where cannot evacuate from tsunami. we were able to find a place that can be a new shelter and evacuation route. In addition, revealed 「the problem of Evacuation support of vulnerable people in the time of disaster」 and 「the problem of how to use the private land in a time of disaster」 .

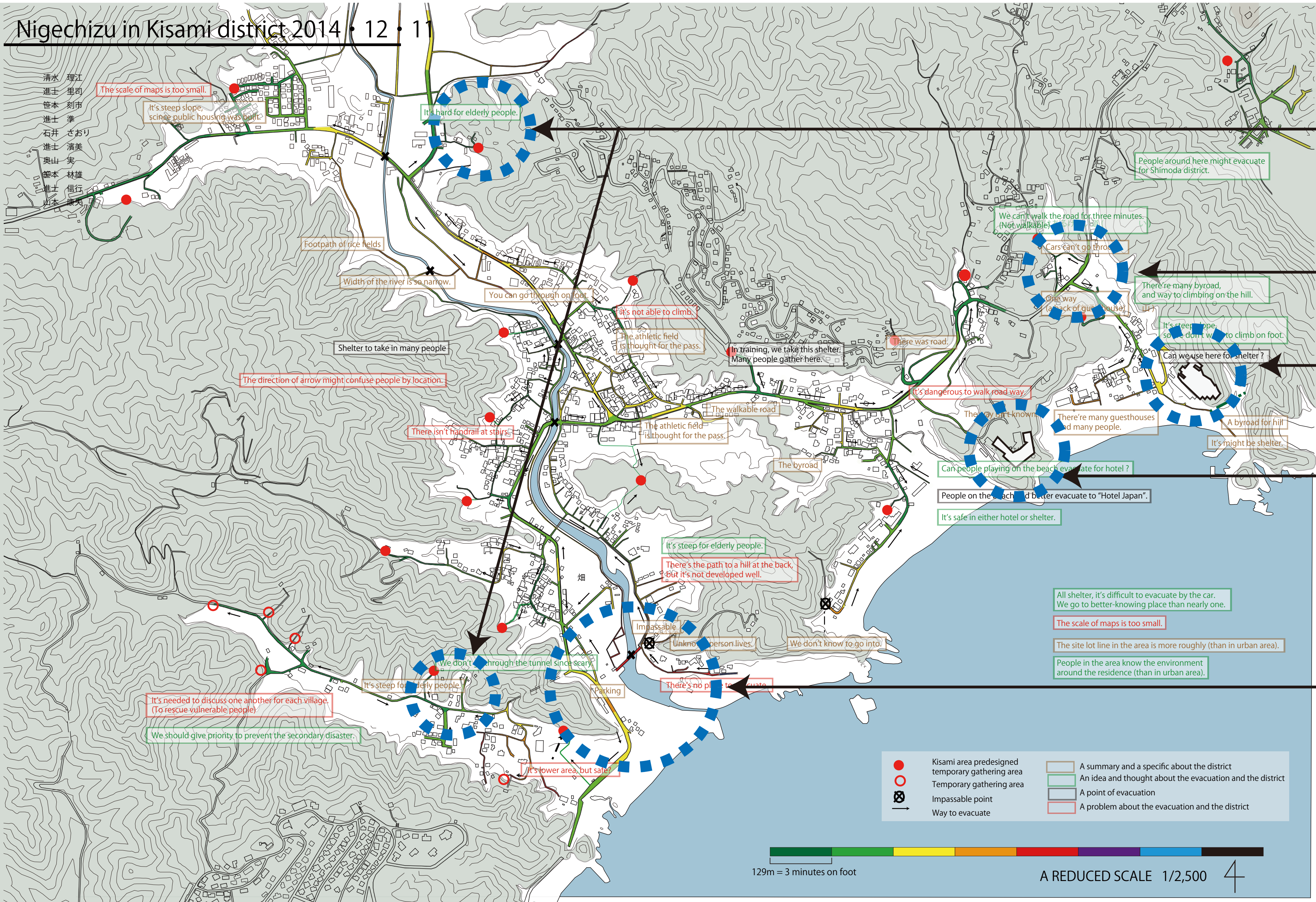


Fig.4 rewritten map

Point1.The problem for vulnerable people

It's possible to find a problem with comments



Point2.Visualization of evacuation direction

It can be seen that the shortest distance to the evacuation



Point3. a place that can be a new shelter

We were able to find a new shelter in two places



Point4.Visualization of time it takes to evacuation

It understood that evacuation time by color



The obtained achievements

"nigechizu" is not only to promote the recognition of evacuation location, route and time from the tsunami inundation zone, but also to function effectively as a "tool that helps residents to consider themselves the district disaster prevention plan" it was revealed.