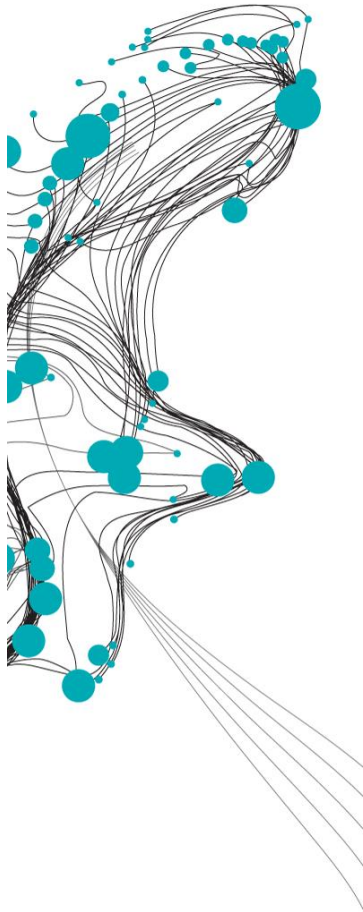


FACTORS INFLUENCING CLIMATE CHANGE ADAPTATION BY RESIDENTS

COMPARATIVE CASE STUDY OF PROJECTS IN EINDHOVEN



Climate change is a global environmental issue today and will continue to be in the future. Mitigation measures are not enough to stop climate change. The need to adapt is required, especially at the city level because of the high population in urban areas. The involvement of residents in adaptive actions alongside local governments is increasingly important to decrease the impacts of extreme weather events. The municipality of Eindhoven started the adaptation dialogues in different projects to encourage residents to undertake adaptive actions themselves. According to literature, these residents' adaptive actions are generally influenced by factors such as regulations, financial incentives, participation and local-context conditions. This study aimed to explain the influence of adaptation dialogues, policy instruments (regulations and financial incentives) and local-context conditions on adaptive actions of residents in Eindhoven. This study also aimed to formulate recommendations to the municipality to stimulate residents' adaptive actions in the private spaces related to climate change adaptation.

To achieve the objectives of this study, a conceptual model was developed based on literature research. The model involves the factors (participation, policy instruments and local-context conditions) as independent variables and adaptive actions as dependent variable. The model shows a direct relationship between participation, policy instruments and adaptive actions. The model also states that local-context conditions affect the relationships between participation, policy instruments and adaptive actions. To explain and compare the influence of the factors, three projects in Eindhoven were used: Hastelweg/Strijpsestraat (project A), Vestdijk (project B) and Philipsdorp (project C). Data were collected via document analysis and interviews with civil servants involved in the projects. Data were compared to determine whether a factor scored high, medium or low (see Table 1).

Based on the conceptual model, project A scored medium on participation and implemented the most adaptive actions probably because local-context conditions had a supportive influence. Project B also scored medium on participation but implemented the fewest adaptive actions probably because local-context conditions had a restrictive influence. Project C scored low on participation and implemented the second most adaptive actions probably because more local-context conditions had a supportive influence. As for regulations, all projects scored high, whereas for financial incentives project A had the highest score compared to projects B and C. Furthermore, project A had the most supportive local-context conditions, followed by project C and project B.

Based on the findings of this study, it can be stated that the municipality of Eindhoven can rely on participation to motivate residents to undertake adaptive actions in the private spaces. Furthermore, the influence of participation on adaptive actions of residents was likely affected by the local-context conditions such as house ownership. The influence of policy instruments on residents' adaptive actions was probably also affected by local-context conditions. To achieve its ambition to be a climate-proof in 2050, it is recommended that the municipality of Eindhoven should involve an active citizen advisory group for adaptive actions of residents such as was the case in project A. In addition, it is recommended to pay more attention to communication about the financial incentives of green gardens and green roofs.

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Table 1: General overview of the scores on factors and adaptive actions per project

Factors	Project A	Project B	Project C
Regulations	high	high	high
Financial incentives	medium	low	low
Participation	medium	medium	low
Local context	most supportive	least supportive	medium supportive
Adaptive actions	most actions	least actions	medium actions