**Rural women's participation in sustainable water supply projects in mountainous areas: Case of Al-Della'a Alaala sub-district in Shibam wa Kawkban district, Yemen**

An assessment of why they are not involved, how they could be involved, and an analysis of the possible effects on sustainable water supply if women are involved

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# ABSTRACT

In rural areas of developing countries, participation of all stakeholders in water supply projects is an important step towards further development. As most of the beneficiaries are usually women, it is especially important to involve them in order to achieve sustainable and successful water supply projects. Women are responsible for management of the water inside and outside their home, and they often spend more than 6 hours daily to fetch drinking water from distant water sources.

The problem is that rural women have a weak role in the water supply projects’ phases in rural Yemen. Therefore, this research focuses on analyzing the causes of the lack of women's participation in rural water supply projects, and in what ways women's participation could contribute to sustainable water supply projects in rural mountainous areas in Yemen.

Four water supply projects were selected as a case study in Al-Della'a Alaala sub-district in Al-Mahweet governorate. Two of them were implemented by SFD, and the others were implemented by GARWSSP. Furthermore, Al-Galba project, which succeeded by involvement of rural women and is located in Badan district in Ibb governorate, was selected for comparison.

For this purpose, I carried out a literature review of academic journals, books from Internet websites, international documents, and reports of the GARWSSP and SFD which are related to the four water supply projects, in order to identify the general principles for impact identification and significance determination. The other source for data collection was the opinion of eight Yemeni water experts working in the water sector and academic institutions, in order to investigate their point of view as a specialized group about the reasons for and challenges of the lack of women’s participation.

Then face-to-face interviews were carried out with 50 different stakeholders (from a governmental agency, a donor's agency and the local community) in the five water supply projects to find out about their opinion on the criteria for sustainable rural water supply projects and the consequences if rural women are not involved in water supply projects, as well as the barriers for their participation.

A comparison analysis was performed of the results of the interviews. The case study in the rural areas shows that the GARWSSP water supply projects do not have a vision on sustainability. The project will stop after the amount of groundwater is decreased and project's well is dried. Moreover, the maintenance in these projects is high and can not be done by the Management Committee (MC). The others reasons why these projects are unsustainable are: too little attention to involving rural women, and weak local contribution. SFD water supply projects have a good vision on sustainability but the women's participation is not considered as active and practical. Moreover, water harvesting projects of SFD projects are appropriate and sustainable, but its weakness is low water quality, on account of which all of the water can hardly be identified as drinking water.

The barriers to sustainable water supply are a weakness of policy formulation and implementation to improve women's participation. The supporting agencies do not give guidelines to improve women's participation from the beginning, and do not give women some training to improve their skills and knowledge to deal with the different projects' phases. Some social and cultural customs do not allow women to participate in the project. Rural women have no experience to deal with the projects.

The potential consequences of active rural women's participation in the water projects are improved continuity, improved maintenance, protected equipments, and improvement of the health and education situations in these areas.

The majority of the respondents from GARWSSP’ projects estimated that there is no reason to involve women in the project activities.

In the comparison project - in which a woman worked as a supervisor and implemented the project – on the other hand, 100% of responders indicated that women’s participation is vital for sustainability.

Therefore, the results of this research will hopefully contribute to an improvement of the conditions that are needed to stimulate rural women's participation in the mountainous areas of Yemen.

The recommendations focus on two kinds of stakeholders, namely: decision-makers and the supporting agencies include GARWSP and SFD.

Decision-makers should elaborate the involvement of women in their strategies and policies and incorporate women's participation in water policies, strategies, and Law, as a long term learning process.

Supporting agencies should involve women’s participation as an efficient approach with society and the potential supporting donors. Furthermore they should enhance effective communication and knowledge sharing amongst all stakeholders. They should strengthen women’s abilities by implementing training programs, and including women participation in their social surveys.

The first further research could focus on investigating how rural women could be actively involved, even if they are not able to read or write. The second further research could focus on investigating the results if women were trained, and actively participated in the water supply projects.